

the young ducklings from the nest, putting them in a box or basket of wool in a warm place. There they dry off, without any danger of being trampled to death. After a few hours, they are put into their coops. These are about sixteen inches high, with board sides and wire tops. They are moved every morning at first, and, as the ducks get a little larger, twice a day. I keep clean water to drink always before the birds, and the chicken drinking dishes one buys are much better than any kind of a makeshift I have ever tried or seen. They cost only ten and fifteen cents, and are very satisfactory.

The duck's feed for the first few days, or about a week, consists of bread soaked in a little milk; with this is mixed a little clean sand. At first they are given six small feeds each day. One can soon tell how much to feed, by noticing how much they will eat up clean.

I do not put more than ten ducklings in a coop four feet square. After a month old, they are moved to the field that is to be their home until "the end of all things" for them is at hand. If there is a place fenced off that isn't much good for anything else, it will do for ducks, as long as there are "green things growing"—if only coarse weeds.

From now on they are given three feeds a day, until two weeks before they are to be butchered, when they are fed five or six times on a mixture of smashed grain.

Through the winter they are fed almost entirely on chopped raw vegetables, with grain about once in three days.

Their winter coops are very simple affairs. For two ducks and a drake, the size of coop is about five feet long by three feet wide, four feet high at the back, sloping down to two feet in front. It is roofed with boards, each overlapping the next. One of these is removable, enabling one to see the interior of the coop. The lowest front board being on hinges, lets down, making the cleaning of the coop a simple matter.

Never keep more than three birds in one coop in winter when they are small size, as these described. Duck-raising, I think, fails more often from lack of cleanliness than anything else. Don't let the birds go one day, thinking you will do a double share the next day. That sort of work is not conducive to success in anything, any more than duck-raising. But do each day's share of work as it comes, and reasonable success is certain.

Cumberland Co., N. S.

GARDEN & ORCHARD

Ginseng Growing.

During recent years, the native forest supply of ginseng has decreased rapidly, and, owing to the high price obtained for the crop, a number of people have commenced cultivating it. Those who have given the best attention to the crop have found it quite profitable, but it is a crop the returns from which depend altogether on the credulity of the heathen Chinese, who not only prescribe its use for a limited number of ailments, but consider it a remedy for every malady of human flesh, believing that it insures immunity from all diseases, from the simplest, trivial ailment to the most deadly, contagious disease.

The American plant (*Panax quinquefolium*) resembles the Chinese root in appearance, and possesses the medicinal qualities of the latter, and, as a consequence, has been well received in the markets of China. The plant is a member of the natural order, Araliaceae, which is somewhat allied to the Parsley family. During the first two or three years of its life the plant is rather inconspicuous. From one to three tiny leaves are all the plant bears the first year. The second year it may produce from one to three branches, with from three to eight leaflets, which are increased in the third year to from eight to fifteen leaflets. The plant is easily recognized in the fruiting stage. The berries are about the size of small beans, and usually contain two seeds, although one or three is a common number. Seeds are produced by plants three years old and over. Some very strong plants may produce them at two.

The root is composed of two parts, the root proper, and a rootstock, so it is possible, from the concentric rings, to tell the age of each root. It does not look unlike a little parsnip. Two or three ounces is given as a good weight for young roots, after drying, although specimens have been known to weigh eight ounces.

The plant delights in rich, moist, well-drained

soil. It will not grow to success in wet, swampy soil, but favors such soil as produced our hard maple, beech and basswood forests. It will not live in clearings, but must have partial shade; consequently, in beginning a cultivated plantation, it is necessary to provide this. The fall seems to be the best time to collect the plants, which should be at once transplanted to beds. If collected in the spring, plant at once in the beds. Do not fail to collect the seed. It takes eighteen months for it to sprout, so the seed-bed must be mulched and shaded, and weeds must be kept down. The seed can also be stored. This is best done between one-half inch strata of leaf mould, sand and loam, in a box which can be stored in a cellar or buried in some place where it will be moist, but not wet. Burying is best in summer. In planting a bed, select soil as near to the type on which it grows best naturally as possible; the deeper the soil, the better. Add a good supply of humus, and select a north slope, where possible. The seedlings can be transplanted at two years of age, and it usually takes from three to five years from this time before a crop of roots can be marketed. In view of the fact that it takes so long before returns come in, and considering that the demand is always great in China, and the natural supply is rapidly becoming exhausted in the country, it would seem that at least on a small scale its cultivation might prove profitable for some time. Dry, cultivated ginseng is quoted by a Toronto firm at about \$7.00 per pound, and a little higher price for extra-quality roots.

The experience of one of our readers, Wm. Walker, Elgin Co., Ont., shows that a good profit is possible. Mr. Walker writes that he has thousands of plants on hand, and has experienced no trouble in growing them. He states that from a bed 80 x 6 feet, which had been planted four years, he took 52 pounds of dry ginseng root, besides 500 small roots to replant. The Toronto firm referred to has offered him the price stated for this crop. He expects to get \$7.25 per pound for the output. He also harvested 25 pounds of seed, the value of which he is not quite sure, but it is very high. A statement of the expenses incurred is: 3,000 one-year-old plants, \$75; preparing land, and manure, \$5.00; posts and old rails for shade, \$10; mulching, \$4; weeding, \$4; digging and preparing for market, \$5; total, \$103. The receipts from the roots alone, not counting the seed, will be in the neighborhood of \$377, which shows a very large return for so small a piece of land, even if it did take four years to realize. On a small scale, it appears as though ginseng culture is very profitable, but the outcome, if it were gone into extensively would be somewhat problematical, although W. E. Saunders, a London man who has had considerable experience with the crop, and is well posted on it, believes that the possibilities are good for the growing of it on a large scale, because of the fact that it requires a long time and considerable skill to produce a crop.

About 48 per cent. of the total lumber output of the United States in 1908 was pine, showing how important to the lumber industry of the country are the 37 species of pine grown in the United States area.

THE FARM BULLETIN.

Ontario Tile Drainage Act Misinterpreted.

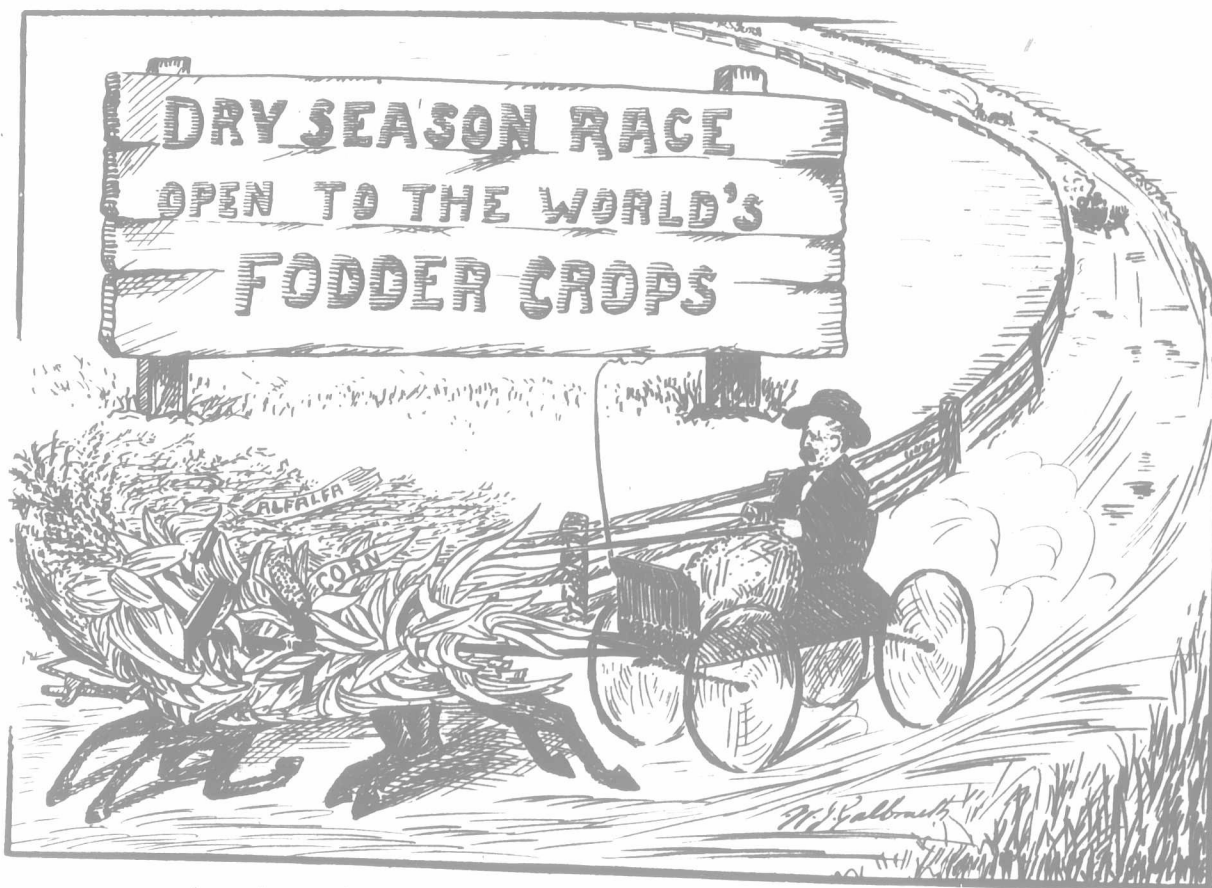
The letter which follows is typical of many inquiries regarding misrepresentations of the Provincial Tile Drainage Act. The explanation, appended, by W. H. Day, of the Physics Department, Ontario Agricultural College, will be of general value:

"I made application for a loan of \$225 from the Township Council under the Tile Drainage Act. I received word from the Township Clerk that, as this was the only application they had, it would be impossible for them to act, as, according to Section 2 (1) of the said Act, the smallest sum the township could borrow was \$2,000. Is the council's view correct, and give reasons for your answer?" L. P. C. Lincoln Co., Ont.

No. The council is wrong in this matter. They may borrow as low as \$100. Section 2 (1) of the Tile Drainage Act reads in part as follows: The council of a town, village or township may pass by-laws (Form 1) for borrowing . . . any sum of not less than \$2,000, and not exceeding \$10,000, such amount as they may deem expedient . . . Looking at this clause, one would say off-hand that \$2,000 is the smallest amount the council can borrow. However, turning up Form 1, and reading the by-law, we find the following: "The Reeve may from time to time, subject to the provisions of this by-law, borrow on the credit of the corporation such sum, not exceeding in the whole \$. . . , as may be determined by the council. . . ." In this, the important words are: "The Reeve may borrow such sum as may be determined by the council, not exceeding \$. . . , and looking at this, it would appear that the Reeve might borrow any sum up to the limit mentioned in the by-law—\$100, \$200 or \$300, etc., in full hundreds, as the case might be. Some years ago, when taking up this matter for a certain township, I came upon this ambiguity of the Act for the first time, and, to settle the question as to which was the proper interpretation, I wrote the Provincial Treasurer, through whose Department all these loans are made. He replied that the latter interpretation is the correct one, and that the township might borrow as low as \$100, and further, that the \$2,000 and \$10,000 mentioned in Section 2 (1) of the Act referred to the limits to be placed in the by-law of authorization to borrow, not to the individual sums that might be borrowed. I conveyed this answer to the council of the said township. In the meantime, the Clerk wrote the Provincial Treasurer, and received the same answer. The result was that in this particular case the council passed a by-law authorizing the Reeve to borrow anything up to \$10,000, although at the time they had applications for only \$1,500. This is the wisest course, as it costs no more to pass a by-law for \$10,000 than for \$2,000, and they will never need to pass another.

The Act provides that no fractions of \$100 shall be loaned, hence you should apply for either \$200 or \$300.

WM. H. DAY.



As a dry-weather team, corn and alfalfa lead all other crops in the race.