

tively light and considerate service. Indeed until they are turned six the best class of big carriage horses are not expected to do anything like full work, and even when on job they are only played with. The like time and patience are expended in the training of valuable hunters. As 4 or 5-year-olds they have short days, carry light weights, and thus gradually attain condition and learn their business. Were the same principles applied in the breaking and consequent use of other descriptions of horses they would be more sound, serviceable and lasting!

## Garden and Orchard.

### MONTREAL HORTICULTURAL SOCIETY

AND

Fruit Growers Association of the Province of Quebec.

Montreal 12th November 1894.

How can a knowledge, and a taste for Horticulture be best advocated amongst our rural population?

It is only too painfully manifest to the most casual observer that our rural cottages and farmers houses all over the Province are destitute entirely; or nearly so; of any attempt at out door; or horticultural embellishment whatever; with a very few exceptions. The rural cottages above referred to are those more especially owned by families who reside in; and are employed in the neighbourhood; generally speaking the cottage or villa occupied by the city merchant or clerk during the summer months is better provided for horticulturally, having generally shady lawns; comfortable walks; pleasing flower beds &c., and the wonder is that the example is not felt farther. Perhaps if a few of the more essential features requisite around a cottage or farm house were pointed out and also a way suggested, whereby these features might in most instances be obtained at a trifling cost in both labor and material, some of the apparent difficulties may be in a measure removed. The same principles will be necessary in guarding us whether the house is that of the farmer or that of the cottager; only in the case of the cottager whose lot is generally small there will be less room for operations and variety. The whole of the surroundings may be treated under these different headings Viz. 1st Location of house and buildings, 2nd Proper drainage; 3rd Convenience to a supply of pure water; 4th Ventilation of house and buildings; 5th Necessary roads; 6th Planting trees for shelter and ornament; 7th Planting of fruit trees and small fruits; 8th Making and keep of lawns; planting of shrubbery and flower beds; 9th Vegetable garden. The location of the house and other buildings required on a farm is of the very first importance. The site should be chosen after very mature consideration, and consultation should be freely indulged in with every authority obtainable. The position of the house and other buildings should be decided upon, principally as regards the healthiness of the position. Most authorities agreeing that a

loose subsoil that can be efficiently drained is preferable to one of a tenacious character. Drainage in every case should be one of the unalterable laws efficiently and firmly enforced. And let it be mentioned here simple as it may appear to many, that there is drainage, and drainage. The drainage of a house or cottage to be properly constructed requires to be properly thought out and rightly executed. To take away all superfluous moisture from the foundation of a house or cottage, and not at any time to act as a chimney poisoning the inmates with foul air is one of the many points in constructing a house drain. This is not exactly horticultural, but it is of equal importance. It is also here strongly advocated never to build a cellar below your house on the farm; or pollute in the country. Land is not so scarce that it is necessary to be so economical. By never constructing a cellar below your house you will never pollute the air with the fumes from decaying vegetation; or other unhealthy vapors slowly poisoning yourself in your rooms above. It is about as economical and far better in a sanitary point of view to construct your root house as a separate building; also your dairy which may be pretty convenient to the house in fact it may be attached, if house and dairy are properly ventilated, ventilation coming in my estimation next in importance to drainage. What a cruel mistake to stop up every little hole whereby a breath of fresh air can enter; cruel it is and we have to stand the punishment; ventilation in house; in dairy; in stables; in root house, is only imperfectly understood; and practised in a very slipshod manner. We have not attained perfection in either of these necessities by a long way.

Next in importance to choosing the site of a house is the pure water supply. In different localities that will best suggest itself to the proprietor: if the supply is to be obtained from wells in the neighbourhood of the house or outbuildings sufficient provision will have to be guarded against any sewerage soakage reaching the wells. The front of the house should, if possible, face the sunny side which is the pleasantest, if attainable the barns and stables should also face the same exposure, and be so arranged that the buildings themselves would shelter the stock to the very best advantage. Planting trees of the proper sorts and in their proper places, will assist in thus sheltering the buildings and their occupants. The trees most suitable for wind-breaks are our native evergreens; cedars planted closely together and not too close to the building answer the purpose admirably. A few taller deciduous trees planted outside the cedar belt together with an occasional pine, spruce or balsam will help to vary the appearance of the wind break and make it more ornamental. Now all these can be had for the trouble of going and lifting them out of your own or your neighbour's bush. It seems to take several generations before the feeling of destroying trees can be replaced with one of planting trees in the Canadian heart. Individually and nationally this tree planting problem deserves much more attention than it has received in the past. A national tree planting policy and preservation of the forests now left should be vigorously inaugurated. How many thousands of acres are fit for nothing else; and these could be replanted and brought up in value at a trifling expense.

(To be continued.)

## THE PREVENTION OF FUNGUS DISEASES NEXT YEAR.

H. H. LAMSON.

The season for the active treatment of fungus diseases by spraying is drawing to a close; but the season will soon be here when much may be done towards the prevention or lessening of next year's diseases. The little plants or fungi which produce the diseases are continued from year to year by the means of seeds known as spores, or germs, which are produced in almost countless numbers. Many of them, retaining their vitality, remain on the affected plants, or parts of plants over winter, and are ready to start the disease anew in the spring. Some fungi even develop an additional form of spore on the fallen leaves or fruit. Hence the importance of destroying in the fall all affected parts, thereby destroying the seed for next year's fungus crop.

In the orchard the disease known as the scab is a serious pest to the apple and pear, affecting both the fruit and the foliage. All diseased fruit which cannot be used should be thoroughly removed from the trees and from the ground under the trees, and burned or buried; the fallen leaves and rubbish should be raked up and also burned. In this way not only the spores of the scab, but the spores of other diseases affecting the trees, and many insects as well, will be destroyed. The parts of pear trees, branches and leaves killed by fire blight should be removed and burned. This, however, should be done as soon as the disease makes its appearance. To insure thorough work the limbs should be cut off at some distance below the dead part.

Carefully remove from on and under plum trees all fruit affected with the rot, and destroy it. When the leaves have fallen from the plum and cherry trees, examine them for black knots; cut the knots off and burn them. If large wounds are made cover them with paint. Before the black knot can be exterminated the wild cherries will have to be looked after, as well as the cultivated ones. Leaves of cherry and plum trees attacked by the "shot-hole" fungus should be burned. From strawberry patches affected with leaf blight remove and burn the dead and diseased leaves. Potato tops should be burned, to destroy the spores of the blight or rust and all rotten potatoes should be destroyed, for they also contain the germs of the disease. Gather and burn corn smut; do not throw it on the manure heap. In short, as far as possible, destroy this fall all parts of plants affected with disease. There can be no doubt that if this were attended to by farmers generally, in a few years the losses now caused by fungus diseases would be greatly lessened.

## SAVING AND CARE OF SEEDS.

L. R. TAFT, MICHIGAN EXPERIMENT STATION.

The method to be used for treatment of seed to secure its preservation will depend largely upon the character of seed and the amount to be raised. In a general way we may divide seeds into classes—those with a dry covering or pod, and those that are formed within a fleshy fruit. For working with either class, although not necessary, a series of sieves is desirable. About three sizes are used for each size of seed; a coarse one, to remove the larger stems, leaves, etc., one that is just large

enough to allow the seeds to pass through, and a third so fine that the seeds cannot get through, but which will allow of the removal of the dirt and lint. If large amounts are to be grown, a flail and fanning mill will be desirable. When most of the seeds are ripe, the stems are cut off, or in some cases the entire plant is pulled. If the seeds do not ripen evenly, it is sometimes necessary to make several cuttings. In case they shall readily, the stems are placed upon papers or cloth sheets, and left in the sun until dry enough to thresh. This is done with the flail if large quantities are to be threshed, but small amounts can be rubbed out with the hand, using a coarse sieve if it is available. The seed should then be cleaned, using the fanning mill for large quantities, or by pouring them upon a sheet and allowing the wind to remove the lighter particles. The final cleaning can be given by passing them through the sieves as mentioned above, although if these are not available, very good work can be done by washing them, as the good seeds will settle to the bottom, while the light ones will float with the chaff. Whatever method is used, the seeds should be thoroughly dried before they are placed in bags.

When the seeds are in fleshy fruits, they should be ground or mashed and placed in barrels or other receptacles to sour. In the case of cucumbers, melons, etc., the interiors only are scraped out. In from 30 to 100 hours, fermentation will have advanced sufficiently to admit of the ready separation of the pulp from the seed. The mashed fruit is placed in coarse sieves and suspended in tubs of water. The seeds will drop to the bottom, while the light pulp will float and can be thrown out; they should then be sent through a finer sieve, and after three or four washings can be taken out, spread upon cloths, and dried. With many seeds it is well to wring them in cloths, and thus remove the surplus water. Many persons do not take the trouble to wash out seeds, when growing a few for home use, merely scraping them out upon a piece of cloth, and drying them in their pulp. Most of our vegetable seeds keep best, after being thoroughly dried, in a moderately warm, dry place. Paper or cloth sacks will answer to hold them if hung up or placed in boxes, where mice cannot get at them. The seeds of our fruits and nuts, however, would give a very low germination if treated in this way, and care must be taken that they are not exposed to drying influences for any length of time. They may be planted at once after they are gathered, or, after being partially dried, they may be placed in thin layers, in a box of sand. This stratification prevents the loss of water, and they will be in good condition for planting in the spring. It will be found desirable—especially with the fruits—to place the boxes out of doors during the winter, and thus expose them to the action of frost. In the case of the peach and other stone fruits, it is often well to crack them with a hammer if the frost has not done its work.

If care is taken to select seed, and if it is so preserved that its vitality is not impaired, a marked increase in the yields of our crops can be obtained. Most of our seed dealers take special precautions to keep up their stocks by careful selection, but errors may creep in, and if care is given a farmer can often get better satisfaction if he saves his own seeds, but otherwise he will find it better and cheaper in the end if he buys his seeds from a reliable dealer.