

by the richness of the soil and the variety cultivated. Young plantations require longer poles than older ones, and also richer soils and more liberal cultivation than the contrary. As a rule, we are of opinion that hops similarly treated require longer poles in this country than in England, where the growth is slower. With us even *Jones's* would probably require not less than twelve or fourteen feet poles, *Grapes*, certainly not less than sixteen feet, and *Goddings* eighteen or twenty feet. We have seen instances in Canada and in the State of New York of nursery sets planted in the spring, reaching the tops of sixteen and eighteen feet poles of proportionate diameter, forming a large bushy head, the same year! Notwithstanding this natural tendency to rapid and vigorous growth of the hop in this climate, the planter should always be particularly careful not to "over pole;" a practice which, if persisted in, will speedily ruin his plantation. No rule can be laid down of general application; the observant farmer will study to adjust the size, and number of poles to a hill, to the strength and habits of his plants, and the condition of his soil. Two long, stout poles to a hill, will be generally found sufficient in this country, but there are doubtless cases where three, somewhat smaller, would be more advantageous. In all cases the poles, especially in the same hill, should be of uniform length. Hops set out correctly should be poled by line; the rows being straight and uniform, admit free admission to light and air, and the vines are less liable to be injured by horse cultivation. Great care should be taken in properly sharpening the poles, and making the holes sufficiently deep to hold them fast in the ground. The workman should in all cases satisfy himself that the tip of the sharp has firmly reached the bottom of the hole, otherwise the pole will be liable to be turned by the wind. The ends of some poles are a little curved, which require a corresponding form in the hole, or they will not remain firm. They should be from twenty to twenty-four inches apart in the hills, with their tops somewhat inclining outwards; thus allowing of a freer access of light and air; a condition of indispensable importance. An iron crow-bar, tapering to a point, technically termed a "hop-pitcher," must be provided for this operation.

Of late years attempts have been made, both in Europe and America, to supersede the ordinary method of growing hops on poles, by the introduction of what may be termed the *trellis system*; and the results, thus far obtained, are, on the whole, encouraging. Something of this kind was tried at Lewisham, near London, England, more than thirty years ago, but the practice did not gain favour, and we have heard but little of it till recently—a fresh impetus having been imparted by some American planters. We inspected a small hop garden of about three acres during the picking last year, belonging to Mr. Conover, of Springfield, county of Peel, that was cultivated on this principle, with very satisfactory results. A short, stout pole, of about eighteen feet long, was placed in the centre of each hill, around which twined three vines, which, when they reached the top, were conducted by strings or thongs made of the inner bark of basswood. In this way all the poles were connected, and beautiful festoons of hops formed, sufficiently high to allow a horse attached to a cultivator to pass through the alleys, which are formed in the square plant, at right angles. If this plan should on more extensive trial be found advantageous, as at present there are strong reasons for believing it will, a great saving in one chief item of hop culture, that of poles, will at once be gained; a consideration of great moment in countries where suitable wood for poles is not readily obtainable. Another advantage of this system is, that the plant is not near so much liable to injury from rough winds, and there is no necessity for cutting the vines at the time of picking, thereby obviating the injury so often consequent on "bleeding," or the escape of sap from the stock after the vine is cut. The loss of this sap, so common at the commencement of picking, is well known to weaken the plant the following year. It will probably be found, however, from further experience, that the trellis culture is not equally suited to every variety of hop, and further experiments will doubtless afford further and more reliable information on this interesting and really important branch of our subject. In gardens having no natural shelter from northerly and westerly winds, we would strongly recommend the planting thickly of some coarse variety of hops in a row, attached to strong poles twenty feet and upwards

long, on the outside of the ground, thus encouraging a vigorous growth by liberal culture and manure, and receiving ample protection from the disastrous effects of wind storms.

TRAINING.—This is the next operation, and should be commenced as soon as the young shoots are long enough to reach the poles; the natural habit of the growth of the vine being from left to right, or the apparent course of the sun. Two vines, at least, should be tied to each pole; this number in general is better than three, but the planter in this, as in many other particulars, should be guided by the variety he cultivates, the size of poles, the condition of the soil, and other circumstances, which local knowledge and personal experience can alone accurately determine. Women usually perform this work. Old yarn, or any soft elastic material, (dried rushes are commonly used in England), will answer the purpose, great care being taken not to tie the vine too tight, thereby impeding its growth. The first rank shoots should be pulled up; they produce a rough, hollow vine, generally less fruitful, and shoots of smaller but healthier growth are to be preferred. This operation of tying requires the exercise of care and judgment, and attention must be given to it till the vine gets beyond ordinary reach, after which, if necessary, a high stool or ladder must be employed. Two or three young shoots should be left in each hill, for a short time after the requisite number of vines have been attached to the poles, affording the means of supplying any vacancies that may arise from injury or other causes. If in some hills, as will sometimes be found the case, the vine seems either too strong or too weak for the poles that are placed, the latter can now be readily taken up, and supplied by others of a more suitable description. It will always pay the planter to keep a vigilant eye to these matters during the early part of the growing season; for hops above all other farm crops require, and will pay for, the most careful attention and liberal treatment. By the beginning of July all the young vines in the hill should be carefully pulled out, and it is well to throw into the same two or three shovelfuls of fine earth from the surrounding soil, thus preventing the growth of weeds, and affording the crown of the plants some degree of protection from summer drought and winter cold.

It is now a common practice with English hop growers to spread over the surface well-rotted barnyard manure in May and June, cultivating it in with the horse-hoe. Experience confirms the advantages of this mode of manuring; but in our hot and dry summers we are of opinion that such practice would not be equally well suited to us, and that our barnyard manure should, as a general rule, be applied either in the fall or spring, and thoroughly incorporated with the soil. Hops should receive good and deep culture up to midsummer, and the ground immediately around the hills should be well loosened once by the hand-hoe; afterwards an occasional slight horse-hoeing will be sufficient, just to loosen the surface and prevent the growth of weeds. This will bring us down to the time of picking; an operation, with drying, packing, &c., which will form the subject for another paper.

Hemp and Flax.

To the Editor of THE CANADA FARMER:

Sir,—Now that farmers have almost everything their own way, except the making of the weather, they no doubt will devote a larger portion of their time to scientific farming. Many have felt the loss from the failure of the wheat crop, and have been taxing their wits to know what was best as a substitute. Some have established cheese factories; others enlarged their stock of cattle and sheep; the cultivation of the grape vine has engaged the attention of others; and flax has been resorted to as another new crop, and so far as it has been tried proved very successful. With regard to this last, it is important to state that when parties may not be within easy distance of a scutch mill, it will be found to pay well to raise the seed alone. In following this plan they only require to sow half the quantity of seed, say fifty pounds to the acre, that it requires when both fibre and seed are the consideration. They may safely look for from eighteen to twenty-four bushels of yield, and at current rates, nearly two dollars per bushel of fifty-six pounds, there is a handsome return. The proper time for sowing, in any case, is at hand, as soon as the land is dry and in order; I would not hesitate to sow any day after the first of May. The Government are offering the imported

Riga seed through the hands of Mr. Fleming, Toronto, at the low price of two dollars and a half per bushel, and I would strongly advise farmers to try a portion of it. They will find it will produce a longer and better fibre. Having written a few practical hints lately on this subject, I will not take up more of your valuable space, but simply refer in brief terms to the cultivation of the hemp plant. There is no doubt this, too, can be cultivated to great advantage. Being much of the same nature as flax, it will require something of the same treatment. The land will require deep ploughing, and a good coat of manure. When grown and ready to harvest, it can either be cut or pulled, when the produce will be found to be very remunerative. Parties near Montreal, who have tried it, realised from eighty to one hundred dollars an acre from it; and when the crop is good it will be found to produce a stalk from twelve to sixteen feet long. The machine best calculated for preparing it for market is Ronan's flax scutcher, which can be procured at about \$150; it is easily drawn by any motive power, and can be attended by any unskilled labourer. This crop is extensively cultivated in Italy, and seed was imported from that country last year for the purpose of introducing this crop into Canada.

JOHN A. DONALDSON.

Toronto, May 3, 1866.

Seed Corn.

To produce the best seed corn, select a good piece of ground not less than 40 rods from any other growing corn; plant it 4x4 ft. with the best selection you can get, of such variety as you desire; cultivate well, leave not more than 3 stalks in a hill, and at any time previous to tasseling, or blooming, it there should be any stalks (which there will be—here lies the great secret), indifferent with regard to developing their proper size, form or color, pull them out of the ground. Do this by pulling square out from the nearest stalk to the one drawn; aim to get a perfect uniformity, if it takes half the crop.

Then, as soon as you can get hold of the top of the tassel, pull out about one third of all the tassels in the patch. This ensures a more vigorous growth in those ears, from which you will select seed for the next season.

To select the best seed, choose the longest and most perfect ears, the grain carrying itself well to the cob, its entire length—the "eye" broad, deep and well carried up, the nearer the crown the better.

The grain, or kernel, is fertilized from the flower or pollen of the tassel. If you select a large ear of corn from a field of nubbins or small ears, you will get only what kernels were impregnated from the stalk the ear grew on. Thus, if you plant from a field that has no small ears, or nubbins, all things being equal, you grow all large corn.

My practice is, to select the upper ear, where there is two or more on a stalk, and refuse about one fourth the point of the ear; when preparing to plant, also, for the largest yield I prefer equal parts of two pure varieties.—Cor. *Prairie Farmer*.

The man who takes no pains to make or save manure, will not find farming a very profitable business.

How to GET RID OF WEEDS.—Always put your cigar-case and its contents at the service of your friends.—*Punch*.

LEACHED ASHES.—The *Maine Farmer* knows a farmer who went into the soap-making business some years ago for the purpose of securing the ashes, after having been leached, to apply to his land. He owned a large farm, the soil being chiefly a clayey loam, and any one visiting the farm now, who was acquainted with it before its owner began to apply the ashes, would be astonished at the results they have accomplished. He applied them at the rate of from 150 to 200 bushels per acre, to different crops, and in every conceivable way.

TIME TO CUT BUSHES.—A correspondent of the *N. H. Farmer* says: Repeated trials on as many different pieces of land, and each trial a complete success, has convinced us that December, the time we invariably do this, is the best season, at which time the growth of the year is evidently at an end. A piece of valuable pasture land of ours, overrun with bushes which had been many times cut over by a former owner to no purpose, because cut in the summer season, was by us cut over in December, 1861, and to this time, a period of nearly five years, not a bush has sprouted or started, and the land, though moist, is well stocked down to grass.