True, it necessitates the outlay of considerable cash to put water in the stable, but the experience of many dairymen is that it pays to have water before the cows all the time. There are different systems which give good satisfaction and there is time this fall to install the water in the stable and so give the milk cow every opportunity to make the best use of her feed.

Water can be forced to a tank in the stable by wind power, gasoline, ram, hand power, electricity, etc. If the bottom of the tank is raised a couple of feet above the level of the stable floor, water will flow by gravity to troughs or individual buckets in front of the cows. Iron, cement and wooden troughs are in use. A small trough with a float in it may be used to regulate the height the water can raise in the receptacles in front of the cows. In a stable we were in recently, the owner did not wish to put in a permanent water system as he purposed remodelling his stable in a year or two, but, realizing that his cows should do better if watered in the stable, he has ordinary eave troughing placed in front of the mangers and turns water into it twice a day. This system was used last year and he was satisfied that his cows did much better than when they had to go to a trough in the open. He claimed that water standing in the tank in the stable was considerably higher in temperature than the water outside, and believed this was a benefit to the cows. In another stable a cement trough runs along underneath a wooden manger which is on hinges. The cows open the manger at will to drink. So far this has worked satisfactorily and there has been very little trouble from dirt getting into the water trough. On another farm recently visited, the well is about 200 feet from the stable and the cows have had to go this distance in the winter time for water. Last year piping was laid from the well to the stable and the pump placed in the stable instead of at the well. At present the pump is worked by hand, and the owner claims that it is much more satisfactory and the returns are better when watering the cows in the stable than turning them out to drink.

The claim has been made by some that cows require exercise and that it does them no harm to be turned out for water every day. True, the exercise is all right, but is the water as warm in the outdoor trough as in the stable, and do the cows get all they require? Watering in the stable does not prevent them being turned out for exercise. The point is that a cow in milk requires a large quantity of water every day, and it seems reasonable that it is better for the animal to get the supply in small quantities and often, rather than to gorge herself once or even twice a day on water, the temperature of which has not been tempered by the heat of the stable. Arguments are in favor of watering milk cows in the stable, at least during the coldest part of the winter. It is claimed that there is danger of spreading disease by several cattle drinking out of a continuous trough, or even two drinking out of one bucket in the stable. It may be possible to spread contagious disease in this way, but the risk appears to be no greater than when the whole herd drinks out of a common trough the summer through. If milk is the object, the cow must have a sufficient supply of clean water, whether she obtains it in the stable, the water trough outside or the spring creek. For the winter milk production best results are obtained when she can drink at will in the stable.

POULTRY.

Don't expect the hens to lay this winter unless you give them proper accommodation and the right kind of feed.

Egg shells are made of lime, and if it is not furnished the birds they cannot produce eggs. It may be supplied in the form of oyster shell or broken plaster.

It is advisable to crate-fatten and market surplus cockerels and cull pullets during this month. With the price of grain it is doubtful if it will pay to keep them much longer.

Green feed is necessary to keep the birds in health and promote egg production. This can be supplied in the form of clover leaves, mangels, or turnips, which are usually found around the average farm.

If the pen was dark and damp last winter, it should be remodelled. Poultry require a light, dry, well-ventilated pen. It need not be too warm but it must be dry. Cotton fronts aid in giving the required ventilation.

Do not forget that the hen requires grit to grind her feed. She picks this up in the yard during the summer and will possibly do without it for a long time in the winter without showing ill results, but the effect will be noticed sooner or later.

Turkeys can find very little feed on open range now, and require fairly heavy feeding in the yard in order to fit them for the best markets. If any of the birds show signs of sickness, isolate them, as they may be the means of spreading disease through the flock.

When hens are passing through the moult, they require animal food in order to grow their new coats. Very little is obtained in the fields at the present time, consequently it may be an advantage to feed a little beef scrap, or meat in some other form. Beef liver, lights, and beef heads are frequently available, and if cooked will aid in promoting growth of new feathers and in the production of eggs. Milk is the cheapest and one of the most satisfactory forms of animal food. It should be given to pullets as well as old hens.

Canada Needs More Poultry.

The high price of eggs and poultry at the present time signifies a scarcity of these products. The demand, whether for export or home consumption, is unprecedented. Information regarding the status of the poultry industry, given by H. S. Arkell, Assistant Live Stock Commissioner, Ottawa, is to the effect that the prospects for a continued demand are very bright. The country is facing a shortage not only of current receipts but of Canadian storage stocks as well. The export demand has been so great that Canadians will be obliged to import if their requirements are met. Therefore, increased production rests upon a sure foundation. Poultry flocks can be increased materially without much additional outlay for buildings and equipment, and the increased labor involved is not such as will bear heavily upon the time of those charged with the care of the stock. Poultry on the farm should be profitable. The present high price of feed is considered by some as the argument against increasing the flock, but it must be considered that the selling price of the product is from forty to sixty per cent. higher than it was two years ago, which should leave a fair margin of profit.

A few years ago Canada was importing eggs, but in the aggregate produced more than sufficient for its own requirements this year and last. Between seven and eight million dozen Canadian eggs were exported to Great Britain last year, and, as an indication of what is going forward this year, nearly one million dozen were shipped during the first week of October. The supply on the British market is still short, and there is a demand for many million dozens more. Therefore, more and better poultry might well be the motto on every farm. At the present time eggs are scarce in Canada; prices are high, and the Live Stock Branch does not anticipate a sharp decline immediately following the conclusion of the war, as it has been noticed where prices have advanced gradually, as in the case of staple food products, they decline slowly. Eggs are a staple article of food, and with the high prices of meat there is a tendency to be an increase in the consumption of them. With the prevailing conditions it should pay to increase the flock even if feed is high in price, but the aim should be to secure and keep fowl which will lay, and give them the required attention.

Keep the Henhouse Clean.

The farmer who would allow his cattle or horse stable to go for several days without cleaning would be considered slovenly by his neighbors, and yet the men who are very particular about keeping their main stable clean allow the henhouse to go for months without removing the litter and excrement. It is not necessary that the henhouse, where no dropping-board is used, be cleaned every day, but it should be done once a month at least. Give it a thorough cleaning in the fall. Sprinkle a little lime over the floor, which tends to disinfect it, and it does no harm to whitewash the interior. This can be applied either with the brush or a spray pump. If carbolic acid, Zenoleum, creolin, or some other disinfectant is used it will aid in destroying the vermin. No one can afford to keep hens that are infested with lice or mites. Fresh straw should be placed on the feeding floor every month; it should be from six inches to a foot deep in order to give the hens plenty of exercise searching for their grain feed. There is no better way of getting the blood in circulation and heating the bird's body than by vigorous exercise in the morning. Consequently, many poultrymen make a practice of sprinkling grain in the litter after the birds have gone to roost, so that they are induced to scratch, the first thing in the morning. This straw becomes cut up and more or less dirty in a few weeks' time, which necessitates a cleaning of the pen. If the droppings are left to accumulate underneath the roost, they commence to heat and the moisture given off is not good for the birds. Clean the pen in the fall, and aim at keeping it clean all winter. It is as important as keeping the main stable clean. Poultry will not do well in filth any more than will other live stock.

Cost of Producing Eggs.

For five years an International Egg-laying Contest has been carried on at Victoria, B. C. The duration of the contest is for eleven months, and the following itemized account of cost of feed and egg production per hen shows a substantial profit for the fifth annual contest:

Number of pens	40
Number of birds	240
Number of eggs laid	36,382
Value of eggs laid	$1,030.88
Cost of feed	$436.45
Profit over cost of feed	$594.43
Average price of eggs per dozen	.34
Average cost to produce dozen eggs	.14.3
Average number of eggs laid per bird	151.5
Average cost of feed per bird	$1.81
Profit over cost of feed per bird	$2.47
Average eggs laid per bird in the winning pen in class for heavy birds	183.8
Average eggs laid per bird in the winning pen in class for light birds	187.6

Poultry Director, B. C. J. B. TERRY,

HORTICULTURE.

Clean up the vegetation in the garden and burn it to destroy any insects that may be hibernating there.

Store the vegetables in a cool, dark, well-ventilated place. A little sand spread over the roots helps to retain their moisture and flavor.

Plan to graft out the unprofitable varieties in the spring. A few fallen apples beneath the trees may still help to identify them if the orchardist is not sure. It would be well to mark them in some way so they can be worked over in the spring when means of identification are pretty well erased.

Often it pays to rib up the garden patch in the fall. The ridges dry out much earlier in the spring than the level land, and the garden seeds can sometimes be put in before the land used for field crops is ready to work. In this way the gardening can be done before seeding and that is better than after seeding and planting, which is commonly the case.

Factors Limiting Peach Production.

Generally speaking, there was a splendid crop of peaches in Ontario in those districts which time has proven are suitable for the production of such a crop These areas are not marked by county or township lines; they depend altogether upon the proximity of large bodies of water, atmospheric conditions, and the character of the soil. In the Ontario Bulletin No. 241 are mentioned a few factors limiting the production of peaches, which are herewith reproduced:

The native home of the peach is almost sub-tropical, but many years of growth under varied conditions have gradually fitted it for severer climates. Undoubtedly we can reasonably expect that varieties will be developed that will withstand more severe climates and more adverse conditions than our present varieties. At present, however, a minimum of 20 degrees Fahrenheit below zero, not continued for more than a few hours, is considered the limit of hardiness of wood and bud. The tree must be well prepared or it will not stand even this extreme.

A soil either too wet or too dry is not the most protective to the roots. A wet soil freezes deeply, and is conducive to sappiness in the new growth. Consequently, conducive to weakness. A soil too dry cannot readily replace the evaporation lost from the twigs, and a shrivelling is noted which leads to loss. A soil too rich in nitrogen is also conducive to a sappy growth which will not stand the extremes of cold.

Generally speaking, the medium rich, deep, warm, well-drained soils produce the hardiest trees. A disregard of any one of these factors is fatal. The smaller, slower-growing varieties are hardiest, and a limit of 20 degrees Fahrenheit below zero may be set as a mark even under the most ideal conditions.

Winter Wrappings for Strawberries.

There are two methods followed by which the strawberry plantation can be successfully brought through the winter. One is to enrich the soil when the plants are set, so a heavy covering of growth may be procured. The other is to mulch them lightly with three or four inches of straw, or strawy barnyard manure. Many of the best growers depend upon the first method for, in this way, they avoid the trouble with weeds, which the mulching system enhances. Personal observation, however, leads us to believe that while weeds may give considerable trouble, especially when the plantation is to be kept for a second or third crop, the mulching with straw, or strawy manure, is a more efficient safeguard against frost injury than any other practical method yet devised. Sometimes straw is given the preference over coarse manure, because it does not settle so heavily on the rows and tend to smother the plants. In the spring this mulching is often raked between the rows where it acts as a covering to conserve moisture and tends to keep the fruit clean or free from dust. When strawy manure is used, the coarser parts can be raked off in the spring and carried away, and the finer particles allowed to remain between the rows where they will give very little trouble, and at the same time keep down the dust and dirt.

Thee proper time to mulch is in the fall before any heavy precipitation of snow takes place. It is better to have the material underneath the snow than on top of it. As soon as the ground freezes sufficiently that a load can be teamed over it, without the wheels sinking into the ground, is a suitable time to mulch the strawberries. The mulch will tend to retard the bloom in the spring, and thus prevent frost injury to the blossoms. It is not well, however, to carry this principle too far. When the leaves begin to blanch under the covering remove the mulch.

It is well also to make provisions for all surplus water to leave the plantation. Strawberries cannot stand water and the consequent freezing and thawing any better than wheat, and if there are low places or pools in the field, water furrows should be cut to them, allowing all excessive moisture to escape.