

THE MAGAZINE GUARDIAN

Teachers, Parents, Pupils, Farmers, Dairym n, Horsemen

PIT SILO A CONSERVER

IS USED BY MANY AMERICAN FARMERS.

Points About It May Interest Canadian—It is Quickly Constructed and Permanent—According to Reports the Silage is Well Preserved, and the Receipts Should Last Indefinitely.

The pit silo, not a makeshift if properly built, has become a permanent feature on farms in the Great Plains region of the United States, and some facts about it will undoubtedly be of interest to the farmers of the Dominion of Canada. It is inexpensive and quickly constructed by unskilled labor during the fall in farm work just before harvesting. A farmer using his own labor, obtaining sand and gravel at a small cost, and employing a home-made hoisting apparatus for lifting the silage, can build a pit silo of 150 to 180 tons capacity at a cash outlay of about \$75, cement being the chief item of expenditure.

Properly constructed pit silos, requiring little material not already on the average farm, should last indefinitely, and the upkeep is small. The cost of a masonry silo is often prohibitive in the Great Plains region because the materials must be hauled from distant railroad points. Wooden silos often weaken rapidly under the climatic conditions peculiar to this region. Pit silos cannot be blown down; silage is preserved fully as well or better than in above-



One of the Simplest Types of Home-made Hoists in Use—It Consists of a Swinging Crane, a Windlass, Pulleys and Rope, and a Box of Some Sort for the Silage—If Desired the Windlass May Be Replaced by a Pulley and a Horse or Team Used to Lift the Silage.

ground types; the silage is never frozen; filling is a much less arduous operation; and the labor of getting silage out of the pit, which comes during the period when farm work is not pressing, is reduced by home-made windlasses or pulley lifts. As it is impracticable and even dangerous to make a pit silo in certain types of soil, a farmer should know the character of his soil before attempting to build one, department specialists say.

The silo near the feed lot is possible. It is feasible and can be left between the edge of the pit and the barn. The illustration shows one of the types of home-made hoists in use. This device consists of a swinging crane, a windlass, pulleys and rope, and a box of some sort for the silage. A strong 4 by 6-inch piece may be used for the upright or mast, and a 4 by 8-inch piece for the boom. Only sound timbers should be used. The windlass and the plates of iron on which the cranes turn can be purchased at small cost. The upright should be braced from the top with heavy guy wires securely fastened. If desired, the windlass may be replaced by a pulley, and a horse or a team used to lift the silage. This is the common practice where large numbers of cattle are fed. The silage box after being filled and hoisted can be swung over a overhead track, or placed upon a truck. Such a hoisting device may be placed so that it can be used to empty two or even three silos. Whatever kind of carrier for the silage is built, or purchased, it should have a trip bottom, and, of course, it should be unloading easily.

How About Next Year?
The Edmonton Bulletin says that this year's western crop will be taken care of by the local school boys and imported harvesters from the other provinces. This help will not, however, be available either for fall ploughing or next spring's seeding. "Fields which are under the plow this year, will be unploughed this year, and the owners of the owners are now coming west in place of the men from the eastern provinces who are now coming west to help harvest the crop. If this is not a misdirection of man-power what could be?"

Muskoka's Banner Crop.
The Bracebridge Gazette reports that muskoka have such crops harvested this year. Muskoka has been harvested this year. For probably the first time in history, the district will yield enough wheat to make the principal ingredient of its people's breadstuffs. Other grains have kept pace, and muskoka's banner crop is a record.

Sheep for New Brunswick.
New Brunswick men, in different sections of the province, will shortly go into sheep breeding on a larger scale than anything formerly attempted. About five hundred orders have so far been received for purebred stock for breeding purposes by the Department of Agriculture, and orders are coming in at the rate of about fifteen per day.

Horses Used as Food.
The consumption of horse flesh for human food in France is steadily increasing. Paris alone reports that 70,000 horses were slaughtered for food last year.

CLEAN UP THE STABLE.

Observing the Laws of Health to Save Animals.

The observance of the laws of health, so vital to the well-being of man, is regarded, even in this enlightened age, with considerable indifference in the treatment of animals upon whose good health that of man himself depends to a considerable degree. That animals are not more cared for, to a greater extent, is purely providential, for they are often reared in the worst. Why this apathy concerning the state of the stables, in which frequently valuable animals are housed, is difficult to understand, since cattle, any more than man, can maintain in such unfavorable conditions; yet the stockman who keeps cattle for profit must know that to gain maximum returns for his investments and trouble, and to avoid loss from disease and death, reasonable care and comfort and sanitary conditions are necessary.

The first considerations to this end are ventilation, light and cleanliness. These essential elements of sanitation should be attended to at least once every year. This may be most conveniently done during the early fall before the cattle are housed for the winter. Effective ventilation is required to carry away the foul air and maintain constant and adequate supply of fresh air. The window space should be ample so that the every corner of the interior may be flooded with light and sunshine, the source of health and destroyer of germs. Dirt and filth make productive breeding places for insects and bacteria.

Cleanliness gets rid of conditions which produce infection and prevents the possibility of infection by reducing possible loss from disease to a minimum. That much-dreaded disease, tuberculosis, is in a measure the product of dark, dirty, ill-ventilated stables. It is caused by organisms which gain entrance into the animal's system with the food. It is not easy to detect, and usually when symptoms become evident it is too late to apply any remedy, hence the necessity of making every effort to secure and maintain sanitary conditions in the stable. Every stall, then, the stable should be systematically cleaned; cobwebs swept from wall and ceilings; accumulated dirt and debris cleared from manger, trough, window-sills and all recesses in walls; fresh air intakes and four air outlets kept open; all cracks and holes in floor and walls with cement; replace all broken glass in windows and clean them; disinfect the whole stable thoroughly with some good disinfectant, such as a chloride of lime, crude carbolic acid, or formalin, which can be applied with a spray pump or a watering can with a fine nozzle. Give particular attention to pens or stalls which have been occupied by stock suffering from contagious disease or have been used by animals during parturition.

Then prepare a wash water and don't postpone it because you do not possess a barrel spraying outfit. The whitewash brush is an effective and efficient tool—use it. Small brushes are best and may take you a little longer to do. There are many good whitewashes on the market. Grant used the following to whitewash the White House in Washington: Take a bushel of unslaked lime, slake with warm water, cover it during the process to retain the steam. As it is impracticable and even dangerous to make a pit silo in certain types of soil, a farmer should know the character of his soil before attempting to build one, department specialists say.

The illustration shows one of the types of home-made hoists in use. This device consists of a swinging crane, a windlass, pulleys and rope, and a box of some sort for the silage. A strong 4 by 6-inch piece may be used for the upright or mast, and a 4 by 8-inch piece for the boom. Only sound timbers should be used. The windlass and the plates of iron on which the cranes turn can be purchased at small cost. The upright should be braced from the top with heavy guy wires securely fastened. If desired, the windlass may be replaced by a pulley, and a horse or a team used to lift the silage. This is the common practice where large numbers of cattle are fed. The silage box after being filled and hoisted can be swung over a overhead track, or placed upon a truck. Such a hoisting device may be placed so that it can be used to empty two or even three silos. Whatever kind of carrier for the silage is built, or purchased, it should have a trip bottom, and, of course, it should be unloading easily.

Should Government Farms Exhibit?
The question as to whether an agricultural college should exhibit stock at an exhibition came up at Vancouver Fair. Dean Kinlock, head of the agricultural department of British Columbia University, in answer to a question said that some criticism had been levelled at the university for entering cattle at the exhibition, but he was at a loss to understand the reason for this. If the university had the best cattle in the province, it was the duty of the university to put it on exhibition where it could be seen by other exhibitors. If it had poor stock then it had no right to exist as an agricultural university.

Packing Crops.
There was an unusually heavy pack of peas and beans in Ontario canning factories this year. In the Bay of Quinte district the pack of corn will be light, owing to seed failure last spring, but generally the pack will be fair, taking the province as a whole. In Eastern Ontario, given three weeks more free of frost, there will be a large canning crop of tomatoes, but in Leamington district the crop has been badly affected by drought.

Less Than 150,000,000 Bushels.
The Manitoba Free Press estimates this year's wheat crop for the three western provinces at 149,844,000 bushels, oats 183,000,000, barley 1,957,000, flax 5,056,000 and rye 724,000.

One Favoured District.
Settlers about Ponoka, Alberta, have been singularly favored this year, according to a staff writer on the Edmonton Bulletin. At no place, this writer says, did the cold wave bear more heavily than in the Ponoka district, only a few miles south of Ponoka. Yet the damage did not extend more than a few miles south of Ponoka. It would appear. One writer occasionally and fields in the Ponoka district, which are the real damages from the freeze are negligible. Therefore the farmer who has been sowing and reaping in that favored district for the past twenty years or thereabouts, as many of those farmers have, is glad about his annual harvesting the same as usual this highly variegated autumn.

Freight Car Versus Motor.
The average freight car travels twenty miles a day, and a motor truck will travel 1000 miles in that time. The average capacity of a freight car is 25 tons. Although a five-ton truck carries one-fifth the load of the railroad car it travels five times as fast, thus equalizing their performances.

Farm Horses for Military Service.
After the present harvest is gathered French farms are to be almost stripped of horses suitable for military purposes.

New York's Hay Crop Decreases.
As a result of unfavorable weather in June New York's hay crop is a fifth less than expected.

Turned to Death in Barn.
HANOVER, Oct. 7.—Chas. Mauer, 69 years old, was burned to death in his barn, 12th concession, Brant township, shortly before noon Saturday. After saving the cattle he re-entered the barn to save the pigs and never returned. The barn and crops were a total loss. The cause of the fire is thought to have been caused by boys playing with matches.

BUTTER PRODUCED ON FARMS.

First Thing Necessary is to Begin With Good Milk.

Although creamery butter has largely displaced farm-made butter in the markets of many parts of Canada, more than half the butter produced is still made on farms. The fact that this butter cannot compete successfully with the creamery product is that most of it brings a poor price and is consumed in villages or small towns, or is shipped to reconditioning factories for treatment and sale as a relatively low-grade product. It is possible, however, greatly to improve the quality of farm butter by employing in its production standard practices and greater care than is ordinarily expended.

To produce good butter it is necessary to begin with a good, clean-favored milk. In some sections of the country it is customary to churn and churn the whole milk instead of the cream. That practice, however, is inadvisable, because it requires a high churning temperature, which injures the quality of the butter and causes a considerable loss of butterfat in the buttermilk. It is also liable to result in too much water in the butter. For those reasons only the churning of cream will be considered. It is just as essential to obtain cream under such conditions that it will be of equally good quality as the milk.

Cream may be separated from the milk by gravity or by a centrifugal separator. Gravity separation may be accomplished by the shallow-pan, the deep-setting, or the water-dilution method. The first two have been extensively used and are still in use where very few cows are milked. In the first method the milk is placed in shallow pans and set in a cool place for about 36 hours, usually in a cellar or a spring house, and sometimes in cold water. It is then stirred by hand, and the cream rises to the surface, as a rule, is exposed to the air and frequently the cream absorbs or develops objectionable flavors. The skim milk resulting from the removal of the cream by this method usually contains 0.5 to 1.5 per cent. of butterfat; that is, one-eighth to one-third of all the butterfat in the whole milk. It is frequently sour also; its value for calf feeding is injured, and its use in the household is limited.

By the deep-setting method the milk as soon as drawn from the cow is placed in a "shotgun" can, which is placed in cold water, preferably ice water, for 12 hours. Because of the quick cooling to a low temperature the cream rises more quickly and completely than in the shallow-pan method and is skimmed before its fresh, sweet flavor has been lost. The resulting skim milk may contain as low as 0.2 per cent. of butterfat, though often nearer 0.5 per cent. and is sweet. If the milk is not placed in ice water immediately after it has been drawn the loss of butterfat is still greater.

The dilution of milk with water has been used to some extent, in the belief that it aids creaming, but investigations have shown that the loss of butterfat is as great as, or greater than, in the shallow-pan method. There is the further objection that a watery flavor is imparted to the cream, and the usefulness of the skim milk is limited, mixtures of water and skim milk being undesirable either for household use or for calf feeding.

A centrifugal separator gives by far the best results, because the separation is accomplished in a few minutes, while the milk is still warm. The skim milk usually contains only a trace of butterfat and is available for use at once, while perfectly fresh. Because of the ability of the mechanical separator to skim clean, it is a profitable investment, unless the quantity of milk is very small.

Rain Helps Tobacco.
The tobacco crops in the Ruthven, Leamington and other districts suffered greatly from the extended drought, and it was feared at one time the crop would be small. For six or seven weeks little or no rain fell in several sections where the land is given up to tobacco culture. Fortunately, these crops gained immensely through a steady downpour of rain which occurred recently, and thousands of dollars will go into the pockets of Essex County tobacco growers as a result.

Organization.
Farmers' organization is class organization, pure and simple, but it is necessary that all classes become organized before a proper union of all forces can be accomplished. This, done, the various branches of our national life can arrive at an understanding that will make democracy possible and ensure a reign of equity and justice.—Farmers' Advocate.

Comparison of Pound Print and Country Roll—Superiority of Former is Obvious.

The various surfaces, such as ceilings, walls, partitions, floors, etc., should be swept until free from cobwebs and dust. Any accumulation of filth should be removed by scraping and scrubbing, using for this purpose a wire or other stiff brush and warm water with a liberal quantity of washing soda. In some cases the woodwork may have become softened and so porous as to be a good medium for the absorption of disease germs. Burned, and replaced with new material.

All refuse, manure, etc., from stable and barnyard should be removed to a place inaccessible to live stock and, if possible, be burned or thoroughly disinfected. A solution of chloride of lime, or a solution of six ounces to one gallon of water. If the floor is of earth, it will doubtless have become stained with urine and contaminated to a depth of several inches. In such cases four inches or more of surface soil should be removed and replaced as suggested above for refuse and manure.

Having made ready the field operation, the next consideration should be the selection and preparation of the disinfectant. The fact must not be overlooked that many agents used for the destruction of bacteria are likewise poisonous to animals and man. In fact, some drugs, although powerful as germicides, are so poisonous as to preclude their general use in the work of disinfection.

Where a very limited surface is to be treated, as, for example, one stall, it may be possible to apply the disinfectant in a satisfactory manner by means of a whitewash brush. In all cases, however, the best method of applying the disinfectant and the lime wash is by means of a strong spray pump.

The entire interior of the stable should be saturated with the disinfectant. Special attention should be given to the feeding troughs and drains. After the disinfectant has dried, the surface may be sprayed with lime wash, provided this has not been combined with the disinfectant as previously described. When the work has been completed it will be advisable to open all doors and windows of the building for the admission of air and light.

Crusade Against Insects.
Take advantage of the bugs in their winter quarters, the remnants of old plants, the trash and litter about the garden and orchard. Burn out the fence rows, destroy the trash and litter wherever it has accumulated, by burning it or ploughing it under. Cut out the dead trees and limbs in the orchard and make them into firewood.

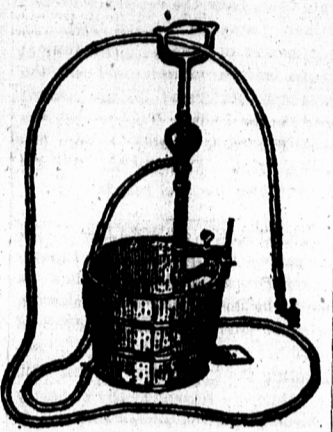
This cleaning up about the orchard and garden will destroy a dozen or more of our most destructive pests. For example, the plum curculio is now wintering as a full-grown beetle in the trash and litter along the fence rows or about the trees; the codling moth will be found in the worm stage within a silken cocoon tucked away under the shelly bark of dead trees and dead limbs; and the fruit-tree bark beetle or shot-hole borer will also be found wintering mostly as adults in dead or dying trees.

KEEP STABLES CLEAN

Thoroughness in the Performance of the Operation is Necessary if Good Results are to be Secured—Various Surfaces Should Be Kept Clean and All Refuse Matter Removed.

In the practical work of disinfection there are three essentials: 1. A preparation of the building that will facilitate reaching organisms of disease. 2. A disinfectant which upon contact can be depended upon to destroy such organisms. 3. A method of applying the disinfectant that will assure the most thorough contact with the bacteria.

Before beginning the use of disinfectant it is essential that certain preliminary work be done in and about the stable that is to be treated. The various surfaces, such as ceilings, walls, partitions, floors, etc., should be swept until free from cobwebs and dust. Any accumulation of filth should be removed by scraping and scrubbing, using for this purpose a wire or other stiff brush and warm water with a liberal quantity of washing soda. In some cases the woodwork may have become softened and so porous as to be a good medium for the absorption of disease germs. Burned, and replaced with new material.



Fall Spraying Pump Suitable for Disinfecting Small Stables.

All refuse, manure, etc., from stable and barnyard should be removed to a place inaccessible to live stock and, if possible, be burned or thoroughly disinfected. A solution of chloride of lime, or a solution of six ounces to one gallon of water. If the floor is of earth, it will doubtless have become stained with urine and contaminated to a depth of several inches. In such cases four inches or more of surface soil should be removed and replaced as suggested above for refuse and manure.

Having made ready the field operation, the next consideration should be the selection and preparation of the disinfectant. The fact must not be overlooked that many agents used for the destruction of bacteria are likewise poisonous to animals and man. In fact, some drugs, although powerful as germicides, are so poisonous as to preclude their general use in the work of disinfection.

Where a very limited surface is to be treated, as, for example, one stall, it may be possible to apply the disinfectant in a satisfactory manner by means of a whitewash brush. In all cases, however, the best method of applying the disinfectant and the lime wash is by means of a strong spray pump.

The entire interior of the stable should be saturated with the disinfectant. Special attention should be given to the feeding troughs and drains. After the disinfectant has dried, the surface may be sprayed with lime wash, provided this has not been combined with the disinfectant as previously described. When the work has been completed it will be advisable to open all doors and windows of the building for the admission of air and light.

Crusade Against Insects.
Take advantage of the bugs in their winter quarters, the remnants of old plants, the trash and litter about the garden and orchard. Burn out the fence rows, destroy the trash and litter wherever it has accumulated, by burning it or ploughing it under. Cut out the dead trees and limbs in the orchard and make them into firewood.

This cleaning up about the orchard and garden will destroy a dozen or more of our most destructive pests. For example, the plum curculio is now wintering as a full-grown beetle in the trash and litter along the fence rows or about the trees; the codling moth will be found in the worm stage within a silken cocoon tucked away under the shelly bark of dead trees and dead limbs; and the fruit-tree bark beetle or shot-hole borer will also be found wintering mostly as adults in dead or dying trees.

Under the old stalks and rubbish in the garden, and about the borders will be found the adult asparagus beetle, bean leaf beetle, harlequin cabbage bug, flea beetles, the striped cucumber beetle, and the crystals of the cabbage worm. If you want to kill these pests, rub and burn dead tomato and pea vines and other remains of vegetation in the garden and along the border.

Deep fall or early winter ploughing will also destroy many insects. This is especially true of the cutworm, potato beetle, white grubs, and wireworms which are now hibernating in the soil. Late fall or early winter ploughing will turn these insects up near the surface and expose them to an attack of birds, poultry, and other animals. At this season of the year the insects are in a dormant or semi-dormant condition, and when brought up near the surface of the ground they are unable to go deeper in the soil or to burrow under the surface. Early, thrifty, healthy plants are also less liable to injury from insects.

Canada's Apple Crop.
The fruit crop report for September places the Nova Scotia apple yield at 400,000 barrels, or slightly more than half of last year's production. The apple crop in Ontario, the Great Britain, the report states, is discouraging to Nova Scotia growers, but the orchards are being kept in good condition in view of the after-war possibilities.

Conditions in the province of Quebec are especially disappointing, because of the destruction last winter of old France orchards. The hope is expressed that the farmers will replant these orchards.

In Eastern Ontario there is a medium crop of some varieties of apples. There is also a fair crop in Central Ontario, but the quality is below average. In Western Ontario fall varieties are one-half a crop and winter varieties 35 per cent. There is a fairly good crop in the Georgian Bay district.

Earlier reports on the Niagara Peninsula peach crop are confirmed by the September report. The total yield will be slightly less than in 1917, and probably not more than 10 to 15 per cent. of an average crop. The apple crop in the inland valleys of British Columbia will average about 10 per cent. less than in 1917, but is of better quality and size.

Pears are a very large crop, at least 50 per cent. larger than last year, while plums and prunes also show a big increase.

Avoid Using Drugs.
In a recent issue of the Breeder's Gazette a contributor over the name "Alberta" warns against the danger of using drugs in fitting horses for the show ring, especially with regard to the menace to their breeding position. The writer says that the danger, existing in such practice, is the fact that a group of mares can be kept in high condition for a season were sold to be safe in foal. One proved not to be. Four dropped live foals, but three of these lacked vitality. The writer says that in other cases of disqualification, as over-conditioning quoted by the writer, "there was ample ground for believing that the trouble was directly due to the use of drugs in fitting for shows." "Animals fed on sound grains, with abundant exercise and good grooming, will make a show season without injury. Let that be the aim," he says.

CRUSADE AGAINST INSECTS.

Important Work Can Be Done in the Autumn.

Take advantage of the bugs in their winter quarters, the remnants of old plants, the trash and litter about the garden and orchard. Burn out the fence rows, destroy the trash and litter wherever it has accumulated, by burning it or ploughing it under. Cut out the dead trees and limbs in the orchard and make them into firewood.

This cleaning up about the orchard and garden will destroy a dozen or more of our most destructive pests. For example, the plum curculio is now wintering as a full-grown beetle in the trash and litter along the fence rows or about the trees; the codling moth will be found in the worm stage within a silken cocoon tucked away under the shelly bark of dead trees and dead limbs; and the fruit-tree bark beetle or shot-hole borer will also be found wintering mostly as adults in dead or dying trees.

Under the old stalks and rubbish in the garden, and about the borders will be found the adult asparagus beetle, bean leaf beetle, harlequin cabbage bug, flea beetles, the striped cucumber beetle, and the crystals of the cabbage worm. If you want to kill these pests, rub and burn dead tomato and pea vines and other remains of vegetation in the garden and along the border.

Deep fall or early winter ploughing will also destroy many insects. This is especially true of the cutworm, potato beetle, white grubs, and wireworms which are now hibernating in the soil. Late fall or early winter ploughing will turn these insects up near the surface and expose them to an attack of birds, poultry, and other animals. At this season of the year the insects are in a dormant or semi-dormant condition, and when brought up near the surface of the ground they are unable to go deeper in the soil or to burrow under the surface.

Early, thrifty, healthy plants are also less liable to injury from insects.

Canada's Apple Crop.
The fruit crop report for September places the Nova Scotia apple yield at 400,000 barrels, or slightly more than half of last year's production. The apple crop in Ontario, the Great Britain, the report states, is discouraging to Nova Scotia growers, but the orchards are being kept in good condition in view of the after-war possibilities.

Conditions in the province of Quebec are especially disappointing, because of the destruction last winter of old France orchards. The hope is expressed that the farmers will replant these orchards.

In Eastern Ontario there is a medium crop of some varieties of apples. There is also a fair crop in Central Ontario, but the quality is below average. In Western Ontario fall varieties are one-half a crop and winter varieties 35 per cent. There is a fairly good crop in the Georgian Bay district.

Earlier reports on the Niagara Peninsula peach crop are confirmed by the September report. The total yield will be slightly less than in 1917, and probably not more than 10 to 15 per cent. of an average crop. The apple crop in the inland valleys of British Columbia will average about 10 per cent. less than in 1917, but is of better quality and size.

Pears are a very large crop, at least 50 per cent. larger than last year, while plums and prunes also show a big increase.

Avoid Using Drugs.
In a recent issue of the Breeder's Gazette a contributor over the name "Alberta" warns against the danger of using drugs in fitting horses for the show ring, especially with regard to the menace to their breeding position. The writer says that the danger, existing in such practice, is the fact that a group of mares can be kept in high condition for a season were sold to be safe in foal. One proved not to be. Four dropped live foals, but three of these lacked vitality. The writer says that in other cases of disqualification, as over-conditioning quoted by the writer, "there was ample ground for believing that the trouble was directly due to the use of drugs in fitting for shows." "Animals fed on sound grains, with abundant exercise and good grooming, will make a show season without injury. Let that be the aim," he says.

One Favoured District.
Settlers about Ponoka, Alberta, have been singularly favored this year, according to a staff writer on the Edmonton Bulletin. At no place, this writer says, did the cold wave bear more heavily than in the Ponoka district, only a few miles south of Ponoka. Yet the damage did not extend more than a few miles south of Ponoka. It would appear. One writer occasionally and fields in the Ponoka district, which are the real damages from the freeze are negligible. Therefore the farmer who has been sowing and reaping in that favored district for the past twenty years or thereabouts, as many of those farmers have, is glad about his annual harvesting the same as usual this highly variegated autumn.

Freight Car Versus Motor.
The average freight car travels twenty miles a day, and a motor truck will travel 1000 miles in that time. The average capacity of a freight car is 25 tons. Although a five-ton truck carries one-fifth the load of the railroad car it travels five times as fast, thus equalizing their performances.

Farm Horses for Military Service.
After the present harvest is gathered French farms are to be almost stripped of horses suitable for military purposes.

New York's Hay Crop Decreases.
As a result of unfavorable weather in June New York's hay crop is a fifth less than expected.

Turned to Death in Barn.
HANOVER, Oct. 7.—Chas. Mauer, 69 years old, was burned to death in his barn, 12th concession, Brant township, shortly before noon Saturday. After saving the cattle he re-entered the barn to save the pigs and never returned. The barn and crops were a total loss. The cause of the fire is thought to have been caused by boys playing with matches.

Crusade Against Insects.
Take advantage of the bugs in their winter quarters, the remnants of old plants, the trash and litter about the garden and orchard. Burn out the fence rows, destroy the trash and litter wherever it has accumulated, by burning it or ploughing it under. Cut out the dead trees and limbs in the orchard and make them into firewood.

This cleaning up about the orchard and garden will destroy a dozen or more of our most destructive pests. For example, the plum curculio is now wintering as a full-grown beetle in the trash and litter along the fence rows or about the trees; the codling moth will be found in the worm stage within a silken cocoon tucked away under the shelly bark of dead trees and dead limbs; and the fruit-tree bark beetle or shot-hole borer will also be found wintering mostly as adults in dead or dying trees.

Under the old stalks and rubbish in the garden, and about the borders will be found the adult asparagus beetle, bean leaf beetle, harlequin cabbage bug, flea beetles, the striped cucumber beetle, and the crystals of the cabbage worm. If you want to kill these pests, rub and burn dead tomato and pea vines and other remains of vegetation in the garden and along the border.

Deep fall or early winter ploughing will also destroy many insects. This is especially true of the cutworm, potato beetle, white grubs, and wireworms which are now hibernating in the soil. Late fall or early winter ploughing will turn these insects up near the surface and expose them to an attack of birds, poultry, and other animals. At this season of the year the insects are in a dormant or semi-dormant condition, and when brought up near the surface of the ground they are unable to go deeper in the soil or to burrow under the surface.

THE STORAGE OF APPLES.

How to Avoid Trouble With the Fruit.

In a recent paper (Journal of Agricultural Research, Vol. XI, No. 7), there are given some very interesting notes on two storage troubles of apples, and since present conditions demand most careful preservation of all food materials, the Central Experimental Farm through its pathological service, issue a statement which should be of especial interest to every Canadian who has apples in his cellar or warehouse. The following short account of these two apple troubles, based largely on the article in question, aims at pointing out the means that may be taken to avoid scalding and spotting of our scanty but valuable supply of this fruit in storage.

Scald in apples is a browning in the skin and outer tissue. It is different from rot, because in rot the browning goes very deep into the tissue, whereas scald only affects the skin and the flesh immediately beneath. Rot spots are usually definite in outline, while scald areas are often more or less irregular in shape. However, scald areas are very often invaded by rot fungi so that ordinarily one may expect to find all sorts of combination of the two.

The "Jonathan Spot," so called from its being found very frequently on the Jonathan variety, also develops in storage on several standard varieties, such as Northern Spy, Greening, etc. The spots are usually small, less than 1/4-inch in diameter, and are sunken and somewhat raised when the skin is brown and somewhat dry and corky. There is another spot disease, the Baldwin Spot, or Stippen, which may be mistaken for the Jonathan Spot. The Baldwin Spot, however, develops when the apple is growing and will be present when the fruit is picked, whereas the Jonathan Spot develops during storage. Moreover the Baldwin Spot may be found all through the fruit, while the Jonathan Spot occurs as small sunken brown spots on the surface only.

Both spot and scald arise from improper storage conditions, and will likely be worse on fruit that has not matured properly before being picked. The three storage conditions that favor spot and scald development are: (1) high temperature, (2) humidity, and (3) stagnant air. It should be understood that the fruit is not completely dormant during the storage period, but there is a continuing small, continuation of growth processes throughout the whole period. These processes result in maturing or mellowing the apple, and the chemical processes which occur during them involve the absorption of oxygen from the air and the giving out of carbon dioxide. It is, in fact, a slow breathing process. When apples are stored in a place where they have no free access to air they are "smothered," and the scald which develops on them is due to abnormal chemical changes brought about because of an inadequate air supply. If the room is warm, the growth processes are quickened and scald or spotting is increased. Very moist or humid air also aggravates these troubles.

It is obvious that in an ordinary cellar, about scalding can be largely avoided by a little attention to the needs of the fruit for cool, dry conditions, and a continuous supply of fresh air during the storage period.

It is recommended, (1) that apples should be stored in small lots rather than in large, close piles or bins. They should preferably be kept in open-slatted boxes or other similar containers, which will allow all the fruit to have free access to air. (2) That the temperature be kept as low as is consistent with protection from frost, and (3) that plenty of ventilation be provided. If the air is changed frequently in the cellar, the incoming supply will not only renew the oxygen, but will drive out the old stagnant air, which is saturated with moisture, and overcharged with carbon dioxide. The method of ventilation can best be determined by conditions; in some instances air shafts can be used, while in others the opening of doors and windows on mild days will be possible, but almost all cases some simple means of securing frequent change of air can be readily adopted, and the fruit thus kept free from scald and spot troubles.

Holstein Records.
The British breeders of Holstein cattle (or Friesians as they are now called in Britain) are coming forward with some very respectable milk records has been increasingly evident recently, although yearly milk records of over 20,000 pounds are, as yet, conspicuously absent. In fact, the first and only Holstein cow to give 20,000 pounds or over in a year was sold at the auction sale of F. B. May, Essex, June 6. Her name is Eske Hetty and her record was 24,124 pounds in 365 days in 1917 as a seven-year-old. Eske Hetty is reported to be "a great cow in every way, with immense size, depth, constitution, bag veins and milking appearance." She sold for 3,500 guineas. Two other heifers sold for 550 and 600 guineas, respectively, and several more for sums ranging from 200 to 400 guineas.

Labor-saving Machine.
In parts of the Western States a machine was in use this year that cut, thrashed and bagged grain at one operation, the straw being left evenly on the ground, and the bags of grain in a row.

Farm Horses for Military Service.
After the present harvest is gathered French farms are to be almost stripped of horses suitable for military purposes.

New York's Hay Crop Decreases.
As a result of unfavorable weather in June New York's hay crop is a fifth less than expected.

Turned to Death in Barn.
HANOVER, Oct. 7.—Chas. Mauer, 69 years old, was burned to death in his barn, 12th concession, Brant township, shortly before noon Saturday. After saving the cattle he re-entered the barn to save the pigs and never returned. The barn and crops were a total loss. The cause of the fire is thought to have been caused by boys playing with matches.

Crusade Against Insects.<