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WOMAN’S INSTITUTE LIBRARY OF COOKERY

VOLUME TWO

MILK, BUTTER, AND CHEESE

EGGS

VEGETABLES

WOMENS INSTITUTE OF DOMESTIC ARTS AND SCIENCES, Inc.

PREFACE

This volume, which is the second of the Woman’s Institute Library of Cookery, deals with such essentials of diet as the dairy products--milk, butter, and cheese--the protein food, eggs, and the energy-producing nutrients, vegetables.

In _Milk, Butter, and Cheese_, Parts 1 and 2, are explained the place that milk occupies in the diet, its composition, grades, and the dishes for which it is used; the purchase, care, and use of butter and butter substitutes; and the characteristics, care, and varieties of both domestic and imported cheeses, as well as a number of excellent recipes for cheese dishes. A luncheon menu, in which a cheese dish is substituted for meat, is of interest in this connection, for it shows the housewife, early in her studies, not only how to combine dishes to produce a balanced meal, but also how to make up a menu in which meat is not needed.

In _Eggs_ are discussed the nutritive value of eggs, the ways in which to select, preserve, cook, and serve them, and how to utilize left-over eggs. So many uses have eggs in the diet and so nourishing is this food that too much attention cannot be paid to its preparation. In this lesson, also, is given a breakfast menu to afford practice in preparing several simple dishes usually served in this meal.

In _Vegetables_, Parts 1 and 2, every variety of vegetable is discussed as to food value, preparation, place in the meal, and proper methods of serving. With such a fund of knowledge, the housewife will be well equipped to give pleasing variety to her meals.

In addition to the instruction in these matters, there are a large number of illustrations, which make clear the important details in every process employed and in many recipes show certain steps as well as the

finished result. With such detailed information, it is our desire that as many of the recipes as possible be tried, for it is only through constant practice that the rules and principles of cookery will become thoroughly instilled in the mind. Nothing is of more value to the housewife than such a knowledge of food and its preparation, for, as every one knows, proper diet is the chief requisite of good health.

To be of the greatest assistance to the woman in the home is the purpose of these volumes--to relieve her household tasks of much of their drudgery and to help her come to a realization of the opportunity for good that is hers. In no better way can she create happiness and contentment in her home than by preparing appetizing, nutritious meals and serving them in the most attractive manner.

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MILK, BUTTER, AND CHEESE (PART 1)

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MILK

MILK IN THE DIET

1. As is well understood, milk is the liquid that is secreted by the mammary glands of female mammals for the nourishment of their young. The word milk as it is commonly used, however, refers to _cow's milk,_ because such milk is employed to a greater extent as human food than the

milk from any other animal. Cow's milk in its perfectly fresh raw state is a yellowish-white, opaque fluid, called _whole milk,_ and, as is well known, possesses a distinctly sweet taste and characteristic odor. When such milk is allowed to stand for some time without being disturbed, it separates into two distinct layers, an upper and a lower one. The upper layer, which is lighter than the lower one and occupies a smaller space, consists largely of globules of fat and is called _cream;_ the lower layer, which is white or bluish-white in color and is composed of water, solids, and protein, is, when separated from the cream, called _skim milk._

2. As an article of diet, milk is very important, because its sole function in nature is to serve as food. It is required by the infant; it is needed in the diet of all growing children; and it is desirable in the preparation of dishes for both young and old.

Milk is used to such a great extent because it fills many of the requirements of an ideal food. It is generally liked, requires little or no time for preparation, agrees with the majority of persons when used properly, and contains substances that supply energy and build and repair tissue. Still, it does not contain these substances in such proportions as to make it an ideal or exclusive article of diet for adults, and it must often be modified to suit the needs of infants, because it is ideal for only the young of the species for which it is intended. Therefore, while milk is often called a perfect food, in reality it is perfect for only the calf. When it is desired for the feeding of a very young child, it must be changed to meet the requirements before it can be used with good results.

3. So important is milk as an article of food that, outside of the purely rural districts, producing the milk supply is a business of considerable importance. This is due to the fact that the purity of milk must be constantly safeguarded in order that clean, safe milk may be provided for the countless numbers that depend on it. In fact, milk undoubtedly bears a closer relation to public health than any other food. To produce an adequate amount of clean, safe, pure milk is one of the food problems of the city and country alike. In the city much of the difficulty is overcome by the ordinances that provide standards of composition and cleanliness, as well as inspection to insure them; but such ordinances are rarely provided for in villages and country districts.

When there is no law to prevent it, unclean milk is sometimes used in the manufacture of butter and cheese, but when this happens, great injustice, if not positive harm, is done to the consumers of these articles. Then, too, unless milk is carefully inspected, tubercular milk is liable to be used in the making of butter, and such a condition will cause the spreading of tuberculosis as readily as the use of the contaminated milk itself.

4. With its various products, milk helps to form a very large part of the dietary in most homes, but while nothing can take the place of this food and while it is high in food value, there seems to be a general

tendency to think of it as an addition to the bill of fare, rather than as a possible substitute for more expensive food. For instance, milk is very often served as a beverage in a meal in which the quantity of meat or other protein foods is not reduced. From an economical standpoint, as well as from the point of view of the needs of the body, this is really extravagant, for milk is itself largely a protein food. The serving of a glass of milk or of a dish that contains generous quantities of milk offers the housewife an opportunity to cut down considerably the allowance of meat and eggs. Because of this fact and because milk and its products may be used to add nutritive value to a food, to give variety, and to improve flavor, they deserve considerable study on the part of the housewife.

5. Since milk may be used in such a variety of ways, it may be easily included in the dietary for the family. Being liquid in form, it may always be served without any preparation as a beverage or with other beverages, cereals, and fruits. It also has numerous other uses, being employed in the making of sauces for vegetables and meats, in the place of stock for soups, and as the liquid for bread, cakes, puddings, custards, and many frozen desserts. Because of its extensive use, every housewife not only should know how to buy milk and care for it, but should be familiar with its composition, so that she may determine whether or not it suits the needs of her family. In addition, she should know the effect of heat on milk and the various methods of preparation if she would be able to judge what food combinations can be used with milk.

COMPOSITION OF MILK

6. As milk is usually taken into the body in liquid form, the common tendency is to regard it as a beverage, rather than as an important source of nourishing food material. However, a knowledge of its composition, as well as the fact that milk becomes a solid food in the stomach and must then be dissolved in the process of digestion, will serve to show that milk contains solids. That it possesses all the elements required to sustain life and promote health is proved by the fact that a child may live for months on milk alone and during this time increase in weight.

7. The solids contained in milk are proteins, fat, carbohydrate in the form of sugar, and mineral salts, besides which, of course, water occurs in large quantities. The sugar and fat of milk serve as fuel; the mineral salts are chiefly valuable for the growth of bones and teeth and for their effect on the liquids of the body; and the proteins, like the fat and sugar, serve as fuel, but they also make and repair the muscular tissues of the body.

In considering the food substances of milk, it will be well to note also that they vary according to the breed, feeding, and individual characteristics of the cow. Jerseys and Guernseys give milk rich in fat and total solids, and while Holstein cows give a greater quantity of milk, such milk has a smaller proportion of fat and total solids. As a

rule, though, the composition of milk may be considered as approximately 3.3 per cent. protein, 4 per cent. fat, 5 per cent. carbohydrate, and .7 per cent. mineral matter, making a total of 13 per cent. This indicates the quantity of actual food material in milk, the remainder, or 87 per cent., being water.

8. PROTEIN IN MILK.--Because of the double usefulness of protein--to serve as fuel and to make and repair muscular tissue--this element is regarded as an important ingredient of milk. The protein in milk is called _casein_. The opaque whiteness of milk is largely due to the presence of this substance. As long as milk remains sweet, the lime salts it contains hold this casein in solution; but when it sours, the salts are made soluble and the casein thickens, or coagulates. In addition to casein, milk contains a small amount of protein in the form of _albumin_. This substance, upon being heated, coagulates and causes the formation of the skin that is always found on the top of milk that has been heated. The skin thus formed contains everything that is found in milk, because, as it forms, casein is dried with it and sugar and fat, too, are caught and held there. It is the protein of milk and its characteristic coagulation that are made use of in the making of cheese. In cooking, the protein of milk is probably more affected than any of the other substances, but the degree to which the digestion of milk is thus affected is not definitely known, this being a much disputed question.

9. FAT IN MILK.--The other substance in milk that serves as fuel, or to produce energy, is fat. It occurs in the form of tiny particles, each surrounded by a thin covering and suspended in the liquid. Such a mixture, which is called an _emulsion_, is the most easily digested form in which fat is found. The fat in milk varies more than the other food substances, it being sometimes as low as 2 per cent, and again as high as 6 per cent. However, the average of these two, or 4 per cent., is the usual amount found in most milk.

As has been mentioned, the fat globules of milk rise to the top because fat is lighter than water, so that when milk has been undisturbed for some time the top, which is known as _cream_, will be found to contain most of the fat. Because of the fat it contains, the cream is yellower in color than the milk underneath. If the cream is beaten, or churned, these fat particles will adhere in a mass, advantage of this fact being taken in the making of butter.

10. CARBOHYDRATE IN MILK.--The carbohydrate contained in milk is in the form of sugar called _lactose_. It is unlike other sugars in that it is not very sweet and does not disagree with most persons nor upset their digestion. For this reason, it is often given to children, invalids, and persons who have digestive disturbances. However, it is like other carbohydrates in that in solution it ferments. The result of the fermentation in this case is the production of _lactic acid_, which makes the milk sour. With the fat, lactose makes up the bulk of the energy-producing material of milk, and while this is important it is only secondary when compared to the tissue-building power of the protein and minerals. Besides being an important part of milk itself, lactose is

a valuable by-product in the manufacture of cheese. After being taken from _whey_, which is the clear, straw-colored liquid that remains when the curd, or coagulated portion, is completely removed from the milk, the lactose is refined and sold in the form of a powder that is used for various kinds of infant and invalid feeding.

11. MINERAL MATTER IN MILK.--Considerable quantities of mineral salts, which are chiefly _lime_, _potash_, and _phosphates_, are found in milk. As has already been pointed out, these are important in the building of bone and hard tissue in the body, but in addition they help to keep the fluids of the body in the right condition. Because of the work they do, these mineral salts are necessary in the building of the bodies of growing children, and are useful for repair and the regulation of the body processes in adults. In cheese, butter, and cream, which are the products of milk, less of the mineral salts are found in proportion to the quantity than in whole milk, skim milk, and whey.

12. WATER IN MILK.--The percentage of water in milk is much greater than that of all the other food substances combined, there being more than six times as much. While this quantity seems very large, it is an advantage, for milk provides nourishment to persons when they can take neither solid nor more condensed food. On the other hand, the water is a disadvantage, for it is responsible for the rapid spoiling of milk. This fact is clearly shown in the case of condensed milk, where the water is partly or completely evaporated, for milk of this kind keeps much longer without spoiling than either whole or skim milk.

PRODUCTS OBTAINED FROM MILK

13. Although milk is used extensively in its natural liquid form, considerable use is also made of the numerous products of milk, chief among which are cream, skim milk, buttermilk, sour milk, whey, butter, and cheese. In fact, all of these occupy such an important place in the dietary of the majority of homes that it is well for every housewife to understand their value. Butter and cheese are discussed in detail later, so that at this time no attention need be given to them. The other products, however, are taken up now, with the intention of enabling the housewife to familiarize herself with their production, nature, and use.

14. CREAM.--As has been pointed out, the particles of fat that rise to the top of milk when it is allowed to remain undisturbed for some time form the product known as cream. Cream may be removed from the milk by skimming it off, or it may be separated from the milk by means of machinery especially designed for the purpose. The greater the proportion of fat in milk, the thicker, or "heavier," will be the cream.

Various grades of separated cream are placed on the market, the usual ones being those which contain 8, 12, 16, 20, and 40 per cent, of fat. Thin cream, which includes the grades that have only a small percentage of fat, contains a larger quantity of milk than the others and is not so desirable for many purposes. Still, it is used to some extent, because it is cheaper and there are definite uses to which it can be put.

Medium-heavy cream is the kind to select when it is desired for _whipping_. This is a process that consists in beating the cream rapidly until a mass of tiny bubbles form and become stiff, very much as the white of egg does.

15. SKIM MILK.--After a part or all of the cream has been removed from whole milk, that which remains is called skim milk. While practically all of the fat is taken out when milk is skimmed, very little protein or sugar is removed. Therefore, skim milk is still a valuable food, it being used to a large extent for cheese making, for the manufacture of certain commercial foods, and for the feeding of animals. The housewife does not, as a rule, buy skim milk; indeed, in some localities the laws prevent its sale because it is considered an adulterated food. However, it is really a wholesome, valuable food that is cheaper than whole milk, and its use in the home should therefore be encouraged from an economical standpoint. Here it may be used in the preparation of many dishes, such as sauces, cakes, biscuits, muffins, griddle cakes, bread, etc., in which butter or other fats are used, and in custards, puddings, ices, and numerous other desserts.

16. BUTTERMILK.--The milk that remains in butter making after the butter fat has been removed from cream by churning is known by the name buttermilk. Such milk is similar to skim milk in composition, and unless butter is made of sweet cream, buttermilk is sour. Buttermilk is used considerably as a beverage, but besides this use there are numerous ways in which it may be employed in the preparation of foods, as is pointed out in various recipes. An advantage of buttermilk is that its cost is less than that of whole milk, so that the housewife will do well to make use of it in the preparation of those foods in which it produces satisfactory results.

17. ARTIFICIAL BUTTERMILK.--Several kinds of sour milk that are called buttermilk are to be had, particularly at soda fountains and restaurants. While they are similar to buttermilk they are not the same, because they are produced artificially from whole or skimmed sweet milk. The usual method employed in the making of these artificial buttermilks, as they may well be called, consists in adding to sweet milk tablets containing lactic acid or a certain culture of bacteria that induce fermentation, very much as yeast does, and then keeping it at about body temperature for a number of hours in order to allow the milk to thicken and sour. Such milks exert a beneficial action in the digestive tract, and their food value, provided they are made from whole milk, is just as high as that of the original sweet milk. Artificial buttermilks therefore prove a valuable source of food supply for persons who find them palatable and who do not care for sweet milk. Their food value may be increased by adding cream to them.

18. SOUR MILK.--Ordinary milk contains large numbers of bacteria that produce fermentation. When it is allowed to stand for some time, these bacteria act upon the sugar, or lactose, contained in the milk and change it into lactic acid. This acid gives to the milk a sour taste and at the same time causes the casein of the milk to become a mass known as _curd_, or _clabber_. This mass continues to grow sour and tough until

all the milk sugar is converted into lactic acid, so that the longer the milk stands, the more acid it becomes. Sour milk, however, is useful in the preparation of various dishes, such as hot breads and griddle cakes.

[Illustration: FIG. 1]

19. WHEY.--When the curd is completely removed from milk, as in making cheese, a clear, light, yellowish liquid known as whey remains. Whey is composed of water, minerals, and milk sugar or lactic acid, and is the least valuable part of the milk. The ingenious housewife will never be at a loss to make use of this product, for, while its food value is slight, the minerals it contains are important ones. Whey is sometimes used to furnish the liquid for bread making and, in addition, it may be used as a beverage for persons who cannot digest food as heavy as milk itself.

20. COMPARISON OF FOOD VALUES OF MILK PRODUCTS.--So that the housewife may become familiar with the food values of milk products, there is here given, in Fig. 1, a graphic table for the comparison of such products. Each glass is represented as containing approximately 1 pint or 1 pound of the milk product, and the figures underneath each indicate the number of calories found in the quantity represented. The triangle at the side of each indicates the proportion of ash, protein, fat, carbohydrate, and water, the percentage composition being given at the side. Housewives as a rule fully appreciate the food value that is to be found in whole milk and cream, but such products as skim milk, buttermilk, and whey are likely to be ignored.

CHARACTERISTICS OF WHOLESOME MILK

21. So far as the housewife is concerned, the qualities that characterize wholesome milk are without doubt of great interest. She may know of what use milk is in the diet and the food substances of which it is composed, but unless she understands just what constitutes milk of good quality, as well as the nature of inferior milk, she cannot very well provide her family with the kind it should have. Therefore, to assist her in this matter, the characteristics of wholesome milk are here discussed. Such milk, it will be well to note, must be of the right composition, must not be adulterated, must be fresh--that is, not older when delivered than is permitted by law--and must be as clean as possible.

22. STANDARD OF MILK COMPOSITION.--The housewife usually judges the quality of milk by the amount of cream that rises to the top when milk in a bottle is allowed to remain undisturbed for some time. This is really an excellent test, because milk that contains only a small amount of cream is of poorer quality than that which contains a larger amount; in other words, the more cream milk contains, the higher will be its food value and the greater its energy-producing ability. Then, too, milk that is rich in cream usually contains proportionately large amounts of protein and sugar.

While the composition of milk has much to do with the quality of this food, it varies, as should be noted, in different breeds and even in individual cows, depending on both the food and the care given to them. For this reason, milk that is mixed is preferable to the milk of a single cow, as the mixing of the milk of a number of cows insures a better average composition.

23. ADULTERATION OF MILK.--The composition of milk, and hence its quality, is seriously affected by its adulteration. By this is meant the extraction of any of the food substances from whole milk; the addition of anything that tends to weaken or lower its quality or strength; the use of coloring matter to make it appear of greater value than it actually is; or the use of preservatives to prevent it from souring as soon as it ordinarily would. It is, of course, illegal to adulterate milk, yet it is sometimes done. The most convenient and possibly the most common materials used to adulterate milk are water and skim milk. The addition of water to milk decreases the quantity of all its food substances, but the addition of skim milk reduces the quantity of fat only. The color of the milk is often affected by the use of these adulterants, but when this happens, yellow coloring is usually added to restore the original appearance.

Sometimes the milk that a dairyman markets contains more fat than the law requires; but even such milk cannot legally be skimmed nor diluted with skim milk. The only thing that may be done to it is to mix it with milk that is low in butter fat and thus obtain a milk that will average the legal percentage. For instance, if milk from a dairy averages 5 per cent, of butter fat, it may be diluted with milk that contains only 3 per cent, of butter fat, because the result of such mixing, which will be milk averaging 4 per cent, of this food substance, will be the legal standard.

24. To prevent milk from souring, dishonest milk dealers often put into it such preservatives as soda, borax, and formaldehyde. There is no definite way of telling whether or not one of these has been used, except by a chemical analysis. However, if milk does not sour within a reasonable time when no precautions have been taken to keep it sweet, it should be looked on with suspicion, for it undoubtedly contains a preservative.

25. FRESHNESS OF MILK.--To be most satisfactory for all purposes, milk should be absolutely fresh. However, it is almost impossible to obtain milk in this condition, because it is generally sold at a distance from the source of supply. Milk that is sold in small towns and cities is usually 12 and often 18 to 21 hours old when it is delivered; whereas, in large cities, where the demand is so great that milk must be shipped from great distances, it is often 24 to 36 or even 48 hours old when it reaches the consumer. In order that milk may remain sweet long enough to permit it to be delivered at places so far removed from the source of supply, it must be handled and cared for in the cleanest possible way by the dealers. Likewise, if the housewife desires to get the best results from it, she must follow the same plan, cooling it immediately on

delivery and keeping it cool until it is consumed. The freshness of milk can be determined only by the length of time it will remain sweet when proper care is given to it.

26. CLEANLINESS OF MILK.--Milk may be of the right composition, free from all adulteration, and as fresh as it is possible to obtain it, but unless it is clean, it is an injurious food. Milk is rendered unclean or impure by dirt. In reality, there are two kinds of dirt that may be present in milk, and it is important to know just what these are and what effect they have on milk.

27. The less harmful of the two kinds of dirt is the visible dirt that gets into the milk from the cow, the stable, the milker, the milking utensils, and similar sources when these are not scrupulously clean. If milk containing such dirt is allowed to stand long enough in pans or bottles for the heavier particles to settle, it will be found as sediment in the bottom of the receptacle. To say the least, the presence of such dirt is always disagreeable and frequently produces foreign flavors.

Straining the milk through clean absorbent cotton will reveal the presence of such dirt and another kind of dirt that does not show through the opaque fluid. This second kind of dirt is generally found in milk when the first kind is present in any quantity. It is more liable to be harmful than the other, because it enters the milk from the water used in cleaning the receptacles or from some contaminated source.

[Illustration: FIG. 2]

28. Whenever dirt is present in milk, bacteria are sure to be there; and the greater the quantity of dirt the greater will be the number of bacteria. Should the housewife desire to compare the cleanliness of several lots of milk, she may filter a like quantity from each lot, say a quart or a pint, through small disks of absorbent cotton. If, after the milk has passed through the cotton disk, very little dirt remains on it, as in Fig. 2 (_a_), the milk may be considered as comparatively clean; if the cotton disk appears as in (_b_), the milk may be said to be only slightly dirty; if it appears as in (_c_), the milk is dirty; and if it appears as in (_d_), the milk is very dirty. Milk that leaves a stain like that in (_d_) contains more bacteria than milk that leaves a stain like that in (_c_), and so on through all the lots of milk. Filtering milk in this manner, however, does not indicate whether the bacteria are disease producing. Such information can be secured only by microscopic examination, and only then by persons who have a knowledge of such matters.

29. Since, as has been pointed out, bacteria cling to all dirt, the dirt that milk contains is one of the causes of souring and putrefaction of milk, and may be a cause of disease. Indeed, it is definitely known that dirty milk sours much more quickly than does clean milk. Actual tests in which clean milk was put in a cool place have proved that it will keep for weeks, whereas dirty milk will sour in a day or two, especially in warm weather. This information should point out clearly to

the housewife that it is not merely heat that changes milk or causes it to sour. She should understand in addition, that bacteria grow and multiply very rapidly when conditions for their growth are provided. These conditions are moisture, warmth, and the right kind of food, and as all of these are found in milk, this product is really ideal for bacterial development. The only way in which to protect milk is to make sure that no bacteria enter it, or, if they do, to make it impossible for them to grow. This may be done by keeping the milk so cold that they cannot thrive, or by destroying them in various ways, which are taken up later.

30. In former times, there was not much danger of wide-spread disease from the milk supply, for it was cared for almost entirely by those who kept a few cows and distributed milk to a small number of customers. In fact, it has been only within the past 50 years that large quantities of milk are handled by separate dairies and shipped great distances from the source of supply and that the distribution of milk has become a great industry. When so much milk is handled in one place, it is more or less unsafe unless the dairy is kept extremely clean and is conducted in the most sanitary manner. Experience has shown that too much attention cannot be given to the care of milk, for the lives of great numbers of children have been sacrificed through the carelessness of dairymen and persons selling and distributing milk, as well as through the negligence of those who handle the milk after it has entered the home. To overcome much of this carelessness, both the Federal Government and the various states of this country have set standards for safe milk production, and in order to make their laws effective have established inspection service. Independently of these state and national laws, many of the cities, particularly the large ones, have made their own standards, which, as a rule, are very rigid. One of the usual requirements is to compel each person who wishes to sell milk in the city to buy a license, so that the city authorities may keep in touch with those handling milk and so that conditions may be investigated at any time. In view of the care required of dealers in handling milk, the housewife owes it to herself and the members of her family to keep the milk in the home in the best possible manner.

GRADES OF CLEAN MILK

31. Ever since milk has come to be a commercial product, authorities have been devising ways in which it may be brought to the consumer in a condition that will permit it to be used without causing ill results. Their efforts have been rewarded to such an extent that nowadays consumers have little to fear from the milk they purchase, provided they get it from dealers who live up to the laws. Chief among the different grades of clean milk is _certified milk,_ and next in order comes _pasteurized milk,_ followed by _sterilized milk_.

32. CERTIFIED MILK.--The grade of clean milk sold under the name of certified milk is simply natural, raw milk that is produced and marketed under conditions that permit it to be guaranteed as pure, wholesome, and of definite composition. Such milk is necessarily higher in price than

milk that is less wholesome and sanitary, because of the extra cost to the dairyman in meeting the requirements that make it possible for him to produce clean milk under sanitary conditions. These requirements pertain to the health and cleanliness of those who handle the milk, to the health, housing condition, and care of the herd and the dairy cows, and to the handling and care of milk in the dairy and during transportation and delivery. They are usually established and enforced by an inspection commission appointed by the city, county, or state in which the milk is produced.

33. If a little careful thought is given to the milk situation, it will be admitted that such precautions are necessary if clean milk is to be the result. Such milk cannot be produced if the surroundings are dirty, because dust and flies, which are two sources of contamination, are practically always present in such places. A stable with poor ventilation, without screens to keep out flies, and with floors that will not permit of cleaning, but cause filth and refuse to accumulate, is sure to contaminate milk that is handled in it. In addition, cows that are not well fed, comfortably housed, or carefully groomed cannot be expected to give milk of as good quality as cows that are properly cared for. Likewise, if the persons who do the milking are not clean, the milk is subject to contamination from this source.

34. All such unfavorable conditions can be remedied, and must be in the production of certified milk; but the good accomplished in this direction will be lost if the milk is carelessly handled after milking. Therefore, in producing certified milk, only the cleanest water available is allowed to be used in the dairy. Impure water is a common source of the contamination of milk in such places. On some farms, the water supply comes from a well that is too near the barn or that is too shallow to avoid being made impure by the germs that filter into it from the barnyard or a cesspool. If vessels in which milk is placed are washed in such water, it is necessary to sterilize them by boiling or steaming before milk is put into them, in order to kill the germs that come from the water. If such a precaution as this is not observed, the germs will multiply rapidly in the milk and, provided they are disease-producing, will make the milk extremely dangerous.

Besides observing the precautions mentioned, it is necessary that all utensils used in a dairy, such as pails for milking, strainers, containers, etc., be kept scrupulously clean. Likewise, they must be sterilized by boiling each time they are used, for, while disease germs may be absent, those which cause the milk to sour are always present and must be destroyed. Finally, to prevent any germs that enter milk from multiplying, even when it is properly cared for, the milk has to be cooled to a temperature of 45 degrees Fahrenheit or lower immediately after milking and then bottled in sterilized bottles, sealed, and packed in ice, within 20 minutes after milking.

35. It is by giving attention to all such matters that certified milk is possible. Such milk, as will be understood from what has been said, is neither a cooked milk nor a dirty milk that is processed, but a natural, raw milk that is clean at all stages of its production and marketing.

Because of this fact, it is the best and cleanest milk to be had and may be used without hesitation, not only by grown persons in good health, but for infants and invalids.

The sanitary condition of certified milk and the consequent length of time it will remain sweet was demonstrated conclusively as far back as 1900 at the Paris Exposition. At this time, two model dairies in the United States--one located at the University of Illinois and the other at Briarcliff Manor, Westchester County, New York--delivered to their booths at the Exposition milk that was bottled under the most sanitary conditions at their dairies. During its transit across the ocean the milk was kept at a temperature of 40 to 42 degrees Fahrenheit, and on its arrival, 2 weeks after leaving the dairies, it was found to be in a perfectly sweet condition. Similar experiments made at later dates, such as shipping certified milk from the East to California, serve to bear out the test made in 1900, and prove what can be done with milk so produced as to be as free as possible from bacteria or the conditions that permit their growth.

36. PASTEURIZED MILK.--While certified milk is undoubtedly the safest kind of milk to use and is constantly growing in favor, much of the milk received in the home is pasteurized. By pasteurized milk is meant milk that has been heated to a temperature of 140 to 155 degrees Fahrenheit, kept at this temperature for 15 to 20 minutes, and then cooled rapidly. The result of such a treatment is that any disease-producing germs that are present in the milk, as well as those which are likely to cause intestinal disturbances, are destroyed, and that the milk is rendered safe as food for a time. Pasteurizing does not materially change the taste of milk, nor does it seriously affect the digestive properties of this food. It is true, of course, that pasteurized milk is not so good as clean raw milk. Still it is better to use such milk than to run the risk of using milk that might be contaminated with the germs of tuberculosis, typhoid fever, scarlet fever, diphtheria, or any other of the numerous diseases that have been known to be carried to whole families and communities through the milk supply.

37. Although pasteurizing is done on a large scale in dairies, there is no reason why the housewife cannot pasteurize the milk she buys, provided it is raw milk and she feels that it is not safe to use. If pasteurizing is to be done frequently and large quantities of milk are to be treated, it would be advisable to purchase the convenient apparatus that is to be had. However, if only a small quantity of milk is to be pasteurized at a time, a simple improvised outfit will prove satisfactory, because milk pasteurized in the home may be heated in the bottles in which it is received. Such an outfit consists of a dairy thermometer, a deep vessel, and a perforated pie tin or a wire rack of suitable size.

38. To pasteurize milk in the home, proceed in the manner illustrated in Fig. 3. Place the rack or invert the perforated pie tin in the bottom of the vessel, and on it place the bottles of milk from which the caps have not been removed. Make a hole through the cap of one bottle, and insert the thermometer into the milk through this hole. Then fill the

vessel with cold water to within an inch or so of the top of the bottles, taking care not to put in so much water as to make the bottles float. Place the vessel over the fire, heat it until the thermometer in the bottle registers a few degrees over 150 degrees Fahrenheit, and keep the milk at this temperature for 15 to 20 minutes. At the end of this time, the milk will be sufficiently pasteurized and may be removed from the fire. As soon as it is taken from the water, cool it as rapidly as possible by running cold water into the vessel slowly or by placing the bottles in several changes of water, taking care not to place the hot bottles in very cold water at first, as this may cause them to crack.

[Illustration: Fig. 3]

When the milk has been cooled by some rapid method, keep it cool until it is used. This precaution is necessary because of the nature of pasteurized milk. The temperature at which milk is pasteurized is sufficient to kill all fully developed bacteria, but those which exist in an undeveloped state, or in the form of spores, develop very rapidly after pasteurization unless the milk is kept cold and clean. If these bacteria were allowed to develop, the purpose of pasteurization would be lost, and the milk would become as dangerous as it was originally. The advantage of cooling milk rapidly will be fully appreciated upon referring to Fig. 4, which illustrates the development of a single germ in milk that is cooled rapidly and in milk that is cooled slowly.

[Illustration: Fig. 4]

39. STERILIZED MILK.--By sterilized milk is meant milk in which all germs are destroyed by sterilization. Such milk is not sold by dealers, but the process of sterilization is resorted to in the home when pasteurization is not sufficient to render milk safe. This process, which is the only positive means of destroying all germs, consists in bringing the milk to the boiling point, or 212 degrees Fahrenheit, allowing it to boil for three quarters of an hour, and then cooling it rapidly. One who undertakes to treat milk in this way should remember that it is difficult to boil milk, because the solids in the milk adhere to the bottom and sides of the vessel and soon burn. However, this difficulty can be overcome by sterilizing the milk in the bottles in which it is bought.

40. To sterilize milk, place the sealed bottles on a wire rack or a perforated pie tin in a deep vessel, as for the pasteurizing of milk, and pour cold water into the vessel until it nearly covers the bottles. Then raise the temperature of the water quickly to the boiling point, and after it has begun to bubble, allow it to boil for three quarters of an hour. At the end of this time, cool the milk rapidly and then keep it cool until it is used.

41. Although milk thus treated becomes safe, sterilization changes its flavor and digestibility. If milk of this kind must be used, some raw food should be given with it. A diet composed entirely of cooked food is not so ideal as one in which some raw food is included, because raw foods contain substances that are essential to health. The change that

takes place in the composition of milk that has been sterilized can be easily observed. Such milk on becoming sour does not coagulate as does pasteurized or raw milk, owing to the fact that the lime salts in the milk are so changed by the high temperature as to prevent the thickening process from taking place. Then, too, sterilized milk is not likely to become sour even after considerable time. Still, such milk is not safe to use except when it is fresh, for instead of fermenting in the usual way it putrefies and is liable to cause such a dangerous sickness as ptomaine poisoning.

42. MODIFIED MILK.--For infants who cannot be fed their normal diet, cow's milk must be used as a substitute, but in order to make it a more nearly ideal food for them it must usually be modified, or changed, by adding other materials. When it is so treated, it is known as modified milk. The materials used to modify milk are sterile water, lime water, barley water, cream, skim milk, milk sugar, or some other easily digested carbohydrate, one of these or a combination of them always being employed. The proportion of these ingredients to use varies with the age of the child that is to be fed and must be constantly changed to meet the child's requirements. In the production of modified milk, a physician's prescription and directions should always be followed closely. Only the best quality of milk should be used, and, in addition, the greatest care should be taken to have all the bottles, utensils, and materials used as clean and sterile as it is possible to make them. If such conditions cannot be met, it is advisable to pasteurize the modified-milk mixture after the materials have been put together.

PRESERVED MILK

43. Besides milk that is commonly sold by dairymen and milk dealers, it is possible to buy in the market many grades of so-called PRESERVED MILK. Such milk is produced by driving off all or part of the water contained in milk, and it is sold as _condensed, evaporated,_ and _powdered milk_. Usually, it is put up in tin cans, and while it is not used so extensively as regular milk, many firms are engaged in its preparation.

44. CONDENSED AND EVAPORATED MILK.--As has just been mentioned, condensed and evaporated milk is produced by the complete or partial evaporation of the water contained in milk. Such milk can be shipped long distances or kept for long periods of time, because it does not contain sufficient moisture to permit the growth of bacteria. In evaporating milk to produce these preserved milks, each gallon is diminished in quantity to about two and one quarter pints, the original 87 per cent. of water being reduced to about 25 per cent. Therefore, in order to use such milk, sufficient water must be added to restore it to its original composition. Sometimes comparatively large amounts of cane sugar are added to such milks, which, besides sweetening them, assist in their preservation. If cane sugar is not used, the milks are usually made sterile in order to prevent them from spoiling.

45. POWDERED MILK.--The form of preserved milk known as powdered milk

is the result of completely evaporating the water in milk. Such milk has the appearance of a dry powdered substance. It does not spoil easily and is so greatly reduced in quantity that it can be conveniently stored. Because of these characteristics, this product, for which skim milk is generally used, is extensively manufactured. It is used chiefly by bakers and confectioners, and, as in the case of evaporated or condensed milk, the water that has been evaporated in the powdering process must be supplied when the milk is used.

STANDARD GRADING OF MILK AND CREAM

46. In order that a definite idea may be formed of the sanitary and bacteriological standards that are set by milk commissions, there are here given, in Table I, the regulations governing the grades and designation of milk and cream that may be sold in the city of New York. As will be observed from a study of this table, only definite grades of milk and cream can be sold in that city; likewise, it must conform to certain standards of purity and the producer must handle it in such a way that it may be delivered to the consumer in as clean and fresh a condition as possible.

Without doubt, a grading similar to this one will become general throughout the United States eventually, for this is the only way by which the housewife may know with certainty whether or not the milk she purchases is of the right composition and is safe, fresh, and sanitary in every respect. The different qualities of milk and cream as shown by this grading are, of course, sold at different prices, those which require the greatest care and expense in handling selling for the highest price.

MILK IN THE HOME

PURCHASE OF MILK

47. After the housewife has become familiar with the points that she should know concerning milk, she will be much better equipped to purchase milk of the right kind for her home. However, there are still some points for her to observe when she is purchasing milk if she would supply her family with the best quality of this food.

48. In the first place, she should buy milk from a reliable dealer who will not object to questioning, and, if possible, she should make an investigation of the dairy that supplies the milk that she uses. If she cannot investigate the dairy personally, she should at least endeavor to obtain information from those who are prepared to give it. If she learns that the conditions in the dairy that is supplying her with milk are not what they should be, she should try to obtain milk from some other source. Of course, she should remember that milk of the best and cleanest quality is the highest in price, because of the increased cost of production; but it is usually advisable to pay the higher price, especially if children are to be fed, because cheap milk is liable to be

unsafe, at least for any purpose that will require it to be served without cooking. Should the income not allow the best quality of milk to be used for all purposes, a cheaper grade can be used for cooking, but it is always economical to purchase the best quality when this food is to be used as a beverage.

[Illustration: FIG. 5]

49. In the next place, the housewife should purchase milk from a dealer who delivers cold milk, because, as has been mentioned, bacteria multiply rapidly in warm milk. She should also try to obtain milk put up in bottles, for such milk has advantages over milk dipped from a can in that it does not have the same chance to become dirty and it affords a greater opportunity to secure accurate measurement. The kind of caps used on milk bottles should also be observed. Caps that have to be pried out with a knife or a similar utensil are not nearly so satisfactory as those shown in Fig. 5 (_a_), which have small tabs _a_ that permit the cap to be lifted out. In addition to the caps, which serve to keep dirt out of the milk and permit it to be delivered without being spilled, some dealers use covers like that shown in (_b_). Such covers are held in place by a wire and serve further to protect the milk from contamination.

If milk purchased in bottles is clean, there should be no sediment in the bottom of the bottle after it has been allowed to stand for some time. Also, if it is fresh, it will not sour quickly after it is delivered, so that in case it is properly cared for and sours quickly, it may be known to be stale milk. However, if it does not sour in the normal length of time, it should be looked on with suspicion, for, as has been pointed out, such milk may have added to it a preservative to prevent souring. The housewife may expect milk that is delivered cold and is guaranteed to be sanitary and fresh to remain sweet at least 24 hours, provided, of course, it is placed in the refrigerator immediately upon delivery and kept there until used.

* * * * *

REGULATIONS GOVERNING THE GRADES AND DESIGNATION OF MILK AND CREAM WHICH MAY BE SOLD IN THE CITY OF NEW YORK

The following classifications apply to milk and cream. The regulations regarding bacterial content and time of delivery shall not apply to sour cream.

Grades of Milk or Cream Sold in the City of New York:

GRADE A Milk or cream (Raw)

Definition: Grade A milk or cream (raw) is milk or cream produced and handled in accordance with the minimum requirements, rules and regulations as herein set forth.

Tuberculin Test And Physical Condition: 1. Only such cows shall be

admitted to the herd as have not reacted to a diagnostic injection of tuberculin and are in good physical condition. 2. All cows shall be tested with tuberculin and all reacting animals shall be excluded from the herd.

Bacterial Contents: Grade A milk shall not contain more than 60,000 bacteria per cubic centimeter, and cream more than 300,000 bacteria per cubic centimeter when delivered to the consumer or at any time prior to such delivery.

Necessary Scores: Equip. 25, Meth. 50, Total 75

Time of Delivery: Shall be delivered within 36 hours after production.

Bottling: Unless otherwise specified in the permit, this milk or cream shall be delivered to consumers only in bottles.

Labeling: Outer caps of bottles shall be white and shall contain the words Grade A, Raw, in black letters in large type, and shall state the name and address of the dealer.

Pasteurization: None.

Milk or cream (Pasteurized)

Definition: Grade A milk or cream (pasteurized) is milk or cream handled and sold by dealers holding permits therefor from the Board of Health, and produced and handled in accordance with the requirements, rules, and regulations as herein set forth.

Tuberculin Test And Physical Condition: No tuberculin test required, but cows must be healthy as disclosed by physical examination made annually.

Bacterial Contents: Grade A milk (pasteurized) shall not contain more than 30,000 bacteria per cubic centimeter and cream (pasteurized) more then 150,000 bacteria per cubic centimeter when delivered to the consumer or at any time after pasteurization and prior to such delivery. No milk supply averaging more than 200,000 bacteria per cubic centimeter shall be pasteurized for sale under this designation.

Necessary Scores: Equip. 25, Meth. 43, Total 68.

Time of Delivery: Shall be delivered within 36 hours after pasteurization.

Bottling: Unless otherwise specified in the permit, this milk or cream shall be delivered to the consumer only in bottles.

Labeling: Outer cap of bottles shall be white and contain the word Grade A in black letters in large type, date and hours between which pasteurization was completed; place where pasteurization was performed; name of the person, firm, or corporation offering for sale, selling, or delivering same.

Pasteurization: Only such milk or cream shall be regarded as pasteurized as has been subjected to a temperature averaging 145 degrees Fahrenheit for not less than 30 minutes.

Grade B Milk or cream (Pasteurized)

Definition: Grade B milk or cream (pasteurized) is milk or cream produced and handled in accordance with the minimal requirements, rules, and regulations herein set forth and which has been pasteurized in accordance with the requirements and rules and regulations of the Department of Health for pasteurization.

Tuberculin Test And Physical Condition: No tuberculin test required, but cows must be healthy as disclosed by physical examination made annually.

Bacterial Contents: No milk under this grade shall contain more than 100,000 bacteria per cubic centimeter and no claim shall contain more than 500,000 bacteria per cubic centimeter when delivered to the consumer or at anytime after pasteurization and prior to such delivery. No milk supply averaging more than 1,500,000 bacteria per cubic centimeter shall be pasteurized in this city for sale under this designation. No milk supply averaging more than 300,000 bacteria per cubic centimeter shall be pasteurized outside of the city for sale under this designation.

Necessary Scores: Equip. 20, Meth. 35, Total 55

Time of Delivery: Milk shall be delivered within 36 hours and cream within 48 hours after pasteurization.

Bottling: May be delivered in cans or bottles.

Labeling: Outer caps of bottles containing milk and tags affixed to cans containing milk or cream shall be white and marked Grade B in bright green letters in large type, date pasteurization was completed, place where pasteurization was performed, name of the person, firm, or corporation offering for sale, selling, or delivering same. Bottles containing cream shall be labeled with caps marked Grade B in bright green letters, in large type and shall give the place and date of bottling and shall give the name of person, firm, or corporation offering for sale, selling, or delivering same.

Pasteurization: Only such milk or cream shall be regarded as pasteurized as has been subjected to a temperature averaging 145 degrees Fahrenheit for not less than 30 minutes.

Grade C Milk or cream (Pasteurized) (For cooking and manufacturing purposes only.)

Definition: Grade C milk or cream is milk or cream not conforming to the requirements of any of the subdivisions of Grade A or Grade B and which has been pasteurized according to the requirements and rules and

regulations of the Board of Health or boiled for at least two (2) minutes.

Tuberculin Test And Physical Condition: No tuberculin test required, but cows must be healthy as disclosed by physical examination made annually.

Bacterial Contents: No milk of this grade shall contain more than 300,000 bacteria per cubic centimeter and no cream of this grade show contain more than 1,500,000 bacteria per cubic centimeter after pasteurization.

Necessary Scores: Score 40

Time of Delivery: Shall be delivered within 48 hours after pasteurization.

Bottling: May be delivered in the cans only.

Labeling: Tags affixed to cans shall be white and shall be marked in red with the words, Grade C in large type and "for cooking" in plainly visible type, and cans and shall have properly sealed metal collars, painted red on necks.

Pasteurization: Only such milk or cream shall be regarded as pasteurized as has been subjected to a temperature averaging 145 degrees Fahrenheit for not less than 30 minutes.

NOTE.--Sour milk, buttermilk, sour cream, kumyss, matzoon, zoolac, and similar products shall not be made from any milk of a less grade than that designated for Grade B and shall be pasteurized before being put through the process of souring. Sour cream shall not contained a less percentage of fats than that designated for cream.

No other words than those designated herein shall appear on the label of any container containing milk or cream or milk or cream products except the word certified when authorized under the State law.

* * * * *

CARE OF MILK

50. NECESSITY FOR CARE IN THE HOME.--If milk of good quality is bought, and, as has been suggested, this should be done whenever it is possible, the next thing to do is to care for it in such a way that it may be fed to the family in the same condition as it was when delivered. It is, of course, of prime importance that the dairyman deliver clean fresh milk, but this is not sufficient; the milk must remain in this condition until it is used, and this can occur only when the housewife knows how to care for it properly after it enters the home. It is possible to make safe milk unsafe and unsafe milk positively dangerous unless the housewife understands how to care for milk and puts into practice what she knows concerning this matter. Indeed, some of the blame laid to the careless

handling of milk by dairymen really belongs to housewives, for very often they do not take care of milk in the right way after delivery. As too much attention cannot be given to this matter, explicit directions are here outlined, with the idea of assisting the housewife in this matter as much as possible.

51. KEEPING MILK CLEAN IN THE HOME.--Immediately upon delivery, the bottle containing the milk should be placed in the coolest place available, never being allowed to stand on the porch in the sun or where such animals as cats or dogs may come in contact with it. When the milk is to be used, the paper cap should be carefully wiped before it is removed from the bottle, so that any dirt that may be on top will not fall into the milk. If not all the milk is used and the bottle must be returned to the cool place where it is kept, it should be covered by means of an inverted drinking glass or, as shown in Fig. 6, by a glass or porcelain cover. Such covers, or _sanitary milk_ _caps_, as they are called, are very convenient for this purpose and may be purchased at a slight cost.

52. Another precaution that should be taken is never to mix stale milk with fresh milk, because the entire quantity will become sour in the same length of time as the stale milk would. Also, milk that has been poured into a pitcher or any other open vessel and allowed to stand exposed to the air for some time should never be put back into the bottle with the remaining milk. Such milk is sure to be contaminated with the germs that are always present in the dust constantly circulating in the air. It is sometimes necessary to keep milk in a vessel other than the bottle in which it is delivered. In such an event, the vessel that is used should be washed thoroughly, boiled in clean water, and cooled before the milk is poured into it.

[Illustration: Fig. 6]

53. Particular care should be taken of the empty milk bottles. They should never be used for anything except milk. Before they are returned to the dairyman to be used again, they should first be rinsed with cold water, then washed thoroughly with hot, soapy water, and finally rinsed with hot water. If there is illness in the home, the washed bottles should be put into a pan of cool water, allowed to come to a boil, and permitted to boil for a few minutes. Such attention will free the bottles from any contamination they might have received. The dairyman, of course, gives the bottles further attention before he uses them again, but the housewife should do her part by making sure that they are thoroughly cleansed before they are collected by him.

54. KEEPING MILK COOL IN THE HOME.--As has been pointed out, milk should, upon being received, be kept in the coolest place available, which, in the majority of homes at the present time, is the refrigerator. In making use of the refrigerator for this purpose, the housewife should put into practice what she learned in _Essentials of Cookery_, Part 2, concerning the proper placing of food in the refrigerator, remembering that milk should be placed where it will remain the coolest and where it is least likely to absorb odors. She

should also bear in mind that the temperature inside of a refrigerator varies with that of the surrounding air. It is because of this fact that milk often sours when the temperature is high, as in summer, for instance, even though it is kept in the refrigerator.

55. In case a refrigerator is not available, it will be necessary to resort to other means of keeping milk cool. A cool cellar or basement is an excellent substitute, but if milk is kept in either of these places, it must be tightly covered. Then, too, the spring house with its stream of running water is fully as good as a refrigerator And is used extensively in farming districts. But even though a housewife has none of these at her disposal, she need not be deprived of fresh milk, for there are still other ways of keeping milk cool and consequently fresh. A very simple way in which to keep milk cool is to weight down the bottles in a vessel that is deeper than they are and then pour cold water into the vessel until it reaches the top of the bottles, replacing the water occasionally as it becomes warm. A still better way, however, so far as convenience and results are concerned, is that illustrated in Fig. 7. As shown, wrap the bottle in a clean towel or piece of cotton cloth so that one corner of it is left loose at the top. Then place this end in a pan of cold water that stands higher than the bottle. Such an arrangement will keep the cloth wet constantly and by the evaporation of the water from it will cause the milk to remain cool.

[Illustration: FIG. 7]

COOKING MILK

56. POINTS TO BE OBSERVED IN COOKING MILK.--Because of the nature of milk and its constituents, the cooking of this liquid is a little more difficult than would appear at first thought. In fact, heating milk to a temperature greater than 155 degrees Fahrenheit causes several changes to occur in it, one of which, the coagulation of the albumin, has already been mentioned. As the albumin hardens into the layer that forms on the top of boiled milk, a certain amount of fat, sugar, and casein becomes entangled in it, and if the coagulated skin is rejected, these food substances, in addition to the albumin, are lost. Another change that results from boiling is in the fat globules that remain, for these separate and exist no longer in the form of cream.

57. When milk that is not perfectly fresh is cooked with other materials or soups, sauces, and puddings it sometimes curdles. To prevent curdling, the milk should be heated as rapidly as possible before it is used with the other ingredients. While the separate heating of the milk involves a little more work, time may be gained by heating the milk while the remaining ingredients are being prepared. The curdling of comparatively fresh milk is often caused by the addition of salt, especially if the salt is added when the milk is hot. However, if a pinch of bicarbonate of soda is added to the milk before it is heated, it will not be likely to curdle even though it is not absolutely fresh. When tomato is to be used in soup that contains milk or cream, curdling can be prevented if the milk or the cream to be used is thickened with

flour or corn starch or a little soda is added to the tomato before the two are mixed. The mixing is accomplished by pouring the _tomato into the milk_ instead of the milk into the tomato. When acid fruit juices are to be added to milk or cream and the mixture then frozen, curdling can be prevented by thoroughly chilling the milk or cream in the freezer can before combining it with the juices.

58. As has already been learned, great care must be taken in the heating of milk, because the solids that it contains adhere quickly to the bottom of the pan and cause the milk to scorch. For this reason, milk should never be heated directly over the flame unless the intention is to boil it, and even if it must be boiled every precaution should be taken to prevent it from burning. It should be remembered, too, that a very small scorched area will be sufficient to make a quantity of milk taste burned. The utensil in which milk can be heated in the most satisfactory way is the double boiler, for the milk does not come in direct contact with the heat in this utensil. If a double boiler is not available, good results can be obtained by setting one pan into another that contains water.

59. Milk is often used in place of water for cooking cereals, beverages, puddings, soups, etc. This is good practice and should be followed whenever possible, for when milk is added it serves to increase the nutritive value of the food. It should be observed, however, that more time is required to cook grains or cereals in milk than to cook them in water, because milk contains more solid matter than water and is not absorbed so quickly. Another frequent use of milk is in breads and biscuits, where, as is explained in _Bread_ and _Hot Breads_, it produces a browner and more tender crust than water.

60. VARIETY OF WAYS TO USE MILK IN COOKING.--Because of the numerous purposes for which milk is required in the preparation of foods, the smallest amount of it, whether sweet or sour, can be utilized in cooking; therefore, no milk need ever be wasted. A few of the uses to which this food is oftenest put are mentioned briefly in order that the housewife may be familiar enough with them to call them to mind whenever she desires to carry out a recipe that calls for milk or when she has occasion to utilize milk that she has on hand.

Milk thickened slightly with flour and flavored with such material as corn, asparagus, celery, tomatoes, beans, peas, or fish makes a delicious soup. In bisques, or thickened soups, and in chowders, the liquid used need not be milk, but these are made very appetizing if milk is used for part or all of the liquid. Then, too, sauces or gravies made with milk, thickened with flour, and made rich with butter or other fat lend themselves to a variety of uses. Dice of vegetables, meat, fish, or game added to a sauce of this kind and served in pastry cases or over toast provide dishes that are delightful additions to any meal. Milk is also used as the basis for custards, blanc manges, ices, sherbets, ice creams, and tapioca, rice, and bread puddings in which eggs, starchy materials, and flavorings are added and the mixture then baked, steamed, boiled, or frozen, as the desired result may require. As is well known, milk is practically indispensable in the making of cakes, cookies, quick

breads, and in fact nearly all dough mixtures. Even if it has soured, it can be used with soda to take the place of cream of tartar in mixtures that are to be made light, the lactic acid in the sour milk acting with the soda as leavening. Left-over milk in comparatively large quantities may also be used in the home for the making of cheese, although this product of milk is usually produced commercially.

RECIPES FOR MILK DISHES AND SAUCES

FOODS CONTAINING MILK

61. From the discussion given up to this point, it will be noted that milk is used in a large variety of ways and in the making of numerous dishes. However, most of the dishes in which this liquid occurs involve other important materials, so that the recipes for them are usually listed under some other ingredient or division of cookery. For instance, milk is used in the making of ice cream, but as the ice creams are included among cold desserts, recipes for them would naturally come in the Section pertaining to this subject. Milk is also an important ingredient in puddings, but the recipes for such dishes are given in the Section in which puddings and their sauces are discussed.

Because of this fact, there are only a few recipes that have milk as their basis, and this accounts for the small number of recipes here given. Chief among the recipes that involve principally milk are those for junket and white sauce, and while the number of these is small and the use of the dishes not so general as some kinds of food, just as much attention should be given to them as if they occurred in greater numbers and were used more commonly. Junket is very easily made and should therefore cause the housewife no concern; likewise, little difficulty will be experienced if the directions here given for white sauces are followed explicitly.

RECIPES FOR JUNKET

62. Plain Junket.--In the stomachs of all animals that use milk as food is found a digestive ferment known as _rennin_. This is taken from the stomachs of calves, made up commercially, and sold in the form of tablets called _junket_. When these tablets are used properly with milk, they coagulate the milk and make an excellent dessert that resembles custard and that is very easy to digest. Because of its nature and qualities, this kind of dessert is used largely for invalids and children. The following recipe gives the proportion and directions for making this dessert in its simplest form.

PLAIN JUNKET
(Sufficient to Serve Eight)

1 junket tablet
1 Tb. cold water
1 qt. milk

4 Tb. sugar
1/4 tsp. salt
1/2 tsp. vanilla or other flavoring

Dissolve the junket tablet in the cold water. Warm the milk very slowly to 100 degrees Fahrenheit, testing the temperature to make sure that it is right. If a thermometer is not on hand, this can be done by dropping a drop on the back of the hand. When neither heat nor cold can be felt from this drop of milk, it may be known to be very near the body temperature, the temperature at which rennin is active. If temperature is found to be too high, the milk must be cooled before the tablet is added. When the desired temperature has been reached, add the sugar, the alt, the junket dissolved in the water, and the flavoring. Then pour all into individual molds and keep it where it will remain warm for about 10 minutes, at the end of which it should be firm like a custard and may be cooled. Keep the junket cool until it is to be served, when it may be turned out of the mold or served in it. As junket will turn to whey if it is broken with a spoon to any extent, serving it in the mold is the better plan.

[Illustration: FIG. 8]

63. Junket With. Fruit.--The addition of fruit to junket, as in the dish illustrated in Fig. 8, makes an attractive dessert for both sick and well people. If the fruit used is permissible in the diet of an invalid, its combination with junket adds variety to the diet. In the making of this dessert, all juice should be carefully drained from the fruit before the junket is poured over it. Canned or fresh fruits may be used with equally good results.

JUNKET WITH FRUIT
(Sufficient to Serve Eight)

1 junket tablet
1 Tb. cold water
1 qt. milk
1/4 c. sugar
1/4 tsp. salt
Flavoring
8 halves of canned peaches or
1 c. of berries or small fruit

Make a junket as directed in the preceding recipe. Drain all juice from the fruit and place a half peach or a spoonful of fruit in the bottom of each of the eight molds and pour the junket over it to fill the mold. Let it solidify and serve cold.

64. CHOCOLATE JUNKET.--Chocolate added to plain junket not only varies the junket dessert, but also adds food value, since chocolate contains a large quantity of fat that is easily digested by most persons. Where the flavor of chocolate is found agreeable, such junket may be served in place of the plain junket.

CHOCOLATE JUNKET
(Sufficient to Serve Six)

3 c. milk
2 sq. chocolate
6 Tb. sugar
3/4 c. water
1/4 tsp. salt
1/2 tsp. vanilla
1 junket tablet

Heat the milk to 100 degrees Fahrenheit, testing in the manner explained in Art. 62. Melt the chocolate in a saucepan, add to it the sugar and 1 cupful of water, and cook until smooth; then cool and add to the warm milk, putting in the salt, vanilla, and junket tablet dissolved in cupful of the water. Turn the junket into a dish or into molds and let stand in a warm place until set; then chill and serve. In preparing this recipe, it will be well to note that if sweet chocolate is used less sugar than is specified may be employed.

65. CARAMEL JUNKET.--In the making of caramel junket, browned, or caramelized, sugar and water take the place of part of the milk, and while a certain amount of the sugar is reduced in the browning, the caramel is still very high in food value and adds nutritive material to the dessert. There is nothing about caramel junket to prevent its being given to any one able to take plain junket, and if it is made correctly it has a very delightful flavor.

CARAMEL JUNKET
(Sufficient to Serve Six)

3 c. milk
1/2 c. sugar
1/2 c. boiling water
1/4 tsp. salt
1 tsp. vanilla
1 junket tablet
Whipped cream
1/4 c. chopped nuts

Heat the milk to 100 degrees Fahrenheit. Caramelize the sugar by melting it in a saucepan directly over the flame until it is a light-brown color; then stir in the boiling water and cook until the caramel and the water become a sirup, after which cool and add to the milk Add the salt, the vanilla, and the junket tablet dissolved in a tablespoonful of cold water Pour the mixture into a dish, let it stand in a warm place until it sets; then chill, cover with sweetened whipped cream, sprinkle with chopped nuts, and serve.

RECIPES FOR WHITE SAUCE

66. Three white sauces are commonly used for different purposes, and in

each one of them milk is the basis. These sauces differ from one another in thickness, and include _thin white sauce_, which is used for cream toast and soups; _medium white sauce_, which is used for dressing vegetables and is flavored in various ways to accompany meats, patties, or croquettes; and _thick white sauce_, which is used to mix with the materials used for croquettes in order to hold them together. To insure the best results, the proportion of flour and liquid should be learned for each kind, and to avoid the formation of lumps the proper method of mixing should be carefully followed out. A white sauce properly made is perfectly smooth, and since only little care is needed to produce such a result it is inexcusable to serve a lumpy sauce. Also, nothing is more disagreeable than thick, pasty sauce, but this can be avoided by employing the right proportion of flour and milk. The ingredients and their proportions for the various kinds of white sauce are as follows:

THIN WHITE SAUCE

1 c. milk
1 Tb. butter
1 Tb. flour
1/2 tsp. salt

MEDIUM WHITE SAUCE

1 c. milk
2 Tb. butter
2 Tb. flour
1/2 tsp. salt

THICK WHITE SAUCE

1 c. milk
2 Tb. butter
1/4 c. (4 Tb.) flour
1/2 tsp. salt

It will be easy to remember the proportions for these three sauces if it is observed that each one doubles the previous one in the quantity of flour used, the thin one having 1 tablespoonful to 1 cupful of milk, the medium one 2 tablespoonfuls to 1 cupful of milk, and the thick one 4 tablespoonfuls to 1 cupful of milk. To produce these sauces the ingredients may be combined in three different ways, each of which has its advantages. These methods, which are here given, should be carefully observed, for they apply not only to the making of this particular sauce, but to the combining of fat, starch, and liquid in any sauce.

Method 1.--Heat the milk, being careful that it does not scorch. Brown the butter slightly in a saucepan, add the flour and salt, and stir the mixture until it is perfectly smooth and has a deep cream color. Then add the hot milk gradually, stirring to prevent the formation of lumps. Cook 5 minutes, stirring constantly to prevent the sauce from scorching. Sauce made according to this method does not require long cooking because the flour added to the hot fat cooks quickly. In fact, it is a

very desirable method, for the browned butter and the flour lend flavor to the sauce. Many otherwise unattractive or rather tasteless foods can be made much more appetizing by the addition of white sauce made in this way.

Method 2.--Put the milk on to heat. While this is heating, stir the butter, flour, and salt together until they are soft and well mixed; then add the hot milk to them slowly, stirring constantly. Place over the heat and finish cooking, or cook in a double boiler. Sauce made by this method requires longer cooking than the preceding one and it has less flavor.

Method 3.--Heat the milk, reserving a small portion. Stir the flour smooth with the cold milk and add it to the hot milk, stirring rapidly. Add the butter and the salt, and continue to stir if cooked over the heat; if cooked in a double boiler, stir only until the mixture is completely thickened and then continue to cook for 10 or 15 minutes. When butter is added to the mixture in this way, it is likely to float on top, especially if too much is used. A better sauce may be made according to this method by using thin cream for the liquid and omitting the butter.

MILK, BUTTER, AND CHEESE (PART 1)

EXAMINATION QUESTIONS

(1) When milk is used in a meal, what kinds of food may be omitted?

(2) Name the chief uses of milk in the dietary.

(3) Why is it possible for a child to remain in normal condition if given only milk for a long period of time?

(4) Name the solids contained in milk and tell for what each one is valuable.

(5) What causes milk to sour?

(6) What are the characteristics of wholesome milk?

(7) What is meant by the adulteration of milk?

(8) What quality of milk is of the most importance to the health of those using milk?

(9) (_a_) Why is dirty milk dangerous? (_b_) Pour a quart of the milk you purchase regularly through a pad of cotton. Note the result and report the condition of the milk by comparing the cotton with the disks shown in Fig. 2.

(10) Name some of the ways in which milk is likely to become contaminated.

(11) What is the safest kind of market milk to buy?

(12) Describe the conditions under which milk of this kind is marketed.

(13) (_a_) What is pasteurized milk? (_b_) What is the purpose of pasteurization?

(14) How may milk be pasteurized in the home?

(15) (_a_) When should milk be sterilized? (_b_) What changes take place in the sterilization of milk?

(16) What points should be considered in the purchase of milk?

(17) Why is it necessary to give milk considerable care in the home?

(18) Mention the precautions that should be observed in caring for milk.

(19) (_a_) How is milk affected by cooking? (_b_) Describe the best way to heat milk.

(20) Give the proportions of flour and liquid required in each of the three varieties of white sauce.

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BUTTER AND BUTTER SUBSTITUTES (PART 2)

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BUTTER

1. BUTTER is the fatty constituent of milk. It is obtained by skimming or separating the cream from milk and churning it in order to make the particles of fat adhere to one another. Butter is used largely in the household as an article of food, for it is one of the most appetizing and digestible forms of fat.

To supply the demand for butter, it is produced domestically in the home and on farms and commercially in dairies and large establishments. The principle of all churns used for butter making is practically the same. They simply agitate the cream so that the butter-fat globules in it are brought together in masses of such size as to enable the butter maker to separate them from the buttermilk. Butter is seasoned, or salted, to give it a desirable flavor and to improve its keeping qualities; it is washed, or worked, in order to distribute the salt evenly, to separate from it as much of the curd and other non-fatty constituents of the cream as can be conveniently removed, to bring it into a compact, waxy mass, and to give it texture. The United States authorities have set a standard for the composition of butter, which allows this product to

contain not more than 16 per cent. of water and requires it to have at least 82.5 per cent. of butter fat.

2. ECONOMICAL USE OF BUTTER.--In the home, butter is used on the table and in the cooking of many foods. Hardly any article of food has such general use as this one; in fact, a meal is usually considered to be incomplete without it, both as an accompaniment to bread, rolls, biscuits, or whatever variety of these is used, and as an ingredient in the cooking of some foods that require fat. But butter is not cheap, so that the wise and economical use of this food in the home is a point that should not be overlooked by the housewife. This precaution is very important, it having been determined that butter, as well as other fats, is wasted to a great extent; and still it is true that no other material can be so economically utilized. The very smallest amount of any kind of fat should be carefully saved, for there are numerous uses to which it can be put. Even though it is mixed with other food, it can always be melted out, clarified--that is, freed from foreign substances--and then used for some purpose in cooking. The chief way in which butter is wasted is in the unnecessary and improper use of it, points that a little careful thought will do much to remedy.

3. FLAVOR AND COMPOSITION OF BUTTER.--That the housewife may have an understanding of the food substances found in butter and also learn how to determine the quantity of butter needed for her family, she should become familiar with the composition of this food. The flavor of butter depends to a great extent on the kind of cream from which it is made, both sweet and sour cream being used for this purpose. Of these two kinds, sour cream is the preferable one, because it gives to the butter a desirable flavor. Still, the unsalted butter that is made from sweet cream is apparently growing in favor, although it is usually more expensive than salted butter. The difference in price is due to the fact that unsalted butter spoils readily.

4. So far as its food substances are concerned, butter is composed largely of fat, but it also contains water, protein in the form of casein, and mineral matter. The quantity of water contained in butter determines to a large extent the weight of butter, since water is heavier than fat; but as only 16 per cent, of water is allowed, butter that contains more water than this is considered to be adulterated. As very little milk is retained in butter, only a small percentage of protein is found in this food. However, a considerable quantity of mineral salts are present, and these make it more valuable than most of the other fats. Because of the nature of its composition--a very high percentage of fat and a low percentage of protein--butter is distinctly a fuel food, that is, a heat-producing food. Of course, there are cheaper fats, some of which are even better heat-producing foods than butter, but as their flavor is not especially agreeable to some persons, they are not used so extensively.

In view of the nature of the composition of this food, an ounce of butter a day is the average allowance for each person when the diet of a family contains meat and such other fats as lard, olive oil, etc. At the most, 1/2 pound of butter should be purchased each week for each member

of the family for table use, and fats cheaper than butter should be used for cooking purposes.

5. PURCHASING BUTTER.--As in the case of milk, in order that the housewife may judge the quality of the butter she purchases, she will do well to look into the cleanliness and sanitary condition of the dairy that produces it. Too much attention cannot be given to this matter, for if cream becomes contaminated from careless handling, the same contamination is liable to occur in the butter made from it. Butter that is produced in dairies that make large quantities of it usually has not much opportunity to become contaminated before it reaches the consumer, for it is generally pressed into 1-pound prints, and each one of these is then wrapped and placed in a paper carton. On the other hand, the farmer and the dairyman doing a small business do not find it profitable to install the equipment required to put up butter in this way, so they usually pack their butter into firkins or crocks or make it into rolls. When such butter goes to market, it is generally placed in a refrigerator with more butter of the same sort, some of which is good and some bad. As butter absorbs any strong odor present in the refrigerator and is perhaps cut and weighed in a most unsanitary manner, the good becomes contaminated with the bad. While butter of this kind is perhaps a few cents cheaper than that which is handled in a more sanitary way, it is less desirable, and if possible should be avoided by the housewife. In case butter is obtained from a certain farm, the conditions on that farm should be looked into for the same reason that the conditions in a dairy are investigated.

6. To be able to select good butter, the housewife should also be familiar with its characteristics. In color, butter to be good should be an even yellow, neither too pale nor too bright, and should contain no streaks. The light streaks that are sometimes found in butter indicate insufficient working. As to odor, butter should be pleasing and appetizing, any foreign or strong, disagreeable odor being extremely objectionable. Stale butter or that which is improperly kept develops an acid called _butyric acid_, which gives a disagreeable odor and flavor to butter and often renders it unfit for use.

7. CARE OF BUTTER.--The precautions that the farmer and dairyman are called on to observe in the making and handling of butter should be continued by the housewife after she purchases butter for home use. The chief point for her to remember is that butter should be kept as cold as possible, because a low temperature prevents it from spoiling, whereas a high one causes it to become soft and less appetizing. The most satisfactory place in which to keep butter is the refrigerator, where it should be placed in the compartment located directly under the ice and in which the milk is kept, for here it will not come in contact with foods that might impart their flavors to it. Should no refrigerator be available, some other means of keeping butter cold must be resorted to, such as a cool cellar or basement or a window box.

The way in which butter is bought determines to a certain extent the method of caring for it. If it is bought in paper cartons, it should be rewrapped and replaced in the carton each time some is cut off for use.

In case it is bought in bulk, it should never be allowed to remain in the wooden dish in which it is often sold; rather, it should be put into a crock or a jar that can be tightly covered.

8. Attention should also be given to butter that is cut from the supply for the table or for cooking purposes and that is not entirely used. Such butter should never be returned to the original supply, but should be kept in a separate receptacle and used for cooking. If it contains foreign material, it can be clarified by allowing it to stand after it has melted until this has settled and then dipping or pouring the clear fat from the top. Butter that has become rancid or has developed a bad flavor need not be wasted either, for it can be made ready for use in cooking simply by pouring boiling water over it, allowing it to cool, and then removing the layer of fat that comes to the top. Such butter, of course, cannot be used for serving on the table. Still, consideration on the part of the housewife to just such matters as these will prevent much of the waste that prevails in the household in the use of this food.

9. COOKING WITH BUTTER.--While some housewives make it a practice to use butter in cooking of all kinds, there are uses in which other fats are preferable; or, in case butter is desired, there are certain points to be observed in its use. For instance, butter is rendered less digestible by cooking it at a high temperature, as in frying or sautØing; also, it cannot be used to any extent for the frying of foods, as it burns very readily. If it is used for sautØing, the dish is made much more expensive than is necessary, so that in most cases a cheaper fat should be employed for this purpose. In addition, a point to remember is that this fat should not be used to grease the pans in which cakes and hot breads are baked unless it is first melted, because the milk contained in the butter burns easily; after it is melted, only the top fat should be used. When butter is desired for very rich cakes and for pastry, it is usually washed in cold water to remove the milk. To neutralize the sour milk contained in butter that is used for baking purposes, a little soda is sometimes employed.

Further economy can be exercised in the use of butter if a little thought is given to the matter. For instance, when butter is melted and poured over meat or fish that has been broiled or over vegetables that have been cooked in a plain way, much of it usually remains in the dish and is wasted. Such butter can be utilized again. Since butter undergoes a change when it is cooked, it should be mixed with cooked foods to flavor them, rather than be subjected to the temperature necessary for cooking.

When butter is used for spreading sandwiches, it usually will be found advisable to soften the butter by creaming it with a spoon, but it should never be melted for this purpose.

10. SERVING BUTTER.--When butter is used for the table, some consideration must be given to the serving of it. Probably the most usual way of serving butter is to place a slice of it on a plate and then pass the plate with a knife to each person at the table. The

advantage of this method is that each person can take the amount desired and thus prevent waste. However, a still more desirable way of serving butter that is to be passed is to cut it into small cubes or squares or to shape it into small balls and then serve it with a fork or a butter knife. To prevent the pieces or balls of butter from melting in warm weather, cracked ice may be placed on the butter dish with them. Butter cut into cubes or squares may also be served on an individual butter dish or an individual bread-and-butter plate placed at each person's place before the meal is served. Whichever plan is adopted, any fragments of butter that remain on the plates after a meal should be gathered up and used for cooking purposes.

[Illustration: FIG 1]

11. Butter that comes in pound prints lends itself readily to the cutting of small cubes or squares for serving. Such butter may be cut by drawing a string through the print or by using a knife whose cutting edge is covered with paper, a small piece of the oiled paper such as that in which the butter is wrapped answering very well for this purpose.

If butter balls are desired for serving, they may be rolled with butter paddles in the manner shown in Fig. 1. To make butter balls, put wads of the butter to be used into ice water so as to make them hard. Then place each wad between the paddles, as shown, and give the paddles a circular motion. After a little practice, it will be a simple matter to make butter balls that will add to the attractiveness of any meal. Paddles made especially for this purpose can be purchased in all stores that sell kitchen utensils.

[Illustration: FIG. 2]

12. Sometimes, for practical purposes, it is desired to know the quantity of butter that is served to each person. In the case of print butter, this is a simple matter to determine. As shown in Fig. 2, first mark the pound print in the center in order to divide it in half; after cutting it into two pieces, cut each half into two, and finally each fourth into two. With the pound print cut into eight pieces, divide and cut each eighth into four pieces. As there will be thirty-two small pieces, each one will represent one thirty-second of a pound, or 1/2 ounce.

BUTTER SUBSTITUTES

13. In about the year 1870, through a desire to procure a cheaper article than butter for the poorer classes of France, came the manufacture of the first substitute for butter. Since that time the use of butter substitutes has gradually increased, until at the present time millions of pounds are consumed every year. A certain amount of prejudice against their use exists, but much of this is unnecessary for they are less likely to be contaminated with harmful bacteria than the poorer qualities of butter. Then, too, they do not spoil so readily, and

for this reason they can be handled with greater convenience than butter.

14. OLEOMARGARINE.--The best substitute for butter and the one most largely used is called oleomargarine, which in the United States alone constitutes about two and 1/2 per cent. of all the fat used as butter. This fat is called by various other names, such as _margarine,_ and _butterine_, but oleomargarine is the name by which the United States authorities recognize the product. It is made by churning fats other than butter fat with milk or cream until a butterlike consistency is obtained. Originally, pure beef fat was employed for this purpose, and while beef fat is used to a great extent at present, lard, cottonseed oil, coconut oil, and peanut oil are also used. Whatever fats are selected are churned with milk, cream, and, for the finest grades, a considerable percentage of the very best pure butter. After they are churned, the oleomargarine is worked, salted, and packed in the same manner as butter.

15. The manufacture and sale of butter substitutes are controlled by laws that, while they do not specify the kind of fat to be used, state that all mixtures of butter with other fats must be sold as oleomargarine. They also require that a tax of 10 cents a pound be paid on all artificially colored oleomargarine; therefore, while coloring matter is used in some cases, this product is usually sold without coloring. In such an event, coloring matter is given with each pound of oleomargarine that is sold. Before using the oleomargarine, this coloring matter is simply worked into the fat until it is evenly colored.

16. RENOVATED BUTTER.--Another substitute that is sometimes used to take the place of the best grades of butter is renovated, or process, butter. This is obtained by purifying butter that is dirty and rancid and that contains all sorts of foreign material and then rechurning it with fresh cream or milk. The purifying process consists in melting the butter, removing the scum from the top, as well as the buttermilk, brine, and foreign materials that settle, and then blowing air through the fat to remove any odors that it might contain. Butter that is thus purified is replaced on the market, but in some states the authorities have seen fit to restrict its sale. While such restrictions are without doubt justifiable, it is possible to buy butter that is more objectionable than renovated, or process, butter, but that has no restriction on it.

17. METHOD OF TESTING BUTTER SUBSTITUTES.--Very often oleomargarine and process butter bear such a close resemblance to genuine butter that it is almost impossible to detect the difference. However, there is a simple test by which these substitutes can always be distinguished from butter, and this should be applied whenever there is any doubt about the matter. To make this test, place the fat in a tablespoon or a small dish and heat it directly over the flame until it boils, stirring it occasionally to assist in the melting. If it is oleomargarine or process butter, it will sputter noisily and take on a curdled appearance; whereas, if it is butter, it will melt and even boil without sputtering

although it foams to a certain extent.

* * * * *

CHEESE

CHARACTERISTICS AND CARE OF CHEESE

18. ORIGIN, PRODUCTION, AND USE OF CHEESE.--Cheese is a product that is manufactured from the solids of milk, and it provides a valuable food. The making of cheese was known in ancient times, it having probably originated through a desire to utilize an oversupply of milk. When cheese was first made, the fact that bacteria were present was not known, nor were the reasons for the spoiling of milk understood; but it was learned that milk can be kept if most of its water is removed. This discovery was very important, for it led to various methods of making cheese and proved that cheese making was a satisfactory and convenient means of storing nourishment in a form that was not bulky and that would keep for long periods of time. From a very small beginning, the different methods of making cheese became popular, until at the present time more than three hundred varieties are made and their manufacture forms one of the large industries of the world.

In the United States, nearly all the cheese used up to about 50 years ago was made on farms, and to a great extent by housewives, but about that time a factory for the making of this product was started in the state of New York, and it proved a profitable enterprise. From this beginning, the business of making cheese commercially in this country has grown until now cheese is almost entirely a factory-made product, in the manufacture of which the states of New York and Wisconsin lead.

19. In either the commercial or the home production of cheese, skim milk with all or part of the cream removed is used for some varieties, while whole milk is used for others, the composition depending largely on the kind of milk that is employed. Rennet is added to the milk to coagulate it, and then the curd, from which nearly all the water is removed, is allowed to ripen. To produce characteristic odors, flavors, and consistency, various coloring and flavoring materials, as well as bacteria, are added to the curd. The action of these bacteria is really the chief factor in the making of cheese and they are therefore not only desirable but necessary. Non-desirable bacteria, however, result in the formation of bad odors, flavors, and gases in the finished product and these must be carefully guarded against by cheese makers.

[Illustration: Fig. 3]

20. Cheese offers a valuable source of nutriment for the body, because its food value ranks high. As is shown in Fig. 3, the food value in 1 pound of cheese is equivalent to that in 2 pounds of beef, that in 24 eggs, or that in 4 pounds of fish. The use of cheese, however, is not nearly so great as its food value warrants, the amount used in the United States per capita being only about 3-1/2 pounds annually. This is a condition that should be overcome, for there is a large variety of

ways in which cheese can be used to advantage in the diet. When eaten raw, it is very appetizing, and when used with soups, sauces, and foods that have a bland taste, it lends additional flavor and makes an especially attractive dish. In addition, the fact that it is an economical food and can be conveniently kept and stored should recommend its frequent use.

21. COMPOSITION OF CHEESE.--Since cheese is a product of milk, it is somewhat similar to milk in composition, but the change that occurs in the formation of cheese causes some differences. Nearly all the water present in milk is removed during the manufacture of cheese, so that this product becomes a concentrated food made up of all the nourishment that milk contains except small amounts of albumin, milk sugar, and mineral matter. These, because they are in solution in the water, are lost when the whey is separated from the curd. The food substances that occur in the largest amounts are fat and protein in the form of casein, which is the tissue-building material of milk. Cheese made from milk that contains some cream has in it a greater amount of fat than that made from completely skimmed milk. Besides these two chief food substances, cheese contains a small amount of milk sugar, mineral matter, and water.

22. On account of the large quantity of protein found in cheese, this food can readily take the place of meat in the diet; in fact, it has some decided advantages over meat. As has been pointed out, cheese yields more than twice as much food value as an equal weight of beef. Then, too, the buying and care of cheese are much simpler matters than the buying and care of meat. As it does not require the low temperature that meat requires and does not spoil so readily, it can be bought in considerable quantity and used as desired without danger of spoiling and loss. In addition, the use of cheese as food does not require so much skill in preparation as meat does, nor is there loss of flavor and nutriment in its preparation, as is often the case with meat.

23. QUALITY OF CHEESE.--Every variety of cheese has its own standard and quality, some being hard and dry, others moist, and still others very soft. The difference in quality is due to the way in which the curd is coagulated, the amount of pressure that is put on it, and the ripening of the cheese. The holes that often occur in cheese and give it a porous appearance are formed by gas, which is the product of the growth of bacteria. A large number of very small holes in cheese indicate that the milk used to make it was not clean and contained many kinds of bacteria. This condition could be overcome by the use of absolutely clean milk; indeed, milk of this kind is as necessary for the production of good cheese as it is for the making of good butter. Certain cheeses, such as Limburger and Roquefort, have a typical odor and flavor, the odor being due to bacteria and the flavor to mold. These are carefully grown and introduced into the cheese during its manufacture.

24. CARE OF CHEESE.--The very strong odor and flavor that characterize cheese make it necessary that care be given to cheese in the home in order to prevent it from coming in contact with other foods and transmitting its odor and flavor to them. The best place to keep cheese,

particularly the soft varieties, is in the refrigerator, where it should be placed in a closed receptacle and kept as far as possible from foods that are easily tainted. It is well to avoid a damp place for the keeping of cheese, as mold frequently develops on the outside when too much moisture is present; but in case mold does appear it can be removed by cutting a thin slice from the side on which it has grown. On the other hand, cheese that is kept in a dry place becomes hard and dry unless it is wrapped in oiled paper or a damp cloth. However, such cheese need not be thrown away, for there are numerous uses, particularly in cooking, to which it can be put.

* * * * *

KINDS OF CHEESE

CLASSIFICATION OF VARIETIES

25. The cheese used in the United States may be included under two leading classes, namely, _foreign cheese_ and _domestic cheese_. Since the foreign cheeses are imported, they are more expensive than the cheeses made here, and should not be bought if cheese is to be used as an economical article of food. They are valuable chiefly for their flavor and are generally bought for this reason. The domestic cheeses can be used in larger quantities, for, besides being less expensive, they are usually of a milder type and are more easily digested. To enable the housewife to become familiar with the principal varieties of each of these classes, a discussion of them, including their names, characteristics, and, in some cases, their use and the method of making, is here given. In addition, there are shown in colors, in Fig. 4, a large number of cheeses, together with a print of butter _o_, which serves to illustrate the irregular surface that is exposed when good butter is broken apart.

IMPORTED CHEESE

26. Each of the European countries has originated its own peculiar kind of cheese, which remains representative of a certain people or locality. The majority of these cheeses have met with so much favor in the United States that large quantities of them are continually imported. A few of them have been copied here with success, but others have not been successfully made. While these are not in such common use as the domestic cheeses, it is well for every one to know their names and the characteristics by which they can be identified.

27. ENGLISH CHEESE.--Chief among the kinds of cheeses made in England is CHEDDAR CHEESE, which is illustrated at _a_, Fig. 4. It is rich, double-thick cream cheese, ranging from a pale to a dark yellow, although when uncolored it may be white. Such cheese, when fresh, has a milk flavor, but when it is well ripened it has a characteristic sharp taste. New Cheddar cheese is soft, but not waxy, in texture and may readily be shaved or broken into small pieces; when it is well ripened, it may be grated. English Cheddar cheese is not unlike AMERICAN CHEDDAR

CHEESE, or, as it is commonly called, _American cream cheese_, which is shown by _b_. In fact the American variety is made according to the method used for the English. Owing to its characteristics, flavor, and abundance, Cheddar cheese, both English and American, is the kind that is used most extensively in the United States.

ENGLISH DAIRY CHEESE, shown at _d_, is similar to Cheddar cheese, although it has a reddish color and, on account of the method of manufacture, it is harder. This kind of cheese lends itself well to cooking, as it may be easily grated.

CHESHIRE CHEESE, a well-known English variety, is a dry cream cheese made from whole cow's milk. It is deep yellow or red in color, similar in flavor to Cheddar cheese, and is used in much the same manner.

[Illustration]

[Illustration]

STILTON CHEESE, shown at _m_, is a hard cheese made from cow's milk to which cream has been added and which is coagulated with rennet. Mold is introduced into this cheese, so that it resembles Roquefort cheese, which is shown at _j_.

28. HOLLAND CHEESE.--The variety of cheese shown at _e_, Fig. 4, is known as EDAM CHEESE. It is a hard rennet cheese of a red color and is mild in flavor. This kind of cheese is molded into the shape of a ball, the outside of which is usually dyed red, and will keep for a long period of time. Edam cheese is one of the important products of the Netherlands, and while it is seldom used in cookery in the homes of this country, it is served at the table. Usually a section of the top is cut off to serve as a lid while the inside is scooped out as needed. Sometimes, after most of the cheese has been removed, the hollow shell is stuffed with macaroni or rice that has been cooked and seasoned and the food then baked in the shell.

29. FRENCH CHEESES.--Among the French cheeses, the variety called GRUY¨RE CHEESE, which is shown at _f_, Fig. 4, is well liked. It is usually made of skim milk, has a yellow color and a mild, sweetish flavor, and contains large holes like those found in Swiss and Emmenthal cheeses, varieties that are very similar to it. Like these cheeses, GruyŁre cheese may be used in cooking or served without cooking, being used considerably in the making of sandwiches.

BRIE CHEESE is a French variety of very soft cheese, with a strong flavor and odor. It is made from whole or partly skimmed cow's milk coagulated by means of rennet. This kind of cheese is used mostly as an accompaniment to other foods.

CAMEMBERT CHEESE, which is shown at _h_, is also a soft cheese. It is made by practically the same process as Brie cheese and is used in the same way. This cheese has a typical odor. Its rind is thick and dry, but its center is very soft, being sometimes almost liquid.

NEUFCH´TEL CHEESE, which is shown at _i_, is a soft rennet cheese made from cow's milk. It is made at Neufchâel-en-Bray, France, and not at Neufchâel, Switzerland. This variety of cheese is wrapped in tin-foil and sold in small packages. It is used chiefly for salads, sandwiches, etc. As it does not keep well after the package is opened, the entire contents should be used at one time.

ROQUEFORT CHEESE, which is shown at _j_, is a hard, highly flavored cheese made from sheep's milk coagulated with rennet. It has a marbled appearance, which is due to a greenish mold that is introduced. Roquefort cheese is frequently served with crackers at the end of a meal, and is well liked by many persons.

30. ITALIAN CHEESES.--From Italy is imported a cheese, called PARMESAN CHEESE, that is used extensively for flavoring soups and macaroni dishes. This cheese, which is shown at _g_, Fig. 4, is very hard and granular and, provided it is well made, it will keep for years. Owing to its characteristics, it may be easily grated. It can be bought by the pound and grated as it is needed, or it can be secured already grated in bottles.

GORGONZOLA, another Italian cheese, is shown at _k_. It is not unlike Roquefort in appearance and in use, but it is made from whole cow's milk coagulated with rennet. Into this cheese is also introduced a mold that gives its center a streaked or mottled appearance.

31. SWISS CHEESES.--Possibly the best known cheese imported from Switzerland is the variety known as SWISS, or SWITZER, CHEESE. This kind of cheese has different names, depending on the district of Switzerland in which it is made. Nevertheless all of them are similar and have a mild, sweet flavor. Swiss cheese may be readily recognized by its pale yellow color and the presence of large holes, although it resembles GruyŁre cheese very closely.

EMMENTHAL CHEESE is a variety of fairly hard cheese that originated in Switzerland, but is now made in many other countries. It is similar to Swiss cheese, being made from whole cow's milk and characterized by large holes about 3 inches apart.

SAPSAGO CHEESE, shown at _n_, Fig. 4, is a skim-milk cheese made in Switzerland. It is a very hard cheese, and therefore suitable for grating. In the process of making this cheese, melilot, a clover-like herb, is added, and this gives the cheese a green color and a peculiar flavor.

32. BELGIAN CHEESE.--A cheese that originated in Belgium, but is now manufactured in other countries, is the variety known as LIMBURG, or LIMBURGER, CHEESE, cheese, which is shown at _l_, Fig. 4. It is a soft rennet cheese made from whole cow's milk. It is very strong in taste and smell, due to putrefactive germs that are added to the milk in its manufacture.

DOMESTIC CHEESE

33. In the United States, efforts that have been exerted to make cheeses similar to some of those produced in Europe have to a certain extent been successful. American cheese makers have succeeded in making several soft cream cheeses that resemble Neufchâel, some of which are spiced or flavored with pimiento, olives, etc. In addition, Limburg and Swiss cheeses have been successfully manufactured in Wisconsin, and Brie, Neufchâel, and Camembert have been copied and are produced in New York. Pineapple cheese, while of American origin, is really very much like English Cheddar cheese, except that it is harder. But while these fancy cheeses are desired by some persons and have a moderately large sale, the cheese for which there is the most demand in America is the so-called American Cheddar cheese, which, as has been stated, is made according to the method used for English Cheddar cheese.

34. AMERICAN CHEDDAR CHEESE.--Since American Cheddar cheese is the kind that is commonly used in this country, the way in which it is made will be well to know. The milk used for this kind of cheese is first inspected as to cleanliness and the extent of fermentation it has undergone, and when these points are ascertained, it is _ripened_; that is, allowed to sour to a certain degree of acidity. At this stage, coloring matter is added, after which the milk is prepared for setting by bringing it to a certain temperature. With the temperature at the right point, rennet is added to coagulate the milk, or form the curd. The milk is then allowed to remain undisturbed until the action of the rennet is at a certain point, when the curd is cut into little cube-shaped pieces by drawing two sets of knives through it and thus is separated from the whey. As soon as the curd is cut, the temperature of the mass is raised to help make the curd firm and to cause the little cubes to retain their firmness, and during the entire heating process the whole mass is stirred constantly to assist in the separation from the whey. When the curd is sufficiently firm, the whey is removed and the particles of curd are allowed to adhere and form into a solid mass. If necessary, the curd is cut again into small pieces to get rid of the excess whey; but if the curd is too dry, the pieces must be piled up until they are four or five deep. During this process, which is known as the _cheddaring_ of the cheese, the curd is treated until it is of the proper texture to be _milled_, that is, put into a mill and ground into small pieces. The object of milling the curd is to cut it into pieces small enough to permit of uniform salting and the further escape of whey. When the curd has been brought to this point, it is salted and then pressed into molds. Finally, it is wrapped and cured, or ripened.

35. BRICK CHEESE.--Another American cheese that seems to meet with a popular demand is brick cheese. This kind of cheese, which is illustrated at _c_, Fig. 4, gets its name from the fact that it is pressed into "bricks" under the weight of one or two bricks. It is made from sweet milk, coagulated with rennet, cut with curd knives, and heated in the whey to firm it. Brick cheese is mild in flavor and of a moderately close texture. It is used chiefly as an accompaniment to other foods.

36. AMERICAN HOME-MADE CHEESE.--The making of Cheddar cheese and brick cheese is, of course, done commercially, but there is a kind of cheese that can be made very conveniently in the home. This home-made cheese, which is generally known as COTTAGE CHEESE, affords an excellent way in which to utilize left-over sour milk, particularly if a quart or more can be obtained at one time; smaller quantities can generally be used for baking purposes.

If properly made, such cheese is very digestible. As it can be seasoned and served in a variety of ways, it makes a delightful addition to lunches or other light meals in which a protein dish, such as meat, is undesirable. Skim milk does very well for this kind of cheese, so that if the sour milk that is to be used has cream on it, the cream should be removed before the cheese is made; otherwise, it will remain in the whey and be lost. In case cream is desired to improve the texture and flavor of the cheese, it should be added after the cheese is made.

[Illustration: FIG. 5]

37. To make cottage cheese, allow a quantity of sour milk to clabber, that is, become curdled, and then place it on the back of the stove in a thick vessel, such as a crock, until the whey begins to appear on the top, turning it occasionally so that it will heat very slowly and evenly. Do not allow the temperature to rise above 90 degrees Fahrenheit, or the curd will become tough and dry. Remember that the two things on which the success of this product depends are the flavor of the milk used and the proper heating of it. No difficulty will be encountered in the heating of the milk if a coal or a wood stove is used, but in case a gas stove must be used, the vessel containing the milk should be placed in a larger one containing warm water and the milk should be heated in this manner until the curd and the whey begin to separate. At this point, pour off all the whey possible, and turn the curd into a cloth bag or a colander lined with cloth, as shown in Fig. 5, and allow any remaining whey to drip out. If, after the whey is removed, the curd tastes sour, wash it with warm water and allow it to drip again. Then season it with salt to suit the taste and, provided cream is desired, add it at this time, using sweet or sour cream. To work in the cream, press it into the curd with a spoon until the cheese is quite smooth.

Cheese made in this way may be flavored with anything desirable. For instance, chopped pimiento, parsley, olives, or nuts improve the flavor of the cheese very much and make a very appetizing combination. The dry curd mixed with any of these makes a delightful salad when it is pressed into balls, garnished with lettuce, and served with salad dressing.

38. JUNKET COTTAGE CHEESE.--Another variety of cottage cheese can be prepared by using sweet milk and forming the curd with a junket tablet, one tablet being required for each quart of milk. To make cheese of this kind, heat the milk until it is lukewarm, or not over 98 degrees Fahrenheit, and then add the junket tablet dissolved in cold milk or water. Keep the milk warm until the curd forms, and then break up the

curd with a spoon and pour the whole mass into a bag or a colander lined with cloth. When all the whey is drained out, the curd, which will be sweet, can be seasoned in any desired way or mixed with cream and served. If more flavor is preferred, the curd may be allowed to sour or may be mixed with sour cream.

39. BUTTERMILK CREAM CHEESE.--A slight variation from the cottage cheeses just described is buttermilk cream cheese. This cheese is formed from the curd of buttermilk, which is finer in texture and not so likely to become tough as that formed from ordinary sour milk. To prepare buttermilk cream cheese, warm the buttermilk slowly, being careful not to allow the temperature to rise beyond 100 degrees Fahrenheit. As the milk is heated, the curd will form and will gradually sink to the bottom of the vessel. After this occurs, remove the whey and mix the curd with a little thick cream. The result will be a mixture having a delightfully creamy consistency.

SERVING CHEESE

40. Cheese does not lend itself readily to many ways of serving, still it frequently adds zest to many foods. When grated, it may be passed with tomato or vegetable soup and sprinkled in to impart an unusual flavor. In this form it may also be served with macaroni and other Italian pastes, provided cheese has not been included in the preparation of such foods. When sliced, little slices may be served nicely with any kind of pie or pastry and with some puddings, such as steamed fruit puddings. Thin slices or squares of cheese and crackers served with coffee after the dessert add a finishing touch to many meals. It will be well to note that crackers to be served with cheese should always be crisp. Unless they have just been taken from a fresh package, crackers can be improved by placing them in a moderate oven for a few minutes before serving. Also, firm crackers that do not crumble easily are best to serve with cheese, water crackers being especially desirable.

* * * * *

RECIPES FOR CHEESE DISHES

EFFECT OF COOKING ON CHEESE

41. Because cheese is a highly concentrated food, it is generally considered to be indigestible; but this matter can be remedied by mixing the cheese with other foods and thus separating it into small particles that are more readily digested. The way in which this may be done depends on the nature of the cheese. Any of the dry cheeses or any of the moist cheeses that have become dry may be grated or broken into bits, but as it is difficult to treat the moist ones in this way, they must be brought to a liquid state by means of heat before they can be added to other foods. The cooking of cheese, however, has an effect on this food that should be thoroughly understood.

It will be well to note, therefore, that the application of heat to the

form of protein found in cheese causes this food substance to coagulate and harden, as in the case of the albumen of eggs. In the process of coagulation, the first effect is the melting of the cheese, and when it has been brought to this semiliquid state it can be easily combined with other foods, such as milk, eggs, soups, and sauces. In forming such combinations, the addition of a small amount of bicarbonate of soda helps to blend the foods. Another characteristic of cheese that influences the cooking of it is that the fat it contains melts only at a low temperature, so that, on the whole, the methods of preparation that require a low temperature are the best for cooking these foods. However, a precaution that should be taken whenever cheese is heated is not to cook it too long, for long cooking makes it hard and leathery in consistency, and cheese in this state is difficult to digest.

VARIETY OF CHEESE DISHES

42. As has already been learned, cheese lends itself very readily to a large variety of cooked dishes. For instance, it may be grated and sprinkled on the top of mashed or creamed potatoes and then browned by placing the dish in the oven. When it is grated or sliced, it may be arranged between the layers of macaroni or other food used to make a scalloped dish. Soups and sauces flavored with cheese are especially appetizing, a cream sauce of this kind served over toast or rice making an excellent luncheon dish. Toast or crackers spread with cheese and placed in the oven just long enough for the cheese to melt are delicious to serve with a salad course or with tea. To assist in the preparation of such combinations, as well as other cheese dishes, a number of recipes are here given. In making up these recipes, it will be well to note that unless the variety of cheese is stated explicitly, use should be made of American Cheddar cheese, or, as it is often called, _American cream cheese_, or _store cheese_. Of course, some similar hard cheese could be used if desired, but the kind mentioned is recommended for the sake of economy.

[Illustration: FIG. 6]

43. CHEESE BONBONS.--A combination of cheese and nuts in the form of cheese bonbons, besides being very tasty, is highly nutritious, since both the cheese and the nuts used in making them are high in food value. Such bonbons, which are illustrated in Fig. 6, may be served with a light salad, such as a vegetable or a fruit salad, to add food value to the dish, or they may be served with wafers to take the place of a salad, when a small amount of some kind of tart jelly goes nicely with them. If the dessert for the dinner has been a very light one, these bonbons may be served with coffee and wafers after the dessert. They may be made as follows:

CHEESE BONBONS
(Sufficient for Twelve Bonbons)

1 pkg. Neufchâtel or cream cheese
2 Tb. finely chopped pimiento

1/2 tsp. salt
Few grains of paprika
1/3 c. half English-walnut meats

Work the cheese smooth with the pimiento and other seasoning, and if the mixture is too dry add a little cream. Shape this into small balls, press each ball flat, and then place a half nut on top of each. If the pimiento is not desired, it may be omitted.

44. CHEESE SOUFFLÉ--As a dish that will take the place of meat in a light meal is often desired, cheese soufflØ, which is comparatively high in food value, finds much favor. This dish contains milk, eggs, and cheese, as is shown in the accompanying recipe, and so may actually be considered as a protein dish and used accordingly. SoufflØ is served in the dish in which it is baked, but if it is quite firm and is to be eaten at once, it may be removed from the ramekin to a plate.

CHEESE SOUFFLÉ
(Sufficient to Serve Six)

3 Tb. butter
4 Tb. flour
1-1/4 c. milk
3/4 c. grated cheese
Dash of paprika
1/2 tsp. salt
3 eggs

Melt the butter, add the flour, mix well, and then gradually add the milk, which should be scalded. To this sauce add the cheese, paprika, and salt. When thoroughly mixed, remove from the fire and add the beaten yolks of eggs, beating rapidly. Cool and fold in the stiffly beaten whites of the eggs. Pour into a buttered baking dish or in ramekins and bake 20 minutes in a slow oven. Serve at once.

45. CHEESE OMELET.--Grated cheese added to an omelet gives it a delightful flavor. Since such an omelet is a high-protein dish, it should never be served in the same meal in which meat, fish, or other protein foods are served, but should be used as the main dish of a luncheon or a light supper.

CHEESE OMELET
(Sufficient to Serve Four)

4 eggs
4 Tb. hot water
1/2 tsp. salt
2 Tb. bread crumbs
1 c. grated cheese
1 Tb. butter

Beat the egg yolks thoroughly and add to them the hot water, salt, crumbs, and cheese. Beat the egg whites until stiff, but not dry, and

fold them carefully into the yolk mixture. Heat the butter in an omelet pan. Pour in the mixture, brown very slowly over the heat, and then place in the oven to cook the top. Serve at once.

46. CHEESE SAUCE.--To give a distinctive flavor to white sauce, cheese is often added to it. A sauce flavored in this way lends itself nicely to the garnishing of croquettes or soufflØs, and it will be found quite tasty if it is served over some vegetables, such as steamed cauliflower, mashed potatoes, or rice served as a vegetable. Such sauce may also be served over toast to make an attractive luncheon dish.

CHEESE SAUCE
(Sufficient to Serve Six)

2 c. milk
4 Tb. flour
4 Tb. butter
1/2 tsp. salt
1/4 tsp. paprika
1/2 c. grated cheese

Make a white sauce of the milk, flour, butter, salt, and paprika, and to it add the grated cheese. If desired, a dash of catsup or chili sauce may be added for flavoring.

47. CHEESE TOAST.--When toast has added to it eggs, milk, and cheese, as in the recipe here given, it is sufficiently high in protein to serve as a meat substitute and is a particularly good dish for a light meal. It combines well with a vegetable salad for luncheon and is an excellent dish to serve for Sunday night supper, when very little else need be served with it.

CHEESE TOAST
(Sufficient to Serve Six)

2 c. milk
4 Tb. flour
4 Tb. butter
1/2 tsp. salt
3/4 c. grated cheese
2 hard-cooked eggs
6 squares of toast

Make a white sauce of the milk, flour, butter, and salt, and to it add 1/2 cupful of the grated cheese and the egg whites chopped fine. Arrange the toast on a platter, pour the sauce over it, sprinkle the top with the egg yolks that have been run through a ricer or a sieve, and sprinkle the remaining 1/4 cupful of cheese over all. Place in hot oven or under a broiler until the cheese melts a little. Serve hot.

[Illustration: FIG. 7]

48. WELSH RAREBIT.--Whenever a dish that can be made in a chafing dish

is desired, Welsh rarebit is immediately thought of. This is possibly due to the fact that this tasty cheese dish is very often served at evening parties, when a crowd may gather around a table and enjoy the preparation of this food in the chafing dish. This kind of cooking utensil, together with its outfit, which consists of a long-handled spoon and fork, is shown in Fig. 7. As will be observed, a chafing dish consists of a frame to which is attached a lamp that provides the heat, a pan in which water is placed, another pan with a handle in which the food is cooked, and a cover. The heat for cooking is furnished by alcohol, although it is possible to get chafing dishes that are heated by electricity. Chafing dishes are used by many housewives, for in addition to the use mentioned, they serve very well for the making of practically any kind of creamed dish, including those in which sea foods and vegetables are used, as well as for the sautØing of foods. It should not be understood, however, that Welsh rarebit must be made in a chafing dish, for this food can be prepared as well in a heavy frying pan or a double boiler; nor should it be taken for granted that it is served only at parties, for it may be served as the main dish for luncheon or supper. Rarebit is often flavored with ale or beer, but this is not required to make an appetizing dish, as the following recipe shows.

WELSH RAREBIT
(Sufficient to Serve Six)

2 Tb. butter
1 Tb. flour
1 c. milk
1/4 tsp. salt
1/8 tsp. paprika
1/2 lb. cheese cut into small pieces
6 slices of toast or 6 wafers

Melt the butter, add to it the flour, and stir until smooth. Gradually add the milk, and cook for a few minutes; then add the salt, paprika, and cheese, stirring until the cheese is melted. The finished rarebit should not be stringy. Pour over the toast or wafers and serve.

49. ENGLISH MONKEY.--Another cheese dish that is frequently made in a chafing dish and served from it is English monkey, but this may likewise be made with ordinary kitchen utensils and served directly on plates from the kitchen or from a bowl on the table. A dish of this kind is most satisfactory if it is served as soon as the sauce is poured over toast or wafers and before they have had time to become soaked. English monkey may be made according to the following recipe and served for the same purposes as Welsh rarebit.

ENGLISH MONKEY
(Sufficient to Serve Six)

1 c. bread crumbs
1 c. milk
1 Tb. butter
1/2 c. soft cheese cut into small pieces

1 egg
1/2 tsp. salt
6 buttered wafers

Soak the bread crumbs in the milk. Melt the butter and add to it the cheese, stirring until the cheese is melted. Then add the soaked crumbs, the slightly beaten egg, and the salt. Cook for a few minutes and pour over wafers and serve. If desired, toast may be used in place of the wafers.

50. CHEESE-AND-MACARONI LOAF.--Macaroni combined with cheese makes a high-protein dish that very readily takes the place of meat and that may be served as the main dish in a dinner. If this combination is made into a loaf and baked well in an oblong bread pan, it may be turned out on a platter and cut into slices. In case a loaf is not desired, it may be baked in a baking dish and served directly from that. In either form, it is made more appetizing by the addition of a tomato sauce.

CHEESE-AND-MACARONI LOAF
(Sufficient to Serve Eight)

1/2 c. macaroni (inch lengths)
1 c. milk
1 c. bread crumbs
2 Tb. chopped green peppers
1 Tb. chopped onion
1 Tb. chopped parsley
2 eggs
2 tsp. salt
1/8 tsp. pepper
1 c. grated cheese
1 Tb. butter

Cook the macaroni according to the directions given in _Cereals_. When it is thoroughly soft, drain off the water and mix the macaroni with the milk, bread crumbs, green pepper, onion, parsley, well-beaten egg, salt, pepper, and grated cheese. Place in a baking dish, dot the top with butter, and bake in a moderate oven until the mixture is set. Serve with or without sauce, as desired.

51. CHEESE FONDUE.--A dish that is very similar to cheese soufflØ and that must be served as soon as it comes from the oven in order to avoid shrinking is cheese fondue. It satisfactorily takes the place of meat in a light meal, and may be served from a large dish or from individual baking dishes with or without sauce, as desired.

CHEESE FONDUE
(Sufficient to Serve Six)

1 1/2 c. soft bread crumbs
1 1/2 c. grated cheese
1 c. hot milk
4 eggs

1/2 tsp. salt

Mix the bread crumbs and cheese, and add them to the hot milk, beaten egg yolks, and salt. Fold in the stiffly beaten egg whites. Bake in a buttered baking dish for about 30 minutes in a moderate oven. Serve at once.

52. CHEESE DREAMS.--If something delicious to serve with fruit or salad is desired for luncheon or Sunday night supper, the accompanying recipe for cheese dreams should be tried. They should be served at once on being taken from the stove, because as soon as they cool the cheese hardens and they are not appetizing. Cheese dreams may be sautØd or prepared in a broiler or an oven, but if they are sautØd, they may be made in a chafing dish.

CHEESE DREAMS
(Sufficient to Serve Six)

12 thinly cut slices of bread
Butter
Cheese sliced 1/8 in. thick

Spread the bread thinly with butter and make sandwiches by placing a slice of cheese between two slices of bread. Place these sandwiches under a broiler or in a very hot oven and toast them on both sides, or omit the butter from the center, place the sandwiches in a slightly oiled frying pan, and brown them on both sides. In heating the sandwiches, the cheese melts. Serve hot.

53. CHEESE WAFERS.--If made daintily, cheese wafers may be served with salad or with tea for afternoon tea. The wafers selected for this purpose should be small and the layer of cheese not very thick. If a very thin broth is served at the beginning of a meal, cheese wafers may accompany it, but they should never be served with a heavy soup.

CHEESE WAFERS
(Sufficient to Serve Six)

1 doz. wafers
Butter
3/4 grated cheese
Paprika

Spread the wafers thinly with butter and sprinkle each with 1 tablespoonful of grated cheese and a pinch of paprika. Bake in a hot oven until the cheese is melted. Cool and serve.

[Illustration: FIG. 8]

54. CHEESE STRAWS.--Nothing can be more delightful to serve with a vegetable salad than cheese straws, which are illustrated in Fig. 8. An attractive way to serve them is to slip them through small rings made out of strips of the dough mixture and baked at the same time the straws

are baked and then place them at the side of the salad plate. They may accompany a fruit salad, as well as a vegetable salad, but they are not appropriate for serving with a meat or a fish salad.

CHEESE STRAWS
(Sufficient to Serve Six)

1 Tb. butter
2/3 c. flour
1 c. bread crumbs
1 c. grated or cut cheese
1/2 tsp. salt
1/4 tsp. pepper
Pinch of Cayenne pepper
1/2 c. milk

Cream the butter and to it add the flour, bread crumbs, cheese, and seasonings. Mix thoroughly and add the milk. Roll 1/4 inch thick and then cut 1/4 inch wide and 6 inches long. Bake until brown in a moderately hot oven.

55. TOMATOES WITH CHEESE STUFFING.--The addition of cheese to the stuffing used in stuffed tomatoes means added flavor, as well as nutritive value in the form of protein, the food substance in which the tomatoes themselves are lacking. The bread crumbs used for the stuffing supply a large amount of carbohydrate, so that the completed dish, besides being a very attractive one, contains all the food principles in fairly large quantities. Stuffed tomatoes may be served as the main dish in a light meal or as a vegetable dish in a heavy meal.

TOMATOES WITH CHEESE STUFFING
(Sufficient to Serve Six)

6 tomatoes
1 c. bread crumbs
1 c. grated cheese
1/2 tsp. salt
1/8 tsp. pepper
2 Tb. butter
1/4 c. hot water

Select medium-sized tomatoes and hollow out the centers. Mix the crumbs, cheese, salt, pepper, butter, and hot water with the pulp from the centers of the tomatoes. Fill the tomatoes with this stuffing, place in a pan, and bake in a moderate oven until the tomato can be pierced easily with a fork. Serve hot.

56. FIGS STUFFED WITH CHEESE.--As cheese is a very concentrated food, it is often combined with another food to offset this effect. An excellent combination is formed by stuffing figs with cheese. Figs prepared in this way will be found to be very attractive and tasty and may be served in the place of a dessert or a salad, depending on the kind and size of the meal with which they are used.

FIGS STUFFED WITH CHEESE
(Sufficient to Serve Eight)

1 pkg. Neufchâtel or cream cheese
2 Tb. cream
8 small pulled figs

Work the cheese and cream until soft. Steam the figs for 10 or 15 minutes or until they are soft; then cool them, cut out their stems, fill their centers with the soft cheese, and serve.

57. CHEESE SANDWICHES.--Very appetizing sandwiches that may be used to take the place of meat sandwiches or a protein dish at any time are made with a cheese filling. If these are made very small and dainty, they may be served with salad in a light meal. The addition of pickles, olives, and pimiento, which are included in the accompanying recipe, makes the filling more attractive than the usual plain cheese by producing in it a variety of tastes. They also add bulk, which is lacking in both the white bread and the cheese. If desired, graham or whole-wheat bread may be used in place of white bread.

CHEESE SANDWICHES
(Sufficient to Serve Six)

1/4 lb. cheese
2 medium-sized pickles
1/2 pimiento
Meat from 1/2 doz. olives
1/4 tsp. salt
1/4 tsp. paprika
Bread

Put the cheese, pickles, pimiento, and olives through a food chopper, and when chopped add the salt and the paprika. If the mixture is not moist enough to spread, add salad dressing or vinegar until it is of the right consistency. Mix well and spread on thinly cut, buttered slices of bread.

LUNCHEON MENU

58. Many of the dishes for which recipes are given in this Section, particularly those including cheese as one of the ingredients, do very well for the main dish in a light meal, such as luncheon. In order that practice may be had in preparing a well-balanced luncheon that includes a dish of this kind, a luncheon menu is here presented. The cheese soufflØ, which has been selected as the main dish in this menu, should be made according to the directions already given. Little difficulty will be experienced in making the other dishes, as recipes for them are given immediately after the menu. All the recipes are intended for six persons, so that if more or fewer are to be served, the recipes should be changed accordingly. This menu is presented with the intention that

it be tried by each student and a report of it then prepared according to the plan outlined and sent with the work of the Examination Questions.

MENU

Cream-of-Corn Soup
Cheese SoufflØ
Stewed Tomatoes
SautØd Potatoes
Brown Bread and Butter
Baked Apples
Black Tea

RECIPES

CREAM-OF-CORN SOUP

1 Tb. flour
1 Tb. butter
1 pt. milk
1 c. canned corn
1 tsp. salt
1/8 tsp. pepper

Make a white sauce of the flour, butter, and milk. Force the corn through a colander or sieve and add the purØe to the white sauce. Season with the salt and pepper and serve.

SAUTÉD POTATOES

6 medium-sized cooked potatoes
2 Tb. butter
1-1/2 tsp.
salt 1/4 tsp.
pepper

Slice the boiled potatoes thin and put the slices in a frying pan in which the butter has been melted. Add the salt and pepper. Allow the potatoes to cook until well browned, turning frequently during the cooking. Serve hot.

STEWED TOMATOES

1 Tb. butter
1 small onion
6 medium-sized ripe tomatoes or 1 can of tomatoes
1 tsp. salt
2 Tb. sugar
1/4 tsp. pepper
1 Tb. flour

Brown the butter in a saucepan, slice the onion into it, and cook for a few minutes. Add the tomatoes. If fresh tomatoes are to be used, remove the skins, cut into pieces, put into the saucepan with a few tablespoonfuls of water, and cook until the tomatoes are thoroughly softened. If canned tomatoes are to be used, merely allow them to come to the boiling point. Add the salt, sugar, and pepper, and, a few minutes before removing from the fire, moisten the flour with a tablespoonful of cold water and stir into the tomato. Cook for a few minutes and serve.

BAKED APPLES

6 medium-sized apples
1 lemon
3/4 c. sugar
1/2 c. water

Wipe and core the apples. Put them into a baking dish and place a slice of lemon on the top of each. Make a sirup of the sugar and the water, pour this around the apples, and bake slowly until they can be pierced easily with a fork. Serve hot or cold, with a teaspoonful of jelly on the top of each apple.

BLACK TEA

6 tsp. black tea
6 c. boiling water

Scald out the pot with freshly boiling water, pour in the tea, add the 6 cupfuls of freshly boiling water, and allow it to stand on the leaves until the tea is strong enough to serve. Then either pour the tea off the leaves and keep it hot or serve at once.

MILK, BUTTER, AND CHEESE (PART 2)

EXAMINATION QUESTIONS

(1) From what part of milk is butter made?

(2) What food substances does butter contain?

(3) Tell how to select good butter.

(4) After butter is purchased, what care should be given to it?

(5) (_a_) How does cooking affect butter? (_b_) How can economy be exercised in the use of butter in cooking?

(6) How may rancid butter be made fit for use in cooking?

(7) Explain the advantages of butter substitutes.

(8) Give the test for distinguishing oleomargarine and renovated butter from butter.

(9) Explain briefly the way in which cheese is produced.

(10) What food substances are found in cheese?

(11) Why can cheese be used to take the place of meat?

(12) Tell the advantages that cheese has over meat.

(13) Explain how to make cottage cheese from sour milk.

(14) Why should cheese be mixed with other foods instead of being served alone?

(15) Explain the effect of cooking on cheese.

REPORT ON MENU

After trying out the luncheon menu given in the text, send with your answers to the Examination Questions a report of your success. In making out your report, simply write the name of the food and describe its condition by means of the terms specified in the following list:

Cream-of-Corn Soup: too thick? too thin? lumpy? well seasoned? milk curdled?

Cheese SoufflØ: light? heavy? baked sufficiently? shrunken? underdone?

Hash-Browned Potatoes: too brown? not brown enough? well seasoned? too much fat? too little fat?

Stewed Tomatoes: sufficiently cooked? well seasoned? too sour?

Baked Apples: well done? not well done? too brown? too dry? too moist? sufficient sugar?

Black Tea: too weak? too strong? hot? taste of tannin?

* * * * *

EGGS

* * * * *

VALUE OF EGGS AS FOOD

DESCRIPTION OF EGGS AND PLACE IN THE DIET

1. Eggs are of great importance in the diet, and to appreciate this fact fully the true nature of this food must be understood. For domestic use, the eggs of guinea hens, turkeys, ducks, and geese occasionally find favor, but as eggs laid by hens are the kind that is commonly used, it is to such eggs that this Section is devoted. A hen's egg may really be considered as an undeveloped chicken, because it contains all the elements required to build the body of the chick and provide it with the energy it needs to pick its way into the world. When it emerges from the shell, it is fully developed, and in a short time it begins an independent existence, seeking and finding its own food. The fact that eggs store so much nutritive material explains to some extent why they are a valuable source of food for man and why they are used so extensively. However, as in the case of milk, the elements that eggs contain are not in just the right proportion for the sole nourishment of a human being, so they must generally be used in combination with other foods.

2. Most persons are familiar with the appearance of eggs, but in order that satisfactory results may be obtained in their selection, care, and cooking, it will be necessary to look into the details of their composition. As is well known, an egg consists of a porous shell lined with a fine, but tough, membrane that encloses the white and the yolk and serves to protect them. The yolk is divided from the white by a delicate membrane, which permits it to be separated from the white when an egg is carefully broken. This membrane extends to each end of the shell in the form of a small cord, and it is so fastened to the shell as to hold the yolk evenly suspended. The porous nature of an egg shell is required to give air to the developing chick, but it is this characteristic that permits eggs to spoil as they grow old and are exposed to air, for through these minute pores, or openings, the water in the egg evaporates and air and bacteria enter. Of course, as the water evaporates and is replaced by air, the egg becomes lighter. Because of this fact, the freshness of eggs can be determined by placing them in water. When they are fresh, they will sink in cold water, but as they decompose they become lighter and will float.

Since it is known that the spoiling of eggs is due to the entrance of air through the porous shell, it may be inferred that their decay may be prevented either by protecting the shell so that air cannot enter or by keeping the eggs at so low a temperature that bacteria cannot grow. Although stored eggs always deteriorate more or less, both of these methods of preservation have proved very satisfactory, the former being used largely in the home and the latter finding its solution in cold storage. A knowledge of how eggs can be preserved, however, is of great value, for if there were no means of preservation and eventual marketing, the price of eggs would at times rise to actual prohibitive limits.

3. That eggs as an article of food are growing in importance is indicated by the fact that their production has come to be a large and widely distributed industry. Owing to the private consumption and sale of eggs, an accurate statement of the number of eggs produced is difficult to give. Still, in a report, the United States Bureau of

Agriculture estimated the value of the yearly egg production at something more than three million dollars, with an allowance of about 210 eggs, or 17-1/2 dozen, per capita each year, or 4 eggs a week for each person. These figures, however, are only suggestive of the production, use, and value of eggs, for as the population increases so does the use of eggs. In fact, they are proving to be almost indispensable to the cook, the baker, the manufacturers of certain foods, and many others.

4. With the increase in the demand for eggs has come a corresponding steady advance in the money value of this product and, consequently, an increase in its price. The housewife who would practice economy in cookery can readily see, therefore, that with reference to the number of eggs required and the ways in which they are used, she must choose carefully the recipes and methods she employs. If the eggs are always considered a part of a meal, their use is seldom an extravagance, even at such high prices as they sometimes attain. On the other hand, if a dessert that requires the use of many eggs is added to a meal that is itself sufficient in food value, it is not unreasonable to regard such use of eggs as an extravagance. A point that should be taken into consideration in the use of eggs in the diet, especially when their price seems very high, is that there is no waste matter in them, unless the shell is regarded as waste. Therefore, they are often more economical than other foods that can be bought for less money.

It must not be understood, however, that eggs are used only as an article of diet. They are also a very important food ingredient, being employed in the preparation of many kinds of dishes. For instance, they are often used to thicken custards, sauces, etc.; to clarify soups and jellies; to lighten cakes, puddings, hot breads, and other baked mixtures; to form the basis for salad dressings; and to combine or hold together many varieties of food.

NUTRITIVE VALUE OF EGGS

5. Like milk, eggs are often spoken of as a perfect food. Still, as has been pointed out, they are not a perfect food for man, but they are of especial nutritive value and should be used freely in the diet just as long as their cost neither limits nor prohibits their use. An idea of how they compare with other nutritious foods can be obtained from Fig. 1, which shows that eight eggs are equal in food value to 1 quart of milk or 1 pound and 5 ounces of beefsteak. A better understanding of their food value, however, can be gained from a study of their composition.

[Illustration: FIG. 1]

6. Since an egg is an undeveloped chick that requires only the addition of warmth to develop it into a living, moving creature made of muscles, bones, and blood, it is evident that this food contains considerable tissue-building and energy-producing material. The exact proportion of this material, as well as the other substances found in eggs, is given

in the food chart shown in _Essentials of Cookery_, Part 1. The chart relating to the composition of eggs points out that the edible portion of the whole egg consists of 73.7 per cent. of water, 14.8 per cent. of protein, 10.5 per cent. of fat, and about 1 per cent. of ash, or mineral matter. The protein, which is chiefly in the form of albumen, and the fat are the most digestible of these elements, while the mineral constituents are as valuable for the growing child as for the chick. When the total weight of an egg is taken into consideration, the shell constitutes about 11 per cent., the yolk 32 per cent., and the white 57 per cent. The composition of the yolk and the white differs somewhat, the yolk having the greater food value, a fact that is also clearly indicated in the chart. The white contains a larger proportion of water than the yolk, but the yolk contains the most of the fat and more protein and mineral matter, or ash, than the white. In addition, the chart shows that the number of calories to the pound of whole egg is 700, of egg yolk is 1,608, and of egg white is 265.

7. PROTEIN IN EGGS.--The nature of the food substances in eggs is of nearly as great importance as their amount, for they not only determine the value of this food in the body, but influence its cooking. That protein is present in both the yolk and the white is apparent from the fact that they coagulate when heat is applied. Because eggs are high in protein, containing 14.8 per cent. of this substance, they may be regarded as equivalent to a meat dish, and it is only when they are extremely high in price that they cannot be frequently substituted for meat to advantage. They are often used to take the place of milk, too, for eggs and milk are more alike in nutritive value than any other two protein foods; but, of the two, milk yields the cheaper form of protein. Like meat and milk, eggs are rich in all those food materials which enter into the construction of bone, muscle, and blood.

8. FAT IN EGGS.--A study of the food chart previously mentioned will show that eggs contain proportionately almost as much fat as protein and that nearly all this fat is found in the yolk. Since fat produces more heat or energy, weight for weight, than any other food substance, and since eggs contain neither starch nor sugar, it is evident that the fat of this food is the main source of the energy-producing material. Fat in eggs occurs in the form of an emulsion, or tiny particles, and, like the fat of milk, is very readily digested. It is for this reason that both of these foods are particularly well adapted to the diet of both children and adults. The presence of quantities of protein and fat and the absence of carbohydrate in eggs indicate that the proper thing to combine with this food, in order to have a well-balanced meal when eggs are eaten, is carbohydrate in some form.

9. MINERALS IN EGGS.--Eggs are especially valuable for the mineral salts they contain, chief among which are lime, phosphorus, sulphur, iron, potassium, and sodium. For this reason, the addition of eggs to any kind of diet supplies a large amount of the minerals that are needed for bone, blood, and tissue building. A favorable point concerning the minerals found in eggs is that they are not affected to any extent by cooking. Therefore, in the preparation of any dish, if eggs are added to other foods, that dish will contain an additional amount of mineral

salts, plus the nutritive value of the eggs.

10. DIGESTIBILITY OF EGGS.--In connection with the discussion of the food substances of which eggs are composed, it will be well to note how these affect the digestibility of this food. But just what is meant by this characteristic with reference to eggs must first be understood. In some foods, digestibility may mean the length of time required for them to digest; in others, the completeness of the digestion; and in still others, the ease and comfort with which the process of digestion proceeds. In the case of eggs, digestibility refers to the quantity of this food that is absorbed, that is, actually dissolved and permitted to enter the blood stream. The nutritive value of eggs is not so high as would naturally be supposed, for, although the protein, fat, and mineral salts of an egg make up about one-fourth of its contents, one egg equals in nutritive value only 1/2 cupful of milk, a small potato, or a medium-sized apple. However, when the proportion of the nutritive material that the body retains from this food, or its digestibility, is considered, eggs rank extremely high, it having been determined by experiments that 97 per cent. of the protein and 95 per cent. of the fat are assimilated. A point worthy of note in this connection, though, is that eggs contain no cellulose, such as that found in grains, vegetables, and fruits. Therefore, in order to add the much-needed bulk to the diet, foods that do contain cellulose should be served with eggs.

11. Whether or not the cooking of eggs has any effect on their digestibility is a matter that has also been investigated. The results of the experiments made indicate that cooking makes some difference with the rate of digestion, but very little with its thoroughness. So far as the rapidity of digestion is concerned, there is very little difference between raw eggs and slightly cooked eggs; but hard-cooked eggs, although they may be digested as completely as soft-cooked ones, require longer time for the accomplishment of the process. This is due to the fact that the whites of hard-cooked eggs are so firm in texture that, unless they are finely chopped or thoroughly masticated, the digestive juices are not able to act on them quickly. As a result, portions of them may escape digestion or remain in the digestive tract for some time and decompose. For this reason, hard-cooked eggs are usually excluded from the diet of children and invalids, and even healthy adults should be careful to masticate them thoroughly.

SELECTION OF EGGS

12. On first thought it would seem as if there is very little to guide the housewife in the selection of eggs, it being extremely difficult to tell from their external appearance whether or not they are fresh or stale. As a rule, she must trust largely to the honesty of the person from whom she buys eggs. Still she need not depend entirely on the dealer’s word, for, at least to a certain extent, there are ways in which she may judge the quality of eggs. Because of the great value of eggs as a food and for cooking purposes, it is important that the housewife make use of all available information on this matter and, in addition, become familiar with the trade practices in the egg industry.

13. MARKETING OF EGGS.--As is generally known, hens lay a large number of eggs in the spring of the year, but they do not lay readily in the cold winter months; and not alone are the greatest quantities of eggs produced in April and May, but those laid at this time are of the best quality. Because of this condition and in order that the demand during the time of scarcity may be supplied, it is necessary that a considerable number of eggs be preserved when they are comparatively cheap and abundant. Also, in the preserving of eggs for future use, it is of the greatest importance that they be kept in the best possible condition and manner, so that when they are used, months after they are laid, they may be as good as it is possible to have them.

The advance made in storage and transportation methods in recent years has done much toward making the egg supply uniform all the year around. Not long ago, because of inadequate means of storage and shipping, eggs were sold only a short distance from the place where they were produced. However, with the coming of cold storage and improved methods of shipping, eggs have been changed from a perishable and more or less seasonable food to a staple one. Now it is possible to collect them in large quantities, to keep them for a considerable time before selling them, and to ship them long distances. To safeguard the public, though, authorities have set a time limit for the storage of eggs, the legal time they may be kept being 8 months. By this is meant that eggs placed in the warehouse in May must be released or sold in December; whereas, those stored in June must be released no later than January.

14. Eggs that have been kept too long in storage are characterized by a musty odor and flavor, the breaking of the yolk and its mixing with the white, and a watery condition of the white. Such eggs, of course, cannot be sold legally. Those which may be placed on the market are graded according to their freshness, cleanliness, size, cracks, and color. With the exception of their freshness, these points can be readily told from the appearance of the eggs; but, in order to determine whether an egg is fresh or not, it is generally put through a process known as _candling_, by which the interior condition of the egg can be ascertained.

In the grading of eggs, all those of the best size, color, and condition are sold under a particular trade name and bring a high or a low price, according to the grading. Others that are not so perfect are put in another grade and sell for prices that vary according to the demand. Eggs, of course, differ in appearance and in many cases they are sorted in order to satisfy the demand. For instance, in some localities, eggs having a brown shell sell for the highest price, while in other places, eggs having a white shell are in the greatest demand and bring the highest price. Unsorted eggs are not held in much favor and do not bring so good a price as those which are all one color. Many persons have an idea that the color of the shell of an egg bears some relation to its nutritive value and flavor. However, authorities on foods agree that, other things being alike, the edible portion of white-shelled eggs has essentially the same composition and nutritive value as that of dark-shelled eggs.

15. QUALITY OF EGGS.--The natural quality of eggs depends largely on the food of the hens and their conditions of living. Because of this fact, the selection, breeding, and care of fowls have developed into a science, particularly since the production of eggs has grown into an industry. When the quality itself is to be determined, all the characteristics of eggs must be taken into consideration; still there is one particular point on which the quality of eggs depends, and that is their freshness. Various agencies, however, are constantly at work to render this quality inferior. Chief among these are the molds and bacteria that pass through the porous shells of eggs that have been improperly cared for or have become contaminated by being allowed to remain in unclean surroundings. Such bacteria are responsible for the unpleasant flavors that are found in bad eggs. Because of their harmful effect, every effort should be made to prevent the entrance of the germs that cause decay, and, as has been stated, the best way in which to accomplish this is to protect the shell. If it is found that bacteria have entered, the eggs will become unfit for use quickly unless their growth is prevented. This may be done by storing the eggs at a temperature that will keep the bacteria dormant, or inert.

16. If the eggs are kept under the proper conditions, they will not actually spoil for a long time; but it is seldom that they are not more or less affected by storage of any kind that covers a period of several months. One change that can always be looked for in such eggs is in the air space at the broad end. When an egg is first laid, this air space is small, but since the water contained in the egg slowly evaporates through the porous shell it increases in size as the egg grows staler. For this reason, the freshness of an egg can often be determined by the size of this air space.

In addition, the purposes for which eggs are used are somewhat affected by their storage. A stale egg, although it may not be actually spoiled to the extent that it cannot be used as food, will not produce such good results in a cooking process as a fresh egg, especially if it is used for leavening. In fact, it is impossible to produce the desired results with eggs that have undergone a certain amount of change, even though their odor and their flavor do not indicate that they are spoiled.

17. JUDGING THE QUALITY OF EGGS IN THE MARKET.--While, as has been mentioned, the housewife must depend considerably on the dealer's word as to the freshness of the eggs she purchases, it will be well for her to be familiar with the trade names of eggs and their meaning. The names used differ, of course, in various localities, but all large distributors grade and name eggs in much the same way. In deciding on the grade to which eggs belong, a certain number of points are given for color, size, freshness, and appearance, and the sum total of these points determines the grade, a special name being given for each grade. For instance, eggs that can be graded 90 are called _extra fancy_; those which receive a grade of 80, _fancy_; those which are graded 70, _strictly fresh_; and those which can be graded only 60, _cooking eggs_. When eggs are put on the market under such names, it can be expected that the quality will correspond to the grade and the price will vary with the grade. Therefore, the trade name and the price are two of the

principal ways in which the quality of eggs in the market may be judged.

18. Another way of judging the quality of eggs consists in observing the condition of the surface of the shell. When eggs are freshly laid, the shell is covered with a substance, called _bloom_, that gives it a feeling much like that of a thin lime coating deposited in a pan after water boils. This coating disappears gradually as the egg is exposed to the air, but as long as it remains, the egg may be considered as fresh and germ-proof. While this way of determining freshness is probably the quickest, it is possible that the quality of some eggs from which the bloom has recently disappeared has not been injured.

19. When eggs are selected in the market, certain points in their appearance should also be noted. If eggs of the best quality are desired, medium-sized ones that are uniform in size and color should be selected. With regard to shape, they should have a comparatively long oval shell, one end of which is blunt and the other, a sharp curve.

[Illustration: FIG. 2: Internal structure of egg.]

[Illustration: FIG. 3: FRESH, 3 WEEKS, 3 MONTHS, OLDER.]

20. JUDGING THE QUALITY OF EGGS IN THE HOME.--After eggs have been received in the home, several simple tests for determining their freshness can be applied in addition to the ones already mentioned. A rather indefinite test, but one that is sometimes applied to determine the freshness of an egg, is to shake it. However, to be able to carry out this test successfully, it is well to understand the interior structure of an egg. Fig. 2 illustrates this clearly. At _a_ is shown the air space previously mentioned; at _b_, the spiral cords that run from the yolk to each end of the egg and hold the yolk in place; at _c_, the yolk; and at _d_, the white. When the water inside the shell evaporates, the yolk and white shrink so much that they can be felt moving from side to side when the egg is shaken. The staler the egg, the more pronounced does the movement become. This method should be applied only immediately before the egg is to be used, as the thin membrane between the yolk and the white and the spiral cords that hold up the yolk are liable to be disturbed by the shaking. If they are broken, the yolk will settle and finally adhere to the shell in case the egg is stored for any length of time after that.

[Illustration: FIG. 4: Testing the egg.]

[Illustration: FIG. 5: four eggs.]

21. If nothing has been done to preserve eggs, the simple test for freshness illustrated in Fig. 3, which consists in placing the eggs in a glass containing water, will be found effective. A perfectly fresh egg will sink when it is put into the water, but if the egg is 3 weeks old the broad end will rise slightly from the bottom of the glass. An egg that is 3 months old will sink into water until only a slight portion of the shell remains exposed; whereas, if the egg is older or stale, it will rise in the water until nearly half of it is exposed. 22. The

test known as candling, which is usually applied to eggs before they are put on the market, can also be practiced by the housewife in the home. This method of determining the freshness of eggs consists in placing a piece of cardboard containing a hole a little smaller than an egg between the eye and a light, which may be from a lamp, a gas jet, or an electric light, and holding the egg in front of the light in the manner shown in Fig. 4. The rays of light passing through the egg show the condition of the egg, the size of its air space, and the growth of mold or the spoiling of the egg by any ordinary means.

[Illustration: FIG. 6 (_a_) (_b_)]

In Fig. 5 is shown how an egg at various stages of freshness appears when candled. When an egg is fresh, it will appear as in (_a_); that is, the yolk will be barely distinguishable from the white except as a slightly darker area in the center of the egg, and the entire egg will appear clear and bright and free from spots. In an egg that is a little older, candling will reveal a slightly darker yolk, a cloudy white, and a larger air space, as in (_b_). In a watery egg, or one that is beginning to spoil, various dark spots and blotches usually develop, as view (_c_) indicates. When an egg is rotten, the contents of the shell will look dark in candling and the yolk will appear to be mixed with the white, as in (_d_). 23. If the housewife does not wish to resort to candling, she may determine the condition of an egg by breaking it into a saucer and examining it carefully. If the egg is newly laid, no odor will be detected and the white will be clear, elastic, and rather thick; also, where it joins the yolk it will be almost solid. The yolk of such an egg will have an even yellow color, without lighter or darker spots and, as shown in Fig. 6 (_a_), will stand up well from the surface of the white. Sometimes a small spot of blood may be detected on the yolk of a perfectly fresh egg, but, while this is not pleasant to look at, it does not affect the quality of the egg. When an egg that is not real fresh is broken into a saucer, the yolk will lie flat, as in (_b_). In an egg that is quite stale, the membrane surrounding the yolk is easily destroyed, so that even when such an egg is broken carefully the yolk and the white are likely to run together.

* * * * *

PRESERVATION OF EGGS

CAUSES AND PREVENTION OF DETERIORATION

24. As has been implied in the discussion given thus far, eggs will deteriorate or spoil in a comparatively short time unless something is done to preserve them. In view of the eggs she keeps on hand at home, as well as those she buys, the causes of spoiling and the ways in which to prevent spoiling are matters with which the housewife should be familiar, particularly if she would secure for her family eggs of the best quality at prices that are not beyond her means. The spoiling of eggs is due to decomposition, which is caused by molds or bacteria that result from accidental causes, and, in fertile eggs, to the germination and development of the chick, which is a natural process. The loss of

quality resulting from molds and bacteria in the egg is brought about by their growth and by the formation of chemical compounds, which give spoiled eggs their peculiar appearance, taste, and odor. Some of these molds are not injurious to health, while others may give rise to more or less serious illness.

25. Various methods have been devised whereby their rapid deterioration may be prevented, and a knowledge of these is important to those who have occasion to purchase eggs or to keep them over from the season of plenty to the season of scarcity. The method followed to prevent losses due to the development of the embryo consists in the production of infertile eggs--that is, eggs that are non-productive. This is a point that is as well worth remembering in the home production of eggs as it is in professional poultry raising. The method employed to prevent the infection of eggs by molds and bacteria is to keep them clean and dry from the time they are laid until they are finally used.

26. While the preservation of eggs is carried on to a greater extent at present than formerly, the idea is neither new nor original; indeed, it has been practiced for many years by the people of some foreign countries. For instance, in some sections of China, duck eggs are preserved by covering them with a layer of mud, and such eggs are often kept for a year or more before they are eaten. However, eggs stored in this way decompose and their odor and flavor disappear before they are used, so that they must usually be hard boiled before they can be eaten. Egg preservation such as is practiced in the United States is the opposite of this and attempts to prevent not only ripening processes and putrefactive changes but any bacterial or other changes that lessen the original quality. It will be well to note, however, that eggs preserved for any length of time deteriorate to some extent and cannot be expected to be equally as good as fresh eggs.

COMMERCIAL PRESERVATION OF EGGS

27. The usual market method of preserving eggs is by cold storage, an industry that has developed to vast proportions in recent years. The success of this method depends on the fact that germs causing decomposition will not live in a low temperature. While the plan of storing eggs is responsible for their high price at certain times, it is also a means of supplying eggs to many persons who would otherwise not be able to obtain them. The greatest point in favor of this plan, however, is that it makes possible the marketing of quantities of eggs during the winter season of scarcity at a price that, although somewhat high at times, is much more moderate than it would be if it were not possible to store eggs in large quantities.

28. In order that advantage may be taken of favorable climatic conditions, eggs are commonly purchased for storage as early in the year as they are abundant. They are selected with great care, only those which are clean, sound, and fresh being used. These eggs are packed in clean cases, and then placed in warehouses where they are kept at a temperature just above freezing, or one that ranges from 32 to 40

degrees Fahrenheit. In such storage, precaution is usually taken to prevent the eggs from freezing, for while freezing does not necessarily injure them for immediate use it breaks the shell because of the contraction that occurs. While the eggs are in storage, they are also protected as far as possible from air circulation, as this increases evaporation and causes the contents of eggs to shrink. To prevent the yolks from settling to one side, and finally adhering to the shell, the eggs are turned frequently. The usual limits of storage are from 6 to 9 months, but eggs are not generally allowed to remain in storage more than 8 months. When taken out at the end of that time, it will be found that they have deteriorated very little, and while they cannot compete with the better grades of fresh eggs, they are as desirable as most of the eggs that can be purchased in the early fall when eggs are not plentiful.

29. Sometimes eggs are removed from the shells, stored for commercial use in containers of about 50 pounds each, and kept at the freezing point until they are to be used. Eggs in this form, which may be bought with the yolks and whites either mixed or separate, find a ready market in bakeries and restaurants, where large quantities of eggs are continually used. Such eggs remain good for any length of time while they are kept frozen, but they must be used immediately after they are removed from storage.

30. It is not always necessary to keep eggs at a cold temperature in order to preserve them, for a method that has proved very satisfactory is to reduce them to the form of powder by drying them. In this form, the bulk is greatly reduced, 1 pound of the dry material representing 30 to 40 eggs, and in order to prepare them for use in cooking they must be mixed with water. POWDERED EGGS, or _desiccated eggs_, as they are usually called, can be kept for an indefinite length of time without special care in storage, when they are wholesome and carefully handled. Tests that have been made show that eggs of this kind give fairly good results when used in cookery, but they are used principally by bakers, for they can be obtained more cheaply than fresh eggs, especially when it is difficult to secure eggs in other forms.

HOME PRESERVATION OF EGGS

31. The housewife who desires to run her household on an economical basis will not depend entirely on eggs that are commercially stored, but will take advantage of one of the many methods by which eggs may be successfully kept in the home. By being prudent in this matter, she will be prepared to supply her family with this commodity at times when the market price is high.

As many as twenty household methods have been tried out for the preserving of eggs, but each one is based on the theory that decay is hindered when the shell is covered with some substance that renders it air-tight and prevents evaporation or the entrance of bacteria and mold. Among the methods that have met with the most success are burying eggs in oats, bran, or salt; rubbing them with fat; dipping them in melted paraffin; covering them with varnish or shellac; and putting them down

in lime water or in a solution of water glass.

No matter which of these methods is adopted, however, it will be well to note that only eggs laid in April, May, or June should be used for storage purposes, as these are the best ones laid during the year; also, that the eggs should always be packed with the small end down, because the yolk will not settle toward the small end so readily as toward the large end or the side.

32. Of these various ways of preserving eggs in the home, probably the oldest method is that of packing the eggs in oats, bran, or salt. This method is fairly effective, but the eggs preserved by it do not keep so long as eggs preserved by other methods, nor is their quality so good. Preserving eggs by completely covering the shells with fat, vaseline, paraffin, varnish, or other substance that will exclude the air but not impart flavor to the eggs, proves a more satisfactory method so far as the eggs are concerned, but it requires more time and handling. To assist in their preservation, eggs are sometimes immersed in boiling water for 12 to 15 seconds. This process, which causes the white to harden slightly just inside of the shell, keeps the eggs fairly well, but it is rather difficult to accomplish, as the least overcooking renders the egg unfit for use as a raw egg.

As a result of many trials, it has been found that putting eggs down in the various solutions that are used for this purpose is the most effective way of preserving them under home conditions, provided, of course, the solutions in which the eggs are immersed do not flavor the eggs. Therefore, to assist the housewife, detailed directions for using lime water and water glass for this purpose are here given.

33. PRESERVATION WITH LIMEWATER.--To prepare limewater for the preservation of eggs, dissolve 1 pound or 1 pint of salt and 1 quart of finely slaked lime in 3 gallons of water, stir the solution at frequent intervals for a day or two, and then allow the liquid to settle. Place the eggs in tall stone crocks or kegs with their pointed ends turned down, filling the receptacles to within a few inches of the top. Pour the clear limewater over the eggs so arranged, allowing it to rise an inch or two above the top layer. Then stand the vessel in a cool place where the temperature will not exceed 50 degrees Fahrenheit. Eggs so treated will keep for at least 6 or 8 months. The only objection to this plan is that the eggs preserved by it sometimes acquire a slight lime taste.

34. PRESERVATION WITH WATER GLASS.--Putting eggs down in a solution of water glass is without doubt the most satisfactory method of storing them in the home. So effective does this method prove that the housewife who has a convenient and proper storage room should not fail to take advantage of this way of laying up a supply of eggs.

The commercial form of water glass is usually a mixture of potassium and sodium silicate, which, besides being cheaper than that which is chemically pure, is the kind that is preferred for the purpose of preserving eggs. A good quality of it either in a sirup-like solution or

in the form of a powder retails in drug or grocery stores for about 10 cents a pound. To make a solution of the desired strength to preserve eggs satisfactorily, dissolve 1 part of water glass in 7 parts of warm water that has first been boiled to drive off bacteria, mold, spores, etc. One quart of water glass will make sufficient solution to cover about 12 dozen eggs. With the solution thoroughly mixed, it is ready to pour over the eggs.

In selecting eggs for the purpose of storing, be careful to choose only those which are clean, fresh, and perfectly sound, and, if possible, infertile. It is advisable not to wash them before they are put into the preservative, for they will keep better if their bloom is not removed. Place the eggs in receptacles in the manner explained for preserving eggs in limewater, and over them pour the water-glass solution until they are all covered. If the eggs so prepared are stored in a cool place, they will keep as long as those preserved in limewater; besides, there will be no danger of their acquiring any foreign flavor.

* * * * *

COOKING OF EGGS

PRELIMINARY PREPARATION

35. The successful preparation of eggs for their use as a food demands that certain points must be observed by the housewife. For instance, she must see that the eggs she uses are in the right condition; that the shells are properly broken for the most convenient removal of the egg; that the parts of the egg are separated in the right way in case the whites and the yolks are to be used separately; and that the eggs receive the right treatment for the purpose for which they are to be used. Attention to all these points not only will insure the most satisfactory results, but will enable the housewife to supply her family with food that is extremely wholesome and nutritious.

[Illustration: FIG. 7]

36. Exterior Condition of Eggs.--As has been explained, clean eggs are the most desirable, but it is not advisable to wash eggs that are to be kept for even a short time, as washing them removes the natural coating that helps to prevent the entrance of bacteria. However, as it is necessary that the shells be perfectly clean before they are broken or before the eggs are cooked, the eggs may be washed or wiped with a damp cloth immediately before such processes.

37. BREAKING OF EGGS.--In cookery, it is usually desirable to break an egg shell so that the yolk will not run into the white; that is, so that these can be kept separate. While there are several methods of doing this, the housewife should adopt the one that is most convenient for her. A quick method that is often employed consists in striking the shell on the edge of the pan or the bowl into which the contents are to be put. A preferable method, however, is illustrated in Fig. 7. It consists in striking one side of the shell, midway between the ends, a

sharp blow with the edge of a knife. The advantage of this method will be evident after a trial or two, for it will be found that the depth of the cut made by the knife can be so gauged that there will be little danger of breaking the yolk. Besides, fragments of the shell are not likely to fall into the bowl or the pan with the contents of the egg.

[Illustration: FIG. 8]

38. SEPARATING OF EGGS.--Frequently recipes require that the yolks and whites of eggs be beaten separately before being added to the other ingredients. When this is the case, care must be exercised in taking the egg from the shell. The method by which this is most easily accomplished is illustrated in Fig. 8. As will be observed, the shell is first broken as nearly as possible into halves and then, while the egg is poured from 1/2 of the shell into the other, the white is dropped into a dish and the yolk is retained in the shell. During this process, the yolk should remain intact in its delicate membrane, for if it becomes mixed with the white the lightness of the white will be injured. To separate the yolk from the white is not difficult when eggs are fresh, but as they become stale the membrane surrounding the yolk grows weak and breaks easily. If the yolk breaks and any of it falls into the white, it must be completely removed before the white is beaten.

39. BEATING OF EGGS.--Sometimes eggs are cooked in the shell and other times they are used alone just as they are removed from the shell, as in the frying and poaching processes; however, when they are to be combined with other ingredients, they are usually beaten. Eggs are beaten for the purpose of mixing the yolk and the white or of incorporating air to act as a leavening agent when the eggs are heated in the cooking process. Various utensils, such as a fork, an egg whip, or an egg beater, may be employed for beating eggs, the one to select depending on the use to which the eggs are to be put. The rotary, or Dover, egg beater, previously described as a labor-saving device and illustrated in Fig. 9 (_a_), should be used to beat either whole eggs or the yolks of eggs when they are to be used in custards, mayonnaise, cakes, puddings, etc., as it will beat them sufficiently light for such purposes. However, for the beating of egg whites, use should be made of a fork or of an egg whip similar to that shown in (_b_), because the whites must be lifted instead of stirred for the incorporation of air, and it is only with a utensil of this kind that this can be accomplished. Then, too, more air can be incorporated into the whites and the volume of the egg thereby increased by means of a fork or an egg whip than by an egg beater. An important point to remember in this connection is that eggs can be beaten more successfully when they are cold and have had a pinch of salt added to them.

[Illustration: FIG. 9]

[Illustration: FIG. 10]

40. In the beating of eggs, it should be remembered that for some purposes, as in making some kinds of sponge cake, they are beaten until nearly frothy, as shown in Fig. 10, when they do not stand up nor cling

to the whip; whereas, for other purposes, as in making meringue, they are beaten until they are stiff enough to stand up well and to adhere to the whip, as Fig. 11 shows. When egg whites are to be beaten stiff, care should be taken not to continue the beating too long. If this is done, they will become dry and will break up into small pieces, a condition that will mean a loss of some of the air that has been incorporated. It is well also to observe that egg whites should always be beaten in the same direction and that the same motion should be continued throughout the beating, for a change of direction or motion always causes a loss of air. A final precaution to take is never to allow egg whites to stand after they are beaten. If this is done, the leavening power of the eggs is reduced, because the air soon escapes from beaten eggs and leaves underneath them a clear liquid that can never be beaten up. For instance, eggs that are to be used for boiled icing should not be beaten until the sirup has finished boiling. However, eggs that have been separated but not beaten may stand for a couple of hours, provided they are covered and kept in a cool place.

[Illustration: FIG. 11]

POINTS TO OBSERVE IN COOKING EGGS

41. As has been previously stated, the substance in eggs that requires special care in the cooking process is the protein, which occurs in this food in the form of albumen. Because of this, certain points concerning the treatment that the albumen requires should be kept in mind. In a raw egg, the albumen occurs in a semiliquid form, but it coagulates at a lower temperature than does the yolk, which contains a high percentage of fat. After coagulation, the consistency of the two parts is very different. The white is elastic and more or less tough, while the yolk, upon being thoroughly cooked, becomes powdery, or mealy, and breaks up into minute particles. The egg white begins to coagulate at 134 degrees Fahrenheit, and it becomes white and jellylike at 160 degrees. Bringing an egg to such a temperature produces a more desirable result than cooking it at a high temperature--boiling point, for instance--because the albumen, instead of becoming tough, as it does at a high temperature, acquires a soft, tender consistency that exists throughout the entire egg. An egg cooked in this way is more digestible and appetizing than one that is boiled until it becomes hard and tough.

42. The low temperature at which eggs will cook in the shell applies also to eggs when they are combined with other foods. Sometimes, however, a mixture in which eggs are one of the ingredients must be cooked at a high temperature because the materials mixed with them require it. This difficulty can be overcome when eggs are combined with starchy foods, such as corn starch, rice, and tapioca, that require long cooking. In such a case, all the ingredients except the eggs may be cooked the length of time they require, after which the eggs may be added so that they will cook just long enough to become coagulated. Longer cooking is liable to spoil the texture. Often the starchy mixture retains sufficient heat to set the eggs without further cooking after they are added.

43. A very nutritious way in which to prepare eggs when they are to be used for a dessert is to combine them with milk to form a custard, which, after being sweetened and flavored, is baked. The proportion that has been accepted as ideal to produce a dessert of the right thickness is one egg to each cupful of milk; however, an entire egg is not always required, as one yolk is often sufficient to thicken 1 cupful of milk. Care should be taken in the cooking of such custards, for if they are cooked too long or at too high a temperature they will curdle and whey; whereas, a properly cooked custard--that is, one cooked slowly at a low temperature and for the required length of time--will have a smooth, jellylike consistency. A slight variation in a dish of this kind is secured by reducing the number of eggs and thickening it with corn starch or some other starchy material. While such a mixture is not a true custard, it makes an excellent dessert.

44. In the cooking of mixtures containing eggs, no utensil proves quite so satisfactory as the double boiler, which has already been explained and illustrated. In fact, it is almost impossible to cook an egg mixture directly over the flame on account of the difficulty encountered in preventing the eggs from curdling. The low temperature at which cooking is possible in the double boiler makes it a comparatively simple matter to bring a mixture to the proper consistency without the formation of curds. Still, a certain amount of precaution must be taken even with a double boiler. If the degree of heat that is reached in this utensil is applied too long, the result will be no more satisfactory than when mixtures are exposed directly to the heat and cooked at a high temperature. While every effort should be made to cook mixtures containing eggs, such as custards or mayonnaise, so as to prevent curds from forming, occasionally they will form in spite of all that can be done. However, it is sometimes possible to remedy the matter by placing the vessel at once in cold water and beating the mixture rapidly with a Dover egg beater until the curds disappear. The cold water cools the mixture and prevents the formation of more curds, and the beating breaks up those which have already formed, provided they are not too hard.

45. In addition to the uses already mentioned, eggs have numerous other uses in cooking with which the housewife should be familiar. For instance, slightly beaten egg is used to a great extent to make crumbs or meal adhere to the surface of croquettes, meat, oysters, etc. that are to be sautØd or fried in deep fat, a coating of this kind preventing the food from becoming soaked with grease. In addition, egg is used to stick flour together for certain kinds of dough, such as noodles. Then, again, it is much used to puff up mixtures and produce a hollow space in them, as in popovers and cream puffs. While such mixtures do not require beating, spongy mixtures, such as omelets and sponge cakes, do. In these, eggs are an important factor, and they must be thoroughly beaten in order to incorporate the air in small bubbles and thus produce the desired texture.

SERVING OF EGGS

46. The manner of serving eggs depends, of course, on the way in which they are cooked. One point, however, that should never be overlooked, so far as eggs that are to be served hot is concerned, is that they should be served immediately upon being prepared, so that they will not have an opportunity to become cool before being eaten. This applies particularly to any spongy mixture, such as puff omelet and soufflØ, as these dishes shrink upon standing and become less appetizing in both appearance and texture.

Several ways of serving soft-cooked eggs are in practice, but probably the most satisfactory way is to serve them in egg cups. In case cups are used, they should be heated before being placed on the table, as the heat that they retain helps to keep the eggs warm. The eggs may be removed from the shell into the cup and eaten from the cup, or the unbroken egg may be placed point downwards in the small end of the cup, a small piece broken from the broad end of the shell, and the egg then eaten from the shell through the opening made in it. If egg cups are not available, the eggs may be removed from the shell and served in small dessert dishes, which also should be heated.

Many egg dishes are made more attractive and appetizing by means of a garnish of some kind. Small strips or triangular pieces of toast, sprays of parsley, celery leaves, lettuce, and strips of pimiento are very satisfactory for this purpose. If no other garnish is desired, just a sprinkling of paprika adds a touch of color.

47. In connection with the serving of eggs it will be well to note that they have a tendency to adhere to china and to discolor silver. Therefore, in the washing of china and the cleaning of silver that have been used in the serving of raw or slightly cooked eggs, much care should be exercised. Dishes in which eggs of this kind have been served should first be washed in cool water in order to remove all the egg, and then they should be thoroughly washed in hot water. If the hot water is applied first, the heat will cause the egg to coagulate and cling to the dishes. Silver that comes in contact with eggs tarnishes or becomes discolored through the action of the sulphur that is found in them, just as it does when it is exposed to the air. Dark spots that appear on silver from this source may be removed by means of a good silver cleaner.

EGG RECIPES

48. To enable the housewife to prepare many of the dishes already mentioned, as well as many other egg dishes, a number of recipes are here given. These recipes pertain to the cooking of eggs alone in various ways or to dishes in which eggs are the leading ingredient. There are, of course, numerous other dishes in which eggs are required, such as custards, cakes, mayonnaise, etc., but these are omitted here, as recipes for them are included in the lessons that pertain directly to them. In the first few recipes, the ingredients are omitted and merely directions given, for the eggs themselves are practically the only thing required, especially so far as the cooking is concerned. However, in the majority of cases, the ingredients are listed in the usual manner and

explicit directions then given for carrying out the recipe.

49. SOFT-COOKED, OR JELLIED, EGGS.--Eggs that are cooked soft, or jellied, may be used for any meal in which plain eggs can be served. When properly prepared, they are both digestible and attractive, and any person who is able to eat eggs at all can eat them in this form.

To prepare soft-cooked, or jellied, eggs, first bring to the boiling point sufficient water to cover well the desired number of eggs, which is usually 1 pint of water to each egg. Then drop the eggs into the water carefully, remove the pan from the fire, place a cover on it, and set it on the back of the stove, where the water will not heat further nor cool too rapidly. Allow the eggs to remain in the water for 5 minutes.

When eggs cooked in this manner are served, they will be found to be the consistency of jelly all the way through. This method of cooking is preferable to boiling them for 3, 4, or 5 minutes, because boiling cooks the white just inside the shell very hard, while the yolk of the egg remains liquid.

50. POACHED EGGS.--Eggs properly poached make a very attractive breakfast dish, but the poaching should be well done in order to have the dish attractive and digestible. The food value of a plain poached egg is, of course, identically the same as that of a soft-cooked, a hard-cooked, or a raw egg. Eggs are usually poached in a shallow pan, although egg poachers are to be had.

To poach eggs in a shallow pan, pour into the pan sufficient water to cover the eggs that are to be cooked, add a teaspoonful of salt or of vinegar for each pint of water, and bring it to the boiling point. Remove the pan from the flame or reduce the heat so that the water will cease to boil. Break the eggs, one at a time, into a saucer and then slide them carefully into the water. Do not allow the water to boil after the eggs have been added, as boiling toughens the egg white and in addition causes considerable loss by tearing it into shreds. When the eggs are set, remove them carefully from the water and season them with salt and pepper. A convenient way to remove the eggs is to use a large spoon that has holes in the bowl for draining off the water. The salt or vinegar is added to the water before cooking in order to solidify the albumen and keep it in a mass.

[Illustration: Fig. 12]

An egg poacher contains a perforated section of metal just large enough to hold an egg. In poaching eggs with such a utensil, the perforated part is placed over a pan of boiling water; then the egg is carefully slid into it, and allowed to poach. Eggs prepared in this way are really cooked by steam and are found to be very satisfactory.

51. POACHED EGGS ON TOAST.--Eggs poached according to the directions just given can be made both appetizing and attractive by serving them on toast, as shown in Fig. 12; indeed, the addition of toast to a poached

egg adds a quantity of carbohydrate, a food principle in which the egg is lacking. If the toast is buttered, fat is added, and such a dish, together with fruit, makes a very excellent breakfast. A slice of toast of medium size with the usual amount of butter and egg will have a food value of about 225 calories. In preparing poached eggs on toast, the usual custom is to butter slices of freshly made toast, moisten them with hot milk or cream, and place on them freshly poached eggs. The eggs are then seasoned with salt and pepper, and, if desired, a little piece of butter may be dropped on each one. To add to the attractiveness of such a dish, the toast may be cut round with a cookie cutter or a square piece may be cut diagonally to make two triangular pieces.

52. HARD-COOKED EGGS.--Eggs that are cooked hard may be served hot or cold, or they may be used in numerous ways, as, for example, to garnish a dish to which the addition of protein is desirable or to supply a high-protein dish for some light meal.

To prepare hard-cooked eggs, bring to the boiling point sufficient water to cover well the desired number of eggs, about 1 pint of water for each egg to be cooked usually being sufficient. Carefully drop the eggs into the water and place the pan on the back of the stove where the water will not boil, but will stay hot. Allow the eggs to remain in the hot water for 45 minutes; then remove them, and if they are desired hot, serve them at once. If they are not to be served hot, pour cold water over them and allow them to cool before removing the shells in order to prevent the yolks from discoloring.

When prepared in this way, eggs will be found to be tender and at the same time well cooked; whereas, if they are cooked at the boiling point, they are certain to be tough and leathery and consequently less digestible.

53. FRIED EGGS.--Fried eggs are likely to be more or less indigestible, because the hot fat coagulates the protein and makes it very hard. The addition of fat, however, increases the food value of the eggs to a certain extent. To fry eggs, melt enough butter or other fat in a frying pan to cover its surface well. Break the eggs one at a time into a saucer and slip them into the hot fat. Season with salt and pepper. Fry until the white has become well solidified on the bottom, and then either turn them over or put a few drops of water in the pan and cover it tight with a cover, so that the steam will cook the top of the egg. Fry until the desired degree of hardness has been obtained, and then serve.

54. SCRAMBLED EGGS.--A pleasing variety from the usual methods of preparation is offered by means of scrambled eggs, which are not difficult to make. Too long cooking, however, should be guarded against, for it will cause the protein in the eggs to become too hard and to separate from the liquid and will produce watery scrambled eggs. To be most satisfactory, they should be taken from the pan just before they have finished cooking, for the heat that they hold will complete it. Eggs prepared in this way, according to the accompanying recipe, may be served on toast or with ham and bacon. If they are served with meat, a

smaller portion of meat should be given to a person than is ordinarily served.

SCRAMBLED EGGS
(Sufficient to Serve Six)

6 eggs
3/4 c. milk
1/2 tsp. salt
1/8 tsp. pepper
2 Tb. butter

Beat the eggs slightly, and to them add the milk and seasonings. Melt the butter in a frying pan and, when the butter is hot, pour the egg mixture into it. As the eggs begin to thicken, stir them up from the bottom of the pan and continue to stir them until the entire mass has thickened slightly. Before the eggs are entirely cooked, remove them from the pan. Bacon and ham fat may be used instead of butter, and they are strongly recommended if they can be secured, for they lend an excellent flavor to scrambled eggs.

55. SCRAMBLED EGGS WITH TOMATO.--The addition of tomato to scrambled eggs lends an unusual flavor as well as a little variety to the dish. The same conditions apply to the cooking of scrambled eggs with tomato as apply to plain scrambled eggs; namely, that too long cooking ruins them. The onion included in the recipe here given may be omitted from the dish if it is not desirable. The fat to be used may be in the form of butter, although bacon or ham fat may be substituted to give an agreeable flavor.

SCRAMBLED EGGS WITH TOMATO
(Sufficient to Serve Six)

3 Tb. fat
1 slice onion
1 c. stewed tomatoes
1/2 tsp. salt
1/8 tsp. pepper
6 eggs

Put the fat into a frying pan, and when this grease is hot add the slice of onion and fry it until it is brown. Remove the onion from the fat, and add the stewed tomatoes, salt, and pepper. Then beat the eggs slightly and add them to the hot tomato. Stir the mixture slowly from the bottom of the pan until it is slightly thickened. Remove from the pan and serve hot.

56. SCRAMBLED EGGS ON TOAST.--The addition of cheese to eggs, as in the accompanying recipe, makes a dish that is very high in protein and usually pleasing in flavor. So as not to overcook the eggs in this dish, they should be cooked only slightly in the pan, because they receive additional cooking when the dish is placed in the oven to melt the cheese. Browning the cheese slightly on top makes a very attractive

dish, especially when garnished with parsley.

SCRAMBLED EGGS ON TOAST
(Sufficient to Serve Six)

6 eggs
3/4 c. milk
1/2 tsp. salt
1/8 tsp. pepper
2 Tb. fat
1/2 c. grated cheese
6 slices of toast

Beat the eggs slightly, and to them add the milk, salt, and pepper. Melt the fat in a frying pan, and when it is hot add the egg mixture. Stir the mixture as it cooks until it has thickened slightly; then pour it over the slices of toast placed in a shallow pan. Sprinkle the grated cheese over the top, and place under a lighted broiler or in a very hot oven until the cheese melts. Remove to a platter garnish with parsley, and serve.

57. SCRAMBLED EGGS WITH HAM.--The accompanying recipe affords an excellent way in which to use up the little scraps of ham that may be cut from the bone when it is impossible to cut enough nice looking pieces to serve as a cold dish. Eggs prepared in this way will be found very tasty and will take the place of a meat dish for luncheon or supper.

SCRAMBLED EGGS WITH HAM
(Sufficient to Serve Six)

6 eggs
1 c. milk
1/2 tsp. salt
1/8 tsp. pepper
1 c. chopped cooked ham
2 Tb. fat

Beat the eggs slightly, and to them add the milk, salt, pepper, and ham. Melt the fat in a frying pan and scramble the mixture as directed in Art. 54 until it is slightly thickened. Remove from the stove and serve at once. If desired, this dish may be served on toast. Other left-over meat, such as roast beef or pork, may be used in place of ham, but such meats do not make so tasty a dish, the flavor of ham in such a combination being more desirable. 58. PLAIN OMELET.--The simplest type of omelet, which is known as plain omelet, does not differ materially from scrambled eggs, except that the whole is collected in a mass in an omelet shape. No difficulty will be experienced in making such an omelet if the directions in the recipe here given are followed explicitly. To make this dish more attractive, some food of a contrasting color, such as jelly or tomatoes, may be used for garnishing.

PLAIN OMELET

(Sufficient to Serve Six)

6 eggs
6 Tb. water
1/2 tsp. salt
1/8 tsp. pepper
3 Tb. fat

Beat the eggs, and to them add the water, salt, and pepper. Heat the fat in an omelet pan or a small frying pan, and when it is hot add the egg mixture. When the egg on the bottom of the pan has thickened, tip the pan and draw the thickened portion toward the handle with the end of a knife, allowing the uncooked egg to run over the pan, and when that has thickened on the bottom, draw it up as before. Repeat until all of the egg has been cooked and an oblong-shaped omelet is formed. Place on a hot platter or plate, garnish with parsley or jelly, and serve.

[Illustration: FIG. 13]

59. PUFF OMELET.--Many housewives consider it to be a very difficult thing to make a puff omelet successfully; but such need not be the case if fresh eggs are used and the usual amount of care is taken in its preparation. The whites of the eggs must not be over-beaten, as too much beating will cause the loss of air and will not permit the omelet to become sufficiently light. Another precaution is that the mixture should not be overcooked, for the application of heat after it has been sufficiently cooked will cause it to shrink. How a puff omelet made according to the recipe here given should look, is shown in Fig. 13. This is a very pleasing dish and never fails to appeal to those persons who are fond of eggs.

PUFF OMELET
(Sufficient to Serve Six)

2 Tb. bread crumbs
4 Tb. milk
4 eggs
1/2 tsp. salt
1/8 tsp. pepper
3 Tb. fat

Soak the bread crumbs in the milk. Separate the yolks and whites of the eggs. Beat the egg yolks and add them to the crumbs and milk. Add the salt and pepper. Beat the egg whites until stiff and fold them carefully into the yolk mixture. Heat the fat in an omelet pan or a frying pan, and when it is hot pour the mixture into it. Cook over a very slow fire, being careful not to burn the mixture, until a knife can be slipped under and the whole mixture raised. By this time the top should be quite puffed up. Place the pan in a hot oven, where the omelet should puff still more, and cook until it is no longer raw. With a knife, score across through the center on a straight line with the handle. Then carefully fold the omelet double, roll it out on a hot platter or plate, as shown in Fig. 14, garnish with parsley, and serve at once. If an

omelet of this kind stands for any length of time after it is served, it will shrink and be much less appetizing.

[Illustration: FIG. 14]

60. CHEESE OMELET.--If an additional amount of protein in the form of casein is desired in an omelet, the accompanying recipe for cheese omelet should be tried. The addition of cheese makes this dish even a better meat substitute than either the plain or the puff omelet. Likewise, the cheese adds flavor, which may be increased if desired by the addition of more cheese than the recipe calls for. Although this recipe mentions butter, fat other than butter may be used.

CHEESE OMELET
(Sufficient to Serve Six)

1/2 c. grated cheese
2 Tb. bread crumbs
4 Tb. milk
4 eggs
1/2 tsp. salt
1/8 tsp. pepper
3 Tb. butter

Mix the grated cheese with the bread crumbs, milk, egg yolks, salt, and pepper. Beat the egg whites until they are stiff and fold them into the other ingredients. To cook the omelet, proceed according to the directions given for making puff omelet in Art. 59.

61. TOMATO OMELET.--The addition of tomatoes to an omelet makes an attractive dish as far as color is concerned, and, at the same time, it gives variety by improving the flavor. Such an omelet is also less concentrated than a plain omelet, for the tomatoes provide bulk and additional water is added. While in a way these lower the food value of the dish, the loss is more than made up by the qualities that are added.

TOMATO OMELET
(Sufficient to Serve Six)

6 eggs
1/2 c. milk
1/2 tsp. salt
1/8 tsp. pepper
3 Tb. fat
2 medium-sized ripe tomatoes

Beat the eggs, and to them add the milk, salt, and pepper. Heat the fat in a pan large enough to make the egg mixture 1/2 inch deep when poured into it. Cook slowly until it is well done. Peel and cut the tomatoes into slices 1/3 inch thick. Place the sliced tomatoes on 1/2 of the omelet, sprinkle them with salt and pepper, score the omelet through the center, and fold the other half over the tomatoes. Then slide the omelet on a hot platter, garnish with lettuce or parsley, and serve at once.

62. VARIETY IN OMELETS.--From the recipes given for omelets, it will be noted that this dish may be made plain or may be varied by adding ingredients that provide flavoring or increase the nutritive value. In addition to the suggestions that have been made in these recipes, there is an almost endless number of ways in which omelets may be varied. For instance, left-over bits of any kind of meat, such as a roast, a steak, or chops, from the day before or bits of bacon fried for a previous meal may be chopped fine and utilized for this purpose. Cheese cut fine or grated and mixed with the eggs helps to make a delicious omelet. Bread crumbs, cracker crumbs, rice, riced potatoes, or left-over cereal may be used, as well as mushrooms, chopped or whole, and oysters raw or previously scalloped or fried and then chopped. Bits of fish, such as left-over crab or lobster, will do nicely for increasing variety. Often jelly, jam, and fruit or vegetables are folded inside after the omelet is cooked.

63. STUFFED EGGS.--A highly seasoned cold dish that is delicious for picnics or cold lunches can be made by removing the yolks from hard-cooked eggs, seasoning them, and then stuffing them into the whites, as is explained in the recipe here given. Eggs so prepared also make a desirable high-protein dish for summer weather when meat dishes fail to appeal to the appetite. Wafers or tiny bread-and-butter sandwiches served with stuffed eggs make them more attractive.

STUFFED EGGS
(Sufficient to Serve Six)

6 hard-cooked eggs
1/2 tsp. salt
1/8 tsp. pepper
1/8 tsp. paprika
1/2 tsp. mustard
2 Tb. vinegar

Cut the eggs in half, either lengthwise or crosswise. Remove the yolks, mash them, add to them the salt, pepper, paprika, mustard, and vinegar, and mix thoroughly. Fill the egg whites with the yolk mixture. The eggs will be much more appetizing in appearance if the yolk is not packed smoothly back into the white but allowed to stand up roughly. The plate on which the eggs are served should be nicely garnished with lettuce, parsley, or celery leaves.

[Illustration: FIG. 15]

64. CREAMED EGGS.--If a dish that will serve well for luncheon or a light supper is desired, creamed eggs, as illustrated in Fig. 15, will be found very satisfactory, for the cream sauce that is served on them and the toast on which the eggs are placed add carbohydrate to an otherwise high-protein dish. The eggs used in this dish must be hard-cooked in water, so as not to be indigestible. Paprika sprinkled over the top and parsley used as a garnish add colors that make the dish very attractive.

CREAMED EGGS
(Sufficient to Serve Six)

1-1/2 c. milk
2 Tb. fat
2 Tb. flour
1/2 tsp. salt
1/8 tsp. paprika
6 hard-cooked eggs
6 slices of toast

Heat the milk. Put the fat in a saucepan and heat it until it is light brown; then add the flour, salt, and paprika to the melted fat and mix all thoroughly. Pour in the hot milk and stir the mixture constantly until the sauce has become smooth and thick. Cut the hard-cooked eggs into halves while they are hot, and place two halves with the cut sides down on each piece of toast. Pour the white sauce over all, sprinkle with paprika, and serve.

[Illustration: FIG. 16]

65. Eggs àla Goldenrod.--Closely resembling creamed eggs in composition and food value, but differing from them somewhat in appearance, are eggs àla goldenrod, which are illustrated in Fig. 16. This is, perhaps, even a more attractive dish if it is nicely made than creamed eggs, and many persons who do not like hard-cooked eggs find this dish agreeable and are able to digest it.

EGGS ÀLA GOLDENROD
(Sufficient to Serve Six)

2 c. milk
2 Tb. fat
2 Tb. flour
1/2 tsp. salt
1/8 tsp. pepper
4 hard-cooked eggs
6 slices of toast

Heat the milk. Brown the fat in a saucepan, add the flour, salt, and pepper, and mix well. Then add the hot milk and stir until the sauce thickens. Chop the whites of the hard-cooked eggs into small pieces, and mix them with the white sauce. Arrange the toast on a platter and pour the sauce over it. Put the hard-cooked egg yolks through a sieve or a ricer and sprinkle them on top of the white sauce. Serve hot.

66. SCALLOPED EGGS.--A quantity of carbohydrate is added to eggs when they are scalloped, for the white sauce and the cracker crumbs that are used in this dish supply this food substance. The cold meat that this dish requires and that should be well chopped into small pieces may be left-over from roasted, stewed, or even broiled meat. As this provides an additional amount of protein, the dish on the whole serves as an

excellent substitute for meat with carbohydrate added.

SCALLOPED EGGS
(Sufficient to Serve Six)

2 c. milk
2 Tb. fat
1/2 tsp. salt
1/8 tsp. pepper
2 Tb. flour
1 c. cracker crumbs
4 hard-cooked eggs
1 c. chopped cold meat

Heat the milk. Brown the fat in a saucepan, add the salt, pepper, and flour, and mix well. To this add the hot milk. Cook until the sauce thickens, stirring constantly. Grease a baking dish and place in it 1/3 cupful of the cracker crumbs. Over the crumbs arrange two of the eggs sliced thinly, and on the top of the eggs put half of the meat. Repeat by adding a layer of 1/3 cupful of the crumbs, the remaining eggs sliced, and the remainder of the meat. Pour the white sauce over all and arrange the remaining 1/3 cupful of crumbs on top. Bake in a moderate oven for 1/2 hour. Serve hot from the baking dish.

67. INDIVIDUAL BAKING DISHES FOR EGG RECIPES.--Although the directions given in the preceding recipe for scalloped eggs state that this recipe is baked in a baking dish, it is not necessary that one large dish of this kind be used, for, if desired, individual baking dishes may be substituted. In fact, any recipe for which a large baking dish would ordinarily be used may be baked in the small dishes used for a single serving, and eggs prepared in this way are especially attractive. Such dishes are also used for the baking of custards or the molding of jelly and blanc mange. Since they prove very useful and find so much favor, it is advisable for every housewife to add a few of them to her supply of utensils and to become familiar with the varieties that can be secured and the proper way to use them.

Dishes of this kind may be purchased in both cheap and expensive varieties and in plain or fancy styles, being made of white porcelain, of glass, or of the brown ware so much used for large baking dishes and casseroles and having a white glazing on the inside.

68. When such dishes are used as a means of adding variety to the cooking and serving of eggs, they should be placed in the oven in a shallow pan containing enough hot water to come nearly to the top of them. The object of this plan is to keep the temperature uniform. As long as the dishes are surrounded by water, the food to be cooked will not attain a greater heat than 212 degrees Fahrenheit, because the surrounding water cannot reach a higher temperature. Food cooked in this way will be found to be baked much more evenly and to be of a better consistency than food that is subjected to the high temperature of the oven. Most of the recipes that follow, while they can be baked in large baking dishes if desired and then served from the dish, are designed

particularly to be used in individual baking dishes.

69. BAKED EGGS IN CREAM.--A dish that is particularly desirable for breakfast, but that may be served for luncheon, is made by baking eggs in cream according to the accompanying recipe. Besides being very appetizing, this dish is high in food value because of the addition of the cream and fat. Crisp toast served with eggs prepared in this way is very delightful.

BAKED EGGS IN CREAM
(Sufficient to Serve Six)

6 eggs
1 Tb. butter
1/2 tsp. salt
1/4 tsp. pepper
3/4 c. cream

Grease six individual baking dishes and break an egg into each. Put a small piece of butter on top of each egg and season with salt and pepper. Pour over each egg two tablespoonfuls of cream. Place the baking dishes in a shallow pan of hot water and bake until the eggs are as hard as desired. Serve hot.

70. SHIRRED EGGS WITH HAM.--An excellent way in which to utilize scraps of ham is to combine them with eggs to make a dish that may be served in place of meat. This dish, besides being high in food value, is very tasty because of the flavor of the ham and the fact that it is quite highly seasoned.

SHIRRED EGGS WITH HAM
(Sufficient to Serve Six)

1/2 tsp. prepared mustard
1/4 tsp. pepper
1 c. chopped ham
6 eggs
1/4 tsp. salt
1 Tb. butter

Grease six individual baking dishes. Mix the mustard and pepper with the ham, and then divide this mixture as evenly as possible into the baking dishes. Break an egg on top of the ham in each dish, season with salt, and put a small piece of butter on each. Place the dishes in a shallow pan of hot water and bake in a moderate oven until the eggs are well set or hardened. Remove from the oven and serve at once.

71. EGG SOUFFLÉ--If a delicate dish for children or invalids is desired, egg souffløØ will answer the purpose very well. This dish is light in character, but it is high in protein and to most persons is very delightful. It is more attractive if baked in individual baking dishes, but it may be baked in a large baking dish and served directly from the dish. To improve the flavor of egg souffløØ and make it a more

appetizing dish, tomato sauce is often served with it.

EGG SOUFFLÉ
(Sufficient to Serve Eight)

1 c. milk
2 Tb. fat
2 Tb. flour
1/2 tsp. salt
1 Tb. chopped parsley
4 eggs

Heat the milk. Brown the fat in a saucepan, add to it the flour, salt, and parsley, and mix well. Pour in the hot milk, stir constantly until the sauce thickens, and then remove from the fire. Separate the eggs and add the well-beaten yolks to the sauce, stirring rapidly so that the egg will not curd. Beat the whites stiff and fold them carefully into the sauce. Turn into well-greased individual baking dishes until they are about two-thirds full, place in a shallow pan of hot water, and bake until firm when touched with the finger. Serve at once in the dishes in which they are baked, because they shrink when they are allowed to cool.

72. The tomato sauce that is often served with egg soufflØ is made as follows:

TOMATO SAUCE

1 1/2 c. strained stewed tomatoes
2 Tb. fat
1/2 tsp. salt
1/8 tsp. pepper
2 Tb. flour

Force enough stewed tomatoes through a sieve to make 1 1/2 cupfuls of strained tomato. Heat the strained tomato and to it add the fat, salt, and pepper. Moisten the flour with a little cold water and add it to the hot tomato. Cook for 5 minutes. Serve over the soufflØ.

[Illustration: FIG. 17]

73. Alpine Eggs.--It is rather unusual to combine cream or cottage cheese with eggs, so that when this is done, as in the accompanying recipe, a dish that is out of the ordinary is the result. If not a sufficient amount of cottage cheese is in supply to serve for a meal, it may very well be used for this dish. Otherwise, cream cheese serves nicely.

ALPINE EGGS
(Sufficient to Serve Six)

2 10-cent pkgs. cream cheese or
1 c. cottage cheese
2 Tb. finely chopped parsley

1/8 tsp. paprika
6 eggs
1 Tb. butter
1 1/2 tsp. salt

Grease six individual baking dishes. Break up the cheese with a fork and sprinkle a layer on the bottom of each dish. Break an egg in each dish over the cheese. Season with salt. Sprinkle a layer of cheese on top of the egg, and over that put chopped parsley, paprika, and a small piece of butter. Place the baking dishes in a shallow pan of hot water and bake in a moderate oven until the eggs are set. Remove from the oven and serve at once.

74. Clipped Eggs.--The chief value of clipped eggs is their appearance, which, as will be observed in Fig. 17, is very attractive. This dish adds much to the breakfast tray of an invalid or will tempt the appetite of a child who does not feel like eating. But in addition to being attractive, this dish is high in food value, for in this respect it is exactly equivalent to a poached egg on toast or a plain egg served with a piece of toast to which is added a small amount of butter.

CLIPPED EGGS
(Sufficient to Serve Six)

6 pieces toast
3 Tb. butter
6 eggs
1/2 tsp. salt
1/8 tsp. pepper

Butter the toast with some of the butter. Separate the whites and yolks of the eggs without breaking the yolks. Beat the whites stiff, and put a mound of the beaten white on top of each piece of buttered toast. Make a hole in the center of the mound of egg white and drop the unbroken yolk into it. Season each with salt and pepper and bits of the remaining butter. Place in a hot oven and bake until the yolk is set and the white slightly browned. Serve hot.

75. LEFT-OVER EGGS.--It is not a difficult matter to utilize eggs in any form in which they may be left over, for they combine readily with many other foods. For instance, left-over hard-cooked eggs may be sliced or chopped and used to garnish dishes of vegetables, meat, fish, or salads. Eggs cooked in this way may also be stuffed according to the recipe given in Art. 63, or they may be crushed and mixed with seasoning for sandwiches. If any soft-cooked eggs remain after a meal, they should be hard-cooked in order to be used to the best advantage. Left-over omelet or scrambled, poached, or fried eggs may be chopped and added to soups, sauces, or gravies, or combined with small pieces of meat or fish and used with crumbs and white sauce to make a scalloped dish.

Even uncooked eggs that are taken from the shells, but that cannot be used at once, need not be wasted if proper care is given to them to prevent the formation of a hard crust over their surface. Such eggs

should be put into a dish that will allow as little of the surface as possible to be exposed and should be covered with cold water and kept in a cool place. When they are desired for use, the water should be poured off carefully so as to prevent the loss of any of the egg.

BREAKFAST MENU

76. So that a definite idea may be formed of the student's progress in cookery, there is here presented a breakfast menu that is to be prepared and reported on at the same time that the answers to the Examination Questions are sent. This menu is practical and it may be easily prepared, as all the dishes it contains have already been considered.

MENU

Sliced Bananas
Cream of Wheat
Graham Muffins
Butter
Puff Omelet
Coffee

In most homes, breakfast is a meal that is gathered together with as little thought and preparation as possible. The reason for this is that the housewife feels that she does not wish to rise early enough in the morning to prepare an elaborate menu. Breakfast, however, should be the most attractive meal in the day, because it is one that gives to each member of the family the right start for the day and sustains him until luncheon time. In most cases, a cup of coffee and a slice or two of toast do not start one with a cheerful attitude, nor do they contain sufficient food value to nourish the individual properly. With a little forethought and planning, certain foods may be partly prepared for breakfast the day before. If this is done, the time required for the actual preparation of the breakfast need not be greatly increased. For example, in the accompanying menu, the cream of wheat may be cooked the evening before, the materials for the graham muffins measured, and even the pan in which they are to be baked greased, and the materials for the omelet collected and measured. If all this is done, the preparation necessary in the morning will consist merely of slicing the bananas, reheating the cream of wheat, preparing the coffee, baking the muffins, and making the omelet. While the coffee and cream of wheat are heating or cooking, the oven will be heating, so that when the muffins are mixed it will be ready to bake them; and while these are baking the omelet may be prepared. When this is done, all will be ready to serve.

EGGS

EXAMINATION QUESTIONS

(1) Give a brief description of the physical structure of an egg.

(2) (_a_) Why are eggs an important article of diet? (_b_) For what foods may they be substituted?

(3) (_a_) Mention the food substances that are found in an egg, and give the percentage of each one. (_b_) What food substance is lacking in eggs, and how may it be supplied?

(4) What is the chief food substance in: (_a_) an egg white? (_b_) an egg yolk?

(5) Discuss briefly the digestibility of eggs.

(6) (_a_) Of what value is the grading of eggs? (_b_) What points are considered when eggs are graded?

(7) (_a_) What conditions affect the quality of eggs? (6) Mention the agencies that render the quality of eggs inferior and explain how they work.

(8) How can the quality of eggs be determined: (_a_) in the market? (_b_) in the home?

(9) (_a_) What is the common commercial means of preserving eggs? (_b_) How is it beneficial to the housewife?

(10) (_a_) Mention the various ways by which eggs may be preserved in the home. (_b_) Explain the preservation of eggs with water glass.

(11) When may the shells of eggs be washed?

(12) (_a_) What is the preferable method of breaking an egg? (_b_) Explain how the yolk and the white of an egg may be separated.

(13) (_a_) For what purposes are eggs beaten? (_b_) With what kind of egg beater should egg yolks or whole eggs be beaten?

(14) (_a_) With what kind of utensil should egg whites be beaten? (_b_) Why should egg whites not be allowed to stand after beating?

(15) (_a_) What is the effect of heat upon an egg? (_b_) Why are eggs cooked in the shell better if they are cooked at a temperature lower than boiling point? (_c_) Cook an egg by boiling it rapidly for 20 minutes. Cook another egg according to the directions given in Art. 52. Remove the shells while the eggs are warm, compare the texture, and report the differences.

(16) (_a_) When eggs are used in a mixture that is to be cooked for a long time, when should they be added? (_b_) What can be substituted for some of the eggs in a mixture that requires eggs for thickening?

(17) (_a_) What point should never be overlooked in the serving of eggs that are intended to be served hot? (_b_) Why should spongy egg dishes be served immediately after cooking?

(18) (_a_) How should dishes that have contained eggs be washed? (_b_)

Why is such care necessary?

(19) (_a_) What precautions should be taken in the making of a puff omelet? (_b_) Mention some of the things that may be used to give variety to omelets.

(20) (_a_) What are the advantages of individual baking dishes? (_b_) State how these should be put in the oven and explain the object of this plan.

REPORT ON MENU

After trying out the menu given in the text, send with your answers to the Examination Questions a written report of your success in making it. On your report simply write the name of the food and describe its condition by means of the terms specified in the following list:

Cream of Wheat: thin? thick? properly seasoned? smooth? lumpy?

Graham Muffins: light? heavy? texture coarse? texture fine? even brown color on crust? well flavored?

Puff Omelet: light? heavy? underdone? overdone? even brown on bottom? tough? tender? properly seasoned?

* * * * *

VEGETABLES (PART 1)

* * * * *

IMPORTANCE OF VEGETABLES AS FOOD

VARIETY IN VEGETABLES

1. As understood in cookery, VEGETABLES refer to plants or parts of plants that are used as food. Vegetables may consist of the entire plant, as, for example, the beet; the stem, as asparagus and celery; the root, as carrot and turnip; the underground stem, or tuber, as the white potato and onion; the foliage, as cabbage and spinach; the flower of the plant, as cauliflower; the pods, which hold the seeds of the plant or the seeds themselves, as peas and beans; or that which in reality is fruit, although for table use always considered a vegetable, as the tomato and eggplant.

2. Because of this large assortment, vegetables afford the greatest possible variety in flavor, appearance, texture, quality, and food value. They therefore assume a place of very great importance in the diet of individuals and in the plans of the housewife who has all the meals to prepare for her family. In fact, there is scarcely a meal, except breakfast, at which vegetables are not served. For dinner, they

form a part or all of each course in the meal, except, perhaps, the dessert, and occasionally they may be used for this.

Although two or more vegetables are nearly always served in even a simple meal, the use of vegetables in most households is limited to those few varieties which are especially preferred by the family. As a rule, there are a number of other vegetables that would be very acceptable if prepared in certain appetizing ways. An effort should therefore be made to include all such vegetables in the dietary, for they may be used to decided advantage and at the same time they afford variety in the meals. The constant demand for variety in this food makes acceptable new recipes for the preparation of the vegetables already known and information for the use of the unfamiliar kinds.

3. Great variety also exists in the flavor of vegetables, which they derive from their volatile oils; that is, the oils that evaporate rapidly on exposure to the air. In some cases, the flavor is disagreeably strong and must be dissipated, or driven away, in order to make the vegetables agreeable to the taste and to prevent them from disagreeing with those who eat them. In others, the flavor is very mild, so that unless the vegetables are properly prepared the flavor may be almost lost. When the principles relating to the cooking of vegetables are thoroughly understood, little difficulty will be experienced in preparing them so that the flavor is dissipated or retained as the case may require.

4. The food value of vegetables varies as much as do their form and flavor, some of them having almost no food value, others having a great deal, and the remainder varying between these two extremes. The housewife who wishes to provide economically for her family and at the same time give them food that is best suited to their needs, should learn as much of the composition and food value of the various kinds of vegetables as possible. If, besides acquiring this knowledge, she learns a variety of ways in which to prepare each kind, she will find that it is possible to substitute vegetable dishes for the more expensive foods. For instance, it is often possible to substitute a vegetable dish for a meat dish several times a week, but the composition of the vegetable dish must be such that it will really take the place of the meat dish.

5. That it is possible for adults to live on vegetables alone has been proved by vegetarians; that is, persons who exclude meat from the diet. They have shown that all the elements necessary to build and maintain the human body are contained in vegetables, fruits, and cereals, and also that these elements are in such quantity that it is not necessary to supply them in any other way. Even if it is not desired to use such foods exclusively, as much use should be made of them as possible, for they average a lower cost than the high-protein foods, such as eggs, meat, and milk. The use of vegetables, however, need not be restricted to adults, for when properly prepared they may be included to advantage in the diet of very young children. In fact, children should be trained to eat vegetables of all kinds, for such training not only will enable each one to grow up with a correct appreciation for all edible things, but will make the preparation of meals easier for the housewife.

6. Vegetables should receive great care in their preparation, whether the method involved is simple or complicated. Any of the methods of cookery that call for the application of heat may be applied to them, and in many cases they are served without cooking, merely dressing or seasoning being added. Good vegetables may be ruined by improper preparation, while those which are in excellent condition may be improved by the application of the correct methods in their preparation. Vegetables that are inexpensive but highly nutritious should be used when it is necessary to practice economy, because, when they are properly prepared, they form a valuable addition to a meal.

7. All varieties of vegetables are grown almost universally. This fact, together with the facts that they mature at different times during the season, according to the climate in which they are grown, and that most varieties can be conveniently shipped, makes the season in which certain fresh vegetables can be obtained much longer than it formerly was. For instance, very early in the season, long before it is possible to have beans, peas, and other vegetables in the North, they are shipped from the extreme South, and as the season advances, they mature farther and farther north. Therefore, they may be constantly supplied to the northern markets until the time when they mature in that locality.

8. In order not to waste vegetables and to have them in the best possible condition when they are desired for preparation, every housewife should realize that the selection and care of vegetables are also important matters to consider. The selection must be learned by familiarity with them, as well as practice in buying, and the housewife must be guided by the suitability of the vegetables and the money she has to spend for them. The care that must be given to them is determined by the kinds that are purchased, some requiring one kind of care in storage and others entirely different attention.

STRUCTURE, COMPOSITION, AND FOOD VALUE

9. STRUCTURE OF VEGETABLES.--Although vegetables vary greatly in composition and consequently in food value, they are similar so far as physical structure is concerned. In general, they consist of a skeleton framework that is made up of cellulose. Their digestible part is composed of tiny cells having thin walls that confine the actual food material in the form of a liquid or semiliquid. As the vegetables grow old, the cellulose material and the cell walls gradually toughen, with the result that old vegetables are less easily made tender than young ones and are not so agreeable to the taste as those which have not grown hard. The total food value of vegetables, as well as of cereals, meats, and, in fact, all foods, varies with the quantity of water and cellulose they contain. Therefore, the vegetables that contain the least coarse material are the ones that have the highest food value.

10. The green color that characterizes many vegetables is due to a substance called _chlorophyl_. This substance is essential to the normal growth of plants and is present in the correct amount in only those which are properly exposed to the sunlight. Sufficient proof of this is

seen in the case of vegetables that form heads, as, for instance, cabbage and head lettuce. As is well known, the outside leaves are green, while the inside ones are practically white. Since it is exposure to the light that produces the green color, a vegetable or plant of any kind can be bleached by merely covering it in order to keep out the sunlight. This procedure also enables the plants to remain more tender than those which have been allowed to grow in the normal way and become green. For instance, the inside leaves of a head of lettuce are always very much more tender than the green outside leaves. In fact, the center of any kind of plant, that is, the leaves and the stem that appear last, are more tender, possess a lighter color, and have a more delicate flavor than the older ones.

11. PROTEIN IN VEGETABLES.--Taken as a whole, vegetables are not high in protein. Some of them contain practically none of this food substance and others contain a comparatively large amount, but the average is rather low. Vegetables that are high in water, such as lettuce, celery, tomatoes, and cucumbers, contain so little protein that the quantity is not appreciable. Such vegetables as potatoes, beets, carrots, etc. contain slightly larger quantities. Dried vegetables, such as beans, peas, and lentils, contain comparatively large amounts of this substance, and for this reason may be substituted for such high-protein foods as meat and fish.

12. The composition of vegetable protein is only slightly different from that of animal protein. In fact, the experiments of scientists show that animal protein may be readily replaced by vegetable protein. One of these proteins is sometimes called _vegetable albumin_, but the chief protein of vegetables containing the largest amount of this substance, namely, beans, peas, and lentils, is called _legumin_, from the term _legumes_, the name of this class of vegetables. It is generally agreed that vegetable protein is not so digestible as animal protein, but this disadvantage is offset by the fact that it does not bring about so much intestinal trouble as does the protein of animal foods and is less likely to cause disturbances that are usually attributed to foods high in this substance. Vegetable protein is affected by heat in much the same way as other protein.

When any of the dry vegetables high in protein are served at a meal, meat should be eliminated, or the result will be an oversupply of protein. As this condition is not only harmful but wasteful, it is one that should receive proper consideration from the housewife.

13. FAT IN VEGETABLES.--As vegetables as a class are low in protein, so are they low in fat. In the case of some vegetables, the quantity of fat they contain is so small that it is never considered in discussing the food value of these vegetables, while in others slightly larger quantities are to be found. However, on the whole, vegetables are so nearly lacking in this food substance that it is necessary to supply fat in their preparation and in the serving of meals in which they are included. This is done in a variety of ways, depending on the nature of the vegetable. For instance, in order that baked beans may take the place of meat entirely, fat in the form of salt pork is usually added

when they are prepared. The pork, of course, also supplies a very small amount of protein, but it is not used with the beans for this purpose. Practically all cooked vegetables are served with butter or with a sauce that contains fat. Green vegetables that require no cooking but are served as a salad, are supplied with fat by the salad dressing that is used with them. The fat varies greatly, depending on the kind of dressing used.

14. CARBOHYDRATES IN VEGETABLES.--When the composition of vegetables is considered chemically, the most striking thing about them is the carbohydrates they contain. It is this that distinguishes this class of foods from animal foods. The carbohydrate of vegetables is found in both its forms, starch and sugar. It is in the form of sugar in many of the vegetables when they are young or immature, but it turns into starch as they mature. This change can be easily observed in the case of peas. As is well known, young green peas are rather sweet because of the sugar they contain, while mature or dried peas have lost their sweetness and are starchy. The sugar that is found in large quantities in such vegetables as peas, carrots, turnips, etc. is largely cane sugar. The starch that vegetables contain occurs in tiny granules, just as it is found in cereals, and is affected by cooking in the same way. The mature vegetables in which the starch has developed, although less tender and less sweet than young ones, have a higher food value. In fact, the carbohydrate that vegetables contain constitutes a large proportion of their food value.

One of the chief sources of starch among vegetables is the potato, in which the starch grains are large and, if properly cooked, easily digested. Irish, or white, potatoes contain very little carbohydrate in the form of sugar, but in the sweet potato much of the carbohydrate is sugar. In either of these two forms--starch and sugar--vegetable carbohydrate is easily digested.

15. MINERAL MATTER, OR ASH, IN VEGETABLES.--The mineral matter in vegetables is found in comparatively large quantities, the average amount being slightly over 1 per cent. The presence of this substance is of great value, because the mineral salts of both fruits and vegetables are essential in the diet of adults in order to keep their health in a normal condition. The mineral salts of vegetables render the blood more alkaline instead of more acid, as do those contained in cereals and meat. A large number of vegetables, particularly those low in food value, such as greens, celery, etc., are very valuable for their mineral salts. In reality, this substance and the cellulose they contain are the things that recommend the use of these vegetables in the diet. Minerals of all kinds are found in solution in the water contained in vegetables, but chief among them are calcium, sodium, iron, phosphorus, and sulphur. Greens and salad vegetables are particularly high in iron, the element that assists in keeping the blood in good condition. These minerals are easily lost if the method of cookery is not planned to retain them.

16. CELLULOSE IN VEGETABLES.--The special use of cellulose, as has already been learned, is to serve as bulk in the food containing it. In vegetables, the cellulose varies greatly as to quantity, as well as to texture and the amount that can be digested. In young vegetables, it is very soft and perhaps digestible to a certain extent, but as they grow

older it hardens and they become tough. This fact is clearly demonstrated in the case of beets. Those which are pulled from the garden in the summer and cooked are tender and soft, but those which are allowed to mature in the ground and are then put away for winter are, when cooked in the late winter or early spring, so hard and tough that it is almost impossible to make them soft. The quantity of cellulose that vegetables contain therefore depends largely on their age and condition. Those low in total food value contain, as a rule, larger quantities of it than those high in food value. This is due to the fact that both water and cellulose, which are usually found together in large quantities, help to detract from the fuel, or food, value of foods.

Very young persons or those who are ill sometimes find it impossible to take in its original form a vegetable that contains a large amount of bulk, or cellulose. In such a case, the vegetable may be put through a colander or a sieve in order to break up the cellulose and make it easier to digest. Under ordinary conditions, cellulose should not be avoided, but should be included in large quantities in the diet through the vegetables that are consumed daily.

17. WATER IN VEGETABLES.--The majority of vegetables contain a large quantity of water. Such vegetables as lettuce, cucumbers, tomatoes, etc., which are low in total food value, contain the most water, the average percentage being about 95. The dry vegetables, which are high in food value, average only about 10 per cent. of water. The water that is found in vegetables, whether it is much or little, is contained in cell-like structures surrounded by cellulose, and it holds in solution the mineral salts and much of the nutriment of the vegetables. In addition, the water holds in solution to a certain extent the material that gives vegetables their distinctive flavor. When any of this water is lost in the preparation of vegetables, the substances that it contains are also lost. It is therefore essential that correct methods of preparation be chosen for the cooking of this food, so as to prevent the waste of valuable food materials.

18. DIGESTIBILITY OF VEGETABLES.--The digestibility of vegetables is largely an individual matter; that is, a vegetable that agrees with one person may not agree with another. The fact that there appears to be no apparent reason for such a condition would lead to the conclusion that it is due to the peculiarities of the person. Because of this, it is not fair to make the general statement that a particular vegetable is easy to digest and another one is hard to digest.

The chief cause for difficulty in the digestion of vegetables lies in their volatile oils, which give them their flavor, but which are irritating to many persons. Vegetables having a strong flavor, such as radishes, onions, cucumbers, cabbage, and cauliflower, are the ones that disagree most frequently with persons who eat them; but sometimes the way in which some of them are cooked has more to do with this than the vegetables themselves.

Vegetables containing considerable cellulose and water do not of themselves give trouble in digestion, because they contain practically

nothing to digest; but they are sometimes responsible for interfering with the digestion of other foods. Vegetables that are extremely high in starch, such as potatoes, are easily digested by most persons, provided they are properly cooked. For instance, a plain baked potato is easily digested, but the same potato sautØd in fat is more difficult of digestion.

19. TABLE SHOWING COMPOSITION AND FOOD VALUE OF VEGETABLES.--As vegetables vary considerably in the amount of the food substances they contain, so do they differ greatly in their food value. This is clearly shown in Table I, which gives the percentage of the food substances of vegetables, as well as the food value per pound, in calories, that these vegetables contain. The figures in this table are taken from Atwater's Table of American Food Materials, and refer to the edible portion of the material. In the case of several vegetables, no figures are given by this authority, but in the table here presented the percentages and the calories for the vegetables most similar are used. For example, the figures for lettuce are used for endive, as the composition and food value of this vegetable are not included and it resembles lettuce very closely. Constant reference should be made to Table I as progress is make with the study of vegetables and their preparation. Noting the difference in the composition of the different vegetables, as well as the variation in their food value, will be not only interesting but instructive. For instance, when the housewife realizes that lettuce and celery furnish only 85 to 90 calories to the pound, while dried beans and peas average more than 1,700 calories to the pound, she will understand better the place that these foods occupy in the dietary.

TABLE I

COMPOSITION AND FOOD VALUE OF VEGETABLES

Vegetable	Water	Protein	Fat	Carbo-hydrate	Ash	Food Value per Pound Calories
Asparagus	94.0	1.8	.2	3.3	.7	105
Beans						
Dried	12.6	22.5	1.8	59.6	3.5	1,750
Lima	68.5	7.1	.7	22.0	1.7	570
Shelled	58.9	9.4	.6	29.1	2.0	740
String	89.2	2.3	.3	7.4	.8	195
Beets	87.5	1.6	.1	9.7	1.1	215
Brussels sprouts	88.2	4.7	1.1	4.3	1.7	215
Cabbage	91.5	1.6	.3	5.6	1.0	145
Carrots	88.2	1.1	.4	9.3	1.0	210
Cauliflower	92.3	1.8	.5	4.7	.7	140
Celery	94.5	1.1	.1	3.3	1.0	85
Corn	75.4	3.1	1.1	19.7	.7	470
Cucumbers	95.4	.8	.2	3.1	.5	80
Eggplant	92.9	1.2	.3	5.1	.5	130
French artichokes	92.5	.8	.2	5.0	1.5	110
Greens						

Dandelion	81.4	2.4	1.0	10.6	4.6	285
Endive	94.7	1.2	.3	2.9	.9	90
Spinach	92.3	2.1	.3	3.2	2.1	110
Swiss chard	92.3	2.1	.3	3.2	2.1	110
Lettuce	94.7	1.2	.3	2.9	.9	90
Watercress	94.7	1.2	.3	2.9	.9	90
Jerusalem artichokes	79.5	2.6	2.0	16.7	1.0	365
Kohlrabi	91.1	2.0	.1	5.5	1.3	145
Lentils, dried	8.4	25.7	1.0	59.2	5.7	1,620
Mushrooms	88.1	3.5	.4	6.8	1.2	210
Okra	90.2	1.6	.2	7.4	.6	175
Onions	87.6	1.6	.3	9.9	.6	225
Parsnips	83.0	1.6	.5	13.5	1.4	300
Peas						
Dried	9.5	24.6	1.0	62.0	2.9	1,655
Green	74.6	7.0	.5	16.9	1.0	465
Peppers	92.9	1.2	.3	5.1	.5	130
Potatoes						
Irish	78.3	2.2	.1	18.4	1.0	385
Sweet	69.0	1.8	.7	27.4	1.1	570
Radishes	91.8	1.3	.1	5.8	1.0	135
Salsify	88.2	1.1	.4	9.3	1.0	210
Squash						
Summer	95.4	.8	.2	3.1	.5	80
Winter	88.3	1.4	.5	9.0	.8	215
Tomatoes	94.3	.9	.4	3.9	.5	105
Turnips	89.6	1.3	.2	8.1	.8	185

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PURCHASE AND CARE OF VEGETABLES

PURCHASE OF VEGETABLES

20. As in the case of other foods, the purchase of vegetables in the market requires special knowledge and attention in order that the best value may be obtained for the money expended. The housewife who has a limited amount of money to spend for food does not buy wisely when she purchases vegetables out of season or those which must be shipped long distances. On the other hand, it will be found that vegetables bought in season as well as those which are plentiful in the particular locality in which they are sold, especially if they are perishable vegetables, are lowest in price and are in the best condition for food. Therefore, whether the income is limited or not, it is wisdom on the part of the housewife to buy vegetables that grow in the neighboring region and to purchase them when they are in season.

21. A very important point for the housewife to keep in mind regarding the purchase of vegetables is that their price is determined not by their value as food, but by their scarcity and the demand for them.

Take, for example, the case of mushrooms. As shown in Table I, this vegetable is low in food value, containing only 210 calories to the pound, but, if purchased, they are always an expensive food. The high price asked for mushrooms is entirely dependent on their scarcity. If there is much demand in a certain community for a food that is not plentiful in the market, the price of that food always goes up. As in the case of mushrooms, many expensive foods add practically nothing in the way of nourishment, their only value being in the variety of flavor they supply.

22. Furthermore, in order to provide wisely, the person who purchases vegetables for the family should be able to judge whether she is getting full value in food for the money she invests. She cannot always do this with each particular vegetable purchased, but she can buy in such a way that what she purchases will average correctly in this respect. The perishable vegetables should be bought as fresh as possible. No difficulty will be experienced in determining this, for they will soon wither or rot if they are not fresh, but the point is to find out their condition before they are bought. The housewife should be ever on the alert and should examine carefully the vegetables she buys before they are accepted from the grocer or taken from the market. In the case of certain vegetables, it is possible to conceal the fact that they are stale. For instance, the outside leaves of a head of lettuce or endive are sometimes removed and only the bleached center is offered for sale; but this always indicates that the outside leaves were either withered or spoiled or they would not have been taken off.

23. Much of the spoiling of vegetables can be avoided if proper attention is given to them in the market. Food of this kind should be so displayed that it is not exposed to the dirt and dust of the street, nor to flies and other destructive vermin. The practice of displaying vegetables on a stand in front of a store is gradually losing favor with the housewife who understands the sanitary precautions that should be taken with foods. On the other hand, housewives owe it to the merchant not to handle the foods they are going to buy, for the handling of them not only injures them so that they will not keep well, but renders them unfit to be accepted by the next purchaser.

24. The manner in which vegetables are sold should also receive consideration. It has been the custom to sell them by measure, but both housewives and merchants have come to realize that it is fairer to sell them by weight. Experience has shown that a pound is much more likely to be always uniform than is a quart or a peck. This is due to the fact that no two dealers are likely to measure in exactly the same way, even though the measures they use are up to the standard in size. Then, too, especially in the case of vegetables that are of various sizes and shapes, it is impossible to fill a measure properly because of the shape of the vegetables, and so either the housewife often receives short measure or the merchant gives more than the measure requires. All difficulty of this kind is entirely overcome when vegetables are weighed.

25. PERISHABLE VEGETABLES, that is, those which spoil quickly, are usually bought in small quantities, and so are used up quickly. However, if they are kept on hand for only a day or so, they require a definite amount of care in order to insure the most satisfactory results in their use. To prevent them from spoiling or withering, they should be kept in a cool, damp place until they are needed. The most effective and convenient way in which to accomplish this is to store them in a refrigerator or other similar device. If ice cannot be obtained, the cellar should be utilized. Before vegetables of this kind are put away after being delivered from the market, they should be looked over carefully, and any that are spoiled should be discarded in order to prevent others that they might touch from becoming tainted. As little handling as possible, however, is advantageous, because when such foods become bruised and are then allowed to stand they are likely to spoil very quickly.

26. The less perishable vegetables, commonly called WINTER VEGETABLES because they may be kept through the winter, may be bought in quantity, provided proper storage facilities to prevent them from spoiling are available. Potatoes, in particular, are usually purchased in this way, for, as a rule, they may be obtained at a better price than when bought in small quantities, and then, too, they are a vegetable that most families use nearly every day. If they are bought in quantity, they should first be thoroughly tested, for often a potato looks very well on the outside while its texture and flavor may not be at all in accordance with its appearance. Great care should also be exercised to see that this vegetable, as well as carrots, turnips, parsnips, etc., has not been frosted, for frost ruins them as to texture and keeping qualities.

All such vegetables as these, provided they must be stored for any length of time, keep best in a cold, fairly dry atmosphere. To prevent them from sprouting, the storage room should, if possible, be kept dark, but in case they do sprout, the sprouts should be removed as soon as they are discovered. The best receptacles for the storage of these winter vegetables are bins, a convenient type of which is shown in _Essentials of Cookery_, Part 2, and the most satisfactory place in which to put such bins is a cellar that has a dirt floor rather than a board or a cement floor.

CLASSIFICATION OF VEGETABLES

27. Because of their difference in physical structure, both as plants or parts of plants, and their variation in chemical composition, it is a rather difficult matter to classify vegetables. The vegetables that are discussed throughout these Sections are therefore not included in any classes, but are arranged alphabetically, a plan that the housewife will find very convenient. However, there are a few general classes whose names and characteristics should be known by the housewife, for an understanding of them will enable her to make a more intelligent use of this food. These classes, together with a brief description of the features that characterize them and the names by which the principal varieties are known, are here given.

[Illustration: FIG. 1]

28. SUCCULENT VEGETABLES are those which are generally eaten for their appetizing effect and their value as a source of mineral salts and bulk. These vegetables, which get their name from the fact that they are juicy in texture, include the greens, such as spinach, Swiss chard, dandelion, lettuce, etc., also celery, asparagus, cabbage, and all other plants whose green leaves and stems are edible. Succulent vegetables may be cooked, but they are often used as cold relishes or in the making of salads.

29. ROOT, TUBER, and BULB VEGETABLES form another class. Examples of several well-known roots are shown in Fig. 1, which from left to right are salsify, carrots, turnips, and parsnips. The varieties included in this class are closely related as to food value, and on the whole average much higher in this characteristic than do the succulent vegetables. Irish potatoes and Jerusalem artichokes are examples of tubers; sweet potatoes, beets, radishes, etc., in addition to the vegetables shown in Fig. 1, belong to the roots; and onions and all the vegetables related to the onion, such as garlic, shallots, and leeks, are illustrations of bulbs or enlarged underground stems.

30. FRUIT and FLOWER VEGETABLES form a third class. They present great variety in appearance, structure, and composition. To this class belong cucumbers, eggplant, winter and summer squash, vegetable marrow, tomatoes, peppers, and okra, which are in reality fruits but are used as vegetables. Flower vegetables include California, or French, artichokes, and cauliflower, all of which are in reality the buds of flowers or plants and are eaten for food.

31. LEGUMES form a fourth class of vegetables, and they include all the varieties of beans, peas, and lentils. When these foods are mature and dried, they have the highest food value of all the vegetables. Among the beans are Lima beans, kidney beans, navy, or soup, beans, soy beans, and many others. The peas include the various garden varieties that have been allowed to mature, cow-peas, and many others, some of which are not suitable for human consumption. The lentils occur in numerous varieties, too, but those commonly used are the red, yellow, and black ones. To legumes also belong peanuts, but as they are seldom used as vegetables in cookery, no further mention is made of them in this Section.

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VARIETIES OF VEGETABLES AND THEIR PREPARATION

GENERAL METHODS OF PREPARATION AND COOKING

32. PREPARING VEGETABLES FOR COOKING.--Before many vegetables can be cooked, they require a certain amount of preparation, such as washing, soaking, peeling, cutting up into suitable sizes, etc. When they must be peeled, great care should be taken not to remove too much of the vegetable with the skin. Whenever it is possible to do so, vegetables

should be cooked in their skins, as there is much less waste of edible material if the skins are removed after cooking. Potatoes that are to be fried, hashed brown, or used for salad and other similar dishes may be boiled in their skins and peeled afterwards just as conveniently as to be peeled first and then boiled. Indeed, this plan is strongly recommended, for it not only saves material that is removed in the peeling but also conserves the mineral salts and the soluble food material, much of which is lost in the water during the cooking.

33. If it is desired to remove the peeling before cooking, it will be found more economical to put the vegetables in water and then scrape off the skins than to cut them off with a knife. This method is especially satisfactory with new potatoes and with such vegetables as carrots, parsnips, salsify, and turnips. The scraping can be accomplished more easily if the vegetables are first plunged into boiling water for a few minutes and then dipped into cold water.

When entire heads of such vegetables as cabbage, cauliflower, Brussels sprouts, etc. are to be cooked, they should be soaked, head down, for at least 1/2 hour in salted water made by adding 1 teaspoon-full of salt to 1 quart of water. This is done in order to remove any bugs or worms that may be lodged in the head. The correct proportion of salt is an important detail of this process, for if salt water that is too strong is used, it will kill the bugs or worms and they will remain in the head. 34. METHODS OF COOKING APPLIED TO VEGETABLES.--The usual methods of cooking applied to vegetables are boiling, steaming, baking, stewing, frying, sautØing, broiling, and roasting. Which one of these to select depends, of course, on the particular kind of vegetable that is to be cooked and the result that is desired, but, if possible, an effort should be made to select an economical method. Starchy vegetables, such as Irish and sweet potatoes, beans, etc., develop a more delicious flavor when they are baked than when they are cooked by any other method of preparation. Steaming is an excellent means of preparing vegetables that must be cooked by moist heat, especially when it is desired that no soluble material be lost, as is often the case in boiling. Frying and sautØing, when applied to vegetables, usually produce a delicious flavor, but often render the vegetables decidedly indigestible. For this reason, vegetables so prepared should seldom if ever be served to children and to persons whose digestion is not good.

35. EFFECT OF COOKING ON VEGETABLES.--The various ways in which cooking affects vegetables should be thoroughly understood by the housewife. In the first place, some methods conserve the food material whereas others waste it. For instance, boiling in water, which is probably one of the most common ways of cooking vegetables, is decidedly advantageous in some respects, but the water dissolves much of the soluble material, such as mineral salts, sugar, etc., found in the vegetables, so that unless some use is made of this water in the cooking of other foods, considerable waste results. On the other hand, steaming and baking permit no loss of food material, and so they should be applied to vegetables whenever it is desired to conserve food substances.

36. The flavors of vegetables are greatly changed during the process of

cooking, being increased in some cases and decreased in others. In the case of such strongly flavored vegetables as cabbage, cauliflower, onions, etc., it is advisable to dissipate part of the flavor. Therefore such vegetables should be cooked in an open vessel in order that the flavor may be decreased by evaporation. Vegetables mild in flavor, however, are improved by being cooked in a closed vessel, for all their flavor should be retained. The overcooking of vegetables is sometimes responsible for an increase of a disagreeable flavor. 37. Another feature of vegetables often changed by cooking is their color. For instance, green vegetables do not, upon cooking, always remain green. In many cases, the color may be improved by adding a very small quantity of soda to the water in which the vegetables are cooked. Attention should also be given to the length of time vegetables are subjected to heat, for the overboiling of some vegetables is liable to develop an unattractive color in them. This is particularly the case with cabbage, cauliflower, and Brussels sprouts, which develop not only a strong, disagreeable flavor but also a reddish color when cooked too long.

38. The application of heat to vegetables also has a definite effect on them. By sufficient cooking, the cellulose of vegetables is softened to the extent that it is less irritating and much more likely to be partly digested than that of raw vegetables. The acids of fruits increase upon cooking, and so the acidity of vegetables is increased to a certain extent. Vegetables that contain starch are rendered digestible in no other way than by cooking. On the other hand, the protein material of this food is coagulated by the application of heat, just as the white of an egg or the tissue of meat is coagulated and hardened. However, cooking is the only means of softening the cellulose that surrounds this material.

Still, high-protein foods, such as beans, peas, and lentils, can be much improved if they are cooked in water that is not very hard. The lime in hard water has a tendency to harden them to the extent that they require a much longer time to cook than when soft water is used. These vegetables may be still further softened by the addition of a small quantity of soda to the water in which they are cooked, but care should be taken not to use too much soda, as it will injure the flavor. When soda is used, the vegetable should be parboiled for 10 or 15 minutes in the soda water and then drained and cooked in fresh water. This method, of course, does not apply to vegetables that are cooked in soda water to retain their color.

39. Salt is always added in the cooking of vegetables to season them. In the use of salt, two important points must be borne in mind: first, that it has the effect of hardening the tissues of the vegetable in much the same manner as it hardens the tissues of meat; and, secondly, that it helps to draw out the flavor of the vegetables. These two facts determine largely the time for adding the salt. If an old, tough, winter vegetable is to be prepared, it should be cooked until nearly soft in water that contains no salt, and the salt should be added just before the cooking is finished. When it is desired to draw out the flavor, as, for instance, when vegetables are cooked for soup or stews, the salt should be supplied when the vegetables are put on to cook.

Young tender vegetables may be cooked in salt water, but as such water extracts a certain amount of flavor, an effort should be made to use it in the preparation of stews, sauces, and soups.

SAUCES FOR VEGETABLES

40. Vegetables may, of course, be served plain, but they are greatly improved in flavor, nutritive value, and often in appearance by the addition of a well-seasoned sauce. Numerous sauces are used for this purpose, the one to select depending somewhat on the vegetable, the method of cooking employed, and the flavor that is desired. Recipes for the sauces found to be most satisfactory are here given. It will be well to practice the making of these, so as to become familiar with them and thus know just what sauce is meant when reference is made to a particular sauce in the recipes for vegetables. The quantities given in the recipes for sauces will make sufficient sauce to dress the vegetables required for four to six persons. White sauce, which is probably the one that is used oftenest, may be made in various thicknesses, as has been explained previously. However, the medium white sauce has been found to be the one most nearly correct for vegetables and consequently the one most preferred.

MEDIUM WHITE SAUCE

2 Tb. butter
2 Tb. flour
1/2 tsp. salt
Dash of pepper
1 c. milk

Melt the butter and add the flour, salt, and pepper. Pour into this the milk, which has been previously heated, and cook together until the flour thickens completely. Pour over the vegetable, from which the water has been previously drained, and serve.

VEGETABLE SAUCE

2 Tb. butter
2 Tb. flour
1/2 tsp. salt
Dash of pepper
1/2 c. milk
1/2 c. water in which vegetable was cooked

Melt the butter, add the flour, salt, and pepper, and pour into this the heated liquids. Cook until the mixture thickens. Pour over the drained vegetable and serve hot.

DRAWN-BUTTER SAUCE

1/4 c. butter
2 Tb. flour

1/2 tsp. salt
Dash of pepper
1 c. hot water

Melt the butter, add the flour, salt, and pepper, and pour into this the hot water. Boil for a few minutes and serve.

HOLLANDAISE SAUCE

1/3 c. butter
1 Tb. flour
1/4 tsp. salt
1/2 c. boiling water
1 egg yolk
2 Tb. vinegar or lemon juice

Melt the butter, add the flour, salt, and water, and cook until the mixture thickens. While still hot, pour over the slightly beaten egg yolk, beating constantly to prevent curding. Add the vinegar or lemon juice. Serve with vegetables that have been boiled in salt water.

SOUR-CREAM DRESSING

2 Tb. butter
2 Tb. flour
1/2 tsp. salt
Dash of pepper
3/4 c. milk or sweet cream
1/4 c. vinegar

Melt the butter and add the flour, salt, and pepper. Pour into this the heated milk or cream, and allow the sauce to thicken. Then add the vinegar, stirring rapidly, and serve hot.

TOMATO SAUCE

1-1/2 c. stewed tomatoes
1 slice onion
2 Tb. butter
2 Tb. flour
1/2 tsp. salt
Dash of pepper

Heat the tomatoes with the onion and force through a sieve. Melt the butter, add the flour, salt, pepper, and the strained tomatoes. Cook together until thick, remove, and serve hot with a vegetable.

MA¸TRE D'HÔTEL SAUCE

1/3 c. butter
1 Tb. chopped parsley
2 Tb. lemon juice
1/4 tsp. salt

Dash of pepper

Melt the butter and add the chopped parsley, lemon juice, salt, and pepper. Mix well, and allow the whole to boil, but not to brown. Pour over the vegetable and serve.

PARSLEY-BUTTER SAUCE

1/2 c. butter
1 Tb. chopped parsley
1/2 tsp. salt
Dash of pepper

Heat the butter in a saucepan until it is well browned, and then add the parsley, salt, and pepper. Allow the sauce to become hot, but not to boil. This is an excellent sauce to use over new potatoes or diced vegetables, such as turnips or carrots.

ASPARAGUS AND ITS PREPARATION

41. ASPARAGUS is a vegetable that consists of the shoots of the plant, which are eaten before the blossoms develop. It grows quickly and is very tender if the shoots are clipped at just the right time after they appear above the ground. It comes early in the spring, being about the first green vegetable that gets into the local market, but its season is comparatively short. It does not keep long after it is purchased and is better when it is used at once. If asparagus must be kept for any length of time, it should be stored in a cool, damp place.

42. In selecting asparagus, it should be remembered that there are two varieties, one of which is green and the other white. The stems of the green asparagus should be green to the bottom, and should not be hard nor woody where they are cut from the plant. However, if a part of the stems is found to be woody, the hard ends should not be rejected, for the outside may be peeled off and the center used, or the hard ends may be cooked with other vegetables for the making of soup. The white asparagus will have slightly green tips, while the rest of the stem will be white.

Asparagus is one of the succulent vegetables comparatively low in food value. It contains, as Table I shows, only one-fourth as many calories to the pound as potatoes. Its food value, however, may be increased by dressing it with butter after the vegetable has been cooked or by serving with it a sauce made with milk, butter, flour, etc. Then, too, asparagus is sometimes served on toast, which is another means of making a more nutritious dish out of this vegetable.

In its composition, asparagus contains a _diuretic_, that is, a substance that has an effect upon the kidneys, and that is known as _asparagine_. Because of the presence of this substance, asparagus is thought to be injurious to those who have kidney trouble, but it need not be avoided except in some forms of this disease. 43. PREPARATION

FOR COOKING.--To prepare asparagus for cooking, strip the tiny scales from the sides of the stems by means of a small paring knife. These hold sand and are responsible for the presence of the grit that is sometimes found in a cooked dish of asparagus even when the housewife feels certain that she has washed it as clean as possible. Then wash the stems thoroughly in several cold waters, lifting them out of the water after each washing instead of pouring the water off of them. If the water is poured off the stems, the sand that has been washed from them is likely to remain in the bottom of the pan and mix with the vegetable again.

When the asparagus has been sufficiently washed, it may be used in the full lengths or cut into pieces of any desired length, 1 inch being the size that is usually preferred. If stems are to be cooked whole, it is a good plan to form them into a bunch as when purchased and tie the bunch with a tape or a string. When this is done, the string should, of course, be cut and removed before the asparagus is served. A point to remember about the preparation of this vegetable is that it should always be cooked in boiling, salted water.

44. ASPARAGUS WITH BUTTER DRESSING.--Perhaps the simplest way in which to prepare asparagus is to cook it in salted water and then serve it with a butter dressing. When prepared in this way, it may be served plain, but it becomes more attractive, as well as more nutritious, if it is placed on squares of toast.

For this dish, secure a bunch of fresh, tender asparagus, wash it thoroughly, and then, as desired, cut it into inch lengths or allow it to remain whole. Pour enough boiling water over it to cover well, add salt in the proportion of 1 teaspoonful to each quart of water, and allow it to cook until the stems may be easily pierced with a fork, which in most cases will require not more than from 10 to 15 minutes. The length of the cooking is an important factor with this vegetable, for when it is overcooked its flavor is not so agreeable as when it has had just enough cooking. When the asparagus is done, drain off the water, season with a little more salt and a dash of pepper, and, if it is to be served without toast, add 1 tablespoonful of butter for each bunch cooked, allowing the butter to melt. In case it is to be served on toast, allow a small amount of the liquid in which it was cooked to remain on it, add the butter to this, and, after placing several of the stems or a number of the pieces on the squares of toast, dip a little of the liquid over all. 45. CREAMED ASPARAGUS ON TOAST.--A still more nutritious dish can be prepared from asparagus by combining it with a cream sauce and serving it on toast. The sauce supplies protein and fat and the toast furnishes carbohydrate, substances in which this vegetable is low. Numerous ways of serving this combination may be resorted to, but one of the most attractive methods is illustrated in Fig. 2. As here shown, a small bunch of the stems is slipped through a ring of toast cut by means of round cutters of two sizes. If it is not desired to use toast for this, a ring of lemon rind or pimiento may be substituted, or the ring may be omitted altogether and the stems merely laid in an orderly manner on a square of toast. Also, with this dish, as with the previous one, the asparagus may be cut into inch lengths instead of being cooked whole.

[Illustration: FIG. 2]

To prepare creamed asparagus, clean it in the manner explained in Art. 43. Then either cut it into inch lengths or allow the stems to remain whole, and cook it in enough boiling salted water to cover it well. While the asparagus is cooking, prepare a medium white sauce. As soon as the asparagus has cooked enough to be pierced with a fork, pour off the water and serve with the sauce in any of the ways already suggested. If the asparagus is left whole, the sauce is poured over it after it is placed on the toast, but when it is cut into small pieces, it is usually combined with the sauce and the creamed vegetable then poured over the toast.

46. SCALLOPED ASPARAGUS.--Another nutritious dish with asparagus as its base is scalloped asparagus. This involves all the ingredients used in creamed asparagus, but to give it still more food value, cheese is also added.

SCALLOPED ASPARAGUS
(Sufficient to Serve Six)

1 bunch asparagus
2 Tb. butter
2 Tb. flour
1 c. asparagus stock
1/2 c. milk
1/4 tsp. salt
1 c. buttered cracker crumbs
1/2 c. grated cheese

Clean the asparagus according to the directions given in Art. 43. Cut it into inch lengths and cook in boiling salted water until it is tender enough to be pierced with a fork, and then drain. Prepare a sauce by melting the butter, adding the flour, and pouring into this mixture the heated stock and milk seasoned with the salt. Put a layer of the buttered crumbs in the bottom of a baking dish, and pour half the asparagus over them. Sprinkle the asparagus with one-third the cheese and add another layer of crumbs. Sprinkle this with one-third the cheese. Add the remainder of the asparagus and the crumbs and sprinkle the rest of the cheese on top. Pour the sauce over the entire mixture, place in the oven, and bake until heated thoroughly and the top is slightly browned. Serve from the baking dish.

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BEANS AND THEIR PREPARATION

VARIETIES OF BEANS

47. Of all the vegetables commonly used for food, BEANS afford the greatest variety. However, there are two principal classes into which all varieties of this vegetable can be placed, namely, _string beans_

and _shell beans_. String beans include both the pods and the seeds, and are used when the beans are very young. Shell beans consist of the seeds, which are allowed to mature either partly or entirely and are taken from the shells before cooking. Those which are partly developed are cooked when they are fresh, but the ones that are allowed to mature completely are dried and then stored for use at any time during the year. In some cases, the same variety of beans may be used in the three ways mentioned, while in others certain kinds are raised expressly for one of these purposes.

48. The food value of beans increases as they mature, as will be observed upon reference to Table I. The very young beans, that is, the string beans, which include the pods and all, are comparatively low in food value, being only a little higher than asparagus. To increase the food value of these, fat meat, butter, or other fat is supplied in their cooking, or milk or a cream sauce is added before they are served. Fresh shell beans have much more nutriment than string beans, whereas dried beans are very high in food value. It is this characteristic of dried shell beans that makes them a very good meat substitute.

STRING BEANS

49. VARIETIES OF STRING BEANS.--There are two general varieties of string beans: the yellow ones, which are commonly known as _wax beans_, and the green ones, which are the ones usually meant when the term string beans is used. Numerous varieties exist among these classes, and some are very much better than others. Many of them have strings, but others are stringless and consequently are easier to prepare. Whatever kind is used should be picked from the vines before the beans are old enough for the pods to develop woody fibers. Otherwise they will not be palatable, for when they have reached this stage it will be impossible to cook them soft.

50. SELECTION AND CARE.--Small, round, rusty-looking spots are common to both string and wax beans; but when such spots are present they must be removed before cooking. As there is considerable waste in the preparation of such beans for the table, it is wise in buying string beans to select those whose surface is not marred with such blemishes. In addition, the beans should be as fresh as can be obtained and crisp and tender enough to snap when the pods are bent in half. Proper attention should be given to them after they are purchased, too. If possible, they should be cooked immediately, but if this cannot be done they should be kept in a cool, damp place to prevent them from becoming limp. However, if they wilt before they can be cooked, they may be freshened by allowing them to stand in cold water for a short time.

51. PREPARATION AND COOKING.--To prepare beans for cooking, wash them thoroughly in cold water. If the beans are of the stringless variety, cut off the stem and blossom ends; but, in case they have strings, break the ends and strip off the strings together with the ends, as shown in Fig. 3. The beans may then be cooked whole or cut into inch lengths before cooking. If it is desired to cut them, the most convenient way is to place them in an orderly heap on a cutting board and then cut a

handful at a time, drawing a sharp knife across them as they are held on the board. Any imperfect portions should be removed before cutting.

52. The cooking of string beans is similar to that of asparagus, except that they require longer cooking. Put them, either whole or cut into a kettle, cover them with boiling water to which has been added 1 teaspoonful of salt to each quart of water, and cook them with the cover on the kettle until they can be easily pierced with a fork. The length of time required to cook them depends on the age of the beans, but usually from 30 minutes to 1 hour will be sufficient. When they are done, drain the water from them, but save it to make sauce for them or to add to soup stock.

53. STRING BEANS IN BUTTER.--String beans, which, of course, include wax beans, may be served with a sauce of some kind, but they are very appetizing when merely drained after cooking and served with melted butter.

[Illustration: FIG. 3]

To prepare beans in this manner, wash the desired amount, remove the ends and strings, if necessary, and cut into inch lengths. Cook until they are tender and then pour off the water. Add 1 tablespoonful of butter for each four persons to be served, a dash of pepper, and, if they are not salty enough, a little more salt. Allow the butter to melt and serve the beans hot.

54. STRING BEANS WITH SALT PORK.--Those who like the flavor of salt pork will find string beans cooked with a small piece of this meat very appetizing. Besides improving the flavor, salt pork supplies the beans with fat, a food substance in which they are very low.

After washing the beans that are to be cooked in this way, remove the ends and strings, but do not cut into inch lengths. Put the whole beans to cook in boiling water and add 1/4 pound of pork for a sufficient amount of beans for four persons. Cook until the beans are tender, and serve with the pork without removing from the liquid.

55. CREAMED STRING BEANS.--Perhaps the most popular way in which to prepare string or wax beans is to cream them. Not only an appetizing dish, but one whose food value is increased, is the result. The cream sauce served with the beans may be made entirely of milk, but a very satisfactory sauce can be made by using half milk or cream and half liquid in which the beans were cooked. To prepare creamed beans, clean the beans in the usual way and cut them into inch lengths. Put them to cook in boiling salted water and cook until they may be easily pierced with a fork. Pour off the water, but keep it to use in the dressing. To dress a sufficient quantity of beans for four persons, a sauce should be made as follows:

SAUCE FOR CREAMED STRING BEANS

1 Tb. butter

1 Tb. flour
1/4 tsp. salt
Pinch of pepper
1/3 c. rich milk or cream
1/3 c. liquid from beans

Melt the butter in a saucepan and add the flour, salt, and pepper. Pour in the heated liquids and stir until the mixture is smooth and thoroughly cooked. Add the sauce to the beans, heat together, and serve.

56. STRING BEANS WITH SOUR DRESSING.--A dish having an entirely different flavor from those already explained is produced when beans are served with a sour dressing.

To prepare beans in this way, clean a sufficient number according to the directions already given and cut them into inch lengths. Cook them in boiling salted water until they are tender. Pour off the water, but retain 1/2 cupful for the dressing. Make the following sauce, which will dress a sufficient quantity of beans for four persons:

SOUR DRESSING

2 Tb. ham or bacon fat
1 Tb. flour
1/4 c. vinegar
1/2 c. liquid from beans

Melt the fat in a double boiler, add the flour, and into this stir the vinegar and the liquid from the beans. Cook until the mixture thickens and pour over the beans. Reheat and serve.

SHELL BEANS

57. VARIETIES AND FOOD VALUE OF SHELL BEANS.--When beans have matured on the vines to such an extent that the pods are no longer tender enough for human consumption, they are picked and the seeds then used for food. Some are picked before the seeds have entirely matured, and these, which must be young enough to contain considerable moisture, are cooked fresh; others are allowed to mature entirely and are then dried before they are cooked. After being dried, beans keep indefinitely and require no care in storage except that they must not become moist. Numerous varieties of both fresh and dried shell beans are in use, including navy, marrowfat, pinto, and Lima beans.

58. Fresh shell beans average about three times as much food value as string or wax beans. Most of this is carbohydrate in the form of starch, but they also contain considerable protein. Dried shell beans, which are entirely different in flavor and texture from fresh ones, contain still more nutriment, their food value being more than twice that of fresh shell beans and over four times that of potatoes. In the entirely matured bean, which, as has already been mentioned, belongs to the class of vegetables called legumes, the high food value is due to the high

percentage of starch and the large amount of protein in the form of legumin, a substance that is an important substitute for other more expensive protein foods. This composition reveals at once the fact that dried shell beans make an excellent food, provided some fat is added to them in their preparation.

59. PREPARATION AND COOKING OF FRESH SHELL BEANS.--With the exception of Lima beans, most of the varieties of fresh shell beans are placed on the market in the pods and must be shelled after they are purchased. Green Lima beans, however, are usually sold shelled. If the beans are purchased in the pods, wash them in cold water before shelling, but if they are bought shelled, wash the shelled beans. Then put them to cook in sufficient boiling water to which has been added 1 teaspoonful of salt for each quart. Allow the beans to cook until they may be easily pierced with a fork. The cooking will probably require from 45 minutes to 1-1/2 hours, depending on the age and variety of the beans.

60. SHELL BEANS DRESSED WITH BUTTER.--Any variety of fresh shell beans may be prepared according to the accompanying recipe, but Lima beans are especially delicious when cooked in this way.

Prepare and cook the beans as directed in Art. 59. When they are sufficiently cooked, pour off the water, season with additional salt, if necessary, and a dash of pepper, and add 1 tablespoonful of butter for each four persons to be served. Allow the butter to melt and serve the beans hot. 61. SHELL BEANS IN CREAM.--Fresh shell beans are especially appetizing when they are dressed with cream. Besides improving the flavor, cream also adds considerable food value, an item that should not be overlooked.

For this dish, prepare and cook the beans in the manner explained in Art. 59. When they are tender, pour off the water and season with additional salt and pepper. Then for each four persons to be served, add 1 tablespoonful of butter and 1/2 cupful of thin cream. Heat the beans well in the cream and serve.

62. BEAN PURÉE.--Persons with whom the coarse skins that must necessarily be eaten with beans disagree, find bean purØe very satisfactory. To prepare it, clean and cook the beans in boiling salted water according to the directions given in Art. 59. Then pour off the water and force the beans through a ricer or a sieve. Add sufficient butter, salt, and pepper to season well and serve hot.

63. COOKING OF DRIED SHELL BEANS.--Before dried shell beans of any variety are cooked, look them over very carefully, reject any that are unfit for use, and wash the rest in cold water. They may then be cooked without further preparation, but in order to hasten their cooking and save fuel in their preparation, it is a good plan to moisten them by soaking them in water before cooking. If they are to be soaked, place them in cold water and allow them to remain there for 8 to 12 hours. Then put them on to cook in water to which has been added a small pinch of soda. Parboil the beans in this water until the outside skin begins to crack and then pour off the water. While it is true that a certain

amount of mineral salts and perhaps a small percentage of food value are lost in this procedure, because the water that is poured off is too strong to be used for any other purpose, the improvement in the flavor warrants any loss that might occur. After pouring off the water, wash the beans in cold water, add fresh water to continue the cooking, and allow the beans to simmer slowly until they are cooked soft enough to crush between the fingers, but still retain their original shape. Nothing is gained by cooking them rapidly on a hot fire, and considerable fuel is wasted by this practice.

The fireless cooker and the double boiler are excellent utensils for the cooking of dried beans, because they cook the beans at a temperature below boiling point. They therefore cook the beans soft with little difficulty and prevent the protein from becoming hard. The theory of the cooking of protein--that is, the higher the temperature, the harder the coagulation--applies in the cooking of dried beans, just as it does in the cooking of eggs or milk.

64. STEWED NAVY BEANS.--The common small white beans are called _navy beans_ from the fact that they are much used in the navy. These may be prepared in various ways, but the simplest method is to stew them. In the preparation of this dish, as well as any other made from dried beans, it will be well to remember that 1/2 cupful of beans is usually sufficient to serve four persons when they are cooked.

Look over the required amount of beans, reject any that are imperfect, wash thoroughly, and put to soak overnight in cold water. Pour off any water that remains, cover well with boiling water, and add a pinch of soda. Cook slowly until the skins begin to burst. Pour off the water, add fresh hot water and 1 teaspoonful of salt for each quart of water, and allow to simmer until the beans may be easily crushed between the fingers. During this process, the water should cook down until just a sufficient amount to serve with the beans remains. When this is accomplished, add 1-1/2 tablespoonfuls of butter, a dash of pepper, and, if necessary, additional salt. Instead of the butter, ham or bacon fat may be used for seasoning, or a small piece of ham or salt pork may be cooked with the beans and the fat omitted. Serve the beans hot.

65. LIMA BEANS IN CREAM.--Dried Lima beans, when combined with thin cream, make a very appetizing dish. To prepare them in this way, clean, soak, and cook them as explained in Art. 63. When they are soft enough to crush easily between the fingers and the water has boiled down so that practically none remains, add 1/2 cupful of thin cream to a sufficient quantity for four persons. Allow the beans to simmer for a short time in the cream, add additional salt and a dash of pepper for flavoring, and serve.

66. LIMA BEANS EN CASSEROLE.--While the small varieties of dried beans are more commonly baked than the larger ones, Lima beans will be found especially delicious when prepared in a casserole.

LIMA BEANS EN CASSEROLE
(Sufficient to Serve Six)

1 c. dried Lima beans
1/4 c. ham or bacon fat
2 c. milk
2 tsp. salt
1/4 tsp. pepper

Soak the beans overnight and then parboil them in soda water. Drain off the water and turn the beans into a baking dish. Add the fat, milk, salt, and pepper. Cover the dish and bake until the beans are soft. Serve hot from the casserole.

[Illustration: FIG. 4]

67. LIMA-BEAN LOAF.--If a dish that is not only appetizing, but sufficient in food value to be used as a meat substitute, is desired, Lima-bean loaf, which is illustrated in Fig. 4, should be selected. This is very good when served alone, but it becomes more attractive and at the same time more palatable when a sauce or gravy is added.

LIMA-BEAN LOAF
(Sufficient to Serve Six)

1 c. dried Lima beans
2 c. bread crumbs
Milk to moisten crumbs
2 eggs
1 tsp. salt
1/4 tsp. pepper
1/2 tsp. celery salt
2 Tb. butter

Soak the beans overnight and parboil them in soda water. Pour off this water, cook until tender in boiling salted water, and then drain. Moisten the bread crumbs slightly with milk, mix them with the beans, and add the beaten eggs and seasoning. When the entire mixture is well blended, place in a loaf pan, dot the top with the butter, and bake in the oven until nicely browned and quite firm. Turn out on a platter, garnish with parsley, and serve by cutting it into slices, as shown in Fig. 4.

68. BEAN SOUFFLÉ--Probably the daintiest dish that can be made from dried beans is bean soufflØ. This is equally suitable as the main dish for a luncheon or a home dinner. One point to remember about it is that it should be served immediately, for soufflØ usually settles when taken from the oven.

BEAN SOUFFLÉ
(Sufficient to Serve Six)

1 c. bean pulp
1 tsp. salt
1/8 tsp. pepper

1/4 tsp. celery salt
1 Tb. onion juice
2 eggs

Make the bean pulp by forcing well-cooked beans through a colander or a press. Add all the seasoning and the beaten egg yolks. Beat the egg whites stiff and fold them into the mixture. When well blended, pour into a greased baking dish, or individual dishes, place in a pan containing hot water, and bake in a moderate oven until the soufflØ is set, which will require from 30 to 45 minutes. Test by tapping slightly with the finger. If the dent thus made in the soufflØ springs back, it is sufficiently baked. Remove from the oven and serve at once.

[Illustration: FIG. 5]

69. BAKED BEANS.--Almost any kind of dried beans may be used for baking. Some persons prefer the small navy beans, which are mentioned in this recipe, whereas others like the larger marrowfat beans or Lima beans. Pinto beans have for some time been taking the place of navy beans, and are found to be a very good substitute. To bake beans successfully, a dish with a tight-fitting cover, such as the one shown in Fig. 5, is required. This is made of heavy glass, but if such a utensil is not available, very satisfactory results can be obtained by using a heavy earthen bowl, crock, or baking dish. To produce the delicious flavor that is agreeable to most persons, beans should be baked a long time. Therefore, as considerable heat is consumed in their cooking, it is a wise plan to prepare more than enough for one meal. They may be served the second time as baked beans, or, if this is not desired, they may be used for various other purposes.

BAKED BEANS
(Sufficient to Serve Six)

1 pt. navy beans
2 Tb. molasses
2 tsp. salt
1/2 lb. bacon or salt pork

Soak the beans overnight, parboil in soda water, and drain. Add a sufficient amount of water to cover the beans well, cook until they break open, and then pour with the liquid into a baking dish. If this liquid does not almost cover the beans, add more until it comes nearly to the top. Add the molasses and salt, cut the salt pork into pieces, and distribute these well through the beans, placing a piece or two over the top. The beans should then appear as shown in Fig. 5. Place the cover on the dish and bake in a slow oven for 4 or 5 hours. Remove the cover occasionally, stir the beans carefully so as not to crush nor break them, and add enough water from time to time to keep the beans well moistened. When done, the beans should be light brown in color, but the top should be well browned. Sometimes it will be found necessary to remove the cover in order to brown the beans sufficiently.

70. BEAN CROQUETTES.--Left-over baked beans need never be wasted, for

there are numerous uses to which they can be put. If it is not desired to reheat them and serve them again as baked beans, they may be utilized in soup, salads, and sandwiches, or they may be made into soufflØ, as explained in Art. 68, or into croquettes according to the accompanying recipe. Bean croquettes may be served plain, but they are much improved by the addition of tomato sauce.

BEAN CROQUETTES
(Sufficient to Serve Six)

2 c. cold baked beans
1-1/2 c. bread crumbs
Milk to moisten crumbs
1 egg
1 tsp. salt
Pinch of pepper

To the beans add the bread crumbs slightly moistened with milk. Stir in the egg, beaten, and the salt and pepper. Blend the entire mixture, form into croquettes, and roll in dry crumbs. Bake in the oven until brown, sautØ in shallow fat, or fry in deep fat. Place on a platter, garnish with parsley, and serve plain or with tomato sauce.

BEETS AND THEIR PREPARATION

71. BEETS are a root vegetable that comes in two varieties, _red_ and _white_. The red beets are more popular for cooking than the white ones, and of these the ones that retain their dark-red color after cooking are preferable to any other. The root, however, is not the only part of this plant that is eaten, for the tops are also much used for food. When the tops are to be cooked, the plants are usually not allowed to mature to the extent that the root parts can be used; still, early in the summer, when very small beets are to be had with the tops on, both the tops and the beets may be used. At this age, the beets are very tender and do not require long cooking. If the beets are not eaten when they are young, they are allowed to mature in the ground and are then pulled in the fall and stored for a winter vegetable.

Like other root vegetables, beets contain very little protein and fat, but in their composition is included a fairly large percentage of carbohydrate in the form of sugar. Their total food value is greater than that of string beans, but is considerably less than that of potatoes.

72. SELECTION AND CARE OF BEETS.--When beets are selected as a summer vegetable with the idea of using both the tops and the roots, the tops should be fresh, that is, not withered nor rotted. When the roots are to be used, either as a summer or a winter vegetable, they should have a smooth skin, should contain no blemishes, and, as nearly as possible, should be uniform in size.

Summer beets require about the same care as any other vegetable; that is, they should be kept in a cool, damp place until they are ready to be

cooked. If they are at all wilted at that time, they may be freshened by allowing them to stand in a pan of cold water for several hours. Winter beets, however, should be stored in a cool, dark place where they will not freeze. A portion of the cellar that has a dirt floor is a very good place to put the bins containing such vegetables. The woody tissue of beets that are stored increases as the winter advances, so that any beets that remain until spring are rather hard and extremely difficult to cook. In fact, at times it is almost impossible to make them soft enough to serve, but they can be greatly improved by soaking them in cold water for a few hours before cooking them. 73. PREPARATION AND COOKING OF BEETS.--In preparing young beets for cooking, allow an inch or two of the stems to remain on the beets in order to prevent them from bleeding. Of course, from winter beets, the entire stem should be removed, as it will be dried up. Scrub beets of either variety carefully with a vegetable brush until entirely free from dirt. Then, whether they are old or young, put them to cook in boiling water without removing their skins. Allow them to cook until they are soft enough to be pierced with a fork. This is the best way in which to determine when the beets are done, for as the length of time required to cook them depends entirely on their age, no definite time can be stated. As soon as they are sufficiently cooked, pour off the water, allow them to cool enough to handle, and then remove the skins, which will slip off easily.

74. BUTTERED BEETS.--Butter added to beets increases both their nutriment and their flavor. In order to prepare buttered beets, first clean and cook them in the manner just explained. To remove the skins, scrape the beets as thinly as possible, so as not to waste any more than is necessary. Then slice them thin or cut them into 1/2-inch cubes, season well with salt and pepper, and add 1 tablespoonful of butter for each four persons to be served. Allow the beets to heat thoroughly in the butter, and serve hot.

75. BEETS WITH CREAM DRESSING.--If a creamed vegetable is desired, beets to which cream has been added will be very satisfactory. Clean and cook the beets in the manner explained in Art. 73. Then peel, cut into slices, place in a saucepan, and nearly cover with thin cream. Allow them to cook in the cream for a few minutes, season with salt and pepper, and serve.

76. BEETS WITH SOUR DRESSING.--To give variety, beets are sometimes served with a sour dressing. Probably no other vegetable lends itself so well to this sort of preparation as beets, with the result that a very appetizing dish is provided.

BEETS WITH SOUR DRESSING
(Sufficient to Serve Six)

6 medium-sized beets
2 Tb. butter
2 Tb. flour
1 tsp. salt
1/8 tsp. pepper
1/4 c. vinegar

1-1/4 c. hot water

Prepare and cook the beets as explained in Art. 73. When tender, drain them, remove the skins, and dice the beets. Make a sauce by melting the butter in a double boiler and adding the flour, salt, pepper, vinegar, and hot water. Cook until the flour thickens the sauce and then pour over the beets. Heat together and serve.

77. BAKED BEETS.--If something entirely different in the way of a vegetable dish is wanted, baked beets will meet with favor. Beets may be baked in a covered baking dish or on the open grate of an oven. A slow fire produces the best results, and as a rule it will take 4 or 5 hours to bake good-sized beets.

Wash thoroughly and dry the desired number of beets. Place them in a baking dish and set in a slow oven or place them on the open grate. Bake until they may be pierced with a fork. Remove from the skins and serve with a sour sauce or merely with salt, pepper, and butter.

78. PICKLED BEETS.--When beets are cooked for any of the recipes that have been given, it will be economy to boil more than will be needed for one meal, for a large number can be cooked with practically the same quantity of fuel as a few. Then the remainder may be pickled by peeling them, cutting them into slices, and pouring over them hot vinegar sweetened slightly and flavored with spice. Pickled beets make an excellent relish and they will keep for an indefinite period.

BRUSSELS SPROUTS AND THEIR PREPARATION

[Illustration: FIG. 6]

79. BRUSSELS SPROUTS, as shown in Fig. 6, look just like tiny green heads of cabbage. These heads grow along a stem that protrudes above the surface of the ground in much the same way as does the stem to which a head of cabbage is attached. The heads are cut from the stem and then usually packed in quart boxes. It is in such boxes as these that they are found in the markets, where they can be purchased from December until early spring. They are considered a great delicacy because of the fineness of their flavor, which rivals that of cauliflower and, while closely resembling that of cabbage, is much superior to it. In food value, they are somewhat higher than cauliflower, but about equal to beets.

80. COOKING OF BRUSSELS SPROUTS.--To prepare Brussels sprouts for the table, break off the outside leaves from the heads, and then in order to remove any bugs that may be lodged in the heads, allow them to stand in cold salted water for 1 hour or so before cooking. After removing the sprouts from the salted water, pour enough boiling water over them to cover them well, add 1 teaspoonful of salt to each quart of water, and boil without any cover on the kettle until they can be easily pierced with a fork. Care should be taken not to overcook the sprouts, for when they are cooked too long they become red in color and develop a

strong flavor.

[Illustration: FIG. 7]

81. BUTTERED BRUSSELS SPROUTS.--When Brussels sprouts are properly cooked and then seasoned with salt and pepper and flavored with butter, an appetizing dish is the result. To make such a dish for about six persons, prepare and cook 1 quart of Brussels sprouts in the manner just explained. When they are tender, pour off the water, season with additional salt and a dash of pepper, and add 2 tablespoonfuls of butter. Allow the butter to melt over the sprouts and then serve hot.

If a more attractive dish is desired, the Brussels sprouts prepared in this way may be combined with French lamb chops, as shown in Fig. 7. Pile up the buttered sprouts in the center of a platter, and then place broiled or sautØd lamb chops, whose ends are trimmed with paper frills, around the sprouts in the manner shown. 82. CREAMED BRUSSELS SPROUTS.--A very satisfactory way in which to prepare Brussels sprouts is to serve a cream sauce over them. This sauce, of course, adds food value, and at the same time greatly improves the flavor of the vegetable.

CREAMED BRUSSELS SPROUTS
(Sufficient to Serve Six)

1 qt. Brussels sprouts
2 Tb. butter
2 Tb. flour
1-1/2 c. milk
1 tsp. salt
Dash of pepper

Prepare and cook the sprouts as explained in Art. 80. When they are tender, drain the water from them. Make a white sauce of the butter, flour, milk, salt, and pepper. Pour this over the sprouts, heat together, and serve.

83. SCALLOPED BRUSSELS SPROUTS.--Undoubtedly the most palatable way of preparing Brussels sprouts is to scallop them. The ingredients used in the preparation of this dish add food value, as well as flavor.

SCALLOPED BRUSSELS SPROUTS
(Sufficient to Serve Six)

1 qt. Brussels sprouts
3 Tb. butter
2 Tb. flour
1 tsp. salt
2 c. milk
1 c. buttered crumbs

Prepare the sprouts as explained in Art. 80. Cook them in boiling salted water until they are tender, and then drain. Make a white sauce of 2

tablespoonfuls of the butter, flour, salt, and milk. Butter the crumbs by pouring 1 tablespoonful of melted butter over them, stirring until well blended. Place one-fourth of the crumbs in the bottom of a baking dish, add about half of the sprouts, and place another fourth of the crumbs over the sprouts. Add the remaining half of the sprouts and pour the sauce over these. Sprinkle the rest of the crumbs over the top, place in the oven, and bake until the crumbs are brown and the ingredients thoroughly heated.

CABBAGE AND ITS PREPARATION

84. CABBAGE consists of the foliage of the cabbage plant. It is a succulent vegetable with a high flavor; in fact, its flavor is so strong that in many cases it disagrees with persons. However, if cabbage is properly cooked, no apprehension need be felt about eating it, for it can be digested by most persons. The food value of cabbage is not high, being even less than that of string beans. The greater part of this food value is carbohydrate in the form of sugar, but in order to prepare cabbage so that it has any importance in the meal, considerable quantities of protein, fat, and carbohydrate must be added. In itself, it is valuable for its mineral salts and bulk.

Numerous varieties of cabbage can be procured, but only three are commonly used. These include _white cabbage_, which is used the most; _purple cabbage_, which is very dark in color and contains varying shades of red and blue; and _Savoy cabbage_, which has a large number of green crinkled leaves and is commonly cooked by boiling.

85. SELECTION AND CARE OF CABBAGE.--Heads of cabbage that feel firm and solid to the touch and are rather heavy for their size are the best to select for cooking purposes. This vegetable comes into the market early in the summer and may be had until late in the fall. As it has excellent keeping qualities, it may be stored for use as a winter vegetable. When this is done, the stem and the roots should be allowed to remain on the head, for then the cabbage is less apt to wither. If this precaution is taken and the cabbage is stored in a cool place, no great care is required to keep it in good condition until it is to be cooked unless, of course, it is kept for an abnormal length of time.

86. PREPARATION AND COOKING OF CABBAGE.--To prepare cabbage for cooking, remove the outside leaves and then cut the head that remains into pieces of any desirable size. Whether the cabbage should be left in large pieces or cut very fine depends on the dish that is to be prepared. For the first cutting, be sure to cut the head down through the heart and the stem, so that the part not used will remain intact. This may then be used another time if it is kept cool and moist. In case the cabbage becomes at all wilted, it may be freshened by placing it in cold water a short time before it is to be cooked.

87. Cabbage is a vegetable that has many uses and is eaten both raw and cooked. Numerous opinions exist about the difference in digestibility between raw and cooked cabbage, as well as the best ways in which to

cook this vegetable. It may be true that in some cases raw cabbage does not cause the disagreeable effect that cooked cabbage often does, but the reason for this is that cabbage when raw has a milder flavor than when cooked, cabbage generally developing during the cooking a strong flavor that causes trouble. The flavor of cabbage, however, may be dissipated if attention is given to the cooking, so that, when properly prepared, cabbage can be eaten with little fear of indigestion.

88. When cabbage is cooked, it is usually boiled like other vegetables; that is, it is covered well with boiling water to which 1 teaspoonful of salt is added for each quart, and then allowed to boil until it can be easily pierced with a fork. Its cooking differs, however, from that of many vegetables, string beans, for instance, in that it is carried on with the cover removed from the kettle. This plan permits of the evaporation of much of the strong flavor, which arises in the steam and which would otherwise be reabsorbed by the cabbage. Since it is the retention of this flavor, together with long cooking, that causes this vegetable to disagree with persons who eat it, both of these points should be carefully watched. If it is cooked in an open vessel and it is boiled just long enough to be tender, so that when done it is white and fresh-looking and not in any way discolored, an easily digested dish will be the result. Usually cabbage will cook sufficiently in 1/2 hour and often in less time.

89. BOILED CABBAGE.--Although cabbage permits of numerous methods of preparation, plain boiled cabbage finds favor with many persons. Generally, cabbage prepared in this way is merely seasoned with butter and served in a part of the liquid in which it is cooked, but it has a more appetizing flavor if bacon or ham fat is used for seasoning or if a small quantity of ham or salt pork is cooked with it.

To prepare boiled cabbage, remove the outside leaves from a head of cabbage, cut it in half down through the heart, and then cut each half into coarse pieces. Unless it is very fresh, allow it to stand in cold water for at least 1 hour before cooking. Put it into a kettle or a saucepan, cover well with boiling water, and add 1 teaspoonful of salt for each quart of water. If ham or salt pork is to be cooked with the cabbage, put a small piece in the kettle with the cabbage. Allow the cabbage to cook with the cover removed until it is sufficiently tender to be pierced with a fork. Pour off all or a part of the liquid, depending on whether it is to be served dry or in its own liquid, and then, in case it has been cooked alone, add butter or ham or bacon fat for flavor. If not sufficiently seasoned, add pepper and more salt.

90. CREAMED CABBAGE.--When cabbage is to be creamed, it is cut up into fairly fine pieces with a sharp knife. The cream sauce that is added to it provides considerable food value and greatly improves its flavor.

CREAMED CABBAGE
(Sufficient to Serve Six)

4 c. finely cut cabbage
2 Tb. butter

2 Tb. flour
1/2 tsp. salt
Dash of pepper
1/2 c. milk or thin cream
1/2 c. liquid from cabbage

Cook the cabbage according to the directions given in Art. 89 until it is tender and then drain the water from it. While it is cooking, melt the butter in a double boiler, add the flour, and stir until smooth. Pour in the heated liquid and season with the salt and pepper. Stir until the flour is thickened and the sauce is smooth. Pour this over the cabbage, heat together for a few minutes, and serve hot.

91. SCALLOPED CABBAGE.--Scalloped cabbage is a particularly appetizing vegetable dish, and, on account of the ingredients used in its preparation, it is more nutritious than some of the other dishes in which cabbage is used.

SCALLOPED CABBAGE
(Sufficient to Serve Six)

4 c. cabbage
1 c. buttered crumbs
2 Tb. butter
2 Tb. flour
1 tsp. salt
1/8 tsp. pepper
1 c. milk
1/2 c. liquid from cabbage

Cut the cabbage into very small pieces with a sharp knife or a cabbage chopper. Cook according to the directions given in Art. 89 until nearly tender, and then drain. Spread 1/4 cupful of the buttered crumbs in the bottom of a baking dish, put one-half of the cabbage over this, and then add another 1/4 cupful of the crumbs and the remaining cabbage. Over this pour a white sauce made from the butter, flour, salt, pepper, milk, and liquid from the cabbage. Sprinkle the rest of the crumbs over the top. Bake in a slow oven until the cabbage is thoroughly heated through and the crumbs are browned on top. This baking will complete the cooking of the cabbage. Serve hot. 92. HOT SLAW.--If a slightly sour flavor is desired in a vegetable dish, hot slaw will undoubtedly appeal to the taste.

HOT SLAW
(Sufficient to Serve Six)

4 c. cabbage
1 c. water
2 Tb. butter
1 Tb. flour
1/2 tsp. salt
1/3 c. vinegar
1 egg

Slice the cabbage very fine with a sharp knife or a cabbage cutter. Put it in a saucepan, add the water, and allow it to cook until the water is about half evaporated. Melt the butter in a pan and to it add the flour, salt, and vinegar. Then stir the beaten egg in quickly and pour this sauce over the cabbage at once. Allow the mixture to cook until the sauce has thickened, stirring constantly to prevent the curding of the egg. Serve hot.

93. MAKING SAUERKRAUT.--As is well known, sauerkraut is a cabbage preparation that is made by salting finely cut cabbage, packing it tightly, and allowing it to ferment under pressure. This food is made and sold commercially, so that the housewife can usually purchase it in any quantity she desires. However, as it is not at all difficult to make sauerkraut, and as a supply of cabbage in this form provides a valuable article of food during the winter months in households where it is relished, the housewife will do well to prepare enough of this kind of cabbage to vary her meals during the winter. That she may understand how to proceed with the making of sauerkraut and the proper cooking of it, the accompanying directions and recipes are given.

94. For every 10 medium-sized heads of cabbage, measure 2 cupfuls of salt. Cut the heads of cabbage into quarters and shred on a cabbage slicer, or cutter. Place several inches of the shredded cabbage in the bottom of a large crock, and over it sprinkle a layer of salt. Stamp this down with a wooden potato masher or some other similar utensil. Then add another layer of cabbage and salt and stamp this down in the same way. Proceed in this manner until the crock is nearly full. Then place a clean cloth over the cabbage in the crock. On this cloth place a clean board as near the size of the crock as possible, and on the board place a large clean stone or some other weight. When thus filled and weighted down, place the crock in a cool place. The cabbage will then begin to ferment, and it is this fermentation that changes the cabbage into sauerkraut. After a time, juice will form and gradually rise over the top of the board, and on top of this juice will form a scum. Remove this scum at once, and do not allow any to collect at any time after the fermentation of the cabbage ceases. Occasionally, when a supply of sauerkraut is taken from the crock for cooking, replace the cloth by a clean one, but always be sure to put the board and the weight back in place.

95. SAUERKRAUT WITH SPARERIBS.--Persons who are fond of sauerkraut find the combination of sauerkraut and spareribs very appetizing. The spareribs give the cabbage a very pleasing flavor and at the same time supply nourishment to the dish.

SAUERKRAUT WITH SPARERIBS
(Sufficient to Serve Six)

1 qt. sauerkraut
2 lb. spareribs
1 tsp. salt
3 c. water

Put the sauerkraut and the spareribs into a kettle and add the salt and water. Allow to simmer slowly for 2 or more hours. If additional water is necessary, add it from time to time. Just before removing from the heat, allow the water to boil down so that what remains may be served with the hot sauerkraut.

96. BAKED SAUERKRAUT.--In the cooking of sauerkraut for the table, pork in one form or another is generally added; in fact, one rarely thinks of sauerkraut except in combination with pork. While boiling is the method that is usually applied to this vegetable, many housewives prefer to bake it, for then the odor does not escape so easily and a flavor that most persons prefer is developed.

BAKED SAUERKRAUT
(Sufficient to Serve Six)

2 lb. fresh pork
1 qt. sauerkraut
1 Tb. salt
3 c. water

Cut the pork into several large chunks, and put it with the sauerkraut into a baking dish that has a cover. Add the salt and water, cover the dish and place in the oven. Bake slowly for 2 or 3 hours. Serve hot.

97. SAUTÉD SAUERKRAUT.--If an entirely different way of cooking sauerkraut is desired, it may be sautØd. When nicely browned and served with boiled frankfurters, it is very appetizing.

SAUTÉD SAUERKRAUT
(Sufficient to Serve Six)

1 qt. sauerkraut
4 Tb. bacon or ham fat
2 tsp. salt

Steam the sauerkraut over boiling water for about 1 hour. Then melt the fat in an iron frying pan, add the sauerkraut and sprinkle with the salt. Place a cover over the pan and allow the sauerkraut to sautØ until it is slightly browned on the bottom. Stir and continue to cook until the entire amount is slightly browned. Serve hot.

CARROTS AND THEIR PREPARATION

98. CARROTS are one of the root vegetables. They are similar in composition to beets, having practically the same total food value, which is for the most part carbohydrate in the form of sugar. Besides being valuable in the diet for their mineral salts and bulk, they add variety to the menu, especially in the winter, for upon maturing they can be kept for a long time if they are properly stored. As tiny young carrots, they are also much used as a summer vegetable, and when cooked

whole and served in an attractive way they make a delicious vegetable dish.

99. SELECTION AND PREPARATION.--The selection of carrots is a simple matter, because they keep well and are not likely to be found in a spoiled condition in the market. When small summer carrots are purchased, they should be fresh and should have their tops on. Winter carrots should be as nearly uniform in size as possible and should not be extremely large. Those which are too large in circumference are likely to have a hollow in the center and are not nearly so desirable as thin, solid ones. Carrots of any kind should be uniform in color, and should be without the green portion that is sometimes found on the top near the stem and that is caused by exposure to the light in growing.

100. In preparing carrots for cooking, they should be scraped rather than peeled, in order to avoid wasting any of the vegetable. They are always cooked in boiling salted water, after which they can be treated in various ways. The water in which carrots are cooked should not be thrown away, as it may be used to flavor soup stock. If any carrots remain after a meal, they may be utilized in vegetable salad or soup.

101. BUTTERED CARROTS.--If small, tender carrots can be obtained, they will be found to be delicious upon being boiled and then dressed with butter. Winter carrots may be prepared in this way too, but they will probably require a little more cooking to make them tender.

BUTTERED CARROTS
(Sufficient to Serve Six)

3 c. diced carrots
2 Tb. butter
1/2 tsp. salt
Dash of pepper

Wash and scrape the carrots and cut into half-inch pieces. Put to cook in enough boiling water to cover the carrots well, and add 1 teaspoonful of salt for each quart of water. Cook in a covered kettle until they can be easily pierced with a fork and then drain off the water. Add the butter, salt, and pepper, heat until the butter melts, and serve.

102. CARROTS WITH PARSLEY.--The addition of parsley to carrots gives a flavor that improves them very much. This should be chopped fine and added after the carrots have cooked sufficiently.

CARROTS WITH PARSLEY
(Sufficient to Serve Six)

3 c. sliced carrots
3 Tb. parsley finely chopped
2 Tb. butter
1/2 tsp. salt
Dash of pepper

Wash and scrape the carrots, slice in very thin slices, and cook until tender in boiling salted water. Drain and add the chopped parsley, butter, salt, and pepper. Mix carefully so as not to break the slices of carrot. Serve hot.

103. BROWNED CARROTS.--A very appetizing way in which to prepare carrots is to cut them in slices lengthwise, boil them until tender, and then brown them in fat. Wash and scrape the desired number of carrots, cut into slices lengthwise, and if large-sized carrots are used, cut the slices into halves. Cook in boiling salted water until tender and then drain. Melt some fat in a frying pan, place the carrots in the hot fat, and brown first on one side and then on the other, turning the slices carefully so as not to break them. A few minutes before removing the carrots from the frying pan, sprinkle sugar over them and allow the sugar to melt. In removing them to a vegetable dish, pour over them the sirup that forms. Serve hot.

CAULIFLOWER AND ITS PREPARATION

104. CAULIFLOWER grows in heads as does cabbage, but only the flower or blossom of the plant is eaten. A head of cauliflower from which the leaves have not been removed is shown in Fig. 8. In flavor and composition this vegetable is similar to cabbage, but its flavor is a little more delicate. Still, cauliflower should always be cooked in an uncovered vessel, as are cabbage and Brussels sprouts, if a strong disagreeable flavor would be avoided.

[Illustration: FIG. 8]

105. SELECTION AND COOKING.--Very solid heads of cauliflower that are creamy white in color and free from the black specks or blemishes so common to this vegetable should be selected for cooking. The only care that cauliflower requires before cooking is to keep it in a cool place, for it does not wilt nor decay quickly.

To prepare this vegetable for cooking, the white head should be cut from the leaves, which are discarded. Then the head should be placed upside down in a pan of salt water and allowed to soak for an hour in order to drive out the small bugs or worms that are so frequently found in this vegetable. The cauliflower may then be cooked whole or broken apart, but in either case it should be cooked until tender in boiling salted water with the cover removed from the kettle.

106. CAULIFLOWER WITH TOMATO SAUCE.--Variety can be secured in the preparation of cauliflower by serving it with a tomato sauce. Besides being very palatable, this is an extremely attractive dish because of the contrast in colors. Chicken gravy may be used instead of tomato sauce, and a most delightful dish is the result.

CAULIFLOWER WITH TOMATO SAUCE
(Sufficient to Serve Six)

1 head cauliflower

2 Tb. butter
2 Tb. flour
1/2 tsp. salt
Dash of pepper
2 c. strained tomato

Soak the cauliflower in cold salted water, and then tie it carefully in a piece of cheesecloth and put it to cook in boiling salted water. Cook until tender, but not so long that it will fall to pieces. Take from the water, remove the cheesecloth carefully, and place the cauliflower in a vegetable dish. While the cauliflower is cooking, prepare the sauce by melting the butter in a double boiler, adding the flour, salt, and pepper, and stirring into this the heated strained tomato made by forcing canned or stewed tomatoes through a sieve. Cook until the sauce has thickened and then pour over the cauliflower in the vegetable dish. Serve hot.

[Illustration: FIG. 9]

107. SCALLOPED CAULIFLOWER.--Another opportunity to make a delicious scalloped dish is afforded by cauliflower. In fact, many persons prefer scalloped cauliflower to any of the dishes made from this vegetable. The ingredients used with the cauliflower increase its food value, which is somewhat low.

SCALLOPED CAULIFLOWER
(Sufficient to Serve Six)

1 head cauliflower
2 Tb. butter
2 Tb. flour
1 c. milk
1 c. water from cauliflower
1/2 tsp. salt
Dash of pepper
1 c. buttered crumbs

Prepare and cook the cauliflower according to the directions given in Art. 105, breaking it into flowerets before pouring the boiling water on it. When it has cooked tender, drain the water from it. Prepare a sauce with the butter, flour, milk, water from the cauliflower, salt, and pepper. Butter the crumbs by pouring 1 tablespoonful of melted butter over them. Put 1/4 cupful of the crumbs on the bottom of a baking dish, add one-half of the cauliflower, and over this place another 1/4 cupful of crumbs. Then add the remainder of the cauliflower, and pour the white sauce over all. Sprinkle the remainder of the crumbs over the top. Place in a hot oven and bake until well heated through and brown on top. Serve from the dish.

108. CREAMED CAULIFLOWER.--A very attractive vegetable dish can be prepared from cauliflower by cooking the head whole and then serving a cream sauce over it, as shown in Fig. 9. In serving, a portion of the head should be broken off for each person and served with a little of

the cream sauce.

CREAMED CAULIFLOWER
(Sufficient to Serve Six)

1 head cauliflower
2 Tb. butter
2 Tb. flour
1 c. milk
1/2 c. water in which cauliflower was cooked
1/2 tsp. salt
Dash of pepper

Soak a solid head of cauliflower in cold salted water for about 1 hour. Then wash thoroughly, wrap carefully in cheesecloth, and cook in boiling salted water until tender. When sufficiently cooked, drain, and make a sauce of the other ingredients. Place the cauliflower in a vegetable dish, pour the white sauce over it, and serve hot.

CELERY AND ITS PREPARATION

109. CELERY is the stem of a plant that grows in stalks, as shown in Fig. 10. When the stalks are large, they are sold singly, but if they are very small, several of them are tied together and sold in a bunch. The season for celery begins in the fall and lasts until early spring. It may be obtained in the summer, but as the price is usually high and the quality not good, very little use should be made of it during that time.

The chief use of celery is as a relish, when it is eaten raw, but it is also valuable for flavoring soups and making salads, pickles, and various other dishes. It is probably used less frequently as a cooked vegetable than in any other way, but when it is in season and can be purchased at a reasonable price, it should be cooked to give variety to the diet.

The food value of celery is extremely low, being less than 100 calories to the pound or about equal to that of 1 ounce of meat. However, in spite of this fact, celery is valuable for its mineral salts and bulk, as well as for the appetizing quality that it lends to various foods and to the meals at which it is served.

[Illustration: FIG. 10]

110. CARE AND PREPARATION.--Well-bleached, firm stalks of celery should be selected for use. After it comes into the house, it may be kept in good condition for a long time if it is wrapped in a damp cloth and put where it will keep cool. A good plan is to serve the hearts and tender inside stems raw, as explained in _Soup_, and then to use the coarse outside stems for cooking, flavoring soups, or making salads. Celery must be cleaned carefully for dirt often clings to the ridges. After being scrubbed thoroughly, it will become crisp and tender if it is

allowed to stand in cold water for some time before serving. When it is to be served as a cooked vegetable, it should be cooked in boiling salted water, as are other vegetables, and then seasoned or dressed in any desirable way. The water in which it is cooked should be utilized in the making of sauce or soup.

111. CREAMED CELERY.--The usual way of preparing celery when it is to be served as a cooked vegetable is to cream it. The cream sauce that is added to the celery increases its food value considerably and greatly improves its flavor. This sauce may be made entirely of milk or of half milk and half liquid from the celery.

CREAMED CELERY
(Sufficient to Serve Six)

3 c. diced celery
3 Tb. butter
3 Tb. flour
1 tsp. salt
Dash of pepper
1 c. milk
1/2 c. water in which celery was cooked

Cook the celery in boiling salted water until tender, and then drain. When the celery has cooked, make a white sauce of the other ingredients. Pour this sauce over the cooked celery, heat together, and serve.

112. CELERY AU GRATIN.--The food value of celery may be still further increased by combining it with cheese and bread crumbs in addition to a cream sauce. Such a dish, which is known as _celery au gratin_, is prepared according to the accompanying recipe.

CELERY AU GRATIN
(Sufficient to Serve Six)

4 c. diced celery
2-1/2 Tb. butter
2-1/2 Tb. flour
1/2 tsp. salt
Dash of pepper
1 c. milk
1 c. water in which celery was cooked
1 c. buttered crumbs
1/2 c. grated cheese

Cook the celery in boiling salted water until tender and then drain. Prepare the cream sauce in the usual manner. Butter the crumbs by stirring them into 1 tablespoonful of melted butter. Put 1/4 cupful of the crumbs in the bottom of a baking dish and put one-half of the celery over them. Place another 1/4 cupful of the crumbs over the celery, and on top of this sprinkle 1/4 cupful of the grated cheese. Add the remainder of the celery and pour the sauce over this. Finally, add the other 1/4 cupful of cheese and the remainder of the crumbs. Place in a

hot oven, and bake until well heated through and the crumbs are browned. Serve hot.

CORN AND ITS PREPARATION

113. The seeds of the maize plant, or Indian corn, especially the variety known as _sweet corn_, are eaten as a vegetable when they are immature. They grow on a woody cob, and when they are green they are soft and milky; but when they become ripe they are hard and are then ground as grain. Many varieties of sweet corn are used, but some are better in quality than others. In some varieties, the kernels, or seeds, are yellow, while in others they are white; also, some of them are suitable for use early in the summer, while others come later in the season. However, in spite of this difference in quality, color, and season, all kinds of corn used as a vegetable are called _green corn_ and may be prepared in exactly the same ways.

114. The food value of corn, which is very high, even exceeding that of Irish potatoes, is due principally to the carbohydrate it contains. This food substance is in the form of sugar in the green kernels, but as they mature it changes to starch. The food value of the dry grain is therefore higher, and the carbohydrate is in a different form.

When the contents of the kernels is still in the liquid form, the corn is said to be at the _milk stage_, and is generally considered to be too young for table use. On the other hand, when the liquid in the kernels has become thickened, the corn, which is then at the _dough stage_, is thought to be too old for use as a vegetable. To be ideal for culinary purposes, it should be just between the milk and dough stages. Then, if it is in good condition, a most satisfactory vegetable is the result.

115. The ear on which the corn kernels grow is entirely encased in several layers of husks. These are not removed until just before the corn is to be cooked; so when this vegetable is in the market the husks are allowed to remain on the ears. The condition of the ears can be determined by stripping the husks down a little and examining the kernels. If they are well filled, they may be considered to be in proper condition; otherwise, they will not be suitable for cooking. No special care need be given to green corn, provided it is not husked. However, when it has been husked, it should be cooked at once. In the husking of corn, all corn silk that is found inside of the husks should be carefully removed, for this is very annoying in the cooked vegetable and its presence indicates carelessness.

116. CORN ON THE COB.--The simplest way in which to prepare green corn is to cook it on the cob. When corn first comes into the market, it is usually very tender and makes a most satisfactory dish when prepared in this way.

To cook corn on the cob, husk the corn, remove the silk from the ears, and place them in a kettle. Pour enough boiling water over them to cover them well, and add 1 teaspoonful of salt for each quart of water. Boil 5

minutes, remove from the water, and serve at once. In eating corn on the cob, most persons dress it with butter, pepper, and salt.

[Illustration: FIG. 11]

117. CORN COOKED IN MILK.--Often it is not desired to eat corn on the cob. When this is the case, it may be cut off the ear and cooked in various ways. A simple way to prepare it is to cook it with milk and season it with salt, pepper, and butter, as explained in the accompanying recipe.

Select the desired number of ears of green corn, husk them, and remove the silk. Then, as shown in Fig. 11, cut the corn from the cob with a sharp knife, grasping the ear by the larger end and cutting upwards. After cutting off the kernels, scrape the ears so that nothing edible will be wasted, drawing the knife downwards. Put the corn into a saucepan, add milk until the corn is nearly covered, and season with salt, pepper, and a little butter. Allow the corn to simmer for about 10 minutes, stirring frequently to prevent the milk from sticking to the bottom of the pan and scorching. No difficulty will be experienced in the preparation of this dish if a double boiler is used, but longer cooking will be required. When the corn is sufficiently cooked, remove from the fire and serve hot.

[Illustration: FIG. 12] 118. CORN PULP.--Some persons are unable to digest the coarse hulls of green corn, but can eat the corn if the hulls are removed. Such persons need not be deprived of the delights of this vegetable, for it may be prepared in the form of pulp, which will not disagree with them.

To prepare corn pulp, first cut a slit down each row of kernels with a sharp knife as shown in Fig. 12; then, in the manner shown in Fig. 13, scrape out the contents of the kernels with the dull edge of the knife, drawing the knife downwards. When all the pulp has been removed, season it with salt, pepper, and butter, and heat it thoroughly in a double boiler. Serve hot.

[Illustration: FIG. 13]

If it is not desirable to serve the corn pulp in this manner, it may be used in various ways, as the following recipes indicate. A good substitute for corn pulp is canned corn, but this must be chopped in order to break up the hulls.

119. CORN SOUFFLÉ--No more delightful corn dish can be prepared than corn soufflØ, for in addition to its being appetizing and nutritious, it is extremely dainty. It may be cooked in a baking dish, but it is more attractive when baked in individual baking dishes. A point to remember about its preparation is that it should be served immediately upon being taken from the oven, for soufflØ always shrinks as it cools.

CORN SOUFFLÉ
(Sufficient to Serve Six)

2 c. green corn pulp
1 tsp. salt
Dash of pepper
2 Tb. melted butter
2 Tb. flour
1/4 c. milk
2 eggs

Mix the corn pulp, salt, pepper, and melted butter, stir in the flour, and add the milk. Separate the eggs, beat the yolks, and add them to the mixture. Then beat the whites stiff and fold them in. Pour into a buttered baking dish or into individual baking dishes, set in a pan of hot water, and bake until brown. Serve at once.

120. CORN OYSTERS.--Variety can be secured in the use of corn by making corn oysters. These get their name from the fact that they resemble oysters in both size and shape. They may be served as a garnish for a meat dish or as a vegetable dish.

CORN OYSTERS
(Sufficient to Serve Six)

1 c. corn pulp
1 egg
1/4 c. flour
1/2 tsp. salt
Dash of pepper
1/2 tsp. baking powder

Prepare the corn pulp according to the directions given in Art. 118. To this add the beaten egg, flour, salt, pepper, and baking powder. Drop in tablespoonfuls on a well-greased griddle. When brown on one side, turn and brown on the other side. Then fold through the center, doubling one side over the other. Serve hot.

[Illustration: FIG. 14]

121. CORN FRITTERS.--The popularity of corn fritters, which have corn pulp as their foundation, is undoubtedly due both to their flavor and to the variety they afford in the diet. After being fried, corn fritters should appear as shown in Fig. 14. They may be served plain, but most persons prefer them with a sauce of some kind or with maple sirup.

CORN FRITTERS
(Sufficient to Serve Six)

2 c. corn pulp, or 1 can corn, chopped
1 c. flour
1 tsp. baking powder
1 tsp. salt
2 eggs

If canned corn is used, drain off the liquid before using it. To the corn, add the flour, baking powder, and salt. Separate the eggs and stir in the beaten yolks. Beat the whites stiff and fold them into the mixture. Drop with a spoon into deep fat, fry until brown, remove from the fat, and drain on paper. Serve plain, with a desired sauce, or with maple sirup.

CUCUMBERS AND THEIR PREPARATION

122. The hard-rinded fruit of the cucumber plant has been used from time immemorial as a vegetable. In food value, cucumbers are very low, comparing closely with celery in this respect; however, as they contain a large amount of cellulose, or bulk, and mineral salts, they should not be disregarded in the diet. They have a rather strong flavor due to their volatile oils, which so frequently disagree with persons and which give cucumbers a reputation for being difficult to digest. However, when they are properly prepared, they can be eaten by most persons without harm.

[Illustration: FIG. 15]

123. Formerly it was the custom to soak slices of cucumber in salt water before serving them. This procedure, however, has been found to be poor policy, for nothing is gained by it and the salt toughens the cellulose and makes the cucumbers limp and rubbery in texture. A much more satisfactory way to prepare cucumbers is to slice them and then soak them for some time before serving in ice water or water as cold as can be obtained. They will then become crisp and delicious, and, besides being more appetizing and agreeable, they will be no less digestible. After being sliced and chilled, cucumbers are often combined with sliced onions and eaten with vinegar, salt, and pepper, or they are eaten alone or on lettuce, dressed with mayonnaise dressing.

124. STUFFED CUCUMBERS.--Possibly the only recipe for cooked cucumbers that is used to any extent is the accompanying one for stuffed cucumbers. Cucumbers prepared in this way are very palatable, and because of the ingredients used are much higher in food value than when eaten alone. Such a dish is attractive, too, as Fig. 15 shows.

STUFFED CUCUMBERS
(Sufficient to Serve Six)

3 cucumbers
2 Tb. butter
1 small onion, chopped
1 tsp. salt
Dash of pepper
1-1/2 c. steamed rice
1 c. stewed tomatoes
Bread crumbs

Select medium-sized cucumbers, wash and peel them, and cut them in half

lengthwise. Hollow out the center so that the cucumbers will have the shape of boats. Then melt the butter in a frying pan, add the chopped onion, salt, and pepper, and heat together for a few minutes. Next add the rice, tomatoes, and sufficient bread crumbs to take up any excess of moisture. Fill the cucumbers with this mixture and bake until they are soft enough to be easily pierced with a fork. During the first part of the cooking, pour a small amount of hot water into the pan in which the cucumbers are baked. Serve hot.

EGGPLANT AND ITS PREPARATION

125. EGGPLANT belongs to the class of fruit vegetables, and is closely related to the tomato in structure and composition. It grows rather large in size, is covered with a smooth brownish-purple skin, and is made up of material that is close and firm in texture and creamy white in color. Because of the nature of its structure, eggplant would seem to be high in food value, but, on the contrary, this vegetable has very little. In this respect, it is about equal to cabbage and cauliflower and slightly less than string beans.

126. Eggplant is found in the market from early summer until the beginning of winter. Because it is protected by a heavy skin, it keeps well and needs no special care in storage. The strong flavor of the pulp is disagreeable to many persons. However, it has been found that much of this flavor may be removed by soaking the eggplant in strong salt water or by sprinkling it with salt after it has been sliced and then allowing it to stand for some time. It may be prepared in a variety of ways; so, if the members of the family care for it, the housewife will find it of great assistance in planning and preparing meals.

127. SAUTÉD EGGPLANT.--The usual way of preparing eggplant is to cut it into slices and then sautØ it. As the slices are dipped into beaten egg and then into crumbs before sautØing, the food value of this vegetable is increased and its flavor improved.

Peel the eggplant and then cut it into 1/4-inch slices. Sprinkle salt over the slices and let them stand for 1 hour or more; then pour off the juice that has collected. Beat an egg slightly, and to it add a few tablespoonfuls of milk or water. Dip the slices of eggplant first into the beaten egg and then into crumbs. When sufficiently coated, sautØ in shallow fat, browning first on one side and then on the other.
Serve hot.

[Illustration: FIG. 16]

128. BAKED EGGPLANT.--An attractive dish can be made by removing the contents from an eggplant, filling the cavity with a well-seasoned stuffing, and then baking the stuffed eggplant. When an eggplant is prepared in this way, it will appear as in Fig. 16.

BAKED EGGPLANT
(Sufficient to Serve Six)

1 medium-sized eggplant
2 c. dried bread crumbs
1/2 c. milk
2 tsp. salt
1/8 tsp. pepper
1 small onion, chopped
1 Tb. parsley
2 Tb. butter

Wash the eggplant and cook in boiling water for about 10 minutes. Remove from the water, cut off the top, scoop out the contents, and chop it into small pieces. With this finely chopped pulp, mix the bread crumbs, milk, salt, pepper, onion, parsley, and melted butter. When the whole is thoroughly blended, pack it into the shell of the eggplant and place in the oven. Bake for about 30 minutes or until the stuffing is thoroughly cooked and the top is brown. Serve hot.

129. SCALLOPED EGGPLANT.--If it is desired to increase the food value of eggplant and improve its flavor too, this vegetable should be scalloped. The accompanying recipe carefully followed will produce a most appetizing dish.

SCALLOPED EGGPLANT
(Sufficient to Serve Six)

1 medium-sized eggplant
1 c. dried crumbs
2 Tb. butter
2 tsp. salt
1/8 tsp. pepper
1-1/2 c. milk

Peel the eggplant and cut it into 1/2-inch pieces. Put into a saucepan, cover with boiling salted water, cook until tender, and then drain. Grease a baking dish, spread 1/4 cupful of crumbs on the bottom, and add one-half of the eggplant. Dot with butter and then sprinkle with salt and pepper. Add another 1/4 cupful of crumbs and the remaining eggplant, dot again with butter, and sprinkle with salt and pepper. Pour the milk over the whole and sprinkle the remaining 1/2 cupful of crumbs on the top. Place in the oven and bake for 1/2 hour or more. Serve hot.

FRENCH ARTICHOKES AND THEIR PREPARATION

130. FRENCH ARTICHOKES, sometimes known as _globe artichokes, California artichokes_, and _cardoons_, are related to the family of thistles. They are grown for the sake of their large flower-heads, or buds, which are shown in Fig. 17 and which are much used as a food. These plants stand storage and shipment very well and may be kept for long periods of time without spoiling. It is therefore possible to transport them considerable distances, a very gratifying fact, since most persons consider artichokes a great delicacy.

131. Not all of the artichoke plant is eaten. The portions of the flower that develop in the center of the base are removed before the base is eaten. After the artichokes are cooked, the scales, or leaves, are pulled from the cooked head with the fingers and the lower part of each one is dipped into sauce and eaten. The inner scales are much more tender and edible than the coarse outside ones. Although artichokes find favor with many and are considered somewhat of a delicacy, they are low in food value, being about equal to asparagus in this respect. To add food material, a dressing, such as drawn-butter sauce or mayonnaise dressing, is usually served.

[Illustration: FIG. 17]

132. ARTICHOKES WITH HOLLANDAISE SAUCE.--The usual method of preparing artichokes is to boil them and then serve them with melted butter or a sauce. Hollandaise dressing is used with the artichokes shown in Fig. 18. Boiled artichokes may also be cooled and then served with a salad dressing.

Secure the desired number of artichokes and prepare them for boiling by pulling off the coarse outside leaves, cutting off the top of the bud, and removing the stem close to the bud. Cover well with boiling water, add 1 teaspoonful of salt to each quart, and boil until tender, or for about 45 minutes. Remove from the water and serve hot with melted butter or Hollandaise sauce. If it is desired to use them for a salad, allow them to cool before adding the salad dressing.

[Illustration: FIG. 18]

VEGETABLES (PART 1)

EXAMINATION QUESTIONS

(1) (_a_) To what is the flavor of vegetables largely due? (_b_) How does cookery affect this?

(2) Describe the structure of vegetables.

(3) What food substances do vegetables as a class supply to the diet?

(4) (_a_) What are the legumes? (_b_) What food substance do they supply in quantity to the diet?

(5) Name the classes of vegetables and give examples of each class.

(6) (_a_) When is soaking vegetables in salt water necessary? (_b_) What proportions of salt and water are used?

(7) What effect has the application of heat on vegetables?

(8) Give an example of a method of cooking vegetables that: (_a_) wastes food material; (_b_) conserves food material.

(9) Give the reason for the use of soda in cooking vegetables.

(10) How should salt be used in the cooking of: (_a_) tender vegetables? (_b_) tough vegetables?

(11) Why should care be taken not to overcook cabbage, cauliflower, and Brussels sprouts?

(12) What is a good general rule to follow for the length of time necessary for cooking vegetables?

(13) Of what value are the sauces used to dress vegetables?

(14) Mention some methods of preparing vegetables that greatly increase their food value.

(15) What value has the addition of salt pork or bacon in the preparation of dried beans?

(16) (_a_) Why should the cover be left off the kettle during the cooking of cabbage? (_b_) What other vegetables are cooked in this way?

(17) Explain why old carrots and beets require longer cooking than young ones.

(18) (_a_) At what stage is green corn best for table use? (_b_) How may this be recognized?

(19) What value have corn pulp and bean purØe?

(20) (_a_) How should cucumbers be prepared before serving raw? (_b_) How may the strong flavor of eggplant be improved?

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VEGETABLES (PART 2)

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PREPARATION OF VEGETABLES AS FOOD (Continued)

GREENS AND THEIR PREPARATION

VARIETIES AND FOOD VALUE

1. Varieties of Greens.--The leaves and stems of many young plants in either their wild or their cultivated form are used for food. All of them are similar in composition, but many of them differ in flavor and appearance. The cultivated ones include beet tops, endive, spinach, and kale, as well as lettuce, collards, Swiss chard, sorrel, mustard greens, turnip tops, parsley, and cultivated cress and dandelion. The four

greens mentioned first are illustrated in Fig. 1, beet tops being shown in the lower right corner; endive, in the upper right corner; spinach, in the lower left corner; and kale, in the upper left corner. Commonest among the wild greens are dandelion, cress, wild mustard, dock, pokeweed sprouts, milkweed sprouts, and lamb's-quarters. Most of these wild varieties are excellent in the spring when they are young and tender, but it is not advisable to use them for food unless one is perfectly familiar with their appearance.

2. Food Value of Greens.--The food value of all greens with the exception of dandelion is very low, being just about equal to that of celery and cucumbers. This may be increased in their preparation by the addition of other food materials. However, the chief use of greens in the diet is not to supply food value, but mineral salts, the most important one being iron in a form that is necessary for building up the blood.

GENERAL DIRECTIONS FOR COOKING GREENS

3. The cooking of greens, both wild and cultivated, is not only simple but practically the same for all varieties. When they are not used as a salad vegetable, they are merely boiled until tender and then dressed in any desired way. Some kinds admit of special preparation, and wherever this is the case specific directions are given under the particular variety, but even in such an event the preliminary preparation is the same.

[Illustration: FIG. 1]

To prepare greens, look them over carefully, remove any decayed or withered parts, cut off the leaves, and wash in fresh cold water. Remove from the water and wash again, and do this as many times as seems necessary to remove all the sand and grit that the stalks contain. An important point to remember is that the greens should not be cleansed by pouring the water off, as the sand will then remain in the pan and is likely to mix with the greens again. When they are thoroughly washed, put them on to cook in a saucepan or a similar utensil. If they are young and tender, they should be cooked as much as possible in their own juice in order to retain all the valuable mineral salts they contain, only enough water being added to start the cooking without burning. In the case of greens that are very strong in flavor, it will be necessary to cook them in a larger quantity of water and then pour off what remains after cooking. When they have cooked until they are tender, season them if necessary, and add butter to give them flavor and increase their food value. Vinegar or a slice of lemon adds much to the flavor of greens.

BEET TOPS

4. The tops of beets include the leaves and the stems of this vegetable, as Fig. 1 shows. They are at their best when the beets are very young or before the beets themselves have developed. Beet tops are not used so extensively as some greens, but they will be found to have a more

agreeable flavor than many greens that are more popular. Beets are raised for the purpose of supplying greens by planting the seeds closely enough together to form a thick bed of leaves and then thinning them out before the beets have developed. A few may be allowed to remain and develop for use as beets. Young beets that are purchased with the tops on also furnish a source of beet tops as well as beets.

When beet tops are to be cooked, cut the stems into inch lengths and use them with the leaves. Proceed to clean and cook the greens according to the directions given in Art. 3. Season with salt and pepper and flavor with butter. Serve with something tart, such as vinegar or lemon.

DANDELION

5. Dandelion, both wild and cultivated, is a plant whose leaves are much used for a vegetable green before the blossoms develop. The wild ones have the advantage of being cheap, so they should be used if they can be secured; the cultivated ones, on the other hand, cost as much as spinach and other greens. The season for dandelions is comparatively short, lasting only a few weeks in the early spring. Use should therefore be made of them when they can be procured in order to secure variety for the menu. When they are desired as cooked greens, prepare them in the manner explained in Art. 3.

6. Dandelion With Sour Sauce.--If a change in the cooking of dandelion is desired, it should be prepared with a sour sauce. This method of preparation is very popular, for besides increasing the food value of this variety of greens, it improves the flavor very much.

DANDELION WITH SOUR SAUCE
(Sufficient to Serve Six)

1/2 pk. dandelion
1/2 c. vinegar
4 thin slices bacon
1/2 c. water
2 Tb. flour
1 egg
1 tsp. salt

Clean and wash the dandelion. Cut the slices of bacon into small pieces and sautØ until crisp. Stir the flour and salt into the bacon fat, add the vinegar and water, and stir until the flour thickens. Add the beaten egg last, and remove from the fire. Put the dandelion into the pan and mix well with the hot sauce. If the dandelion is preferred well wilted, set the pan over the flame, and stir until the dandelion appears as desired. Serve hot.

ENDIVE

7. ENDIVE is an herb that is used as a salad plant or is cooked and

served with a hot dressing or as greens. The three common varieties of this green are escarole, chicory, and French endive, all of which have a slightly bitter taste and may be found in the market from late summer until early winter. _Escarole_ is a broad-leaved variety that is grown more or less in a head. _Chicory_, which is shown in Fig. 1, has a small feathery-edged leaf, and is often bleached by tying the leaves together at the top, so that the inside ones are very tender. Both of these varieties may be cooked, but they are also much used for salads. _French endive_ bears very little resemblance to the other kinds, having straight, creamy-white leaves that are closely pressed together. It looks very much like sprouts of some kind, and is entirely bleached in the process of growth by banking the earth around it. It is never used for anything except salads and garnishes.

8. Endive is very low in food value, comparing very closely with celery and cucumbers in this respect. Still, as a salad vegetable, it is worthy of much more extensive use than is generally made of it. As a rule, its price is about the same as that of lettuce, so it should be substituted frequently for lettuce to give variety to the diet. To be most satisfactory, endive should be bought when it is fresh and unwithered and kept until used in a cool, damp place. A good plan is to wrap such vegetables in a damp cloth. If, upon using, endive appears to be withered, it may be freshened by placing it in a pan of cold water and allowing it to remain there for a short time.

When endive is used as a salad, it may be served merely with a salad dressing of some kind or it may be combined with other vegetables before applying the dressing. Escarole and chicory, which are much used as greens, should be prepared and cooked according to the directions given in Art. 3.

LETTUCES

9. Lettuce is a well-known herb that is much used as a salad vegetable. There are numerous varieties of lettuce, but these may be reduced to the two kinds shown in Fig. 2, _leaf lettuce_ on the right and _head lettuce_ on the left. Leaf lettuce, which is more often used for garnishing than for any other purpose, has firm, crisp, green, upright leaves; on the other hand, head lettuce has round leaves forming a compact head, like cabbage. The outside leaves of head lettuce are green, but the inside ones are usually bleached by the exclusion of light, as are those of cabbage and endive. These inside leaves are more tender than the others, and hence more to be desired as a salad vegetable than the unbleached variety. In food value, lettuce compares closely with other varieties of greens and is high in the same mineral salts that they are. The bleached leaves do not contain so much iron as the green ones. [Illustration: FIG. 2]

10. As has already been implied, lettuce finds its principal use in garnishing salads. When used for this purpose, it should be eaten along with the salad, for it is too valuable to be wasted. Since the coarse outside leaves of a stalk or a head of lettuce do not look so well as the tender bleached ones, they are often rejected, but this should not

be done, for use can also be made of them. For instance, such leaves may be shredded into narrow strips and used as a foundation for salads that will be just as attractive as those having a single lettuce leaf for a garnish. When it is realized that the outside leaves are purchased at the same price as the more delicate parts of the lettuce, it can readily be understood why they also should be utilized as food. Most of the garden varieties of lettuce, especially when they have grown very large, are frequently cooked as greens. When used in this way, lettuce is prepared, as are other greens, according to the directions given in Art. 3. This vegetable also makes an appetizing dish when it is prepared with a sauce and served hot in the same way as dandelion.

SPINACH

11. SPINACH, which is shown in Fig. 1, consists of the large, fleshy, deep-green leaves of a garden herb much used as a green for food. In fact, this is one of the most popular varieties of greens and is used more extensively than any other. Many varieties of spinach are grown, but all of them are used in just the same way. It is slightly higher in food value than lettuce and endive, but lower than dandelion. However, it is a valuable food in the diet because of the large quantity of iron it contains, and many persons eat it not so much because they like it but because they believe it is good for them.

[Illustration: FIG. 3]

12. Some kinds of spinach do not keep for long periods of time. Therefore, in order to avoid any waste, spinach should always be very fresh when purchased and should be used as soon as possible after it is obtained. It may be prepared in a greater number of ways than most of the other greens except, perhaps, those used for salads. For instance, it is served with entrØes of various kinds, is combined with meat, ham and spinach being a much used combination, or is made into a purØe by forcing it through a sieve and then used in the making of soup or soufflØ. Then, again, spinach is often boiled and pressed into small cups to form molds like the one shown in Fig. 3. Such a mold may be used to garnish a dish of some sort or, as here shown, may be garnished with a slice of hard-cooked egg. When spinach is used in any of these ways, it should first be cooked according to the directions given for the preparation of greens in Art. 3. 13. SPINACH SOUFFLÉ--The purØe that is made by forcing boiled spinach through a sieve may be used in a variety of ways, but none of these is more satisfactory than spinach soufflØ. When made according to the accompanying recipe, spinach soufflØ will be found to be appetizing as well as nourishing.

SPINACH SOUFFLÉ
(Sufficient to Serve Six)

2 Tb. butter
1/2 c. hot milk
2 Tb. flour
1 c. spinach purØe

1 tsp. salt
2 egg whites
Dash of pepper

Melt the butter, add the flour, salt, pepper, and hot milk, and stir in the spinach purØe. Beat the egg whites stiff and fold them into the mixture. Grease individual baking dishes or a large baking dish and fill two-thirds full with the mixture. Place in a pan of hot water and bake in a slow oven until firm, or for about 20 or 30 minutes.

[Illustration: FIG. 4]

14. SPINACH ROYAL.--A very attractive dish can be made by combining spinach with toast, hard-cooked egg, and lemon in the manner shown in Fig. 4. This dish is known as _spinach royal_, and because of the additional ingredients it is nutritious as well as palatable.

SPINACH ROYAL
(Sufficient to Serve Four)

1/2 pk. spinach
1/3 c. water
1-1/2 tsp. salt
3 Tb. bacon fat or butter
3 Tb. flour
1/8 tsp. pepper
Triangular pieces of toast
2 hard-cooked eggs
1 lemon

Look the spinach over carefully and remove all roots and dead leaves. Cut the stalks apart and wash them thoroughly several times in fresh, clean water to remove the sand and dirt, lifting the spinach out of the water each time instead of pouring the water off. Put the spinach into a saucepan with the water. Stir frequently until the spinach is wilted and there is sufficient water to boil it. Add 1 teaspoonful of the salt and cook until the leaves are very tender, or for about 15 or 20 minutes. Drain off all but about 1/2 cupful of the liquid. Melt the fat in a frying pan, stir the flour into it, brown to a golden brown, and then add the spinach, pepper, and remaining salt. Stir and cook until the flour has thickened and mixed well with the spinach. Turn out in a mound on a platter and place the pieces of toast around the spinach as shown. Slice the hard-cooked eggs, cut the lemon into any desirable shape, and use these to garnish the platter. In serving this dish, put a spoonful of spinach on a piece of toast and serve a slice or two of egg and lemon with each portion.

15. CREAMED SPINACH.--After spinach has been boiled until it is tender, it may be made more appetizing by combining it with a well-flavored cream sauce, according to the accompanying directions.

CREAMED SPINACH
(Sufficient to Serve Four)

1/2 pk. spinach
1/2 tsp. salt
2 Tb. ham or bacon fat
Dash of pepper
2 Tb. flour
2/3 c. milk

Boil the spinach according to the directions given in Art. 3. Melt the fat in a frying pan, add the flour, salt, pepper, and milk, and stir until the flour thickens. Chop the cooked spinach and add it to the hot dressing. Stir and cook until the two are well blended. Serve hot.

WATERCRESS AND PARSLEY

16. WATERCRESS and PARSLEY are two herbs, or greens, that are used considerably for garnishing and flavoring other dishes. These greens are shown in Fig. 5, that at the left being watercress and that at the right parsley.

17. Watercress, which is commonly known as _peppercress_, usually grows wild in beds along the banks of springs or clear, cool streams. A few varieties, however, are cultivated, and these are grown in dry soil and known as _upland cress_. It is a very prolific herb, and may be obtained from early spring until late in the fall; in fact, it does not freeze easily and is sometimes found in early winter along the swiftly flowing streams that are not frozen over. Watercress may be used whenever it can be procured, but it is not very desirable when in blossom. Its chief use is to garnish salads and other dishes, but it may also be cooked and served hot as a green. In such an event, its cooking is accomplished in the same way as that of other greens.

[Illustration: FIG. 5]

18. Parsley, while classified as a green vegetable, is perhaps not in the true sense of the word a real vegetable, since it is used for only two purposes, and in neither of these is it served cooked or raw as an exclusive article of diet. The most important use of parsley is perhaps that of flavoring. It is added to soups, sauces, and various kinds of cooked vegetables in order to impart additional flavor. In such cases, it should be chopped very fine in order that all possible flavor may be extracted from it. Parsley may also be dried before it is used for this purpose, provided it must be kept for any length of time. The other use of parsley is that of garnishing. It is often used in small sprays to garnish a roast of meat, a steak, chops, fish, or some baked, fried, or sautØd vegetable. Sometimes it is chopped very fine and placed around the edge of a patty shell, a croustade, a timbale case, or a piece of toast upon which food is served. Parsley may be eaten when it is served as a garnish if its flavor is found to be agreeable to the taste.

JERUSALEM ARTICHOKES AND THEIR PREPARATION

19. JERUSALEM ARTICHOKES are tubers belonging to the sunflower family. In appearance they resemble potatoes to some extent, but, as a rule, they are neither so large nor so smooth. The inside texture of this vegetable is more moist and not so mealy as that of the Irish potato. Jerusalem artichokes are easy to grow and are very prolific, so that if any one is fond of them they will be found to be a profitable crop. For table use, they are prepared in much the same way as potatoes.

20. CREAMED ARTICHOKES.--A common method of preparing Jerusalem artichokes is to cream them. Wash and peel the desired number of artichokes and cut them into 1/2-inch dice. Put these to cook in boiling salted water and cook until tender enough to be pierced with a fork. Drain off the water and dress with hot medium white sauce. Serve hot.

21. BUTTERED ARTICHOKES.--Another satisfactory way in which to prepare Jerusalem artichokes is to dress them with butter. Wash and peel the required number of artichokes and cut them into slices. Put these to cook in boiling salted water and cook until tender enough to be pierced with a fork. Drain off the water and dress with melted butter to which has been added a little chopped parsley. Serve hot.

KOHLRABI AND ITS PREPARATION

22. KOHLRABI is a variety of cabbage having a turnip-shaped stem. On account of its shape it is often called _turnip cabbage_. The edible part of kohlrabi is the enlarged stem, which has the flavor of both turnip and cabbage. The stems of the leaves are attached to the enlarged portion that is used for food, and these must be removed in the preparation of the vegetable. Kohlrabi is not a perishable vegetable and therefore stands storage very well. For market, it is usually placed in bunches and tied as are beets and carrots. In food value, this vegetable, like cabbage, is somewhat low. The food value it does have is carbohydrate in the form of sugar. 23. After the stems of the leaves have been cut off, the kohlrabi should be washed and then pared to remove the outer skin. It is usually diced or sliced thin, and then cooked and dressed in any desirable way. This vegetable, like cabbage, cauliflower, etc., should be cooked with the cover removed from the kettle, in order to allow some of the flavor to escape in the steam. Kohlrabi that is old or that has been in storage for some time develops woody portions as do turnips, beets, and other winter vegetables, and must therefore be cooked sufficiently long to make it palatable.

24. BOILED KOHLRABI.--Persons fond of kohlrabi as a vegetable will undoubtedly prefer it merely boiled and flavored with butter, pepper, and salt. When it is to be cooked in this way, prepare it in the manner just explained. Then put it on to cook in sufficient boiling salted water to cover it well, and allow it to cook with the cover removed until it can be easily pierced with a fork. When sufficiently cooked, pour off the water, season to taste with salt and pepper, and add 1 tablespoonful of butter for each pint of kohlrabi cooked. Serve hot.

25. MASHED KOHLRABI.--As turnips and potatoes are often boiled and then

mashed, so kohlrabi makes a very appetizing dish when prepared in this way. Prepare the kohlrabi and cook it by boiling. When it has cooked soft, drain off the water and mash with a wooden or a wire potato masher. Season with salt and pepper, and add 1 tablespoonful of butter for each pint of cooked vegetable. Serve hot.

26. CREAMED KOHLRABI.--The preparation of kohlrabi can be varied by serving it with a cream sauce. Such a sauce also increases the food value of this vegetable by supplying the substances in which it is low.

CREAMED KOHLRABI
(Sufficient to Serve Six)

4 c. diced kohlrabi
2 Tb. butter
2 Tb. flour
1/2 tsp. salt
Dash of pepper
1 c. milk

Cook the kohlrabi in boiling salted water until tender and then drain the water from it. Melt the butter in a saucepan, add the flour, salt, and pepper, and into this stir the hot milk. Cook until the sauce has thickened. Then pour it over the kohlrabi and reheat. Serve hot.

LENTILS AND THEIR PREPARATION

27. LENTILS are the flattish, circular, dried seeds of an annual vine grown chiefly in Europe and Asia. They belong to the class of vegetables known as legumes, and are therefore high in protein in the form of legumin. They also contain a large amount of carbohydrate in the form of starch and are high in mineral salts. Because of their high food value, which is somewhat over 1,600 calories to the pound, they are a valuable food in the diet, particularly as a meat substitute. Consequently, when lentils can be obtained at a reasonable price, it is wise to make considerable use of them.

There are three varieties of lentils, _yellow_, _red_, and _black_, and they resemble split peas in appearance, as will be observed from Fig. 6, which shows a panful of dried lentils. They have a distinctive flavor that is agreeable to most persons. However, like other dried legumes, long cooking is required to make them tender and palatable.

28. COOKING OF LENTILS.--In general, the preparation of lentils is similar to that of dried beans, the cooking of which is now thoroughly understood. They may be put on to cook immediately after they are washed, but, as in the case of dried beans, their cooking may be hastened if they are first softened by soaking them in cold water for 8 to 12 hours. At the end of this time, it is advisable to parboil the lentils for about 10 or 15 minutes, or until their outer skins begin to crack, in water to which a pinch of soda has been added. This water being poured off, the lentils should be washed and then put to cook in fresh water to which 1 teaspoonful of salt is added for each quart of

water used. Like beans, the lentils should be cooked slowly until they are soft enough to crush between the fingers. With these principles for the cooking of lentils well in mind, the housewife will have no difficulty in preparing this vegetable, for almost any of the recipes given for dried beans may be used with lentils substituted for the beans.

[Illustration: FIG. 6] 29. LENTIL PUFF.--A decided change from the usual ways of preparing lentils can be had by making lentil puff. Black lentils are used for this preparation, and they are made into a purØe before being used in the puff. If the accompanying recipe is carefully followed, a most appetizing, as well as nutritious, dish will be the result.

LENTIL PUFF
(Sufficient to Serve Six)

1-1/4 c. lentil purØe
1-1/2 c. riced potatoes
2 Tb. butter
1/2 c. milk
1-1/2 tsp. salt
1/8 tsp. pepper
2 eggs

Soak the lentils overnight in water that contains a pinch of soda, parboil them for about 10 minutes, and pour off the water. Put them to cook in cold water and cook until they are tender, allowing the water to evaporate completely, if possible, so that the purØe made from them will be dry. However, if any water remains when the lentils are done, pour it off and use it for soup or sauce. Make the purØe by forcing the cooked lentils through a colander. If it is found to be too wet, less milk can be used than the recipe calls for. Cook several potatoes and rice them by forcing them through a colander or a ricer. Combine the lentils and potatoes, and to this mixture add the butter, milk, salt, and pepper. Separate the eggs, and beat the yolks slightly and the whites until stiff. Stir the yolks into the mixture and, just before putting the puff into the oven, fold in the whites. Pour into a buttered baking dish, set in the oven, and bake until the puff is set and the surface is brown. Serve hot.

MUSHROOMS AND THEIR PREPARATION

30. Mushrooms are not a vegetable; still they are included in this Section because they are used like a vegetable. In reality, they are a fungus growth containing no chlorophyl, or green coloring matter, and, as shown in Fig. 7, consisting of an erect stalk that supports a cap-like expansion. They occur in many varieties, both poisonous and non-poisonous. The non-poisonous, or edible, mushrooms are found on rich, moist pastures all over the world and they are also very frequently cultivated. They may be collected in almost any locality, but no person who is not perfectly familiar with their characteristics and

therefore able to judge the non-poisonous kinds from the poisonous should attempt to gather them. Fresh mushrooms can usually be found in the markets, but as they are expensive, they should be considered a luxury and used only occasionally. Instead, some of the small canned varieties, which are usually satisfactory for most purposes, should be used when mushrooms are desired and the wild ones cannot be secured.

31. In food value, mushrooms are not very high, being about equal to beets or carrots in this respect; but they have a higher percentage of protein than these vegetables and they contain extractives similar to those found in meat. To increase their food value, mushrooms are often combined with other foods, such as peas, chestnuts, diced meats, and fowl, and made into dishes of various sorts. Then, again, they are served as a garnish with steaks and other meat dishes. In short, if they can be secured from the surrounding neighborhood or the price is not prohibitive, they should be used in the many excellent ways that are devised for their preparation.

32. PREPARATION FOR COOKING.--To prepare mushrooms for cooking, clean them by brushing them carefully with a soft brush, by scraping the surface, and, in some cases, by removing the stems. Do not, however, throw the stems away, for they may be used as well as the caps. If the mushrooms are found to be tough, the skin should be peeled off. After being thus prepared, mushrooms may be cooked in various ways, as is explained in the accompanying recipes. [Illustration: FIG. 7]

33. BROILED MUSHROOMS.--One of the simplest methods of cooking mushrooms is to broil them. This may be done either by exposing them directly to the heat or by pan-broiling them. In this recipe, only the caps are used.

Clean the mushrooms that are to be broiled and remove the stems. Place the caps in a broiler that has been greased or in a slightly greased frying pan. Brown them on one side, then turn them and brown them on the other side. Remove to a platter, dot with butter, season with salt and pepper, and serve. 34. STEWED MUSHROOMS.--Another very simple way in which to cook mushrooms is to stew them and then serve them on toast. When prepared by this method, both the stems and the caps are utilized.

Clean the mushrooms and cut both the caps and the stems into small pieces. Cook until tender in sufficient water, stock, or milk to cover them well, and then season with salt and pepper. To the liquid that remains, add enough flour to thicken it slightly. Serve on toast.

35. SAUTÉD MUSHROOMS.--When mushrooms are sautØd, they are often used with other dishes, particularly broiled steak, to improve the flavor and give variety. In fact, steak smothered with mushrooms is considered a luxury. However, sautØd mushrooms are very frequently served alone or, together with a sauce made from the fat in which they are cooked, they are served on toast.

Clean the mushrooms, remove the stems, and dredge both stems and caps with flour. Melt fat in the frying pan and place the dredged mushrooms

in it. SautØ until brown on both sides and season with salt, pepper, and chopped parsley. Serve in any desired manner. If sauce is desired, add water or stock to the flour and fat that remain in the frying pan, and allow this to cook for a few minutes.

36. CREAMED MUSHROOMS AND CHESTNUTS.--No more delightful combination can be imagined than mushrooms and chestnuts. When combined with a cream sauce and served in patty shells or timbale cases, a dish suitable for the daintiest meal is the result. Another very attractive way in which to serve this combination is to place it in a baking dish, or, as shown in Fig. 8, in individual baking dishes, cover it with a layer of biscuit or pastry crust, bake, and serve it as a pie.

CREAMED MUSHROOMS AND CHESTNUTS
(Sufficient to Serve Eight)

1-1/2 c. stewed chestnuts
1-1/2 c. stewed mushrooms
3 Tb. butter
3 Tb. flour
1-1/2 tsp. salt
1/8 tsp. pepper
1-1/2 c. milk

Remove the shells from the required number of Italian chestnuts and cook the nut meats in boiling water until tender. Peel off the skins and break the chestnuts into pieces. If fresh mushrooms are used, stew them in boiling water until tender. Cut the stewed or canned mushrooms into pieces of the same size as the chestnuts, and mix the two together. Make a cream sauce by melting the butter, adding the flour, salt, and pepper, and stirring in the hot milk. Cook until the mixture thickens, pour it over the chestnuts and mushrooms, and serve in any of the ways suggested.

OKRA AND ITS PREPARATION

[Illustration: FIG. 9]

37. OKRA is a fruit vegetable consisting of a green pod that is several inches long, pointed at one end, and filled with seeds. Fig. 9 shows okra pods attached to the herb of which they are a part. Although okra originated in Africa, it is for the most part grown in the southern section of the United States. However, canned okra may be obtained almost anywhere. Okra is low in food value, being only slightly higher than cabbage and most of the greens; nevertheless, it is liked by many persons. It is of a mucilaginous, or gummy, consistency, and if it is not properly cooked it becomes very slimy and is then decidedly unpleasant. Because of its gummy nature, it helps to thicken any dish to which it is added. Probably its chief use is as an ingredient in soups, when it is known as _gumbo_. Chicken gumbo soup is one of the most popular dishes of this kind. The preliminary preparation of okra is the same as that of most other vegetables; that is, the pods should be

washed, the stems removed, and the cleaned pods then cooked in sufficient boiling salted water to cover them well.

38. STEWED OKRA.--The simplest way in which to prepare okra is to stew it. When seasoned well with salt, pepper, and butter, stewed okra finds much favor with those who care for this vegetable.

Select the required number of okra pods and put them on to cook in enough boiling salted water to cover them well. Cook until the pods are soft enough to be easily pierced with a fork. Season with pepper and, if necessary, additional salt, and add 1 tablespoonful of butter for each four persons to be served.

39. OKRA WITH TOMATOES.--If one does not desire a dish made entirely of okra, it may be combined with tomatoes. Such a combination, seasoned well and flavored with ham or bacon fat, makes a very tasty dish.

OKRA WITH TOMATOES
(Sufficient to Serve Six)

1-1/2 c. stewed or canned okra
1-1/2 c. stewed or canned tomatoes
1-1/2 tsp. salt
1/8 tsp. pepper
2 Tb. ham or bacon fat

Heat the okra and tomatoes together in a saucepan and add the salt, pepper, and ham or bacon fat. Cook for 5 or 10 minutes or until well blended. Serve hot.

ONIONS AND THEIR PREPARATION

VARIETIES OF THE ONION FAMILY

40. ONIONS are the chief commercial vegetable of the bulb crops. They have been cultivated from the earliest times, their native country being Central Asia. Closely allied to the onion are several other bulb vegetables, including garlic, shallots, leeks, and chives, all of which are used more extensively for flavoring dishes than for any other purpose. Fig. 10 shows several varieties of this family, the group of three in the upper right corner being garlic; the bunch in the lower right corner, leeks; the bunch in the lower left corner, green onions; and the remainder of those shown in the illustration, different varieties of dried onions, that is, onions that have been allowed to mature.

41. This entire class of food is characterized by a typical, volatile oil, which in most cases is so strong as to be somewhat irritating and which causes the vegetable to disagree with many persons. This flavor, however, can be almost entirely dissipated by cooking, so that many persons who cannot eat the various members of the onion family raw can tolerate them cooked. In food value, which is found principally as

carbohydrate in the form of sugar, this class of foods is not very high, being about the same as carrots, beets, and other root vegetables. Some persons believe that onions have wonderful medicinal value in curing colds and preventing them, but there is really no foundation for such a belief.

[Illustration: Fig. 10]

42. ONIONS.--As has been pointed out, onions are of two general varieties, dried and green. _Dried onions_, as shown in Fig. 10, are those which have been allowed to grow to maturity and have then been cured, or dried, to a certain extent. Such onions are in demand at all seasons. _Green onions_, also shown in Fig. 10, are those which are pulled, or taken out of the ground, before they have matured and are eaten while fresh. They are especially popular in the spring, although they have a rather long season. Each of these classes has many varieties, which vary in flavor and in color, some of the dried ones being yellow, some red, and others white. All dried onions have excellent keeping qualities, so, after purchasing, no special care need be given to them except to store them in a comparatively cool, dry place. Deterioration is due chiefly to sprouting, for as soon as the new plant begins to grow from the center of the onion, the remainder becomes soft and loses much of its flavor. The green, immature onions, however, will not keep for any length of time, and in order to keep them fresh until they are used, they must be stored in a cool, damp place.

[Illustration: FIG. 11]

43. GARLIC.--The variety of onion known as garlic is very much desired by the people of southern Europe, where it originated. As Fig. 10 shows, it resembles the onion in appearance, but it consists of several parts, or small bulbs, called _cloves_, which are encased in a covering of thin white skin. Garlic has a very strong penetrating odor and a biting taste that resemble the odor and taste of onion, but that are much ranker. It is little used by Americans except as a flavoring for salads and various kinds of highly seasoned meats. In reality, a very small amount of garlic is sufficient to lend enough flavor, and so the bowl in which a salad is served is often merely rubbed with garlic before the salad is put into it. No difficulty will be experienced in recognizing garlic in the markets, for here it is found in long strings that are made by braiding the dry stems together.

44. SHALLOTS.--Closely allied to garlic are shallots, which are native to Syria, where they still grow wild. They are said to have been brought into Europe by the Crusaders. The bulbs of this vegetable are similar to those of garlic, being compound in form, but instead of being enclosed in a thin covering, they are separate when mature, as Fig. 11 shows. Shallots have a strong flavor, but it is not so rank as that of garlic, nor does the odor remain in the mouth so long as that of onion. Many persons like shallots for flavoring stews, soups, salads, and pickles.

45. LEEKS.--Another member of the onion family that is more highly prized and more extensively raised in Europe than in the United States

is leeks. As Fig. 10 shows, leeks do not produce a bulb as do onions. In this vegetable, the lower parts of the leaves grow close together and form a bulb-like stem, or neck, which is fairly solid and which constitutes the edible part. The odor and flavor of leeks are similar to those of onions, but they are somewhat weaker. The fleshy stem may be bleached by banking it with earth, and when this is done, the flavor becomes more mild and the texture more tender than in the onion bulb. Like shallots, leeks are used to flavor stews, soups, and similar foods.

46. CHIVES.--The member of the onion family known as chives is a small plant whose roots remain in the ground for many years and produce year after year dense tufts of slender, hollow leaves. These leaves grow to a height of about 6 or 8 inches and resemble the tops of onions except that they are much smaller. Chives, which have a more delicate flavor than onions, are much used for flavoring soup, stews, salads, meats, and other vegetables and as a garnish for salads. When used for any of these purposes, they are cut into tiny pieces.

PREPARATION OF ONIONS

47. ONIONS FOR FLAVORING.--When only the flavor of onions is desired in a salad or a cooked dish of some sort, such as a dressing for fowl, hash, or any similar combination of food ingredients, the onion should be added in the form of juice and pulp rather than in pieces. Then it will not be possible to observe the onion when it is mixed with the food nor to come across small pieces of it when the food is eaten. To prepare an onion in this way, peel it, cut off a crosswise slice, and then grate the onion on a grater over a shallow dish. Add the juice and pulp thus obtained to any food that calls for onion as a flavoring.

48. ONIONS FOR THE TABLE.--When onions are to be used as a vegetable for the table, they require cooking, but first of all they must be peeled. This is at best a rather unpleasant task, because the fumes from the strong volatile oil are irritating to both the eyes and the nostrils. However, it may be done more comfortably by keeping the onions immersed in cold water during the peeling. Remove only the dry outside shells, and, if the onions are large, cut them in halves or quarters. However, as the various layers are likely to fall apart when the onion is cut, it is advisable to select medium-sized or small onions, for these may be cooked whole. After the onions have been peeled, they may be cooked in a variety of ways.

49. BOILED ONIONS.--Perhaps the simplest method of cooking onions is to boil them. To allow the strong volatile oil to escape instead of being reabsorbed by the onions, and thus improve the flavor of the onions, the cover should be kept off the vessel while they are cooking. The water in which this vegetable is cooked has not a very agreeable flavor, so no use should be made of it.

Peel the desired number of onions and if necessary cut them into halves or quarters. Place them in sufficient boiling water to cover well. Cook in an uncovered vessel until tender enough to be easily pierced with a

fork, but not so soft as to fall apart. Then pour off the water, season with more salt, if necessary, and a little pepper, and add 1 tablespoonful of butter for each four persons to be served. Serve hot.

50. CREAMED ONIONS.--A cream sauce added to onions makes a very appetizing dish. In fact, most persons prefer creamed onions to any other method of preparation.

CREAMED ONIONS
(Sufficient to Serve Six)

1 pt. stewed onions
3 Tb. butter
3 Tb. flour
1 tsp. salt
Dash of pepper
1-1/2 c. hot milk

Prepare the onions according to the directions given in Art. 49. When they are tender enough to be easily pierced with a fork, drain. Melt the butter, and add the flour, salt, pepper, and hot milk. Cook until the sauce thickens, pour over the stewed onions, heat together for a few minutes, and serve.

51. BAKED ONIONS.--If variety in the preparation of onions is desired, baked onions should be tried. Select medium-sized onions, peel them, and then boil them whole in boiling salted water until they are almost tender. Drain off the water, place the onions in a shallow dish, brush with butter, and sprinkle with salt and pepper. Place in a hot oven and bake until brown on one side; then turn them and brown on the other side. Serve hot.

[Illustration: FIG. 12] 52. STUFFED ONIONS.--When large onions can be secured, a very appetizing as well as attractive dish can be prepared by stuffing them and then baking them brown. Onions cooked in this way will appear as shown in Fig. 12.

STUFFED ONIONS
(Sufficient to Serve Six)

6 large onions
1 c. dried bread crumbs
2 Tb. butter
1/2 tsp. salt
1/8 tsp. pepper
1/2 tsp. celery salt
1/4 c. milk

Peel the onions and cook them in boiling salted water until almost tender. Remove from the water and take out the inner portions of the onions, leaving the outside layers in the shape of a cup. Chop the portions of the onions which have been removed and mix with the bread crumbs. Melt the butter, add to it the chopped onion, bread crumbs,

salt, pepper, and celery salt, and stir all together for a few minutes over the flame. Add the milk, and if the 1/4 cupful is not sufficient to make the stuffing moist, add more. Fill the onion shells with the stuffing, place in a hot oven, and bake until brown. Serve immediately.

PARSNIPS AND THEIR PREPARATION

53. Parsnips are an important root vegetable, being closely allied to carrots. They are used to a certain extent during the summer when they are immature, but generally they are allowed to mature so that they may be stored for use as a winter vegetable. Parsnips have an advantage over many vegetables in that they have excellent keeping qualities and are particularly hardy, being able to withstand considerable freezing and thawing when they are left in the ground during the winter. However, as they grow older, they develop a woody texture, as do beets and turnips, and so at the end of the winter require longer cooking than at the beginning.

54. In food value, parsnips are somewhat higher than other root vegetables, containing a large amount of carbohydrate, which occurs in the form of sugar. Although they are wholesome and nourishing, they have a peculiar, sweetish flavor that is due to the volatile oil they contain and is objectionable to some persons. Still, those who are fond of this flavor find that parsnips afford an excellent opportunity to give variety to the diet, for they may be prepared in a number of ways, most of which are similar to the ways in which carrots are cooked.

55. In preparing parsnips for cooking, scrape them, if possible, instead of peeling them, so as not to waste any of the edible material. Then, too, try to obtain medium-sized parsnips, for they will be of much better quality than the larger ones. If uneven sizes must be used, the larger ones should be cut before being cooked, so that they will be similar in size to the smaller ones and therefore cook in the same length of time.

56. MASHED PARSNIPS.--A very simple way in which to prepare parsnips is to mash them. Clean and scrape the desired number of parsnips and put them to cook in sufficient boiling salted water to cover. Cook until tender enough to be pierced with a fork, the length of time required to do this depending entirely on the age of the parsnips. When tender, drain off the water and force the parsnips through a colander or a sieve. Season with butter, salt, and pepper, and serve hot.

57. CREAMED PARSNIPS.--Parsnips are sometimes cut into dice and then served with a cream, sauce. When it is desired to prepare them in this way, the accompanying directions should be carefully followed.

CREAMED PARSNIPS
(Sufficient to Serve Six)

2 c. diced parsnips
2 Tb. butter

2 Tb. flour
1/2 tsp. salt
Dash of pepper
1 c. milk

Clean and scrape the parsnips and cut them into dice 1/2 inch in size. Put these to cook in sufficient boiling salted water to cover, cook until they may be easily pierced with a fork, and then drain. Melt the butter in a double boiler, and add the flour, salt, and pepper. Stir in the hot milk, and cook until the mixture thickens. Pour this sauce over the parsnips, heat together for a few minutes, and serve.

58. BROWNED PARSNIPS.--Parsnips that are browned and sweetened with sugar seem to meet with greater favor than those prepared by other methods. To prepare them in this way, clean and scrape the desired number of parsnips, and slice them in thick slices, or, if they are small, cut them in halves lengthwise. Put them to cook in boiling salted water and cook until they may be easily pierced with a fork, but are not tender enough to fall to pieces. Melt some fat in a frying pan, and place the slices of cooked parsnips in it. Brown on one side, turn, and then brown on the other. Sprinkle with a little sugar and, if necessary, additional salt. Serve.

PEAS AND THEIR PREPARATION

59. In addition to beans and lentils, the class of vegetables called legumes includes PEAS, which, both green and dried, are used for food. In composition, there is a decided difference between the two varieties of peas, the green ones being about equal to green corn in food value, and the dried ones having a food value nearly four times as great. In each case, the food substance in the greatest amount is in the form of carbohydrate. In green peas, this is in the form of sugar, while in dried ones it is changed into starch. Peas also contain protein in the form of legumin, there being three times as much of this substance in dried peas as in green ones. The amount found in green peas is sufficient to be of importance in the diet, but the percentage of this substance is so great in dried peas that they may be used very satisfactorily as a meat substitute.

60. GREEN PEAS.--Numerous varieties of green peas are found on the market. A few of them are cooked in the pods, especially when the peas are very young, and are eaten pods and all, just as are string beans. Most of them, however, are allowed to mature further and only the peas are eaten, the shell being discarded.

When green peas are purchased, they are always found in the pods. For the peas to be most satisfactory, the pods should be fresh and green and should appear to be well filled. Flat-looking pods mean that the peas have not matured sufficiently. After being purchased, the peas should not be removed from the pods until they are to be cooked. However, if it is necessary that they stand for any length of time after they are shelled, they should be kept in a cool place in order to prevent them

from shriveling. Their cooking is similar to that of any other fresh vegetable; that is, they should be cooked in boiling salted water in a covered vessel until they are tender enough to be easily crushed between the fingers or pierced with a fork. With this preliminary preparation, they may be dressed in any desirable manner.

61. DRIED PEAS.--Dried peas, because of their nature, require a different kind of preparation from green peas. In fact, their cooking is similar to that of dried beans. They require long slow cooking and are improved if they are first parboiled in water to which a pinch of soda has been added. They are not used extensively except in the making of soups or occasionally for a purØe or a soufflØ, but as they are very high in food value and can be used as a meat substitute, they should have a prominent place in the dietary of most families. Many of the ways in which dried beans and lentils are prepared are fully as applicable in the case of dried peas.

62. GREEN PEAS WITH BUTTER.--When peas are young and tender, no more appetizing way to prepare them can be found than to boil them and then serve them with butter.

Select fresh green peas with full pods, wash in cold water, and remove the peas from the shells. Put to cook in enough boiling salted water to cover well, and cook until tender. Pour off all but a small amount of the water, using the part poured off for making soup or sauce. Add 1 tablespoonful of butter for each four persons to be served, and season with additional salt if necessary and a dash of pepper. Serve hot.

63. GREEN PEAS ENGLISH STYLE.--If the flavor of mint is agreeable, green peas prepared English style will undoubtedly find favor. Cook them as for green peas with butter, but, at the time the butter is added, add 1 tablespoonful of finely chopped fresh mint. Season with additional salt, if necessary, and pepper, allow all to simmer together for a few minutes, and serve.

[Illustration: FIG. 13]

64. CREAMED PEAS.--A cream sauce adds considerable food value and flavor to green peas. Peas prepared in this way may be served plain, but they can be made very attractive by serving them in croustades, as shown in Fig. 13. As already learned, _croustades_ are cases made from large pieces of bread that are cut any desired shape, hollowed out, and then toasted in a hot oven or on a broiler or fried in deep fat until crisp.

CREAMED PEAS
(Sufficient to Serve Six)

2 c. shelled green peas
2 Tb. butter
2 Tb. flour
1/2 tsp. salt
Dash of pepper
1/2 c. water from peas

1/2 c. milk

Cook the peas in boiling salted water until tender, and then drain the water from them, retaining 1/2 cupful for the sauce. Melt the butter, add the flour, salt, and pepper, and stir in the hot liquids. Cook until the flour has thickened and then pour over the peas. Serve hot, either plain or in croustades.

65. PEAS IN TURNIP CUPS.--A somewhat unusual dish can be prepared by making cups out of turnips, filling them with peas, and then pouring a cream sauce over the peas. Besides being attractive, this combination makes a very palatable vegetable dish.

Select a sufficient number of medium-sized white turnips. Wash them thoroughly, and then hollow out the inside of each, leaving cup-shaped shells about 1/4 inch thick. Cook these shells in boiling salted water until tender, but not tender enough to break into pieces, and remove from the water. Then, according to the directions given in Art. 60, cook enough green peas to fill the cups. When tender, fill the cups with the peas and over them pour a medium white sauce. Serve hot. 66. PEAS PURÉE.--Many persons who cannot eat peas because of the coarse outside skins are able to digest them in the form of a purØe. To prepare them in this way, boil fresh peas in the manner explained in Art. 60. When they are tender, force them through a purØe sieve or a fine-mesh wire sieve. The pulp will pass through the sieve, but the coarse skins will remain. The purØe thus made may be used for soup or in the making of a soufflØ.

67. PEAS SOUFFLÉ--Nothing in the way of peas is more appetizing and at the same time more easily digested than peas soufflØ. This may be baked in a large baking dish, or it may be divided and baked in individual baking dishes.

PEAS SOUFFLÉ
(Sufficient to Serve Six)

2 Tb. butter
2 Tb. flour
1/2 c. milk
1 c. peas purØe
1/2 tsp. salt
Dash of pepper
2 eggs

Melt the butter, stir in the flour, and add the heated milk. Cook until the mixture thickens and then add the peas purØe, salt, and pepper. Separate the eggs, beat the yolks and add them to the mixture, and then fold in the stiffly beaten whites. Pour into a well-greased baking dish or individual baking dishes, place in a pan of hot water, and bake in a slow oven until set, or for 30 or 40 minutes. Serve at once.

PEPPERS AND THEIR PREPARATION

68. PEPPERS are one of the fruit vegetables. Some varieties of them are dried and used as a condiment, that is, to season or give relish to food, but as they are never used as a vegetable, they are not included here. It is the sweet varieties of peppers which are used as vegetables and to which reference is made in these discussions. They are valuable chiefly for two reasons: to flavor various kinds of dishes, such as entrØes, salads, etc., and to make a dish more attractive in appearance because of the contrast in color they afford. In food value, they are about equal to the various greens, but as a rule such small quantities of them are eaten that they cannot be regarded as a food.

69. STUFFED PEPPERS.--The usual way of preparing peppers as a vegetable is to stuff them and then bake them, when they will appear as in Fig. 14. The stuffing may be made of various kinds of material, such as pieces of meat, vegetables, cereals, etc., and so affords an excellent way to utilize left-overs of any of these foods. Two recipes for stuffing are here given, and either one may be used with equally good results.

[Illustration: FIG. 14]

To prepare peppers for stuffing, wash them in cold water and remove the tops by cutting around the peppers a short distance from the stem. Remove the pulp and seeds from the inside, and wash the peppers thoroughly to make sure that no loose seeds remain. Fill with the desired stuffing, place in a shallow pan with a small amount of water, and bake until the peppers are soft enough to be pierced with a fork. The water permits the peppers to steam during the first part of the cooking. Serve hot.

STUFFING NO. 1
(Sufficient for Six Peppers)

2 Tb. ham fat
1 small chopped onion
1/2 tsp. salt
Dash of pepper
1-1/2 c. steamed rice
1/2 c. bread crumbs
1/2 c. finely chopped boiled ham
Milk

Melt the fat in a frying pan, add the onion, salt, and pepper, and heat together for several minutes. Add the rice, bread crumbs, and ham, and moisten with milk until the mixture is of the right consistency. Use to fill the peppers.

STUFFING NO. 2
(Sufficient for Six Peppers)

2 Tb. butter
1 onion, chopped
1/2 tsp. salt

Dash of pepper
2 c. stale bread crumbs
2 Tb. chopped parsley
1 tsp. celery salt
Milk

Melt the butter in a frying pan, add the chopped onion, salt, and pepper, and heat together. To this add the bread crumbs, chopped parsley, and celery salt, and moisten with enough milk to make the stuffing of the right consistency. Use to stuff peppers.

POTATOES AND THEIR PREPARATION

WHITE POTATOES

70. WHITE POTATOES, popularly called _Irish potatoes_ because they are a staple food in Ireland, belong to the class of tuber vegetables. They form such an extensive part of the diets of the majority of people that they are generally considered the most important vegetable used by civilized man. They are usually roundish or oblong in shape and have a whitish interior and a darker colored skin.

71. FOOD VALUE OF POTATOES.--In food value, Irish potatoes are comparatively high, being in this respect about two and one-half times as great as an equal weight of cabbage, but not quite twice as great as the various root vegetables, such as carrots, parsnips, etc. The largest amount of this food value occurs as carbohydrate in the form of starch, there being almost no fat and very little protein in potatoes. The starch granules of potatoes are larger than the starch granules of any of the cereals, the class of foods highest in this food substance, and it is the proper cooking of this starch that makes potatoes dry and mealy. Potatoes also contain a large amount of mineral salts, much of which lies directly under the skin. Therefore, the most economical way in which to prepare potatoes is to cook them with the skins on, for then all of the mineral salts are retained and none of the material is wasted.

72. SELECTION OF POTATOES.--The new potato crop begins to come into the market during the summer, when potatoes are especially appetizing. However, as potatoes can be easily stored and kept very well for a considerable time, they form a large part of the winter food supply. If there is sufficient storage space, it is a wise plan to buy a large enough supply of potatoes in the fall to last for several months and then to store them for the winter. However, when this is done, care should be taken in the selection.

In the first place, the outside skin should be smooth and not scaly. Then, if possible, potatoes of medium size should be selected, rather than small ones or large ones. The small ones are not so satisfactory, because of the greater proportion of waste in peeling, while the very large ones are apt to have a hollow space in the center. To judge the quality of potatoes, a few of those to be purchased should be secured

and cooked before a large number of them are bought. The soil and climatic conditions affect the quality of potatoes to such an extent that a particular kind of potato which may have been excellent last year may be entirely different in quality this year. A housewife cannot, therefore, be guided entirely by her previous knowledge of a certain kind of potato.

73. CARE OF POTATOES.--Potatoes bought in quantity should be kept in a cool place and should be excluded from the light. Such care will usually prevent them from discoloring and sprouting. In case they should sprout, the sprouts should be removed at once, for the potatoes will deteriorate rapidly with such a growth. If the potatoes freeze, they may be thawed by putting them in cold water. Such potatoes, which are characterized by a peculiar sweetish taste, should be used as soon as possible after being thawed.

74. PREPARATION OF POTATOES.--As has already been explained, the most economical way in which to cook potatoes is with the skins on. However, when it is desired to remove the skins, they should be taken off as thinly as possible. New potatoes may be scraped, but completely matured potatoes that have been out of the ground for some time do not scrape easily and so should be pared thinly.

Potatoes lend themselves to various methods of cookery, and this is well, for although this is a food of which most persons do not tire easily, variety in the preparation of a vegetable so commonly used as the Irish potato is very much to be desired. When cooked in the skins, potatoes may be boiled, baked, or steamed. When the skins are removed, potatoes may be cooked in these ways, as well as fried, sautØd, scalloped, creamed, etc.

75. BOILED POTATOES.--Without doubt, potatoes are cooked more often by boiling than by any other method, for besides being eaten in this way a great deal, they must first be boiled for many of the more elaborate methods of preparation. If the skins are removed before boiling, the water in which the potatoes are cooked contains a quantity of starch and a great deal of soluble mineral matter that are lost from the potatoes. Use should therefore be made of this liquid, it being very satisfactory for soups, sauces, and the liquid required in bread making.

When potatoes are to be boiled, select the desired number of medium-sized potatoes, and wash them in cold water. If desired, remove the peelings with a sharp paring knife, but if the potatoes are to be cooked with the skins on, scrub them thoroughly with a vegetable brush in order to remove all dirt. Put to cook in a sufficient amount of boiling salted water to cover well, and cook until the potatoes are tender enough to be easily pierced with a fork. Usually the kettle in which potatoes are cooked is covered, but if desired they may be cooked in an uncovered vessel. When done, drain the water from the potatoes and serve at once or use for some of the other methods of preparation.

[Illustration: FIG. 15]

76. MASHED POTATOES.--If mashed potatoes are prepared properly, they are much relished by the majority of persons. However, to be most satisfactory, they should be cooked long enough not to be lumpy and then, after being mashed and softened with milk, they should be beaten until they are light and creamy.

Peel the desired number of potatoes and boil them according to the directions given in Art. 75. When they are tender, remove them from the fire and drain off the water. Mash the potatoes with a wooden or a wire potato masher, being careful to reduce all the particles to a pulpy mass in order to prevent lumps. However, the preferable way to mash them is to force them through a ricer, when they will appear as shown in Fig. 15, for then, if they are thoroughly cooked, there will be no danger of lumps. When they are sufficiently mashed, season with additional salt, a dash of pepper, and a small piece of butter, and add hot milk until they are thinned to a mushy consistency, but not too soft to stand up well when dropped from a spoon. Then beat the potatoes vigorously with a large spoon until they become light and fluffy. Serve at once.

77. BAKED POTATOES.--A very nutritious vegetable dish results when potatoes are baked. For this method of cooking potatoes, those of medium size are better than large ones; also, if the potatoes are uniform in size, all of them will bake in the same length of time. It is well to choose for baking, potatoes that are smooth and unblemished, in order that they may be prepared without cutting the skins. As the starchy particles of the potato are cooked by the heated water inside the potato, the cooking cannot be done so successfully when the skin is cut or marred, for then the water will evaporate.

Prepare the potatoes by scrubbing them thoroughly; then place them on a shallow pan and set them in the oven or place them directly on the oven grate. The temperature of the oven is important in baking potatoes. If it is too hot, the skins of the potatoes will become charred, and if it is not hot enough, too long a time will be required for the baking. The temperature found to produce the best results is about 400 degrees Fahrenheit, or the same as that for the baking of bread. Turn the potatoes once or twice during the baking, so that they will bake evenly. Allow them to bake until it is possible to pierce them to the center with a fork or they are soft enough to dent easily when pinched with the tips of the fingers. The latter is the preferable test, for when the potato is pierced, so much of the moisture is lost that it is not likely to be of the best quality when served. Upon removing from the oven, serve at once. Baked potatoes become soggy upon standing. If desired, they may be rolled to soften the contents of the shell and then cut open on one side, and pepper, salt, and paprika put into the potato.

The length of time required for baking potatoes is usually 10 to 15 minutes longer than is necessary to cook potatoes of the same size in water. However, the time for baking may be decreased by boiling the potatoes for about 5 minutes before they are put in the oven. In such an event, the boiling and the baking should be accomplished in about 35 minutes.

78. STUFFED POTATOES.--An attractive way in which to serve baked potatoes is shown in Fig. 16. After the potatoes are thoroughly baked, the contents are removed, treated as mashed potatoes, and then stuffed into the shells and set in the oven to brown for a few minutes. When something different in the way of potatoes is desired, stuffed potatoes should be tried.

Bake the desired number of potatoes until tender. Remove from the oven, cut through the skin of each from end to end with a sharp knife, and scrape out the contents of the shell. Mash the pulp according to the directions given in Art. 76. Then fill the shells with the mashed potatoes, allowing the surface to stand up roughly, as shown, instead of smoothing it down. Dot each with butter, sprinkle a little paprika over the tops, and replace in the oven. Bake until the surface is nicely browned and then serve at once.

[Illustration: FIG. 16]

79. BROWNED POTATOES.--While not so easy to digest as boiled or baked potatoes, browned potatoes offer an opportunity for a change from the usual ways of preparing this vegetable. They may be prepared on the stove or in the oven, but when browned in the oven the surface is more likely to be tough.

Boil the desired number of potatoes, and when they are sufficiently tender, drain off the water. If they are to be sautØd on the stove, melt a small amount of fat in a frying pan, and place the cooked potatoes in it. SautØ until brown on one side, then turn and brown on the other. Season with additional salt, if necessary, and serve.

In case it is desired to brown them in the oven, put the boiled potatoes in a shallow pan and brush them over with butter. Set them in a hot oven, allow them to brown on one side, then turn and brown them on the other. Season with salt, if necessary, and serve at once upon removing from the oven. 80. RAW SAUTÉÐ POTATOES.--If a potato dish suitable for supper or luncheon is desired, raw potatoes may be sliced thin, as at _a_, Fig. 17, and then sautØd. For this purpose, small potatoes that are not suitable for other methods of preparation may be used.

Peel the potatoes and slice them into thin slices. Melt a small amount of fat in a frying pan, place the potatoes in the hot fat, and cover the pan. Allow them to steam in this way for 10 to 15 minutes and then remove the cover. Brown on one side; then turn and brown on the other. Season with salt and pepper.

[Illustration: FIG. 17]

81. HASH-BROWNED POTATOES.--A very good way in which to use up boiled potatoes is to hash-brown them in the oven.

HASH-BROWNED POTATOES
(Sufficient to Serve Six)

6 medium-sized cooked potatoes
1-1/2 tsp. salt
2 Tb. butter
3 Tb. milk
1/4 tsp. pepper

Slice or chop the cold potatoes, place in a buttered pan, add the salt and pepper, melt the butter, and pour it over them. Place in a hot oven until nicely browned. Stir, add the milk, and brown again. Stir again, brown the third time, and serve.

82. POTATO PATTIES.--Mashed potatoes, whether left over or boiled and mashed especially for the purpose, may be made up into patties and then sautØd until brown on both sides.

POTATO PATTIES
(Sufficient to Serve Six)

2 c. mashed potato
1 egg
Fine bread crumbs

To the mashed potatoes that have been well seasoned, add the egg and mix thoroughly. Shape into flat, round patties and roll in the bread crumbs. Melt fat in a frying pan, place the patties in it, sautØ on one side until brown, and then turn and brown on the other side. Serve hot.

83. FRENCH FRIED POTATOES.--Many families are deprived of French fried potatoes because the majority of housewives think they are difficult to prepare. This, however, is not the case, for when the procedure is understood nothing is easier.

Peel the required number of potatoes and cut them into the desired shape. Great variety exists in the method of cutting potatoes for this purpose. However, the form that is usually thought of when French fried potatoes are mentioned is the one obtained by cutting the potatoes into pieces like the sections of an orange and then cutting these sections lengthwise into smaller pieces, like those shown at _b_, Fig. 17. Pieces like those shown at _c_, called _shoestring potatoes_, are also popular. As soon as cut, in no matter what shape, drop the pieces into cold water, but when ready to fry, remove them from the water and dry on a clean dry towel. Place in a wire basket and lower the basket into a pan of hot fat. Fry until the potatoes are nicely browned, remove from the fat, drain, and sprinkle with salt and pepper. Serve at once.

84. POTATOES AU GRATIN.--Something a little unusual in the way of a potato dish is produced when potatoes are combined with cheese, bread crumbs, and a cream sauce to make potatoes au gratin. In addition to supplying flavor, these ingredients increase the food value of the potatoes so that a highly nutritious dish is the result.

POTATOES AU GRATIN
(Sufficient to Serve Six)

3 c. diced cooked potatoes
1/2 c. grated cheese
1/2 c. bread crumbs
1-1/2 c. thin white sauce

Grease a baking dish, place 1/2 of the potatoes in the bottom of the dish, and sprinkle over them 1/2 of the crumbs and then 1/2 of the cheese. Put the remainder of the potatoes in the dish, sprinkle with the rest of the cheese, pour the hot white sauce over all, and place the remaining crumbs on top. Set the dish in a hot oven and bake until well heated through and brown on top.

85. LYONNAISE POTATOES.--When sautØd potatoes are flavored with onion and parsley, they are known as Lyonnaise potatoes. As they are very appetizing, potatoes prepared in this way are relished by most persons.

LYONNAISE POTATOES
(Sufficient to Serve Six)

2 Tb. butter or ham or bacon fat
1/2 tsp. salt
1 medium-sized onion, chopped
Dash of pepper
2 Tb. parsley
3 c. diced cooked potatoes

Melt the fat in a frying pan, and add the onion, parsley, salt, and pepper. When the fat is hot, add the potatoes, which should be diced, like those shown at _d_, Fig. 17, and allow them to sautØ until slightly brown. Stir frequently to avoid burning. Serve hot.

86. SCALLOPED POTATOES.--Many vegetables may be scalloped, but potatoes seem to lend themselves to this form of preparation to good advantage. Potatoes prepared in this way are suitable for luncheon, supper, or a home dinner.

Wash and peel the desired number of potatoes and slice them thin. Place a layer in the bottom of a well-greased baking dish, sprinkle lightly with flour, salt, and pepper, and dot with butter. Add another layer of potatoes, sprinkle again with flour, salt, and pepper, and dot with butter. Continue in this way until the dish is filled. Pour a sufficient quantity of milk over the whole to cover well. Place a cover over the dish, set in a hot oven, and bake for about 1/2 hour. Then remove the cover and allow the potatoes to continue baking until they can be easily pierced with a fork and the surface is slightly brown. Serve hot from the baking dish.

87. CREAMED POTATOES.--A very good way in which to utilize left-over boiled potatoes is to dice them and then serve them with a cream sauce. If no cooked potatoes are on hand and creamed potatoes are desired, potatoes may, of course, be boiled especially for this purpose. When this is done, it is well to cook the potatoes in the skins, for they

remain intact better and have a better flavor.

Cut up potatoes that are to be creamed into half-inch dice, like those shown at _d_, Fig. 17. Make a thin white sauce, pour it over the potatoes until they are well moistened, and allow the potatoes to simmer in this sauce for a few minutes. If desired, chopped parsley may be added to the sauce to improve the flavor. Serve hot.

88. POTATO BALLS.--If a potato dish is desired for a meal that is to be dainty in every respect, potato balls should be tried. These are small balls of uniform size, like those shown at _e_, Fig. 17, cut from raw potatoes by means of a French cutter, as shown in Fig. 18, cooked until tender, and then dressed with a cream sauce or in any other way. As will be observed, much of the potato remains after all the balls that can be cut from it are obtained. This should not be wasted, but should be boiled and then mashed or prepared in any other desirable way.

[Illustration: FIG. 18]

Wash and peel the potatoes that are to be used, and then from each potato cut with a French cutter all the balls possible. When a sufficient number have been obtained, boil them until tender in boiling salted water and then drain. Make a thin cream sauce, add the potatoes to this, and heat together thoroughly. Serve hot.

89. POTATO CROQUETTES.--Left-over mashed potatoes can be utilized in no better way than to make croquettes. Of course, if potato croquettes are desired and no potatoes are on hand, it will be necessary to cook potatoes and mash them especially for this purpose. Croquettes made according to the accompanying recipe will be found a delightful addition to the menu. They are often served plain, but are much improved by a medium white sauce or a gravy.

POTATO CROQUETTES
(Sufficient to Serve Six)

2 c. mashed potatoes
2 Tb. chopped parsley
1 Tb. onion juice
1 tsp. celery salt
2 eggs
Dry bread crumbs

To the mashed potatoes, add the parsley, onion juice, and celery salt and mix thoroughly. Beat the eggs slightly, reserve a small amount to be diluted with water or milk for dipping the croquettes, and add the rest to the potatoes. Shape the mixture into oblong croquettes of uniform size and shape. Roll each in the crumbs, then in the diluted egg, and again in the crumbs. Fry in deep hot fat until an even brown in color. Remove from the fat, drain, and serve. 90. POTATO PUFF.--Mashed potato combined with egg, seasoned well, and baked in the oven makes a very appetizing dish known as potato puff. This is suitable for any meal at which potatoes would be served.

POTATO PUFF
(Sufficient to Serve Six)

2 c. mashed potato
1/2 tsp. celery salt
1 egg

To the mashed potato, add the celery salt. Separate the egg, beat the yolk, and mix it with the potato. Beat the white stiff and fold it into the potato last. Pile into a buttered baking dish, set in a hot oven, and bake until the potato is thoroughly heated through and the surface is brown. Serve at once.

SWEET POTATOES

91. SWEET POTATOES are used for practically the same purposes as white potatoes, and while these vegetables resemble each other in many respects they are not related botanically, sweet potatoes being root rather than tuber vegetables. Sweet potatoes are of a tropical nature and have been cultivated for hundreds of years in the West Indies and Central America. They form a staple article of diet in the southern part of the United States, where, on account of the warm climate, they are raised abundantly. They are not raised in the North; still they are consumed there in large quantities. After maturing, sweet potatoes are collected and dried in kilns before shipping. While this makes it possible for them to keep longer than if they were not dried, they do not keep so well as white potatoes and therefore cannot be stored in such large numbers. If they are to be kept for a considerable period of time, they should be wrapped separately in paper and stored in a cool, dry place.

92. Sweet potatoes vary considerably in size, shape, and quality. Some are short and blunt at the tips, others are long and cylindrical, either crooked or straight, while others are medium in size and spindle-shaped. Some varieties, which are known as _yams_, cook moist and sugary, while others, which are simply called sweet potatoes, cook dry and mealy. The kind to select depends entirely on the individual taste, for in composition and food value all the varieties are similar. In composition, sweet potatoes resemble white ones, except that a part of their carbohydrate is in the form of sugar, which gives them their characteristic sweet taste, but in food value they are almost twice as great as white potatoes.

93. The preparation of sweet potatoes is similar to that of white potatoes, for they may be boiled, steamed, baked, mashed, creamed, fried, etc. In fact, they may be used at any time to take the place of white potatoes in the diet. A few recipes are here given for this vegetable, but any of those given under White Potatoes may also be used by merely substituting sweet potatoes for the white potatoes specified.

94. BOILED SWEET POTATOES.--It is a very simple procedure to boil sweet

potatoes. When they are to be prepared in this way, select potatoes of uniform size and either remove their skins or cook them with the skins on. If they are not peeled, scrub them perfectly clean. Put them to cook in boiling salted water and allow them to boil until they may be easily pierced with a fork. Drain the water from them, peel if cooked with their skins on, and serve hot with butter or gravy.

95. BAKED SWEET POTATOES.--Persons who are fond of sweet potatoes prefer them baked to any other method of preparation. Select medium-sized potatoes for this purpose, scrub thoroughly, and put in a hot oven to bake. Bake until they are soft enough to dent when pinched between the fingers. Remove from the oven and serve at once.

96. GLAZED SWEET POTATOES.--To increase the sweet taste characteristic of sweet potatoes and favored by many persons, a sweet sirup is sometimes added. When this is done, the potatoes are first boiled and then cut in half lengthwise and sautØd. Sweet potatoes so prepared afford a pleasing variety in the diet.

Clean and peel the desired number of potatoes and boil them as already explained. Cut them in half lengthwise, so that each piece has a flat side. Melt fat in a frying pan, add the halves of sweet potato, and fry until slightly brown. Then turn and fry on the reverse side. About 10 or 15 minutes before removing from the pan, pour a small quantity of molasses or a mixture of sugar and water over the potatoes, and allow them to cook in this sirup until they are well covered with the sweet substance. Remove from the pan and serve at once. 97. MASHED SWEET POTATOES.--Used alone without further preparation, mashed sweet potatoes make a very palatable dish. However, as in the case of mashed white potatoes, numerous appetizing dishes, such as croquettes, patties, etc., can be made of mashed sweet potatoes, whether left from a previous meal or cooked for this purpose. In the preparation of all such dishes, the recipes given under White Potatoes may be followed.

Peel the desired number of potatoes and cook them in boiling salted water until they may be readily pierced with a fork. Drain, force through a sieve or a ricer, and season with salt, pepper, and a small amount of butter. Thin the mixture with sufficient hot milk to make it of a stiff, mush-like consistency. Then beat vigorously until the potato is light and creamy. Serve hot.

RADISHES AND THEIR PREPARATION

98. RADISHES are a root vegetable used almost exclusively as a relish or to lend flavor to a vegetable-salad mixture. They are easily and successfully grown and are plentiful and cheap, except when they are out of season and must be raised in hothouses. Numerous varieties of radishes differing from one another in size, shape, and color are raised. The red ones are generally preferred, because they lend color to a dish or a meal, but the white and brown varieties are just as desirable so far as flavor is concerned.

99. Radishes contain very little food value, being about equal to celery and cucumbers in this respect. They do not supply anything valuable to a meal except mineral salts. Although some persons consider radishes difficult to digest, they contain almost nothing that has to be digested, for they are composed largely of cellulose, which does not digest, and water. Radishes disagree with some persons because, like onions and cabbage, they contain a strong volatile oil that gives them their flavor.

100. Since radishes are always eaten raw, they require very little in the way of preparation. The principal thing is to see that they are perfectly clean and as crisp as possible. To make them crisp, allow them to stand in cold water for some time before using them. Then remove the tops and the roots and scrub thoroughly with a vegetable brush. The small red radishes can be made very attractive by cutting the skin in sections to resemble the petals of a rose. When prepared in this way, a small portion of the green top is allowed to remain.

SALSIFY AND ITS PREPARATION

101. SALSIFY is a root vegetable resembling in food value such other root vegetables as carrots and parsnips. Because it has a flavor similar to that of oysters, especially when it is used for soup, it has received the name of _vegetable oyster_. It consists of long slender roots that are covered with tiny roots. It is somewhat difficult to clean and prepare, but as it may be stored through the entire winter and is particularly desirable for the making of soup, it is a valuable vegetable.

102. In preparing salsify for cooking, scrape the roots rather than peel them. Then put them in a solution of cold salt water made by using 1 teaspoonful of salt to each quart of water and keep them there until ready to cook them. This precaution will, to a certain extent, prevent the discoloration that always takes place in salsify as soon as the skin is removed. When thus prepared, salsify lends itself to the same forms of preparation as do the other root vegetables.

103. BUTTERED SALSIFY.--The simplest way in which to cook salsify is to cut it in thin slices, boil it until tender, and then serve it with butter.

Wash and scrape the desired quantity of salsify and slice in thin slices. Put to cook in boiling salted water, and cook until it can be easily pierced with a fork. Drain off the water, season with pepper and, if necessary, additional salt, and add 1 tablespoonful of butter for each four persons to be served. Allow the butter to melt and serve the salsify hot.

104. CREAMED VEGETABLE OYSTERS.--If creamed vegetables are favored, vegetable oysters served with a cream sauce will be very much relished. Clean and scrape the salsify and cut it into 1/4-inch slices. Put to cook in boiling salted water, cook until tender, and then drain. Make a

medium white sauce and pour this over the cooked vegetable. Heat together and serve. 105. SCALLOPED VEGETABLE OYSTERS.--A very appetizing scalloped dish can be made of salsify by following the directions given in the accompanying recipe.

SCALLOPED VEGETABLE OYSTERS
(Sufficient to Serve Six)

2 c. cooked vegetable oysters
1 c. bread crumbs
Salt and pepper
1-1/2 c. thin white sauce

Cook the vegetable oysters as explained in Art. 103. Sprinkle a layer of crumbs in the bottom of a well-greased baking dish, place a layer of the cooked vegetable oysters on top of this, and season with salt and pepper. Place a second layer of crumbs and the remainder of the vegetable oysters in the dish, and sprinkle again with salt and pepper. Pour the white sauce over this, and put the remainder of the crumbs on top. Place in a hot oven and bake until well heated through and the top is brown. Serve from the baking dish.

SQUASH AND ITS PREPARATION

SUMMER SQUASH

106. SUMMER SQUASH is a fruit vegetable belonging to the same class as eggplant, peppers, etc. and occurring in many varieties. The different kinds of this vegetable vary greatly in size, shape, and color, but all of them may be prepared in practically the same way and used for the same purposes. They get their name from the fact that they are grown and used during the summer season; in fact, they must be used at this time, for they do not permit of storage.

Summer squash contains a great deal of water, and for this reason its food value is very low, being about equal to that of lettuce, celery, etc. Because of the large percentage of water in its composition, as little water as possible should be added in its cooking, or the result will be a vegetable so watery as to be unattractive and unpalatable. Another precaution that should be taken in its preparation is to remove the seeds and the skins. Many housewives think it unnecessary to do this, for both the skins and the seeds can be eaten after cooking; but most persons prefer to have them removed, as the dish appears more appetizing. _Vegetable marrow_ is a type of summer squash and may be prepared for the table by any of the recipes for summer squash.

107. STEWED SUMMER SQUASH.--The usual way in which to cook summer squash is to stew it. If properly cooked and well seasoned, stewed squash makes a very tasty dish.

Wash and peel the desired number of summer squashes, remove the seeds, and cut into small pieces. Put over the flame in just enough water to

start the cooking and add sufficient salt to season well. Cook until tender enough to be pierced with a fork and most of the water is boiled away, being careful not to scorch. Remove from the fire, season with pepper, and add 1 tablespoonful of butter for each four persons to be served. Mash until the squash is as fine as desired and serve at once.

108. SAUTÉD SUMMER SQUASH.--For variety, summer squash is sometimes sliced, coated with egg and crumbs, and then sautØd until well browned.

To prepare it in this way, wash and peel the squash and cut it into slices about 1/4 inch thick. Roll first in beaten egg diluted with milk or water and then in fine crumbs. SautØ in a small amount of fat in a frying pan until well browned, and then turn and brown on the other side. Serve hot.

WINTER SQUASH

109. WINTER SQUASH is the kind of squash that may be removed from the vine in the fall and stored for winter use. Although both summer and winter squashes are closely related, they differ considerably in appearance, flavor, texture, and composition. The different varieties of winter squash are usually larger than summer squashes and have a very hard outside covering; also, they contain less water and more carbohydrate and, consequently, have a higher food value. Winter squashes are usually taken from the vines in the fall before the frost sets in, and before they are placed in storage they are allowed to lie in the sunshine for a few days until the skin hardens and becomes flinty. If the outside covering is unmarred when the squashes are stored, they will remain in good condition almost the entire winter season, provided the storage place is cool and dry.

110. To prepare winter squash for cooking, cut it open, remove the seeds, and peel off the outside skin. Because of the hardness of the covering, a cleaver or a hatchet is generally required to open the squash and cut it into pieces. With this done, scrape out the seeds and, with a very sharp large knife, peel off the skin. The squash may then be cooked in any suitable manner.

111. MASHED SQUASH.--If winter squash is desired as a vegetable, it is very often boiled and then mashed. Squash prepared in this way, with the exception of the seasoning, is also used for pie that is similar to pumpkin; in fact, many persons prefer the flavor of squash pie to that of pumpkin pie.

Cut pieces of peeled winter squash into cubes about 1 inch in size. Put these to cook in a small amount of boiling water, add enough salt to season, and cook until tender and quite dry. Season the cooked squash with pepper, add 1 tablespoonful of butter for each four persons to be served, and, if desired to increase the sweet taste, add a small amount of sugar. Mash until smooth and serve hot.

112. BAKED SQUASH.--Winter squash, because of its hard covering, is very

satisfactory when baked in the shell, as shown in Fig. 19. If it is not desired to cook it in a whole piece, the squash may be cut into pieces about 3 inches square or into triangular pieces.

[Illustration: FIG. 19]

Remove the seeds from the squash, sprinkle each with salt and pepper, and dot with butter, as shown. Place in a hot oven directly on the grate or in a shallow pan, and bake until the contents of the shells are tender. Remove from the oven, and serve from the shells. If desired, the squash may be scooped from the shells after baking, seasoned at that time instead of when put in the oven, and then served in a vegetable dish.

TOMATOES AND THEIR PREPARATION

113. TOMATOES are a fruit vegetable that may be either cooked or prepared raw in many different ways. They are usually red when ripe, and because of this color they are particularly attractive on the table. Green or partly ripe tomatoes are also used in the preparation of many dishes. Tomatoes are composed largely of water, and for this reason their food value is low, being about the same as that of greens. This large proportion of water is also responsible for the fact that they do not keep for a great length of time. Tomatoes, however, have a long season. They begin to appear in the market early in the spring and they may be obtained from this time until the frost kills the vines in the fall.

114. While tomatoes appeal to the majority of persons, they disagree with some on account of the acid they contain. This acid is similar to that found in some fruits, and it is present in greater quantity in cooked tomatoes than in raw ones, the heating of the vegetable apparently increasing the acidity. This acidity of tomatoes may be reduced by the addition of soda, and while soda produces a marked change in the flavor, it is necessary in the preparation of some dishes. For instance, in the case of cream-of-tomato soup, soda must be added to reduce the acidity and thus keep the milk or cream used in preparing this dish from curdling.

115. The skin of tomatoes, whether they are to be eaten raw or cooked, is usually undesirable. Therefore, in preparing tomatoes for the table, the skins are generally removed. In order to do this, first dip the tomatoes into boiling water for several seconds and then immediately into cold water. This will loosen the skins, which may then be peeled off very thinly, and very little of the tomato will be wasted.

116. STEWED TOMATOES.--The usual way of preparing tomatoes is to stew them. Stewed tomatoes may be served plain, but they can be improved very decidedly by toasting cubes of bread and adding these to the tomatoes just before serving.

Remove the skins and stem ends from the desired number of tomatoes, and either cut the tomatoes into pieces or allow them to remain whole. Put

to cook with little or no water, as the tomatoes themselves usually provide sufficient water. Season with salt, and cook until the tomatoes are reduced to a mushy consistency. Just before removing from the stove, add a dash of pepper and a small amount of butter.

117. SCALLOPED TOMATOES.--A very appetizing way in which to cook tomatoes is to scallop them according to the accompanying recipe.

SCALLOPED TOMATOES
(Sufficient to Serve Six)

1 c. crumbs, buttered
2 c. stewed tomatoes
1 tsp. salt
Dash of pepper
1 Tb. butter

Grease a baking dish and place a layer of the crumbs in the bottom. Place a layer of tomatoes over them, sprinkle with salt and pepper, and dot with the butter. Add another layer of crumbs and the remainder of the tomatoes, sprinkle with salt and pepper, and again dot with butter. Place the remainder of the crumbs on top. Bake in a hot oven until well heated through and the crumbs on top are brown. Serve hot from the baking dish.

118. STUFFED TOMATOES.--Tomatoes prove to be very satisfactory when stuffed with a well-seasoned stuffing and then baked. Medium-sized tomatoes that are firm and unblemished should be selected for stuffing.

STUFFED TOMATOES
(Sufficient to Serve Six)

6 tomatoes
1-1/2 c. crumbs
2 Tb. butter
1 small onion, chopped
1 tsp. celery salt
1/2 tsp. salt
Dash of pepper

Remove the stem end from each tomato and scoop out the inside so that a hollow shell remains. Chop the pulp of the tomatoes into small pieces and add the crumbs, melted butter, onion, celery salt, salt, and pepper. Mix together thoroughly. If the tomatoes do not furnish enough liquid to moisten the crumbs, add a little water. Pack the stuffing into the tomatoes, allowing it to heap up on top, and place the tomatoes side by side in a shallow pan. Set in a hot oven and bake until the tomato shells are tender enough to be pierced with a fork and the stuffing is well heated through. Serve at once.

[Illustration: FIG. 20]

119. STUFFED TOMATOES WITH CHEESE CARROTS.--An attractive way in which

to serve stuffed tomatoes is shown in Fig. 20. The tomatoes are filled with a tasty stuffing and then baked. Yellow cream cheese is made to resemble tiny carrots, and these, together with parsley, are used to garnish the platter in which the tomatoes are placed.

STUFFED TOMATOES WITH CHEESE CARROTS
(Sufficient to Serve Six)

6 medium-sized tomatoes
4 Tb. bacon or ham fat
2 Tb. chopped onion
1/2 c. chopped ham
1-1/2 c. stale bread crumbs
1/2 tsp. salt
1/8 tsp. pepper
2 Tb. chopped parsley
Yellow cream cheese
Parsley

Cut the tops from the tomatoes and remove the pulp. Melt the fat in a frying pan, add the chopped onion, ham, tomato pulp, bread crumbs, salt, pepper, and parsley. Heat thoroughly and mix well. Fill the tomatoes with the stuffing, which should be quite moist, put them in a shallow pan, and bake them until the tomato shell may be easily pierced with a fork. Mash yellow cream cheese and, if necessary, moisten it slightly with cream. Shape it into tiny carrots with the fingers, and put a piece of parsley in one end for leaves. Place the baked tomatoes on a platter and garnish with the carrots and sprigs of parsley. Serve.

120. SAUTÉD TOMATOES.--Half ripened tomatoes are delicious when sautØd. Cut the desired number of such tomatoes into slices about 1/4 inch thick, and roll first in beaten egg and then in stale bread crumbs or cracker crumbs. SautØ in a small amount of fat until they are brown on one side; then turn and brown on the other side. Remove from the pan and serve at once.

121. CREAMED TOMATOES.--A rather unusual, but nevertheless very appetizing, way of preparing tomatoes consists in sautØing them in fat and then serving them with a cream sauce on freshly toasted bread.

When it is desired to prepare tomatoes in this manner, select medium-sized ones and cut them into slices 1/2 inch thick. Roll the slices first in egg and then in stale bread crumbs or cracker crumbs. SautØ in a generous amount of fat until brown, drain carefully, and brown on the other side. When done, remove from the pan. Add 2 tablespoonfuls of flour to the fat that remains in the pan, and stir until the flour becomes light brown. Add 1-1/2 cupfuls of milk and stir until thick. Place the slices of tomato on freshly toasted bread and pour the sauce over them.

TURNIPS AND THEIR PREPARATION

122. TURNIPS, which are a root vegetable, occur in two varieties, _white_ and _yellow_. The white ones are commonly known as _turnips_ and the yellow ones are called _rutabagas_. Although differing in color, both varieties have much the same flavor and may be prepared in the same ways. Therefore, whenever a recipe calls for turnips, rutabagas may be used as well.

123. In food value, turnips are similar to beets, carrots, and parsnips. They have a strong flavor, which is disliked by many persons and disagrees with some. However, much of this can be dissipated by cooking them with the cover of the kettle removed, so that when properly prepared they furnish a pleasant variety to the winter menu. They have good storing qualities and can be kept very easily through the winter. Toward spring it is more difficult to cook them soft, as the cellulose in them becomes harder and they are likely to develop woody fiber.

124. In preparing turnips for cooking, scrub them until thoroughly clean and then peel, wasting no more of the vegetable than is necessary. They may then be cut up as desired for the recipe to be prepared.

125. STEWED TURNIPS.--When turnips are stewed until tender and then seasoned with salt and pepper and flavored with butter they form a very palatable dish.

To prepare them in this way, select the desired number, scrub them until clean, and then peel them. Cut them into dice about 1/2 inch in size, and put these to cook in boiling salted water, allowing the cover to remain off the kettle during the cooking. Cook until they may be easily pierced with a fork and drain the water from them. Season with additional salt, if necessary, and with pepper, and add 1 tablespoonful of butter for each four persons to be served. Allow the butter to melt and serve hot.

126. MASHED TURNIPS.--Turnips, like potatoes, are a very good vegetable to mash. Prepare the desired number in the manner explained in Art. 125. Cook in boiling salted water with the kettle cover removed. When tender enough to be mashed easily, drain the water from them, mash with a potato masher, and season with additional salt if necessary and with pepper and butter. Allow the butter to melt and serve hot.

127. CREAMED TURNIPS.--Turnips, both yellow and white, make an excellent dish when dressed with a cream sauce. Prepare the desired number of turnips by cleaning and peeling them and cutting them into dice about 1/2 inch in size. Cook until tender in boiling salted water and drain. Prepare a medium white sauce and pour over the turnips. Serve hot.

VEGETABLE COMBINATIONS

128. The recipes given for the various kinds of vegetables pertain in most cases to merely one vegetable, and this is the way in which this food is usually prepared. However, there are times when it is an advantage to combine two or more vegetables. For instance, it is

sometimes desired to give additional variety to the menu or to utilize small quantities of vegetable that alone would not be sufficient to serve the family. Then, again, two vegetables are often prepared together in order to obtain an attractive color combination. In view of these facts, several recipes for the most usual combinations of vegetables are here given, so that the housewife may not be at a loss when she wishes to combine two or more vegetables. It must not be thought that these are the only combinations that can be prepared, for often vegetables can be combined to suit the housewife's taste and needs.

129. CARROTS AND PEAS.--If an attractive combination, as well as an appetizing dish, is desired, carrots and peas should be prepared together and served with butter or a vegetable or a cream sauce. This combination may be served plain, but if there are any mashed potatoes on hand and an attractive dish is desired, it may be served in potato rosettes, as shown in Fig. 21.

Clean and scrape the desired number of young, tender carrots, and cut them into dice about the size of the peas that are to be used. Shell an equal quantity of green peas. Put the two vegetables together in boiling salted water and cook until tender. If there is any possibility that the carrots will not cook in as short a period of time as the peas, cook them for some time before adding the peas. When tender, pour off the water, add additional salt, if necessary, and pepper, and dress with butter or, if preferred, with a vegetable or a white sauce. Heat through thoroughly and serve.

[Illustration: FIG. 21]

If it is desired to serve the carrots and peas in the rosettes mentioned, force hot mashed potato through a pastry tube and form the required number of rosettes on a platter, as shown. In the center of each rosette put a spoonful or two of the carrots and peas.

In case fresh peas cannot be secured, canned peas may be substituted. When this is done, the carrots should be cooked until tender and the peas added just before the sauce is poured over the vegetables.

130. SUCCOTASH.--A combination of fresh shelled beans and sweet corn is known as succotash. To prepare this dish, shell the beans and put them to cook in boiling salted water. Cook until they are tender and the water has boiled down until it is greatly reduced in quantity. Then cut an equal amount of corn from the cob and add to the beans. Cook for a few minutes longer or until the water is sufficiently reduced, so that the combination may be served without pouring any water off. Dress with butter and season with pepper and, if necessary, additional salt.

During the winter, when green corn and fresh beans cannot be secured, succotash can be made by using dried or canned corn and dried beans.

131. CORN AND TOMATOES.--A somewhat unusual vegetable combination is made by cooking tomatoes and green corn together.

Prepare the desired number of tomatoes in the usual way for stewing and cut an equal amount of sweet corn from the cob. Put the two vegetables together in a saucepan and cook until the tomatoes are well stewed. Season with salt, pepper, and sugar, if desired, and add a small piece of butter. Serve hot.

132. CORN, STRING BEANS, AND TOMATOES.--Those who care for the combination of corn and tomatoes will find beans a very agreeable addition to this dish.

Prepare the corn and tomatoes as explained in Art. 131, and to them add young, tender string beans that have been previously cooked in boiling salted water. Add the desired seasoning and a small amount of butter. When thoroughly heated, serve.

133. PEAS AND POTATOES.--As a rule, the first green peas and the first new potatoes come into the market at about the same time. If a delicious combination is desired, these two vegetables should be cooked together and then dressed in any desirable way.

Select small potatoes, scrape them, and put them to cook in boiling salted water. Shell an equal amount of green peas, and add them to the potatoes about 20 minutes before the potatoes become tender. Cook until both vegetables are tender, and then drain the water from them. Dress with butter, vegetable sauce, cream sauce, or thin cream and serve.

134. TURNIPS AND POTATOES.--Persons who are likely to find the flavor of turnips disagreeable can usually eat them when they are combined with potatoes.

Pare an equal number of Irish potatoes and turnips and cut them into thick slices. Put them to cook in boiling salted water and cook with the cover off the kettle until both are tender. Drain and dress with butter or add butter and mash together. Serve hot.

135. NEW ENGLAND BOILED DINNER.--A combination of food that is much used by the people of the New England States and has become famous throughout the United States, consists of corned beef, potatoes, turnips, and cabbage. As may well be imagined, such a combination forms practically all that is necessary for a home dinner.

Select a good piece of corned beef and put it to cook in boiling water. About 30 minutes before the beef has finished cooking, add additional water, if necessary, and into this place an equal quantity of Irish potatoes, turnips, and cabbage prepared in the required way and cut into thick slices or chunks. Cook until the vegetables are tender. Then remove the beef to a platter, surround with vegetables, and serve.

SERVING VEGETABLES

136. The way in which vegetables are served depends largely on the

method of preparation. However, a point that should never be neglected, so far as cooked vegetables are concerned, no matter what plan of serving is followed, is to see that they are always served hot. To make this possible, the dishes in which they are served should be heated before the vegetables are put into them and should be kept hot until put on the table. When a vegetable dish has a cover, the cover should be kept on until the vegetable is served and should be replaced after the first serving, so as to keep the remainder hot.

137. Because of the possible variety in the preparation of this class of foods, numerous ways of serving them are in practice. When a vegetable is baked in a large baking dish, the dish should be placed on the table and the vegetable served from it either on the plate or in individual dishes. If individual baking dishes are used, these should be set on small plates and one put at each person's place. Boiled or creamed vegetables may be served at the table from a vegetable dish, being put on the plate or in small dishes, or they may be served in individual dishes in the kitchen, and a dish placed at the left of each person's place. When the large dish or the baking dish is placed on the table, it should be placed where the vegetable may be conveniently served by the host if it is to be put on the dinner plate or by the hostess in case it is to be served in individual dishes at the table.

138. In addition to being served in these ways, vegetables also lend themselves to various attractive methods of serving. For instance, a vegetable prepared with a sauce is frequently served in patty shells, timbale cases, or croustades. When this is done, the case in which the vegetable is served is, as a rule, placed directly on the dinner plate. Potatoes that have been mashed are often forced through a pastry tube either to garnish another dish or to make a dish of potatoes more attractive. For instance, when mashed potatoes are to be served, a solid foundation of the potato may be arranged in the center of a dish and a little of the mashed potato then forced through the tube to make a design over the top. Before being served, the dish should be placed in the oven and the potato browned on top. A little thought on the part of the housewife will enable her to work out many other attractive methods in the serving of this food.

VEGETABLES (PART 2)

EXAMINATION QUESTIONS

(1) (_a_) How do wild and cultivated greens differ? (_b_) What is the chief use of greens in the diet?

(2) (_a_) What precaution should be observed in washing greens? (_b_) Mention the procedure in cooking greens having a strong flavor.

(3) (_a_) If greens, such as endive, appear to be withered, how may they be freshened? (_b_) Explain the use of lettuce as a garnish. (_c_) What are the uses of parsley?

(4) (_a_) How are Jerusalem artichokes prepared for the table? (_b_)

What part of kohlrabi is used for food? (_c_) How is kohlrabi generally prepared for cooking?

(5) (_a_) To what class of vegetables do lentils belong? (_b_) Is the food value of lentils low or high? Discuss.

(6) (_a_) How may the food value of mushrooms be increased? (_b_) How should mushrooms be prepared for cooking? (_c_) Mention the ways in which mushrooms may be cooked.

(7) (_a_) What causes onions, especially raw ones, to disagree with many persons? (_b_) Mention the two general varieties of onions. (_c_) How are chives prepared when they are to be used for flavoring soups, etc.?

(8) (_a_) How should onion be added to other foods when it is desired simply as a flavoring? (_b_) How may onions be peeled so as to keep off the fumes of their volatile oil?

(9) (_a_) How should parsnips be prepared for cooking? (_b_) Tell how to prepare browned parsnips.

(10) In what way do green and dried peas differ in food value? Explain fully.

(11) Tell how to cook: (_a_) green peas; (_b_) dried peas.

(12) (_a_) What varieties of peppers are generally used as a vegetable? (_b_) Of what value are peppers?

(13) (_a_) To what may the high food value of potatoes be attributed? (_b_) How may the quality of potatoes be judged? (_c_) Mention the most economical way in which to cook potatoes. (14) Tell how to prepare: (_a_) mashed potatoes; (_b_) baked potatoes. (_c_) How may the baking of potatoes be hastened? (_d_) Mention several ways in which to utilize left-over potatoes.

(15) (_a_) How may sweet potatoes be prepared for the table? (_b_) Tell how to prepare glazed sweet potatoes.

(16) (_a_) How are radishes usually eaten? (_b_) What may be said of the food value of radishes?

(17) (_a_) In what way do summer and winter squashes differ? (_b_) Why should the seeds and skins of summer squash be removed in preparing this vegetable for the table?

(18) (_a_) Why is salsify called vegetable oyster? (_b_) How is salsify prepared for cooking?

(19) (_a_) What may be said of the food value of tomatoes? (_b_) How may the acidity of tomatoes be decreased? (_c_) How may the skins of tomatoes be removed easily?

(20) (_a_) Point out the difference between turnips and rutabagas. (_b_) When is it advisable to make combination vegetable dishes? (_c_) Mention several good combinations.

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