

in warm water containing some washing powder, and since they cannot be sterilized with heat they should be placed after cleaning in an antiseptic solution and left there until milking time. The solution we use is one ounce of formalin in three gallons of water. This solution tends to preserve the rubber and keeps the tubes and cups sweet and clean. In some places there is a law against the use of formalin, and in that case the use of calcium chloride is recommended. The tubes are thoroughly rinsed with clean water by sucking it through them just before beginning to milk.

From reports of the Central Experimental Farm, Ottawa, it appears that there are several satisfactory machines on the market.

Truro, N. S.

JOHN M. TRUEMAN.

Plan For a Full Silo Next Fall.

A few years ago scarcity of seed corn would have brought forth little comment from farmers over the greater portion of Ontario. Some planted an acre or two of corn for feed in the fall, but on many farms none at all was grown, and an entire field devoted to this particular crop was rarely seen. The men who originated the idea of canning the corn crop, so as to preserve it and give succulent feed of high quality during the winter months when the stock is housed, were greater benefactors to agriculturists than they were credited with at the time. In some localities there appears to have existed a prejudice against silage as a feed. It has been a case of "Show me," and the number of new silos erected each year prove that the silo and silage are gaining in favor on their merits.

Dairymen were the first to realize the value of the silo, and it is not uncommon to-day to see two or three silos on one dairy farm. In a favorable season an acre of corn will furnish a larger amount of fodder than can be produced on an acre sown to almost any other crop. By means of a silo the crop can be stored in a form that is ready to serve to the stock at any time. Corn is the universal silo crop, and is one of the cheapest feeds grown on the farm. Were it not for corn silage to serve as the foundation of a ration, many herds would have to be greatly reduced in numbers on account of the scarcity of feed.

The seed corn situation this spring has worried many stockmen. Southern Ontario and the Northern States have furnished the bulk of seed corn for Ontario in the past, but this year climatic conditions during last summer and fall resulted in very little corn that would germinate a high percentage being husked. First nipped the crop before it was cut, and then, the unfavorable weather for drying left the corn with too much moisture when the severe winter weather set in. For a time it looked as though no seed corn of any kind for silage purposes would be available. However, arrangements have been made whereby a supply of certain varieties will be brought in from the Southern States. It may not be of the variety which we are accustomed to plant, but a large bulk of fodder will be produced even if it does not mature. The bulk of it will be of the Mammoth Southern Sweet type, and we would certainly advise using this rather than doing without corn for a year. Many have grown the Mammoth Southern Sweet, and have found that it is a particularly heavy yielder. More can be grown to the acre than of some of the early-maturing varieties. If the season is favorable it will mature sufficiently to make good silage. The Mammoth corn grows very coarse stalks, and consequently is not so suitable for feeding in the fall as some of the other varieties. However, this does not matter so much when it is ensiled. If sown fairly thickly in rows a little finer stalks are produced than if sown thinly in hills. The quality of silage may not be quite as good as from some of the early-maturing dents, but the extra amount of feed produced per acre partially makes up for the lack in quality.

Corn is not the only crop that can be ensiled. In sections of the Dominion, not particularly suitable for the growing of corn, a mixture of oats, peas and vetches has been tried as a substitute for corn with very fair results both as to yield and feeding qualities. This crop is grown extensively in Nova Scotia, where corn is not a success. However, it will also do well in other parts of the Dominion. As high as eleven tons of this O. P. V. mixture have been grown under field conditions at the Nova Scotia Agricultural College. Silage from this contains a little higher percentage dry matter than does corn silage, as will be shown by the following table:

Constituents	O. P. V. silage, per cent.	Corn silage per cent.
Dry matter	28.15	20
Protein	2.31	2.37
Carbohydrates	23.42	15.33
Fat	.83	.88
Ash	1.59	1.42

There is scarcely as much work entailed in producing a crop of O. P. V. silage as in producing a crop of corn. The land should be in first-class condition, and it is one of the first crops to be planted in the spring. Sown around the last of April or the first of May, it will be

ready to harvest early in August or at the time when the oats are coming into the dough stage. If the oats get too ripe, the fodder will not pack well in the silo, and there is more or less danger of waste by mould. The seeding for this mixture is in the proportion of about 2½ bushels of oats, ¾ of a bushel of Golden Vine peas and ¼ bushel of annual vetch per acre. It may be cut with the mower or binder. This mixture is also grown on the Demonstration Farm at Monteith, New Ontario. In 1916, three acres of this crop two-thirds filled a silo 11 feet in diameter and 16 feet high. The appearance of this silage was similar to ordinary silage, only it was much finer and the cattle appeared to be very fond of it. This shows that it is a silage crop that does well under varying conditions.

Sweet clover, red clover, and alfalfa are other crops which might be ensiled with more or less satisfactory results. The clovers are cut at the regular time and put in the silo while still fresh. This is essential in order that the material will pack firmly and exclude the air. Some who ensiled the sweet clover that they could not harvest for hay last year, owing to the wet weather, reported that the stock cleaned up this form of silage and maintained their ordinary milk flow during the summer drouth. We doubt the advisability of ensiling the clovers if they can be cured for hay, but with unfavorable weather conditions for hay-making the silo furnishes a means of saving the crop.

Second-growth clover and alfalfa are frequently ready to harvest at a time when the weather is catchy. Some have ensiled this crop along with the corn, putting in a load of the clover to every two or three loads of corn. We have seen some of the silage resulting from this mixture, and it looked very good indeed, and was relished by the stock. The corn seemed to aid in preserving the clover in a better condition than if it were ensiled alone.

While the seed corn for silage purposes of varieties and quality that we have been used to planting may not be available this spring, the Mammoth corn will prove a very good substitute, and under favorable conditions will, no doubt, produce a greater bulk of fodder than would be secured from some of the varieties which mature under Ontario conditions. Do not let the silo go empty next fall just because you could not secure the variety of corn you are accustomed to. Secure the kind of seed that is available. The dairyman who has been used to having a supply of silage to commence the winter's feeding operations scarcely appreciates the full value of a silo full of feed until he is forced, through no fault of his own, to do without this important succulent fodder. Plant the usual acreage to corn if seed of any variety that will grow can be purchased. It is one of the most economical crops grown.

The Price of Cheese to be 23 Cents Per Pound.

EDITOR "THE FARMER'S ADVOCATE":

The Dairy Produce Commission, which is constituted of members representing the British Ministry of Food, the Dominion Department of Agriculture, the Canada Food Board, the Producers and the Trade, held a session at Montreal to-day. These present were: Arthur J. Mills, representing the British Ministry of Food; J. A. Ruddick, representing the Dominion Department of Agriculture; Dr. Jas. W. Robertson, representing the Canada Food Board; Messrs. Jas. Donaldson, A. Gerin and James Alexander, representing the Producers and the Trade.

Mr. Mills stated that the British Ministry of Food had authorized the Dairy Produce Commission to act for them in connection with the exportable surplus of Canadian Cheese, Condensed Milk and Butter of the make of the season of 1918. The price authorized for cheese is 23 cents per lb. for No. 1 grade, f.o.b. steamer at Montreal; 22½ cents per lb. for No. 2 grade, and 22 cents for No. 3 grade.

After fully considering the whole situation, the Commission unanimously approved of the proposal.

A committee was appointed to work out the question of a relative price for condensed milk. The object in view is to secure such a parity of prices that no unfair competition will arise between the manufacturers of condensed milk and the manufacturers of cheese to secure the patronage of dairy farmers. It is expected that the price of condensed milk will be determined and announced in the near future. The price for butter will be arranged as soon as there is a surplus available for export. It also will be on a basis of parity with the prices for cheese and condensed milk.

The chief advantage to the cheese industry of Canada from this arrangement is the assurance of a regular market at a fair and reasonable price for the whole output, regular shipments even under the present extreme shortage of tonnage, and the financing of a trade of about 40 millions of dollars.

The only alternative method of disposing of the cheese of Canada would be to leave it open for the British Ministry of Food to purchase such quantities as they would require from time to time, and that without any assurance that they would purchase the whole quantity available for export. At the present time, the Allied buyers are being offered United States cheese of this season's make at 22 cents f.o.b. New York.

Now that prices have been arranged, it is hoped that financial arrangements will shortly be completed to enable the Commission to accept delivery of new season's cheese.

J. A. RUDDICK, Dairy Commissioner.

POULTRY.

Open Front Henhouse.

Several years ago a description was given of the Weldwood henhouse. I gave the paper to one of my friends who has failed to return it. I purpose building a henhouse this spring. At present we have no proper place for our fowl and we realize that in order to have success with poultry it is necessary to give them the proper accommodation. I would be pleased to have the description of this house published again. J. S. M.

Ans.—The open-front house designed and recommended by Prof. W. R. Graham, of the Ontario Agricultural College, has given remarkably good results. The pen 20 by 20 feet accommodates 100 hens, and although the front is entirely open the birds do not suffer from the cold. It is constructed so that the air does not circulate to cause a draft and yet there is fresh air, light and dryness in the pen the year around. These three things are essential to the health of the birds and therefore to high egg production. The original open-front house was 20 by 20 feet on the ground, 4 feet 6 inches high at the back and 3 feet high in the front. The ridge is 7 feet high, with a door in the east end and a door 5 feet 4 inches by 4 feet 2½ inches in the west end. The south side is covered only with chicken wire, and the roosts are placed at the back of the pen. The henhouse at Weldwood has a slightly different roof. The north part is raised at the ridge a sufficient height to allow for a sash containing lights which are 12 inches deep. This alteration gives extra light in the pen and permits of the sun shining on the roosts and dropping-board. The sash is on hinges so that it can be opened during the heat of summer and this gives added ventilation to the pen. Four feet is also added to the pen for the purpose of having somewhere to store feed and also a place for sitting hens. This is partitioned off from the main pen by a substantial wall. Nests are installed in this wall and can be drawn into the feed room. This is a convenience in that a brooding hen can be left on her original nest and yet not be disturbed by the other fowl. However, we do not entirely favor the open nest, as we believe there would be less trouble from hens eating their eggs were the nests darkened somewhat. Being able to slide the nests into the main pen in the morning when the hens are fed and drawing them into the feed room at night prevents the hens roosting on the nests, which tends to keep them cleaner and more sanitary than if they were stationary. The roosts arranged at the back of the pen are made in the form of a frame which is hinged to the uprights in the wall so that they may be raised to facilitate cleaning the pen. A considerable amount of material is required when erecting a house of this size, but second-hand lumber would be just as good as the new. We have found the prepared roofing very satisfactory. The floor is of cement, but on high and dry ground an earthen floor would be all right. In this style of pen the birds never suffer from the frost even in the most severe weather. While the temperature of the pen is low, the atmosphere is dry. This is possibly one reason why the combs and wattles of the birds have not been frozen. When a direct wind it blowing from the south, cotton might be hung over the front opening to advantage. However, in even the most exposed location very little snow will blow into the pen.

HORTICULTURE.

Arsenate of Lime as an Insecticide.

During the last few years the Entomological Branch of the Dominion Department of Agriculture has been devoting increased attention to the study of insecticides, with special reference to the possibility of securing cheaper materials. One of the first results of this study consisted in a demonstration of the value of arsenate of lime, or calcium arsenate, as an insecticide.

A pamphlet has been recently issued by the Entomological Branch explaining in detail the nature and value of this material, but in quoting from it we desire to make it plain that we do not recommend its use in districts or provinces where the experimentalists in those districts have not found it safe enough to be generally recommended. For instance, Prof. Lawson Caesar, in Ontario, is not yet prepared to advise the use of arsenate of lime without limitation, so it is evident that climatic or natural conditions may so differ in the various provinces that arsenate of lime should be thoroughly tested before being adopted as the standard insecticide. However, we quote liberally from the pamphlet issued by the Entomological Branch, in order that fruit growers may become acquainted with the nature of arsenate of lime, and be prepared to use it under certain conditions which they know will guarantee good results. In the following paragraphs may be found detailed information concerning arsenate of lime, as explained by pamphlet in question.

Where Arsenate of Lime is Used.

At the present time arsenate of lime, which should be clearly distinguished from arsenite of lime, is only recommended as a spray for apple, potato and pear. It is not regarded as a safe insecticide for trees having tender foliage, such as plum, cherry or peach, nor do we recommend the use of arsenate of lime alone, but only in conjunction with lime, Bordeaux mixture or sulphide sprays, as described later. During the years 1915-16-17, it has been used in Nova Scotia both commercially and experimentally in a variety of ways; although the results from its use have not been uniformly satisfactory, this could not be expected on account