

applied. The labor of the farm must always be well kept forward."

"Presuming," Mr. Vallentine adds, "that a farm is in such a state of cleanliness that there is no real mass of couch anywhere, autumn ploughing should be as deep as the nature of the soil will admit of. If the subsoil is very poor or stubborn, subsoil ploughing, or stirring, is preferable to a very deep furrow, which would bring too much inferior soil to the surface. Subsoiling always does much good if the land is quite dry, or at least dry enough to crumble to pieces as the plough works through it. Like every other operation, however, subsoiling may be attempted at a wrong time, and mischief naturally follows. I have erred in this way more than once, and have seen frequent instances of failure resulting from subsoiling when the land was too wet, and after being cut up by the share, fall closely down again and made a mess of by the horses' feet. Land can seldom be suited for subsoiling after the middle of November, and not often so late in the season as this. Yet how many have continued this work during the whole winter?"

"With a good strength upon a farm, one field might be subsoil-plowed every autumn, until the whole of the arable land has been stirred to a depth of at least a foot. After this the depth of the surface furrow should be increased gradually at every rotation for green cropping. It is quite an exception for land to be ploughed deeper than from four to five inches. Now, instead of this, if the soil be deepened to eight inches by degrees, the increased power it will have for retaining moisture will be very great, and the chance of obtaining heavy crops of all kinds increased in like proportion. It must, however, be assumed that the due manuring of the land must also be attended to.

"Autumn dunging for green crops on all clay soils or stiff loams is also much to be recommended. All soils dunged in autumn or winter retain moisture better for use in dry weather than such as are undunged. Indeed, there are some soils so very retentive of moisture, after winter manuring, that it would be better avoided, especially if the land contains any couch which requires getting out in the spring. Any good system may be abused at times, and there is nothing much worse than dunging foul land at any time. There are many good plans carried out systematically, such as subsoil ploughing, deep ordinary ploughing, dunging in autumn, &c., when every circumstance is suitable; but on the other hand, any of these operations may be carried on improperly, loss, coupled with disappointment, being the natural result.

"Light sandy soils, and all such as are usually known by the name of light

soils, should not, I think, be dunged in winter. I have seen better crops of roots grown after dunging in June than after autumn dunged land, the weight of dung applied in both cases being the same."

The cultivation of turnips on the flat and on the ridge systems, in their relation to the moisture of the soil, did not escape Mr. Vallentine's attention. He remarks: "It has frequently been a matter of discussion whether turnips should be grown on ridges or on the flat surface. I think it would be useless to attempt to enter largely upon this subject. On dry sandy soils, in dry climates, moisture is certainly retained better by sowing on flat than on high ridges. A great deal depends upon how the various operations are conducted. By slovenly, or at least by dilatory turnip-growers, more moisture is allowed to escape during the preparation and sowing of turnips upon the flat, than is lost by a better course of management when the cultivation is on the ridge system. The ridges may generally be so rolled down as to be nearly meeting, with a depression between them of only a few inches. In such case there is little more chance for moisture to escape than by the flat system. The ridge system allows the manure to be placed more directly under the seed than by the broad-cast method. It also allows of a much cheaper and more efficient system of cultivation. However important a root crop may be, it is not more so than that the land should be thoroughly cleaned, well stirred, and completely cultivated during the growth of the crop which is to be the foundation, and, by good cultivation, the very ground-work of three or four crops afterwards. When roots are grown on the flat, no deep cultivation can take place. A mere surface-scratching is about all that can be done, or at least all that is generally done. Where the flat system of growing roots is adopted, the land is seldom kept so clean through a rotation of crops, as where ridging prevails. Many people contend that heavier crops may be grown on the flat than on the ridges; still, it is well known that heavier crops have generally been grown on ridges, when the system has been properly carried out."

I am not aware of any extensive experiments that have hitherto been made, as to the effect produced on the absorbing or retaining power of a soil for moisture, by dressing it with certain deliquescent salts. Every gardener is aware that if he dresses the surface of his asparagus or cabbage beds with common salt (especially if with that made from sea water), then the surface of the soil is, for a considerable time, more moist than the adjoining unsalted beds. Whether the spray of the sea carried on to the lands adjoining the shore may not produce some portion of the beneficial influence to which

I have before alluded, in the case of sea shore farms, is worthy of our serious attention. It is very certain that other saline matters, such as nitrate of lime and the chloride of calcium, possess far more powerful deliquescent properties than common salt; and the chloride of calcium must be attainable in the waste of the calico bleacher to a very large extent and at a very reasonable rate.

Some years have now elapsed since I found that when 1,000 parts of the rich soil of a field in Essex, 12 miles from the sea, previously dried in a temperature of 212 degs., when exposed to air saturated with moisture gained in three hours 27 parts; 1,000 parts of the soil of an adjoining portion of the field, which had been dressed with 12 bushels of salt per acre, gained 27 parts. In the same period

1,000 parts of some refuse marine salt gained	49½ parts.
1,000 parts root	39 "
1,000 of horse-dung (dried at 100 degs.)	145 "
1,000 of cow-dung	130 "
1,000 of pig-dung	120 "
1,000 of sheep-dung	31 "

These examinations, imperfect as they are, may lead to other and far more valuable researches. We have been reminded as we have travelled together through this little paper, what great things have been accomplished in the regulation of the supply of moisture to our grass and other lands. Such successes may well prompt us to believe that not only is the addition to and the preservation of that moisture in our arable soils far more within our power than we are generally inclined to believe, but that such additions to their fertility will in all reasonable probability be at no distant day profitably accomplished.

RHODODENDRONS FOR CANADA.

We desire to call attention to the Rhododendron. These who have seen this most beautiful shrub when covered with its profusion of flowers, will be deeply interested in what we have to say about its culture, and those who have never seen it will surely be grateful for having their attention directed to it, if they shall be thereby induced to plant it about their dwellings.

The Rhododendron Catawbiense is a native of North America, and may be found growing wild in this Province. Seedlings grown from this variety are perfectly hardy. Mr. Parsons, of Flushing, N. Y., writing last year to *Tilton's Journal of Horticulture*, gives the names of twelve varieties as hardly beyond question, growing as surely and freely as a willow, wherever a lilac will, requiring no shade, and no extra preparation beyond good garden soil. They need no special culture, no peat nor other special soil, and require only to be planted where they will have plenty of sun, in good garden soil. For the first year or two after planting, they should not be allowed