



AGRICULTURAL.

SOW CLOVER SEED.

Wheat pays the best of all grain, and wheat does best after clover. The rotation of corn, barley or oats, and then wheat, takes a good deal of labor, beside being hard on the land. Sow clover with the barley or oats, let the land lie in clover one year, and then plow under the clover for wheat. This will require less labor, and be better for the land. If sown early, clover does well with barley, and it often does very well with oats. I have found that where oats are sown after a well tended corn crop, and sown early, and the clover seed sown at the same time, immediately followed with a good dressing of plaster, clover generally does well. Plaster should always be sown when land is seeded to clover, as the clover will then be much more likely to catch and do well.

Try plowing under clover. There are few farms that are not largely in need of a large amount of barn-yard manure or other fertilizers. To buy either is expensive, but so it is to buy stock and hay and grain to feed to make manure. Of course all suitable crops raised on the farm should be fed to make manure. But this does not make manure enough; it will make and keep only a small part of the farm rich. Hence more fertilizers are needed. The most important of these fertilizers are nitrogen, phosphoric acid and potash. Clover will collect, store up and furnish these essential elements of crops more easily and cheaply to the farmer than they can be obtained in any other way. The clover plant absorbs nitrogen from the atmosphere and returns it to the soil, where a large portion is changed to ammonia, the very best fertilizer for wheat and other cereal crops. The large clover roots get the phosphoric acid and potash from the deeper portions of the soil, and the adjacent subsoil, where, as Dr. Voelcker says, they would remain in a locked up condition were it not for the agency of these roots. Thus, clover collects and furnishes precisely the fertilizers our grain crops most need. Hence the great benefit and importance of plowing under clover.

The saving of labor by plowing under clover and summer fallowing must be no slight inducement now. I think it safe to say that where three hands have been employed on a farm where spring crops, and especially corn and other hoed crops are largely grown, that two will answer as well when clover is largely plowed under, and in many cases one will answer where two has been employed. It is not a good plan to let land lie idle to save hiring help. Such land improves very slowly at the best, while it is very likely to bring in weeds, worms and various pests, that make it a positive disadvantage to allow land to lie idle. There is also the great loss of the decided improvement that may be secured by plowing under clover, as well as of the good crops which may be grown by thus using clover.

In times like the present it is a good plan not to crowd the land so much by growing exhausting crops—to seed more and oftener to clover, with a view of improving the soil; but it is very seldom good policy to let the land lie idle. Nor is it best to keep grain land for years in pasture, where the grass is very thin and light, and where the damage from weeds, worms, &c., will be very likely to equal the small profit secured from the feed.

Nor is it generally best to plow under a good crop of clover the first year. If the crop is light, and will not be profitable to gather for hay or seed, it may be best to plow it under the first year, so as to seed again and try to get a better crop. If it is good, cut early for hay, and save the second crop for seed. The first crop can be cut before the busier season of other haying and harvest comes on, and the crop of seed can be secured after the fall crops are sown and work is not crowding so hard. With good machinery the work is not hard or difficult, but with good weather is soon dispatched. The returns for the two crops should not be less than \$25 to \$30 per acre, and may amount to \$40 or \$50. One year with another, these crops, if well managed, are as cheap and profitable as any grown on the farm. For, it is well to remember, there is no plowing or other preparation for the crop; the proper preparation for the crop with

which the clover seed is sown being all that is needed.

The seed costs little; and all the manure needed is plaster, to grow clover two seasons. If the land is in good condition, the second season an early crop of clover hay may be taken off, and a second growth plowed under for wheat. If it is thought the land needs more fertilizing, and more time to work and subdue it, then the first crop should be plowed under. But as a rule, from the larger amount of clover roots that will be grown, and of leaves which will fall and decay on the surface, there will be a larger amount of fertilizing matter, in proportion to the top, plowed under the second year than the first.

Hence, a very important point that should be always kept in mind, is that clover may answer an excellent purpose to plow under after it has been made a profitable crop to harvest and take off; and all this from one seeding, which is so easily and cheaply secured, as above described. How many farmers work hard, and are at considerable expense to raise a crop of grain, when at the same time a crop of clover might be grown which would be worth more money, and literally cost nothing, except the seed, to put it in. In fact, the hay and seed grown the first year will be very nearly, if not quite, clear gain, as the crop the second year, to gather and to plow under, will be worth enough to the farm to pay all expenses.—*F. in Country Gentleman.*

MANURES ON SANDY SOILS.

Do manures on light sandy loam lands leach down below the roots of plants and become lost and wasted in the lower strata of such soils? Or is this tendency in an opposite direction, and in dry, hot weather do they become absorbed and lost in the air? I think neither of the above propositions point out the true tendency of manures applied to such kinds of land.

My idea is that they remain in the soil where they are placed, and their only tendency is towards the roots of the plants, thereby constituting the food or aliment upon which these plants feed. I believe that by a regulation of nature there exists an affinity between plant food in the soil and the roots of the plants themselves, whereby they are constantly drawn towards each other.

I cannot see how this arrangement can be broken up by the action of the rains on the one hand, or by the influence of heat and dry weather on the other. For if during rains the manure these lands contained were subject to leach down like water running through a sieve, they would soon pass beyond the reach of the roots of every kind of plant. Or on the other hand, in hot, dry weather, if their tendency were upwards, like the steam from a boiling pot, their strength would soon become absorbed by the air, and mingling with it, would be scattered to the winds. And these lands, being constantly subject to the wasting power and influence of these elements, must a long time ago, if they ever possessed any fertility, have become very poor, desolate and barren indeed, far beyond the hope of recuperation. But, on the contrary, there are thousands of acres of this kind of land at present covered with a heavy growth of wood and timber, thousands more in pasture and mowing fields, and under cultivation by the plough and hoe, and annually bearing very satisfactory crops; and still other acres of this kind of land that by skilful and persistent cultivation have become some of the richest and most productive lands in the world.

My idea is that the rains, the heat and dry weather, as they ordinarily occur one season with another, do not come to these lands as enemies, but as friends, to help nature to elaborate the plant food of the soil and to carry out her kindly influence in the increase and production of growing plants. And though sometimes her operations may seem to be suspended, as during the severe drought that prevailed for two years previous to last spring, yet we saw, after the rains came, that the lands which during that time looked so poor and barren, instead of parting with any of their plant food during those dry years, had actually been laying in an additional new and fresh supply of fertility, as is evident from the abundant harvest and the rich mantle of green that clothed the earth the past year.—*R. S. in Country Gent.*

The Kansas Pacific Railroad transports trees and shrubbery free.

THE POTATO CROP AND THE COLORADO BEETLE.

From the report of the Entomological Society of Ontario we gather the following information respecting the progress of the Colorado Beetle during the past year:—

During the past year we looked forward with considerable anxiety to the effect that the Colorado Beetle would produce on the potato crop; we are glad to be able to report that on the whole, less mischief has been done than we anticipated. It is somewhat difficult, however, to arrive at an accurate estimate.

The Bureau of Agriculture forwards every year to the Secretaries of the Electoral Division Agricultural Societies a printed circular requesting a detailed return of the crops in each district; and if these returns were properly made they would afford much valuable information. It is to be regretted that they are not more universally attended to.—So far as we can learn only 40 of these returns have been made for 1872, and it is on these partial details that we must base our analysis for the Potato Crop. While, however, the ravages of the beetle have been somewhat less than we expected, its increase in numbers and onward progress have yet been such as to cause not only a material effect on the crop, but also to maintain a good deal of alarm amongst the farming community.

A comparison of the crop returns for the two past years fully confirms the statement made in our former reports, that the second and third years of appearance of the beetle are worse than the first.

A few statistics may not be out of place here. In 1871, 45 Agricultural Societies sent in returns showing an average crop of 131 bushels per acre. In the past year, 1872, only 40 Societies reported, with an average of 181 bushels per acre. In 1871 only 14 Societies reported the presence of the beetle, while 33 were free from it, and none badly affected. In 1872, 26 Societies reported injury from the beetle, and 8 report very serious danger, in some cases almost total destruction, and only 14 appeared to be free.—It is to be noticed that all the western places which in 1871 were the most badly affected, were in 1872 far more seriously attacked. In no one place do we find that the beetle after making its appearance one year, has not reappeared in the following season. In London the beetles literally swarmed, and thousands were daily trodden down on the sidewalks and streets, and we look for a still further increase next year.

It would be very desirable to obtain statistics of the various sorts of potatoes grown, as we are quite satisfied from our own experience that some varieties are much more subject to attack than others, and we would beg respectfully to suggest to the Commissioner of Agriculture the propriety of obtaining such information during the present season.

From the monthly reports of the agricultural department published at Washington, we obtain some information respecting the ravages of the Colorado Potato Beetle in the United States. The returns of their correspondents show that the crop of 1872 was less than that of 1871 by about six millions of bushels. This, however, comprehends sweet potatoes as well. The Western States, in which the potato crop had suffered for several years past from the ravages of the Colorado Beetle, reported diminishing losses from that cause, and were the only States, North Carolina and Texas excepted, reporting increased production. In Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Nebraska, Missouri, Kansas, California, and Oregon, the average yield was only 98 bushels to the acre, while the average price of December 1, 1872, was 50 cents per bushel.

We give these statistics as it is from the Western States that the Colorado Beetle has worked in its way, and they show to some extent what effect has been produced by its ravages for some years past.

The only sure remedy for the pest, besides hand-picking, which answers very well at first, is Paris Green, mixed with fifteen to twenty pounds of flour, or thirty to forty of plaster of Paris; the latter mixture is highly recommended by our friend Mr. Saunders, of London—no mean authority on such a subject.

When the insect is likely to be abundant, our farmers should not attempt to grow a

larger crop of potatoes than they can properly attend to and exercise a constant vigilance over.

TREATING CORN GROUNDS.

If there is a very good year for corn, warm and showery, and your soil is deep, mellow, and rich (and, of course, dry or drained), and if you give good cultivation, planting not too close, say three by four feet, leaving not more than four stalks to the hill, there will be a good crop of corn, and this whether the land is plowed in the spring or fall. We have seen this tested where two crops of 80 odd bushels to the acre were grown. The one was ploughed in the fall and not very late either, so that the grass (quack) started up in the spring, making the prospect very discouraging. But notwithstanding the quack—which must have hurt some—there was the yield spoken of above. We think, however, this lot was a trifle better in the soil than the other, which was ploughed just before planting. It was a wilderness of growth, both lots, the road only intervening.

Other instances have demonstrated the same thing, viz., that fall ploughing is good for corn. We have found that it is best to plough late, if the weather will admit—and we presume winter ploughing would be the best of all, as it would leave the surface soil mellow and in a better condition to start the crop, the grass having little or no chance to start up, and no fermentation of the sod present as in the case of spring ploughing. Besides—and this is a point that cannot well be overlooked—there will be a chance to apply manure; apply after ploughing and thus get the ground saturated with it, and preparing it in the best possible manner to receive the seed.

But late ploughing is sometimes attended with wet, in which case it should be omitted, especially where there is much clay. In all cases where the land is dry, or sufficiently drained to admit of ploughing, and is not sufficiently rich, we advise late fall ploughing and a dressing of manure. Cover well and evenly, and give the rain and snows a chance to wash out the substance and saturate the soil with it. Then when the time comes for planting, cultivate and harrow, and there will be a bed of soil, dark, rich, mellow, that needs nothing more to convince unless the appearance of the crop, which will be dark, lusty and thriving, and there will be no stop to its progress, the soil taking it up and carrying it on the remainder of the season, in connection with the surface application. The soil will be improved, will be more mellow, work easier, and retain the longer its moisture, as well as absorbing more readily from the atmosphere. This we conceive the best mode of treating poor corn land.

Otherwise, if there is a good soil to turn down, and the soil is disposed to be mellow, turn down in the spring just before sowing. To make the thing more secure, to get a good start (which is important), apply some fertilizer in the hill. Then manure is excellent mixed with the soil, or previously with something else, though manure from the hog-pen is perhaps equally well. We never knew either to fail, and we have tried them frequently. But, in order to guard against the drought, which will sometimes set in at planting time, put well into the ground, say two inches and a half, and immediately after ploughing, when the land is yet moist.

Most of the corn land here is treated in this way, and it must be said with a good general effect. With a good year and rich land there can be no failure if the crop is attended to. In all cases the land for corn should be rich, either so in its soil or sod, or made so, as corn will bear it. No fear of too much straw or a lack of ears, providing, of course, that there is room between the rows so that the sun and air have full access; this particularly to favor the ear. Close planting will defeat this; there will be straw, excellent fodder, but no ears; none at all if quite closely planted, as we have known and as is seen at any time with corn planted for soiling.—*F. G. in Boston Weekly Advertiser.*

THE BEST TIME TO HOE.—In Secretary Flint's Massachusetts Report it is stated by a cultivator that the portion of the garden which is hoed or cultivated with the dew upon the ground produces better crops than the part that is hoed in the heat of the day. Will some of our own cultivators make the experiment with different parts of their garden and send us the results for publication?