POULTRY.

PACKING EGGS FOR MARKET.

In packing goods for market great care must be taken, not only in putting them in suitable packages, but also in assorting them so that those of each similar grade shall go by itself. Take eggs, for instance: Some years ago all eggs were shipped in boxes and barrels from whatever distance they might come. Now they are mainly received in the patent cases, which are provided with pasteboard compartments for each separate egg, and holding from thirty to forty-nine dozen each. These cases save breakage, are easily handled, and do away with the necessity of using hay and straw packing, which in warm weather affects the flavor of the eggs. Several improvements have lately been made in compartment cases, and they are now admitted to be superior in every respect to the old-fashioned large boxes or barrels. These cases are used, even in such remote parts as Prince Edward Island, and are almost universal among large shippers in the West and and in many parts of New England. Ordinarily they are shipped as express freight, or by express, and no charge is made for the return of the empty package.

For long distances, where it is inconvenient to return packages, barrels, if well hooped, may be used. Not more than 65 or 70 dozen should be put in a barrel. Fine cut straw or hay or clean oats are good materials for packing eggs, but chaff should never be used. The material used for packing should be perfectly sweet and dry; as musty and damp material imparts a bad flavor to the eggs that come long distances. Place two or three inches of the material at the bottom of the package, then a layer of eggs with the end towards the side, but not touching it by an inch or more, then several inches of the packing, pressing it down gently, and so on until the package is full. Eggs should also be carefully assorted, the large, dark-shelled being kept separate from the white and smaller ones. The large consumers here, hotels, eating-houses and ice-cream makers, claim that three large brown eggs are equal to five white ones, as there is more albumen in them and it is also of a tougher consistency, which makes them more valuable for their use. Dark-colored eggs always sell for at least five cents per dozen more than the white.—*American Cultivator.*

AGED FOWLS VALUABLE.

It is the rule of many poultry keepers to kill off or otherwise dispose of all their old stock, and depend entirely on pullets for the subsequent season's eggs. Whether this is good policy or not in all cases, they probably cannot say, for they have never given the matter a thorough trial. Many are governed by mere habit in this respect, while others are led more by what they hear than by what they see. This may do for some breeds, especially for the majority of the Asiatics, as in the second year they are apt to be more broody than in the first; and every one who has had any experience with them knows how trying an old hen can be, especially when eggs are 50 cents per dozen. The rule also holds good with farmers, I think.

There are, however, many breeds that do not arrive at the fullness of perfection in egg production until their second summer. This is particularly true of the Leghorns and Spanish. The number of eggs is greatly increased, as well as the size and quality, in the second year. Pullets may be, and are, better for autumn and early winter eggs; while the older ones will commence to lay in January and February, just when the price is at its height. There is a vast difference in fowls of the same breed. Many are barely worth their keep the first year, but yield a full quota of eggs of good size in the second. It is not just to condemn a pullet as unworthy and send her to the block, because she gave few eggs her first season. Many of the earliest layers are after all, of the least profit. Their bodies are small, from the fact that they commenced egg-production before fully matured. From this same cause, also, their eggs are small and of inferior quality. The matured bird is of the greater value, not only as a breeder, but where great production of eggs is required.

The non-sitters frequently do the majority of their labor in the second and third years. As far as the Cochins are concerned, there may be no objection to killing off the hens, or even the two-year olds, for they do all their work in the first season or winter, if hatched early. The Leghorn and Spanish are of most keeping value, where the desire is to make the fowls pay for their keep, and a profit besides. Their eggs are always fine. The Spanish are large, and the Leghorns medium. Taken all in all, there is no fowl to be compared for all purposes with the Brown Leghorn. They are steady and persistent in egg production. They are quiet and easily controlled; hardy both as chicks and adult birds, submitting to confinement and thriving therein. There may be objections raised on account of their smallness of body, but the flesh is fine and the bone and offal small. Even these early layers are better the second, and oftentimes the third year. It is the food which tells on the eggs, both in number, and size.—*C. B., in Country Gentleman.*

OVER FEEDING

As a rule, there is far more danger from under feeding than from over feeding; though there are still many breeders who over feed their birds, and then wonder why they do not lay well or keep healthy. All good things when used or carried to any excess become injurious and decidedly objectionable, and even the best of grain and other food is no exception to this positive rule. Over feeding causes many ailments which are difficult to overcome, while it causes an undue secretion of fat on the ovaries of the laying hens, thus entirely vetoing the egg supply. Leg weakness, breaking down and other trouble arise principally from over feeding, while over fed fowls are much more liable to disease and disorders than are birds fed properly; and when the over fed birds are attacked, they seldom, if ever, recover. Some who do not care to pay good prices for pure bred fowls claim that such birds are much more liable to sickness and disease than are common fowls. In many cases this is true, as they have been accustomed to good care and food for many generations, and must have it to do well, when they will pay far better every way than will common fowls under any circumstances. Under ordinary management and neglect, they are more apt to become diseased, yet the fact still remains evident that over feeding, through a mistaken sense of kindness, increases the tendency to sickness and disorders of a malignant nature.—*Poultry Monthly.*

DAIRY.

SCIENTIFIC BUTTER MAKING.

Written for the CANADIAN FARMER by W H. LYNCH.

NO. 3.—MILK SETTING FOR RAISING CREAM.

To make good butter, it is not absolutely necessary that one should fully understand all the "interesting theories which the process of raising cream embodies, and the influences by which it is affected." It is well, however, for one to know the general principles of the process, and I shall try to show those principles in as simple a way as need be.

The main object to be attained by milk-setting, is to obtain from a given quantity of milk, in as short a time and with as little labor and expense as possible, the largest maximum quantity of cream in the freshest and best condition possible. The conditions of such a result of chief importance are as follows.—

First. That the milk be kept as long as it can be kept sweet.

Second. That the germs or fungi in the milk which cause early decay, be destroyed or their action arrested.

Third. That the milk be ventilated, and yet no objectionable odors be allowed access to it.

Fourth. That a wide range of *falling temperature* be secured.

Fifth. That there be little or no waste of cream in separating it from the milk, and that the cream when separated be free from dust and dirt from the atmosphere, and from any sediment that may have found its way into the milk.

Sixth. That labor and cost be reduced to the lowest point, and the prices be brought within the resources of all dairies.

There are two objects in keeping milk a long time sweet. One is that the best results may be secured in raising cream, and the other that the skim milk may be of greater value, either for manufacture or use. Sourness in milk arises from germs that are either in the new milk itself, or taken into the milk from contact with the atmosphere. The action of these germs depends upon the nature of the germs themselves and upon the temperature of the milk. The treatment of milk, therefore, to keep it sweet has to do with the condition and temperature, both of the milk itself and of the atmosphere.

The condition which is most favorable to souring, is from about 98°, which is its temperature when first drawn. From that point each degree of high heating, up to the point where all germs of decay are killed, raising the temperature, is favorable to keeping milk sweet. On the other side each degree below 98 down to freezing point and below, is also more favorable to keeping sweet.

Here then are two opposite ways of keeping milk sweet. Starting at the normal temperature the milk may either be directly cooled to a low temperature, or first heated to a higher temperature, and afterwards cooled. The question of practical interest that here arises, is, which of the two methods is the better one. To answer this question we must carefully compare the two methods and all their results. Not only do we want to keep milk sweet as long as possible, but we have other objects to attain. We have for instance to secure the widest range of falling temperature, to look to the quality of the product as affected by the different processes, and to consult convenience and means available for carrying out the processes employed. That method will of course be the better one which will give the best result, and also best adapt itself to the peculiar resources of the dairy in which it is to be employed.

There are a few facts of importance bearing upon this question, that if properly considered, will help to determine the choice of method.

Butter made from milk that has been kept at an extremely low temperature will have lost something of its fine flavor, and its melting point will be lowered, which latter means that it will not so well stand the high temperatures to which the average butter waist in the course of its existance be subjected. Heating ordinary milk, on the other hand, up to a point high enough to serve all purposes, will improve rather than injure flavor, and will not injure its quality for keeping in a warm temperature.

Cooling milk to a low temperature *does not kill* the germs of decay in the milk, it *only arrests their action.* Anything in the milk that is objectionable remains in the milk, to effect perhaps both the quality of the product and the skim-milk that is left. Heating the milk, however, to a high enough temperature, causes it to throw off all objectionable odors, and kills the germs of decay, thus actually purifying it and making it of greater value for whatever purpose it may be employed.

Cooling milk down to as low a temperature as is safe for butter-making, does not give a very wide range of falling temperature. In ordinary practice milk has usually fallen in the milking pails before it is poured into the milk-setting vessels, to 85° or lower. From 85 to 50° (and much lower than 50° is not advisable), gives but 35° of fall. By heating up to 130°, and cooling it again, if only down to 60°, gives 70° of falling temperature, or just twice the range of fall obtained by the other method.

Only a small proportion of dairies are provided with the means of lowering quickly enough to arrest the action of germs, the temperature of milk that has not been artificially heated, except the milk be set in very small quantities. From the time of milking until the milk is cooled these germs are doing their work. To lower the temperature quickly enough, ice or cold running water is required. Not one farmer in ten is supplied with either requisite. On the other hand, milk that has been heated to the point of killing the germs in it is undergoing no process of souring or decay, unless it takes from the atmosphere other germs. Ordinary wells and springs furnish water that will lower the temperature fast enough to serve all purposes required. Raising milk, then, by heating it, as against lowering it by using ice in both cases, causing what a changing temperature by artificial means, is within the resources of nearly every dairy in the country.

A large, well shaped front udder, as it is the rarest, so it is one of the most valuable characterists of a good dairy cow. To get this is the highest triumph of the art of breeding. Accordingly, the bull that puts a good forward udder on his heifers may be pronounced a good bull, while one that cannot do it is a poor bull, no matter where bred, what his pedigree, or what the price paid for him.—*Ex.*