

can use the house in a great many other ways. We find them very useful for a good many things. (We used one to store coal in last winter outside.) Have a window in the south side which you can throw open on fine days.

Now the reason for writing this article is to show as easy a method as possible of raising young chickens, and we have found the self-feeder beats all other ways. We can raise nearly twice as many chicks this way and find they are if anything larger in the fall and better matured. We are using self-feeders this year on week-old chicks and from that age we keep them constantly before them and I must say I never saw larger-boned, healthier chicks. In fact, most people who see them can scarcely believe them so young. To start with we take a small, low box and cut holes in the side one and a half inches apart, each hole being one and a half inches wide and about two inches long. Put on a lid and put the feed in, shorts and oat chop ground fine. For mash food sift out hulls, beef scrap for animal food, all kinds of grain crushed coarse. We usually have two feeders in each colony house, one for the mash and beef scraps with a partition between the two, the other for grain after the chicks get older, say six or seven weeks when we use a larger box. Try making one or two; you will be surprised how quickly you can make them. For the older chicks we don't cut holes; just take a piece off the lid, put in the feed and stand it up on its side. Try and get narrow boxes so that a good sized bird can reach across them. Throw all the table scraps in the fence after meal times with a feed of cooked potatoes once in a while and if you don't raise good large, healthy chicks there is something wrong with your breeding stock.

H. E. WABY.

Horticulture and Forestry

Horseradish Culture.

O. E. M., writing from Alberta, asks how to grow horseradish, the methods of cultivation, preparing for the table and if it is necessary to secure a license to prepare and market it.

Horseradish grows so easily that very few words are sufficient to assist anyone to produce a crop. It does best in soils that are rather moist, but not wet, as that would produce soft roots, while dry soil produces woody roots.

In most gardens horseradish grows in some distant corner with other crops, from year to year some of the roots being taken up for using and the rest left to propagate. It is such a hardy plant it may require digging out once in a while to prevent it becoming troublesome. Where grown for commercial purposes its cultivation is more thorough and all the roots are taken up in the fall or spring. For such purposes new roots are set out each spring in rows about 2 feet apart and the cuttings about 12 to 18 inches apart in the row. The ground is then cultivated or a crop of some kind taken off the land that season and the next left to the horseradish exclusively. The cuttings may be off roots about 6 inches in length and from the size of a pencil to that of a man's finger. These "sets" may be secured from a nurseryman or from a growing patch. Cut the upper end square and the lower end slanting to distinguish them and set with the upper end nearest the surface of the ground about 6 inches to a foot deep. The cuttings may be kept in moist sand over winter.

Horseradish is made ready for the table by grating or grinding the roots into a shredded pulp and immersing in vinegar; then kept sealed from the air until ready for use.

Any person may put the product on the market without a licence, but if he can put it up in attractive packages with a registered trade mark and advertise his brand it will tend to increase his business.

Persistence in Tree Planting will Pay Well.

The effect of tree plantations on the homestead are so many and varied that any suggestions towards serving such desirable additions to Western prairie farms will be welcomed by our readers. The advantages have been enumerated time and again, but it will not be amiss to again draw the attention of farmers to the treeless plains of Manitoba, Saskatchewan and Alberta

to them. It is commonly stated and believed that unless you can show people the financial or material benefit to accrue they will scoff at the idea of improvement judged from the aesthetic or ethical point of view. In the first place, trees should be planted by the farmer with a view to ensuring a supply of fuel easily obtained, a proposition quite feasible according to the experiments and statements of men qualified to make such assertions. Then there is the shelter effect, to house, farm buildings and live stock, the aid given to the growing of fruit successfully and gardening, and then the adornment resulting from groves of trees sheltering many species of birds useful to agriculture. Assistant Superintendent of Forestry N. M. Ross, in his report to the Minister of the Interior, gives a lot of valuable information which we have collected for our readers' benefit:

"When the co-operative scheme was first put in force it was looked upon with considerable disfavor by the Western nurserymen, as they maintained it would affect their business unfavorably. In some instances considerable opposition was manifested. The greatly increased demand for nursery stock of late years has, however, conclusively shown that if anything the present system is of great benefit to the nurserymen, and as time goes on it will undoubtedly be found that it would almost have been almost impossible to undertake any work which could prove so beneficial to the nursery trade. The distribution from our nurseries is limited at present to four or five varieties; namely, native maple, ash, elm, Dakota cottonwood and willow. These are sent out only as small seedlings and according to agreement must be set out in block form or as shelter for gardens and buildings. It will be seen that in reality this encroaches but slightly on the regular nursery trade, which chiefly supplies stock for ornamental planting, such as shrubs or large trees for avenue planting, fruit trees and bushes and perennial plants. It has now been fully demonstrated that without shelter it is not possible to grow many kinds of fruit and ornamental shrubs and that the value of the ordinary vegetable crops and hardy fruits such as currants and raspberries, is increased at least fifty per cent. when protected by suitable shelter belts. As every settler is extremely anxious to grow fruit and vegetables and to beautify his surroundings, it will be readily seen that wherever a plantation has been set out under our co-operative system the owner is practically certain to purchase nursery stock for planting on his sheltered grounds.

"It is also very easily seen that in a few years the Forestry Branch will not be able to supply even a small proportion of the demand for forest seedlings which is bound to increase very rapidly. With present facilities our annual stock for distribution cannot exceed four million seedlings, which number is insignificant when we consider the immense territory over which they are distributed. There would be a very good market for seedlings of hardy native trees for shelter purposes, provided nurserymen grew them on a sufficiently extensive scale to permit of their being sold at a price which the ordinary farmer can afford. One-year-old maple and two-year old ash seedlings can be grown at a very good profit if sold at from \$3 to \$4 per thousand. There seems

to be a very great demand for evergreen trees, but up to the present there is only one nursery in the West where this class of stock has been grown from seed. The native tamarac is another conifer which gives evidence of being particularly adapted to prairie planting. The raising of hardy coniferous seedlings is a work which Western nurserymen would find extremely profitable, as the demand for this class of stock is practically unlimited.

"Since the spring of 1901 over 7,000,000 seedlings have been distributed throughout Manitoba, Saskatchewan and Alberta. The reports sent in by the various inspectors in regard to the different plantations inspected by them are very encouraging. In one or two instances trees have been neglected, but such cases are the exception. The great majority of plantations are in excellent condition, and reports show that at least 85 per cent of all seedlings sent out are now living. The inspectors all report a greatly increased interest in tree planting both in towns and country districts.

HOME GROWN TREE SEED AND TREES ARE THE BEST.

"In 1905 owing to the impossibility of collecting elm seed, several pounds were purchased in the eastern United States. This seed came up fairly well after sowing but the seedlings were completely killed out during the winter. This shows almost conclusively that seedlings of elm grown from seed matured in the East are not hardy enough for this country. About half an acre of seedlings from native seed came through without injury.

"In the spring of 1906, the elms in the Qu'Appelle valley bore a good crop of seed, and we were able to collect sufficient to sow 34 acres. As this is one of our best trees for prairie planting it is unfortunate that so much difficulty is experienced in collecting the seeds in certain seasons.

"Of all the trees growing on the nursery the native larch, tamarac, gives the greatest promise as a hardy, rapid-growing variety for general prairie planting. Our experience would show that it is an exceptionally easy tree to transplant and appears to be suitable to a great variety of soils. The seedlings planted here were obtained from the swamp in the Spruce Woods Reserve. They were planted in nursery rows for two years and then set out on backsetting, absolutely without protection or shelter of any kind. The growth the first summer was about a foot. The second summer the average growth was 18 inches, many of the trees making as much as 3 feet. Of the number set out in 1890 and 1906 (approximately 6,000), we have not lost a single one from winter killing and not 1 per cent. died after transplanting. This is a much better percentage than we find in any of the native broad leaf trees. We have not yet been able to obtain seed of the native larch, but hope to be able to make arrangements for the collection of some during the coming summer.

"It would seem that when first planted a certain amount of shelter is necessary for the Scotch pine, that is, sufficient to collect snow and keep the young plants well covered. Apparently they are not injured in the winter, but as soon as the snow goes, leaving them exposed to the winds and the effects of thawing and freezing in the spring, the needles become brown and sunburned. In some cases the plants may appear absolutely dead and most of the needles drop off, but a very large number recover and send out fresh shoots as soon as growth starts. In the plantation mentioned above, when



Photo by W. Waby, Okotoks, Alta.

THE PLANTER.