

obtained by addressing the secretary, F. W. Hodson, Parliament Buildings, Toronto.

Farmers' Institute Department.

Reports concerning the work of the Farmers' Institutes in Ontario will be published weekly under this head; also papers prepared for this department by Institute workers. Secretaries and others having announcements to make are invited to send full particulars to the Superintendent.

POULTRY KEEPING.

By W. G. WHITFIELD

I will try and show how it is possible to get at least a small profit from keeping a few hens. First, we must have the right kind of hens to lay through the entire winter to insure a profit at all. We have many excellent breeds, each with their good qualities. It is difficult to find any one breed a general-purpose, all-round hen both for the egg basket and the table. My own experience is that none quite fill the bill. We have tried many different kinds and are still experimenting, having a number of pure breeds and their crosses. I have had a long experience in both dairying and poultry keeping, and have no hesitation in saying that twenty-five hens will give a larger profit than a cow; but here the comparison must stop, as here we meet the difficulty of providing quarters through our long winters, as a building that will house twenty-five hens will hold from four or five cows with comfort. We can crowd twenty-five hens into a very small place, but commence to crowd, and away goes the profit. They must have room for exercise and plenty of it. Here comes the trouble with many fancy poultry keepers. They tell you their hens do not lay very well. If they do, the eggs do not hatch well, although the birds are given the best of care. The trouble is too close quarters, too much confinement. A building suitable for a cow byre would not quite suit as a hen house. To give a few hens suitable quarters need not be expensive, and still have all the necessities for success. What is required is warmth, plenty of room and plenty of light, and properly arranged.

In my own hen-house, I thought I had provided everything both for room and convenience. I have about 160 square feet of glass, and to-day, if I were building again, I do not think I would change unless to add a little more glass. If the sash were double, it would be all the better; one half in roof on the south side of the building; this would not only give light but heat. The dust should be placed under the glass roof, and when the sun strikes it the hens will take their morning bath. We use road dust and ashes for this purpose. This will keep both the hens and the house free of all kinds of lice. Artificial heat is often needed. The house should be as dry and warm as possible, and there are days when a fire will pay well. Here I differ from Mr. Clark. He thinks artificial heat is not needed; but after twenty-three years experience, sometimes with it and sometimes without it, I think a stove one of the necessities to keep the air warm and dry. We only use the stove to meet changes in the weather; without it the hens will not keep up their daily number of eggs. This is not a new thing. Well do I remem-

ber when a boy, now over fifty years ago, a family that kept their hens in the house day and night through the winter, and they got the eggs the whole winter through. About forty would roost on the sticks of the Dutch fire place, and the mantle piece would be packed from end to end. These people always had eggs for Hamilton market when other farmers couldn't get an egg for Easter. To-day we do not like to resort to this plan, but we must have the same conditions—warm, dry quarters, not thinking anything too good; but, like the Irishman, when he said, "Who has a better right to the best room in the house than the pig, for shure he pays the rent," and to-day the hen must have the best to pay a profit. Their food should be of the best to get the best quality of eggs, as the flavor of the egg will be affected by what the hen eats, quite as much as milk by the food the cow eats. And here we want a variety, not all one kind of grain, but a little of all kinds, both whole and ground, hot and cold, with plenty of clean water before them all the time; something green once or twice a week. Fresh meat is another essential, and should be fed two or three times a week. The profits are the reward of the dairy, almost hourly, attention to details just at the right time, such as feeding, watering, cleaning the house, gathering the eggs, etc. Finally, put the eggs on the market once a week at least.

FARMERS' INSTITUTE ANNUAL BULLETIN.

Next week we hope to publish the Farmers' Institute Annual Bulletin, embracing a complete list of meetings and speakers.

The secretaries of Farmers' Institutes who receive copies of the monthly lists of stock for sale, are respectfully requested to preserve them and use them to the best advantage.

Ontario Agricultural College.

Announcements concerning the College work will be published weekly under this head.

CARE OF DAIRY UTENSILS.

By I. G. ROGERS, Instructor in Buttermaking, O. A. C., Guelph.

(Continued from last issue.)

BUTTER WORKER—BUTTER SPADES AND PRINTERS.—Before using any wooden utensil that comes in contact with the butter, it should first be scalded with hot water and then cooled with cold water to prevent the butter from sticking. A quick and easy way to prepare a worker is to take a dipperful of hot water and use a brush to scrub it. The brush causes the water to penetrate the wood better, and less hot water is required, one dipperful is all that is needed, even in hot weather when it is sometimes difficult to prevent the butter from sticking; and less cold water is needed to cool the worker properly for the butter. A good way to clean wooden utensils and keep them sweet is to scour with salt after the wood is wet. It also helps to pre-

vent the butter from sticking. The printer and butter spade should be soaked first in hot water and then in cold water for some time before they are used. After printing the butter use plenty of hot water and a brush to clean the utensils properly and rinse off with more hot water after using the brush. Hang up the printer and the butter spade, and wipe the outside and legs of the butter worker with a cloth.

SALT SIEVE AND SCALE.—The salt sieve should always be kept dry for sifting the salt, but always rinsed in hot water immediately after it is used to remove the salt, and thus prevent moisture accumulating on the hair sieve, rust is also prevented in damp weather. The perforated tin bottom sieve is used by some, and is more serviceable than the first mentioned. The scale requires care to prevent rusting, and should be cleaned after using and put in a dry, warm place when not in use, especially is this necessary in cheese or butter factories. They should also be wiped over occasionally outside and inside with an oily cloth.

BABCOCK TESTER AND CREAM SEPARATOR.—The Babcock tester should be painted inside and outside with brown paint. A coat of varnish on the outside over the paint will make it look better. After using the machine wipe it dry to prevent rust. A little paint and varnish applied once in two years or oftener, will keep dairy appliances attractive and more pleasing to the eye and preserve them from rust. Proper methods of cleaning the separator should be studied so as to keep it in good condition and to prevent rusting. After all the parts are thoroughly washed and scalded, they should be placed in a position to drain dry while hot, and should never be put together until perfectly dry. If the parts are put together again while wet, it will only be a short time until the machine will be rusty and old in appearance. The frame of the machine should be wiped with an oily piece of waste or cloth after using it. It should be set level, run carefully, and oiled properly with the best of oil so as to avoid unnecessary wear and tear. As the care of dairy utensils and appliances is a matter of very great importance in the dairy business, I have in this paper endeavored to show how to do the work as I practise and teach, in a way that I trust will be helpful to those engaged in practical dairy work.

NOTES FROM THE DAIRY DEPARTMENT.

By H. H. DRAN, Professor of Dairy Husbandry.

Stock.—The cows were never in better condition at the beginning of winter than they are at present. The abundant pasture has maintained a large milk flow during the summer without much extra feed. A number of the cows are fresh for the winter's work, while those which have been milking most of the summer are slacking off in milk flow. We aim to have fresh cows each month in the year, believing this to be the best system.

Feed.—The abundant corn and hay crop will provide plenty of coarse fodder for winter milk. As a large amount

of the corn could not be got into the silos, we shall feed cut cornstalks and hay for six or eight weeks, and not open our silo before December 1st. In former years we commenced to feed silage immediately after the silo was filled. The cows are now kept in at night and fed cut corn and meal. The meal consists of one part oil-cake, and three parts bran by weight, four pounds per head per day being given to fresh milkers. The cloth covering suggested by Mr. Rennie, the farm superintendent, was used for covering the corn after the silo was filled. Our silo is circular, and it was necessary to cut planks of circular form to lay on the cloth and around the edge. A pile of salt was also sprinkled about the edge of the corn.

Lectures.—The first year are receiving lectures on the physical properties of milk, its composition, best methods of creaming milk, and making butter on the farm. Practical lessons on the judging of butter will also be given. The topic for the term is, "Farm Dairying and How to Succeed in it."

Second year men discuss cheese making in all its bearings. This important branch receives full attention. Commencing with the origin of co-operative or factory dairying, the class gives attention to those points which are likely to be of most use to practical dairymen. Practical lessons on judging Cheddar cheese are given later.

The third year take practical work in the cheese and butter departments three days in each week, together with lectures on the most scientific part of dairying.

Experimental work.—Experiments in cheese-making and butter-making are going on each day when classes do not occupy our time. In the cheese room we are continuing our investigations, for the fourth year, as to the effect that fat in milk has on the yield and quality of cheese. Lately, the pasteurization of milk for cheesemaking has received considerable attention. So far the results have not been as encouraging as we had hoped for. The aeration and cooling of milk for cheesemaking has been studied to some extent. There has not been the decided differences in the curds and cheese from aerated and unaerated milk which we expected to find. A number of different styles of aerators have been used in this work. All have their good points, and no one combines all the excellencies of a good aerator and cooler.

In the butter room experiments on the effect of washing butter have been conducted for the third season. The results have been somewhat conflicting. At times the unwashed butter is better, and at other times the washed is superior.

Pasteurization of milk and cream was made a special point for investigation. This is one of the most important processes that modern butter-making has to deal with. It has come to stay, and no winter creamery can afford to be without means of pasteurizing either the cream or the whole milk. By the adoption of this system and the use of starters made from pure cultures, or from good-flavored sour skim-milk, a uniformity in flavor and body of butter is secured which is not obtainable in any other way.