

but also produce in sirup from \$45 to \$65 to the acre of roots produced, they would very soon put a different face on their farms, and the increased returns, including the manure increment, would enhance the fertility of the land, and produce the effects witnessed in all beet-growing countries, that "wherever beets are grown for a sugar-crop there the produce of the land is more than doubled" not only in money-value from the sugar-crop, but also from the quantity of wheat and other grains, and of meat, which also is doubled. This has been especially shown in France, in the Department du Nord, where the amounts of cereals and meat have been more than double since the beet-root sugar industry became established.

How can this end be accomplished? All that the farmer will require in addition to his ordinary utensils is as follows:

1. A common wooden cage, such as any carpenter can make, to revolve in a trough, for washing the roots;
2. A rasp to be moved either by steam or horse-power, for reducing the roots to a pulp;
3. A common press, made with either screws or levers—a cider or cheese-press will answer;
4. Cloths of hemp canvas in which to envelop the pulp for pressing;
5. A boiler made of iron and wood, similar to those used in the West for boiling the juices of the maple, and of sorghum;
6. A simple filter for filtration of the juices after defecation;
7. A machine for carbonizing the lime in the juice; this is a very simple affair and not costly;
8. The evaporating-boiler—the same as mentioned in No. 5, above.

With these requisites, all that has to be done by the farmer is to evaporate the defecated and clear juice down to proper consistency. It may then be run into casks, and will keep any length of time, and can be as easily carried to market as sacks of grain, a barrel of black salts, or a barrel of pork.

The present season has hitherto been a remarkably mild one; we have had a fair supply of fall rain, but very little severe weather, and no snow as yet, except a slight sprinkling that was speedily dried up by the sun. It has been possible this year to do a good deal of fall work, both on the farm and in the garden. The following useful "Hints" from the *Gardener's Monthly* suggest subjects for consideration at this season and throughout the winter months:—

As soon as the ground gets caked with the first real frost, herbaceous plants should be protected. Though hardy, they will repay this extra care,—mostly natives of woods or grassy places in their native place, they expect a covering of leaves or dry grass. We find dry leaves the best material for the purpose, a few

inches is a sufficient depth,—a little soil being thrown on to prevent the leaves blowing away. Where such material is not at hand, the common garden soil may be drawn over them, as before recommended in these pages.

One of the worst materials for protection, especially about half-hardy evergreens, is fresh stable manure, saturated with ammoniacal salts, one might as well have dogs innumerable about them, which every one knows to his sorrow is misery to an evergreen.

In the culture of herbaceous plants it is well to remember that generally a part dies every year. They seldom come up in exactly the same place every year, but a bud or runner pushes out and the old part dies. Though all herbaceous plants move in some such manner, they do not all go directly under ground, but make bunchy stocks just above ground. In their native places of growth they manage to get covered with decaying leaves from the woods or shifting sands on the plains, but in cultivation nothing of this kind can be naturally accomplished, and unless art comes to aid the plant they soon die away. An *Auricula*, a *Primrose*, or a *Carnation* is a good illustration of this. In the two former a new crown is formed on the top of the old one, and as the lower parts in time die away, unless new earth is drawn up, success with such flowers will not be great. The best plan is to take up and replant every few years, or cover the running parts above ground with earth, so that they may have a chance to get new roots from the advancing stocks. This is noticed here at this season to show that earth is the natural covering for herbaceous plants, and therefore one of the surest ways of preserving them safe through winter is to draw earth over them. In the spring they can be unearthed and then divided and set a trifle deeper than before, which is all they want. We are often asked how to preserve *Carnations*, *Chrysanthemums*, *Pansies*, *Phloxes*, *Hollyhocks* and so forth, safe till spring. The principles here laid down will explain the practice.

There is some danger of *Pampas Grass* rotting by moisture getting down in the hollow of the leaves into the heart of the stem. A friend tell us he guards against this by burning off the old leaves of the *Pampas* before putting the dry leaf covering on.

One of the last thought of things, too frequently, is to apply manure to flower beds. But it is scarcely less essential to a fine summer display than it is to the production of fine vegetables; and certainly as necessary as to trees, or the lawn. Still it should be applied with caution. While a poor soil will only grow plants to a diminutive miniature size, which, though clothed with a profusion of small,

starved-looking blossoms make no show; a soil over rich will cause too great a luxuriance of foliage, which is always opposed to an abundance of bloom. In most cases we prefer half-decayed leaves—where these could not be had we would use stable manure. The former spread over the soil two inches thick, or the latter one inch, would form a dressing which, in ordinary cases, should last two or three years. It is difficult to get flowers to do well in even the most favorable soil, if it is liable to hold water to stagnation in winter. Where flower-gardens or beds exist under such circumstances, advantage should be taken of the present season to have it thoroughly underdrained. It will be more beneficial in the end than the most judicious manuring; it is indeed in itself a powerful means of fertilizing the soil. Where circumstances render the draining of such places inconvenient, a temporary advantage can be gained by digging up the soil at this season very roughly, so as to expose as much as possible to the action of the frost. This is at best but putting a patch on an old garment—an apology for the want of means to do better.

Most of the tender plants that we desire to preserve over the season, have now been lifted from the borders, and removed to winter quarters,—and the beds present a rough and forsaken appearance. It is too often the practice to leave the borders just in this neglected condition till spring-time returns. But the person of true taste finishes up the beds, and makes all tidy. In the absence of summer flowers, even order pleases.

As soon as the first white frost has blackened *Dahlia leaves*, the stem should be cut back to a few inches of the ground, the label securely fastened, and the root placed away in a cool place secure from frost till next March, when it should be "sprouted," divided, and again set out. *Madeira vines*, *tigridias*, *gladiolus*, *tuberose*, &c., require the same attention.

So much has been said in this journal on the proper preparation of the soil for orchards, that it need not now be repeated. We should only say, that a light dryish soil is the best to choose for the Peach. The Pear does best on a strong loamy soil. Plums much the same as the last. The Apple prefers a heavy loam, if on limestone so much the better. The Cherry does well in soil adapted to the Peach.

If, however, a fruit orchard is dry and properly top dressed annually, there is not much difference in the value of soils for fruit orchard. With rich decaying vegetable matter abundantly supplied to the trees, they will do well enough in most kind of soil.

Whatever pruning trees may require, is best done early if one have the time. On