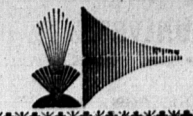


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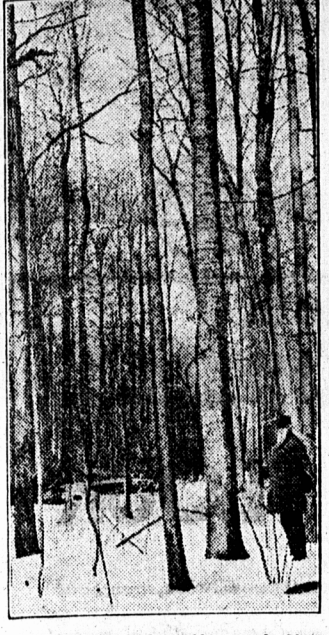


GUARDIAN



TREES TO CUT DOWN.

Aim to Improve Woods in Cutting Fuel Supply. In cutting firewood for the winter's emergency fuel supply the operation should be undertaken with the double purpose of furnishing heat and improving the farm wood lot at the same time.



An Old Wood Lot Ungrazed - Note Young Trees Which Will Make Future Timber Crop.

As possible if the firewood is to be used this winter, so there will be some time for the wood to season. The following kinds should be left standing to furnish lumber, except in the case of individual trees that are crooked, knotty, diseased or deformed.

Conditions in Ontario.

The following is a summary of reports of farm conditions made by Agricultural Representatives to the Ontario Department of Agriculture: The mild winter has helped owners of live stock to bring their animals along with less drain than usual.

Notwithstanding that most of the fall wheat fields have had little or no protection for the last two months, reports regarding the crop are still hopeful. Several Representatives look for an increased acreage of spring wheat.

Owing to the remarkable open weather prevailing this winter, more outside work than usual has been done. The Huron Representative states that a large number of farms are changing hands at prices varying from \$6,000 to \$12,000 a hundred acres.

Live Stock Values 1917-8. For the Dominion as a whole, according to the Bureau of Statistics, horses under one year average in price \$56 as against \$57 in 1917.

TRACTOR VS. HORSE.

Interesting Figures That the Expert Have Compiled.

Figures compiled by the Experimental Farms Department show that the cost of maintaining a 1,600 lb. horse for a year, including feed labor, interest on value of horse, depreciation, interest and insurance, of buildings, harness and other equipment, shoeing, veterinary attention, etc., is \$249.09, and we have cited the word of a fruit grower, who operates on the large scale that on 12-20 caterpillar type tractor has replaced eight horses and three men in the work of cultivating in his orchards.

Considering cost of feed only—gasoline v. hay, oats, etc., the tractor in question uses nine gallons of gas at 35c per gallon per day, or \$3.15 a day, equal to \$81.90 per month or \$215.99 charged against the 1,600-lb. horse. The above-mentioned statement of costs, because in this country, horse feed costs more than in the average mixed farming district.

In favor of the tractor it must be noted that they can be more generally useful than the tractor. For instance, the tractor can be used to haul on the road, while in the case of four teams vs. one tractor, more could be accomplished in picking up fruit in the orchard, but at best their use in this direction would entail the employment of a number of teamsters, whose driver of the tractor might well change from his machine to a motor truck and so effect a rapid collection and delivery of the fruit as could the four teams of horses.

It is the firm conviction of the owner of this tractor, that such a machine would pay better than any fruit farm of as much as 100 acres, and he is so well satisfied with results attained in his case that he intends purchasing another machine of the same type for his farm, which includes several hundred acres of peaches besides other fruits.

Saskatchewan Co-op. Creameries. At the annual meeting of Saskatchewan Co-operative Creameries the financial report showed the volume of the business for the last fiscal year was \$1,887,318, representing an increase of almost 100 per cent. on the previous year's business.

2,500 Guineas for Bull Calf. A 12-days-old bull calf, Haydon's Dutch King, from the famous English Friesian herd of Mrs. Putnam, has been sold for the record price of 2,500 guineas to Mrs. Brown, of St. Albans.

BETTER THAN CLOVER.

Alfalfa Is Superior Crop in Good Land.

During the last few years so much has been written in the agricultural press extolling sweet clover that, in many quarters, it has gained a reputation for superiority which, to say the least, is misleadingly exaggerated. A few unbiased remarks regarding it, especially in comparison with alfalfa, may therefore not be out of place.

The reputation for superiority which sweet clover has gained is to a very large degree due to the fact that it is able to do surprisingly well in naturally poor soil or worn-out land deficient in plant food, and in soil lacking in moisture to such an extent that neither red clover nor alfalfa can be grown to satisfaction. No one who has seen sweet clover flourish in places where, to use a common expression, "nothing else will grow," can deny that sweet clover is well employed as a temporary crop on the type of land just referred to.

Alfalfa may be grown for pasture, hay, silage, and soiling, whereas sweet clover has a somewhat limited sphere of usefulness. Thus, sweet clover is not likely to make as good hay as alfalfa, neither is it suited to cured into good hay as easily as the latter. As a forage crop, its chief asset lies in its ability to furnish nutritious pasture, but even as a pasture plant it is hardly equal to alfalfa where the latter can be grown successfully.

Crop Rotation. During the war, owing to labor scarcity and the high prices ruling for grain, there has been a tendency to get away from the short rotation in crop production. The necessity is, therefore, all the greater for getting back to it now.

First year.—Hoed crop. For corn apply manure in winter or spring, at rate of 15 tons per acre and shallow plough shortly before planting time, turning under both clover and manure. For roots plough land previous autumn.

Second year.—Grain. Seed down with 10 pounds of red clover, two pounds alsike, six pounds alfalfa and six pounds timothy per acre.

Third year.—Clover hay or pasture. Second crop of hay may be used for seed. This rotation is well suited for intensive dairy farming where soiling crops are used. It would be a most excellent rotation to put into practice where sufficient rough land was available to serve as pastureage.

"Giant Jacks" of Poultry Policy. Provisional officers of the National Poultry Council as organized by the delegates to the poultry conference at Ottawa are as follows: President, Dr. Barnes, Ottawa; N. W. Kerr, Brandon, Man., vice-president for Western Canada; Dr. P. C. Gauthier, St. Louis, P.E.I., vice-president for Eastern Canada; and E. Rhoades, Ottawa, secretary-treasurer.

Horses for Soldiers. A large number of horses are required for soldiers who take up land under the land settlement scheme, and H. G. Williams of the Live Stock Department, Soldier Settlement Board, is in Saskatchewan making arrangements for stabling as well as for purchasing the horses that will be required. According to Mr. Williams, a large number of good general purpose horses suitable for agricultural work will be required, Saskatchewan and Regina to be distributing points for the province, and about five hundred horses will probably be sold to returned soldiers from each distributing point.

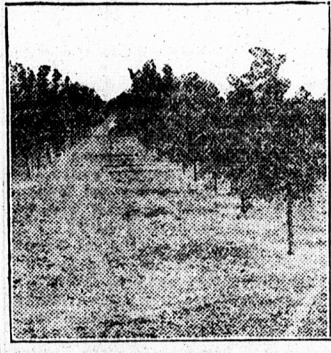
PLAN TO PLANT TREES

SELECTION OF CHEAP STOCK IS POOR ECONOMY.

Plants Should be Watered—Cuttings May be Successfully Used for Willows and Cottonwoods—Bury in Cool, Moist, Well-drained Sand Until Spring to Get Satisfactory Results.

A tree plantation established with poor stock always is handicapped. The purchase of cheap stock, simply because it is cheap, is poor economy, for often it results in failure. Fortunately, most of the hardwoods may be grown easily from seed, and the possibility of buying stock which is not true to name or of having it injured in transit avoided.

Cuttings may be used successfully for growing the planting stock for such trees as willows and cottonwoods. These cuttings, which are best made in the fall or early winter after the leaves have fallen, should be about ten inches in length and taken from one-year-old or two-year-old twigs of vigorous, healthy trees.



Well-Planted and Cared for Windbreak.

are desired, cuttings should be taken from trees which observation has shown do not produce seed. As soon as the cuttings are made they should be tied in bundles of about fifty and buried in cool, moist, well-drained sand until spring. As soon as possible in the spring, and always before the soil dries out, the cuttings should be set out with the buds pointing upward, leaving two or three inches above ground. The soil should be pressed firmly about the stems, and if it is not soft it is better to make holes for the cuttings with a round bar or dibble.

Trees grown from large nuts, such as walnut and oak, are best propagated by planting the nut where the mature tree is desired. Unless this is done, the long, heavy taproot, even at the end of the first year, makes transplanting difficult and the loss heavy. Black walnut is best planted in the fall.

Confiners are much more difficult to raise than hardwoods, and unless a large project is undertaken it is inadvisable to attempt to raise them. Thrifty stock may be purchased from reliable nurseries and in some cases raised from nurseries maintained by the state. Stock grown as near as possible to the region of planting is always preferable.

If hardwoods are used, one-year seedlings give best results under normal conditions. Large stock should be available to serve as pastureage. It requires more time and attention to plant. If confiners are used, nothing smaller than three-year-old transplants should be tried. Transplants of the larger mass of fibrous roots, and the methods are dependent largely upon the size of the stock and the condition of the site.

When stock is received for planting, the first precaution is to see that it has not dried out. The roots never should be exposed to the sun or drying air. The roots of stock that is packed in turps should be moistened thoroughly before the trees are removed. If the trees are extra-large confiners and the roots of each tree are protected with earth bound with a cloth covering, the whole stock should be kept in the moist earth until, in any case, all small stock, if it cannot be planted at once, should be heeled in in a cool, moist situation. The tops should not be covered.

All grassy, weedy, or heavy land should, if it is practicable, be ploughed and harrowed at least 12 months before the trees are planted. Fall ploughing is preferable. If manure is to be used, it should be applied at the time of ploughing to enable it to decay. If it is placed fresh next to the roots at the time of "burning" them, there is danger of "burning" them. Although ploughing is not absolutely necessary, it is productive of good results, and the benefits are several times as great as those secured by caring for the ground after the stock is set out. It is still better to use ground which has been under cultivation for one or two years. Young trees need just as much care as a garden, and their growth will be proportionate to the amount of care they receive.

Planting may be done in either of two ways: by the slit method or by the individual-hole method. Both of these methods may be worked out in a shallow furrow. It is very desirable on sod ground to

FOR THE BREEDING PEN

TRAPS WILL KILL RATS

INEXPENSIVE SNAP OR GUILLOTINE DEVISED USEFUL FOR GENERAL USE— They May Be Placed in Great Variety of Favorable Spots Around Farm—Small Breeds of Dogs Valuable.

No opportunity to kill rats should be neglected on the farm. Traps, dogs, cats, and poisons may be useful. The first need is traps and a knowledge of how to use them. The most reliable traps for general use are the inexpensive snap, or guillotine, traps. Many efficient kinds are on the market, but the cheaper ones are rarely to be recommended for durability. Those that have sheet-metal bases are not desirable, as rats fear and avoid them. Snap traps should be set so that they will spring at a slight touch. They may be placed in rat runs, at rat burrows, behind boards, leaned against the wall, and in a great variety of other favorable places. Dry oatmeal (rolled oats) is recommended as a bait for both rats and mice. Place a few grains on the trigger pan or under the trigger wire, with a few grains near the trap.

WEEVILS CAUSE LOSSES.

The serious losses caused by bean and pea weevils—which amount to millions of dollars annually—is largely preventable, and by making a stop to it a valuable and much-needed source of the nation's food supply can be saved. No satisfactory artificial remedies can be applied to kill weevil grubs in beans, peas or cowpeas growing in the field, but they can be easily and effectively controlled afterwards if the necessary care is given.

Weevils not only cause serious damage to peas, beans and cowpeas in storage but also in the field, and are responsible for a curtailment in the acreage planted in these crops. Badly infested seeds are worthless for planting. In one experiment on peas only 50 per cent. of infested beans germinated, and of these 30 per cent. were so badly injured that they could not develop into normal plants.

In gathering the crop, exercise care, the bulletin urges to leave no portion of it in the field, as seeds scattered on the ground or left in shattered pods on the dried vines, may carry the pest over winter, and furnish a supply of weevils the following summer. The crop should be harvested as soon as possible after reaching maturity and the seeds thrashed or shelled soon afterwards. Storing in the pod does not confine the weevils. Immediately on placing the seed in storage, fumigate with carbon disulphid or carbon tetrachlorid. These chemicals when exposed to the air vaporize into a heavy type of gas which immediately kills the weevil. Carbon disulphid is the more generally used, though carbon tetrachlorid has the advantage of not being inflammable. Seed to be fumigated should be placed in an airtight container, such as a tin can, or barrel. The container used at the rate of from 2 to 4 pounds to each 500 cubic feet of space to be fumigated, should be poured over the top of the seed, and fumigation should continue for from 24 to 48 hours.

When there is only a small quantity of seed which may be killed by heating the seed in the oven for several hours. The oven should not be hotter than 120 to 145 degrees Fahrenheit. Dipping seed in boiling water for one minute is also an effective remedy. Weevils will not feed on or cause damage to seeds at temperatures, and if seed can be kept in cold storage at a temperature of 32 to 43 degrees Fahrenheit, no trouble from this pest will result.

A Popular Move. In adopting the suggestion in favor of standardization of potatoes, the Ontario Vegetable Growers' Association, at their annual convention held in Toronto last week, has been in the direction of an ultimate benefit to the industry, should go to make the association popular with the home consumers of potatoes, which means almost the entire population of Canada. No other product is so widely used, nor so nearly prepared for market as is the potato crop, and growers may rest assured that a guarantee to the consumer that his purchases of this staple will be according to sample, will result in a much stronger market for potatoes. Since it must be admitted that the loss entailed in accepting potatoes of mixed quality has become very generally realized since food products of all kinds began to increase greatly in price with the outbreak of the war, and as consumers in general have learned the lessons of looking for a more, not as before, in the way of actual food value for the money expended, potatoes will have to stand comparison in this regard, with whatever other food is capable of giving the desired results.

Horses for Soldiers. A large number of horses are required for soldiers who take up land under the land settlement scheme, and H. G. Williams of the Live Stock Department, Soldier Settlement Board, is in Saskatchewan making arrangements for stabling as well as for purchasing the horses that will be required. According to Mr. Williams, a large number of good general purpose horses suitable for agricultural work will be required, Saskatchewan and Regina to be distributing points for the province, and about five hundred horses will probably be sold to returned soldiers from each distributing point.

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INEXPENSIVE SNAP OR GUILLOTINE DEVISED USEFUL FOR GENERAL USE— They May Be Placed in Great Variety of Favorable Spots Around Farm—Small Breeds of Dogs Valuable.

It is time that preparations were made for the breeding season. The male bird or birds that are to be used for breeding should have been selected before this, and be in prime condition. Great care ought to be exercised in the selection of the male. He is more than half the flock. He alone may mean success or failure. It is also important to select the best females. Do not select from the whole flock. Take those only from which good type and vigorous chicks may be expected. Vigorous, well-grown cockerels, heads of high-producing females, should be used, as they are more likely to breed than aged cocks. This does not mean that cock birds should not be used. They should, but only those cock birds that have shown their vigor and ability to produce strong, high-producing stock.

These males should be mated not to the whole flock, but to selected sets, and to strong, well-grown pullets that have shown by their win-win performance that they have the high-laying character. When the pullets are put into their winter quarters in the fall, the best should be kept on them, and note made of those that start to lay early and are persistent in production. If trap-nests are used, select those birds that make the highest records, provided they are suitable in various respects, that is, if they conform to the requirements of the breed.

If trap-nests are not used, dependence will have to be placed on external indications of production for selection. A pullet of a yellow-skinned variety, such as the Leghorn, Plymouth Rock, Wyandotte or Rhode Island Red starts to lay, her legs and beak will be rich-colored as well as her skin. As laying progresses she uses up the surplus fat in the body, and the various parts begin to fade. These changes take place in the following order. The vent rapidly fades, so that a pale vent indicates that the bird is laying. The eye-ring, that is the inner edge of the eyelids, bleaches out a little more slowly than the vent. The ear-lobes of Leghorns and similar white-lobed birds bleach out a little more slowly than the eye-ring, so that a bleached ear-lobe means a little longer or greater production than a bleached vent or eyelid.

The next change is in the beak. Beginning at the base, the color gradually disappears until it finally leaves the front part of the upper beak. A bleached beak means heavy production for at least the past few weeks. The shanks are the slowest to bleach out so that bleached shanks may be taken as an indication that the bird has been laying for a considerable time.

In the absence of trap-nests, therefore, select those females of suitable type that show by their faded shanks that they have been producing heavily during the winter season. If these birds are in laying condition, the vent will be large and moist, the abdomen dilated so that the pelvic arches will be well spread and the force down away from the pelvic arch so as to give capacity. The abdomen will be soft and pliable.

The hens that will have been reserved for breeders will be either those that have good trap-nest records or that were selected in the fall by appearance. These will have been vigorous, alert, active birds that have been late in moulting, that have bleached out shanks and that show the various characteristics previously mentioned.

The number of females to allow to a male will depend on the conditions under which they are kept. For breeds of the general-purpose type such as Rocks or Wyandottes, in confinement, eight to 12 females to one male are sufficient. In the open range the number may be increased 15 to 25 for the heavier breeds and 20 to 30 for the Leghorns.

Be sure to supply an abundance of green food and make the birds exercise as freely as their scratching feet. Do not feed over-stimulating feeds. See that with the good feed there are fresh air, lots of sunshine and sanitary conditions.

Trees as Fence Posts. Plant trees along the line of permanent wire fences to serve as posts when the posts now in the ground rot. Trees cannot be grown in a day. But if a farmer can look a bit beyond the present and resolve to make an improvement that will benefit not only himself, but his descendants, he can hardly do a wiser thing than plant hardy, quick-growing trees along his fence lines. By planting Manitoba and hard maples alternately the Manitoba variety will come into use early, and the more valuable but slower-growing tree, can be made to serve later on.

Cobwebs. Sweep down the cobwebs which have gathered in the cow-shed and stable during the winter, and then give a coating of whitewash, to which has been added a little crude carbolic or other disinfectant. Whitewash makes the interior light, clean and healthy.

Vegetable Oil in Japan. The vegetable oil mills in Kobe, Japan, have produced capacities varying from 10,000 to 300,000 gallons a month. The London County Council has offered 250 trade scholarships for boys between the ages of 12 and 16.

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The wire-cage trap, if substantially made, is useful on the farm. Coarse bait is required, and may be hung from the top of the trap by a light wire. Set the trap on a floor or on a board, lay a short board on top, and cover the whole with an old cloth or gunny sack, leaving only the trap entrance uncovered. The trap may be baited and left open for a night or two until rats learn to feed inside, after which a good catch may be expected. An excellent plan for using the cage trap is to bore a hole two or three inches in diameter at proper height in the door of granary or feed room. The hole may be covered with a metal sheet, which the trap is not in use. Set the trap inside the granary with its entrance fitted to the hole and cover and bait in the usual manner; any rat entering the granary is caught. The same plan is applicable to rat holes in other situations, and it has been used effectively between connecting rooms of cold storage warehouses.

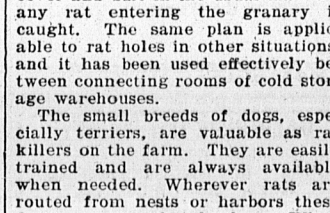
The small breeds of dogs, especially terriers, are valuable as rat killers on the farm. They are easily trained and are always available when needed. Whenever rats are routed from their holes, these dogs are eager for the fray. When shocked or stacked grain is moved or thrashed they kill many rats. Sometimes a barrier, or fence, of light boards is placed about a stack, and dogs inside get all the rodents dislodged from the hay 50c or 60c rats have been destroyed from a single stack.

Cats are useful about farm buildings mainly because they kill mice. Sometimes they hunt and destroy rats but a cat that will kill an adult rat is rare. The chief objection to cats is that they scratch and destroy the structure of song birds. A good cat is valuable when her killing propensities can be confined to rodent pests, but the majority of felines are worthless or actually injurious on the farm.

Great caution should always be observed in the use of poisons, but there are situations on the farm in which poisons may be used safely and effectively. In the open fields poisoned grain may be scattered near rat burrows. In the poultry yard poisons may be exposed for rats inside dark boxes. A small, rather shallow box containing the baits is set on the ground with a larger box inverted over it. A hole in the larger box will admit the rat to the food, while chickens will be safe. Strychnine is the safest poison to use where poultry are housed, because hens are immune to small quantities of this poison.

Shorthorns Took First. In the block test at the last fat stock show, held at Buenos Aires by the Rural Society of Argentina, animals of the Shorthorn breed were first and third in a class of 13, while second and third places were taken by an Angus cross and a pure-bred Angus respectively.

Britain Imports Hams from China. Nearly 3,000,000 pounds of hams, valued at \$550,000, were exported from China during 1917. Great Britain was the principal importer. The Chinese consume vast quantities of hams and pork. Pigs are raised everywhere in China.



Guillotine Trap With Wooden Base and Trigger Plate.

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