

Grape Culture.

BY E. D. SMITH.

Grape vines on well drained clay loam are troubled at present by but few diseases or insect pests. The most widespread insect is the Thrip, a small greenish-white and brown and white animal (two kinds, probably male and female) that sucks the sap from the leaf from the under side, causing the leaf to wither up and drop off prematurely. The only remedy I know for this destructive "varmint" is clean cultivation, not only in the vineyard, but around it. If they have no weeds or rubbish to harbor in, they will leave to a great extent and go to your neighbor who has weeds. The steel blue beetle occasionally pays us a visit, sometimes stripping a whole vineyard clean one year and then passing away. This is a beetle about the size of a pea bug, of a steel blue color, and hops like a flea. It feeds upon the young buds as they are expanding, and a second brood upon the leaves in July.

The remedy is a large sheet saturated with coal oil of the cheapest kind, the cheaper the better. Stretch this under the vines by means of a strip of lath fastened to either side, having one of the strips cut in two and a slit in the sheet to the middle to allow the sheet to completely encircle the vine. Now jar the vine and the bugs will hop sure, lighting on the sheet if large enough, and they are at once smothered in the fumes of the coal oil.

Another enemy is the Phylloxera, of which we have the leaf-inhabiting form. All we see of this insect or its labors are small galls or warts on the under side of the leaf. These are said to contain the eggs of the insect, which, when hatched, emerge from an opening in the upper side of the leaf, and at once crawl into the ground and feed upon the roots. However this may be, or whether this is Phylloxera at all or not, these galls in such numbers upon the leaves as I have seen them—every leaf in the vineyard being so completely covered with them that a lead pencil could not be placed upon the under side of a leaf without touching one—must materially affect the crop, preventing the leaves from performing their proper functions. And yet the proprietor assured me he got good crops. I have carefully picked and burned all these galls in my own vineyard for the past five years, and see no increase in their numbers.

Mildew has been a great source of loss upon sandy land. This is combatted by a free application of sulphur, which if applied in time, is said to prevent the attack of this dread disease, but if neglected until seen will do little good. Soap suds are said also to be a remedy as efficacious as sulphur.

The rose slug destroyed the crops in Stamford township in 1882, to a great extent, completely defoliating the vines in some vineyards, one yard that usually in good seasons produced 40 tons, not yielding half a ton. Its ravages were stopped in other yards by careful hand-picking at a great expense. It was noticeable that the slug only infested vineyards on sandy land, those on clay loam escaping its visits.

In some districts the large green tobacco worm ravages the vines, eating the leaves. This is hand-picked, as in the tobacco fields.

A new disease visited this section last year, and I believe was universal over the Province. It was supposed to be the result of the cold wet

weather. After setting apparently all right, the berries seemed to be struck by a blight and continued to drop at all stages of growth, turning a brown color when small and later on a reddish color. Whether this disease has come to stay, or is only the result of the unusual season, remains to be seen. It reduced the crop one half last year, even if the remainder had ripened. Some vineyardists lost nearly all, others very few or none. Again, in the same vineyard, one kind would all be taken and another not touched. This would seem to indicate that the state of the weather at blossoming time caused the mischief, as all kinds would not be in blossom at once, nor would all vineyards. Concord was affected most.

The first requisite to successful grape culture is a locality as free from early frosts in the fall and late ones in the spring as possible. Vines can be brought through the severe winters usually all right by laying down, covering the cane with a little fine earth. Covering with straw or other loose material, as is often recommended, creates a harbor for mice, which would destroy the vine. In sections where snow covers the ground all winter it would only be necessary to fasten the canes to the ground. There is another advantage in laying down vines besides the protection from cold. They are trimmed in the fall, when the weather is more comfortable than it usually is in March, with snow or mud ankle deep.

Having selected the locality, the next thing to be considered is the soil; for, although grapes will grow upon almost any soil not too wet, yet the best results in my opinion are to be derived from deep clay loam with a heavy subsoil, but not tenacious clay. Sandy land is much easier worked, but this is the only advantage and is nearly counterbalanced by the extra amount of pruning required, as the vines grow a much greater amount of wood on light land, but no more fruit. Besides, the fruit on heavy land is of better quality and has a heavier bloom. But the chief advantage is in immunity from disease, especially mildew, which I have never seen to any appreciable extent on clay loam, though it frequently destroys the entire crop on sandy land.

The soil having been selected, thoroughly underdrain it; for although vines will live and do well on high land without it, yet the cost of underdraining even upon high and apparently well drained clay loam, will often be covered in a single year by the extra yield; and on wet or flat land would be paid for many times over in a year like 1883, for underdraining, by carrying off the surplus water and preventing its evaporation, makes the ground warm, and in such a year, when the difference of a very few degrees means the difference between a partial or full crop and no crop at all, insures a crop, perhaps. I have found the ground well filled with grape roots at three feet in depth in undrained land; these in such a year would either perish or be of very little use, whereas if the subsoil were free from stagnant water, they would draw a vast store of food for the vine from a great depth. Again, the vines can be planted deeper, thus being out of the reach of the plow when plowing an average furrow, whereas if the ground is not underdrained, the roots seek the surface and are mangled and torn by plow and cultivator. It would seem to be useless to urge

reasons for underdraining did I not know that nine vineyards out of ten have no underground pipes in them yet.

To prepare the land properly I would summer fallow, making the land rich enough for a good crop of wheat, and subsoil both ways, ridging up in the fall in lands the required width.

*To be Continued.***Trimming Hedges.**

Very serious mistakes are often made in trimming hedges. To have a hedge look well it is important that it should be kept thick at the bottom; this can only be done by encouraging the growth of leaves; the moment the leaves begin to die on the lower branches, that moment the hedge will begin to lose its beauty, and gradually there will come unsightly gaps at the bottom of the hedge, which when once made are very difficult to cover up with foliage.

With a hedge properly trimmed it is difficult enough to keep all parts of it green and well filled with leaves; but with the usual method of trimming it is very nearly if not quite impossible. As the great enemy to the growth and vigor of leaves is shade, every effort should be made to bring all portions of the hedge into the sunshine; to this end the top of the hedge should never be permitted to overhang the bottom. To trim the sides perpendicular and the top square, is not only to make a stiff, unnatural and unsightly hedge, but it is bringing the lower part of the hedge where it cannot get as much sunshine as it needs.

The bottom of the hedge should always be the widest, and the top should round up somewhat in the form of a young cedar or hemlock tree that grows in the open field. This form will leave the lower branches in a position to get sunshine and air, elements so necessary for the growth of leaves.

It is almost the universal custom to trim a hedge with pruning shears, but if one cares more for beauty than time, the pruning knife is the best, providing it be used by one who understands his business, and also providing natural beauty is sought for. To use the shears year after year gives the hedge a stiff, unnatural appearance, but with a knife in the hands of one who understands natural beauty, the twigs may be cut so as to leave a natural appearance and yet keep the hedge in a symmetrical form.

These remarks apply more particularly to evergreen hedges, which to keep in perfect condition require even more care than a hedge of deciduous trees or shrubs. One of the principal causes for abandoning hedges is because of the fact that they have been so trimmed that they have become unnatural and unsightly objects.—*Massachusetts Ploughman.*

A crop of weeds requires as costly food as a crop of beans.

Work early and late, taking long "noonings" in hot weather.

Profitable amusement for the boys—Killing bugs, beetles and moths.

Regard with suspicion the durability of your implements after they have once been lent.

"No funds," exclaimed the exhausted field when the farmer attempted to make the raise of