

some way to a desirable length. Whipple-trees and log chains fill your eye—but discard them. There is no drawing, it is all forcing. Nor is it done by the animal while yet in possession of his natural vigor and faculties, but when these have all departed. You will think that I am speaking in a riddle. Let us look then at what the grape requires. Long, long ago old Virgil sang—

*A fine loose earth is what the vines demand,
When wind and frost have help'd the laborer's hand,
And sturdy peasants deep have stirred the land."*

And still the doctrine holds good. It is ever in this year of grace 1860, *sound and true, and necessary* doctrine, that the soil in which you can grow good and abundant crops of grapes *must be loose, dry and friable*. It is true that vines grow in swamps, and often most luxuriantly, and sometimes, though not often, bear profusely. But these are in a state of nature, and their fruits also, sour and crabbed enough. But those we would have are no longer so. These have been brought out, and by constant and careful cultivation have become sweet, luscious and tender, and to preserve them so they must receive the same unremitting care and attentions, and be ensured and encircled with the same conditions. So we say, first and foremost, the soil must not be compact, heavy nor water soaked. But something more is requisite. The same old author adds:—

*"Next, when you layers in your vineyard make,
Mix some rich dung, and shells and pebbles break,
Spread the good soil with liberal hand around
And trench them deeply in the lightened ground;
Superfluous moisture thus glides thro' the earth,
And healthy vapors aid the tender birth."*

A knowing hand was this old fellow. No modern discovery is at variance with his maxims—on the contrary, they are confirmed by the experience of the most intelligent cultivators. Your soil, then, must be rich, as well as friable. It must be dunged as well as freed from standing water. But the best way to obtain this richness of earth,—that is the question. That was it which troubled the mind of the author of "The Culture of the Vine under Glass," by J. Roberts, and the result of his cogitations was, that he struck out a new method. What this method was, I can best tell you by detailing my own proceedings, since I followed his directions very closely.

But let me pause a moment to say that experience is a pretty stern teacher in grape-growing, as in everything else. She may be, and doubtless is, a very wise, and able and good one, but she is sternly and terrible rough in her handling. That you,

reader, may be saved the pain of becoming her trembling pupil, I have taken pen in hand, and now to the process. Having selected a well sheltered spot, some 60 by 18 feet, it was dug perhaps 30 inches deep.—At the bottom were laid one hundred and twenty bushels of bones, to obtain which the boys with laudable zeal, scoured two townships. On these were placed several horses, and to keep them company a prize bull and a span of oxen. On these again were deposited road scrapings, sand and black mould, fourteen inches in depth. This having been levelled all was ready for planting. Such was Mr. Robert's prescription. The vines were obtained. Black Hamburgs, Black St. Peters, Zingindal, Royal Muscadine, Golden Chasselas, Pitmaston, White Cluster, Marcready's Early White, Red Frontignac and Tokay. They grew the first season marvellously. By the autumn the canes were long and stout and bid fair to bear all that it was prudent to permit them to do. The following season they were lifted, washed, carefully and constantly pruned, thinned and trained. They bore abundantly; many beautiful bunches, beautiful for size and color, rewarded the expenditure of toil and expense. But the next season, the third, in which I looked for a large and remunerating crop, what came then? Then when the roots had fairly reached the soddened mass, and their tender extremities were scorched and burnt, then mildew overspread them all. There was no exception; Isabellas and Catawbas, and the little hardy black cluster, which were treated in the same manner, one and all, presented a mass of blackened foliage and mildewed fruit. This was raising grapes by horse power with a vengeance. I know better now. No fresh horse goes into my border now to force an unnatural growth, and then to burn the delicate fibres just as they stretch out to seize the proffered nourishment. Not that the possession of one or many such carcasses is not desirable, but before applying them, they should be covered with mould and suffered to decay; such mould will, indeed, be rich, and if applied to the plant in small quantities at a time, will nourish it and cherish it to its heart's content. I tell you all this dear reader in confidence. I have never told it before. I cannot now wonder at the wry faces of those who beheld my preparations, nor at their solemn asseverations, that they would never eat grapes raised by such a method. Alas they never had the chance.

Mildewed vines and fruit are a source of