Agriculture.

Canada Thistles.

If all the labor expended in exterminating Canada thistles in the United States were paid for at the rate of a dollar a day, the sum would probably pay off our national debt. But the question is, how can they be destroyed? I once had this pest in my garden, and I was told that by cutting them off with a hoe as fast as they appeared they would die before fall, "as no plant can live long by such treatment." Well, they were so cut off from spring till fall, and the next they appeared as before, and they are probably in the same garden yet, which place I sold 20 years ago. At the same time I had a field that was covered with thistles, which was mowed several years, and the most of the thistles disappeared. The theory was among the farmers of the vicinity, thistles cut off near the ground at a certain stage of their growth, and a rain occurs soon after being cut, filling their hollow stalks with water that it kills them; and this appears to be true. Ordinary plowing of the thistle land once in two or three weeks will not kill them; but a case that came to my notice was as follows: A neighbor cut the thistle in August close to the ground and put a tablespoonful of fine salt upon the head of every stalk. This did not kill them, but it so weakened their vitality that three plowings the next season destroyed them all. I once killed a patch of these thistles by sowing the land to buckwheat so thick that it completely smothered them.—*Colonial Farmer.*

Clover—Its Value to the Farmer.

Clover taken for all in all is, we think, the most profitable crop on the farm. A crop of cereals may bring more immediate profit, but that profit is but for the one crop and one season, whereas the profit from the clover crop continues for years. So the first and second years clover succeeds the crop for which it has been preparing the soil.

When we look to the effect of the crop of cereals and clover on the soil, we see at a glance their comparative value. While the grain crop is exhausting the soil of its natural or acquired fertility the clover in every stage of its growth and its consumption, is making the soil fertile. The following article from the Wisconsin State Agricultural Report illustrates this point:

We presume that a great many of the farmers of Wisconsin have a kind of general idea that clover is a good thing; that it makes a pretty fair food when cured; that it is passable for pasture; that by plowing under a crop of clover, you plough under a certain amount of manure of some kind, either good, bad or indifferent, and that if you have a few bushels of seed to sell when it is worth eight or nine dollars per bushel, it is really a good thing. But that any systematic effort has been made by any great number of Wisconsin farmers in its cultivation, so as to enable them to speak with any degree of certainty of its value as a crop, we are very much inclined to doubt. We do not pretend to be able to answer the question of the exact value of clover to the farmer, but from our own experience in its cultivation, we feel fully warranted in making the assertion that if the clover plant was better understood it would be appreciated, so that it would form the basis of our agriculture.

In speaking of the value of clover to the farmer, we have learned theories of our own or others to set forth. We think we can better subserve their interest by giving a simple statement of experiments, extending over a period of years. By way of premise, it may be as well to state the reasons that caused us to experiment with clover as a fertilizer.

Several years ago we became conscious of a decrease in the yield of our crops. To remedy matters, we commenced feeding stock, cattle, sheep and hogs. We not only fed all the grain the farm produced, but we bought a great deal of corn from our neighbors.

After pursuing this policy a few years, we found it not altogether unsatisfactory. We could not always depend upon buying corn at prices that left profit in feeding it, and what was worse, with all our feeding, we could not make manure enough to keep our land up to the productive standard that we wanted it. We next turned our attention to clover, and the result has more than equalled our most sanguine expectations.

In the spring of 1869, we sowed twenty acres to clover, sowing it with oats, putting ten pounds to the acre. After the grain was cut, the clover made a remarkable growth; it headed nicely, and much of the seed matured sufficiently to grow. On the 15th of October following, we commenced to turn the clover under; it took good teams and good plows to go through it. The next spring we planted to corn, and harvested sixty bushels per acre. The next spring, we ploughed the ground and sowed oats. This brought the seed ploughed under in 1869 to the surface; the result was that we had the ground nicely set to clover again. The oat crop was as good as we ever handled. The next season we cut two bouncing crops of hay, then ploughed the ground in the fall. The two following years, 1873 and 1874, we produced large crops of corn. In 1875, we sowed to oats and again seeded to clover, sowing ten pounds of seed per acre, raising a heavy crop of oats, and got a good stand of clover. In 1876, we cut a heavy crop of hay the latter part of June; also secured four bushels of seed to the acre, later in the season. We are satisfied that that 20 acres is all right, and in condition to cut a hay and seed crop from next season.

On the first day of June, 1872, we turned eighty good young hogs, averaging 150 pounds, on fifteen acres of that clover that was sown the spring before. On the 15th day of September following, the hogs averaged a fraction over 250 pounds, a gain of 100 pound each, or 600 pounds for each acre pastured.

On the 25th day of May, 1874, we turned 120 shoats (mostly small pigs) that averaged a hundred pounds, on twenty acres of clover sown the spring before. On the 20th day of September they weighed 194½ pounds each or 567 pounds gain to the acre of clover.

June 1st, 1865, we turned 95 head of shoats that averaged 126 pounds, on the same 20 acres of clover. On the first of October they averaged 230 pounds, a gain of 487¾ pounds per acre. We then ploughed up the pasture, and it was about as effectually dressed with hog manure as one could desire. Last spring (1876) we planted corn, commencing May 4th. It came up quick, and grew from the word "go," and produced the largest crop of corn, for a field crop, we ever grew in Wisconsin; as near as could be estimated, 82 bushels per acre.

In the spring of 1876, turned 120 fair shoats on 20 acres of clover. The value of clover has become so well established with us that we neglected to weigh them, consequently are not able to speak certainly as to definite results; but they would not differ materially from the preceding years.

The hogs were never fed a grain of corn or other grain, from the time they were turned on the clover until taken off and weighed before feeding for market. Another thing that pleased us was the rapid gain of the hogs when put on feed. They seemed to be just in the right condition to eat heavily, digest properly, and assimilate perfectly.

In 1872 we fed 42 days, and our hogs then weighed 365 pounds, having gained a fraction over 2½ pounds per day while eating corn.

In 1874, fed 42 days, the hogs weighing 315 pounds at commencement, gaining nearly three pounds per day.

In 1875, fed 37 days. They weighed 326 pounds at commencement, and gained within a small fraction of three pounds per day.

In regard to ploughing under green clover for a fertilizer, we prefer to pasture it off with hogs. Think the benefit to the land is as great or greater, and you will get paid for the clover; besides, would prefer to pasture the same land, when possible, two years in succession.

Our experience in this direction has not been so extensive as it has in feeding green. So far it has averaged as follows: An early crop of hay, cut by the 25th June, worth $10 per acre; three bushels of seed secured in the fall, at $7; thrashed straw, $3. Total, $34; from which deduct cost of harvesting and threshing, $7, leaving $27 net. We do not think the benefit to land nealy so great as when the land is pastured.

In conclusion we would say, if you want to clear your land of weeds, sow clover, and sow it thick. If you want to grow big corn crops, grow clover, pasture off with hogs. Plough up the land the last of September or the first of October, and the corn crop following will make you feel happy. If you want to make rich farms and make money, and not at the same time worry about railroad frieghts and railroad laws, grow clover, corn and hogs.

The Potato-Starch Industry.

We have before now written of the starch factory in New Brunswick, a very promising branch of the provincial industry. Where potatoes are easily raised, and sold at low figures, as in the Maritime Provinces, it has been found to pay a fair profit after deducting expenses. Of the potato starch industry in New York State a cotemporary writes as follows:

"One of the most important manufactured products of the small country towns of New York State is potato starch, and although the total quantity of potatoes consumed in the manufacture of the article is relatively but a small portion of the entire crop of the United States (which is estimated at 150,000,000 bushels annually), yet the amount of capital represented by the potato starch industry is by no means insignificant, and its yearly production in tons is frequently estimated by five figures and in dollars by seven. It is believed that nearly 3,000,000 bushels of potatoes are frequently consumed per year in the States of Maine, New Hampshire, Vermont and New York, in the production of potatos tarch. This amount is three-eighths as large as the total potato crop of Maine, three-fourths that of New Hampshire, three-fifths that of Vermont, one-tenth that of New York, of about the same magnitude as that of Massachusetts, and much larger than the crops of Connecticut or Rhode Island.

There are about 225 factories engaged in the manufacture of potato-starch, and probably all of them, with one or two exceptions, are located in the States of New York, Maine, New Hampshire and Vermont. Probably the average price paid for potatoes by starch manufacturers during the past season has been 25 cents per bushel. The aggregate annual production of all the factories is usually from 6,000 to 11,000 tons. A bushel of potatoes generally makes eight pounds of starch, 250 bushels being required for a ton. As the average market quotation of starch is 5 cents per pound, it follows that a bushel of potatoes brings only 40 cents after being converted into starch, and the value of the total production of potato-starch in the country is from $800,000 to $1,200,000 per annum.

Rotation of Crops---Clover.

A correspondent writes to the secretary of the Elmira Farmers' Club, in reply to a question in regard to a rotation of crops with clover, and the interesting discussion in the club on the question. "It seems to me that it is a problem somewhat difficult to solve, as there is much difference in the localities affecting the raising of clover. In some places it grows almost spontaneously, and in others it is very difficult to raise it. We think, however, that it does best in our clay soils, and we are beginning to look at the propriety of being more systematic in our methods of growing it.

"In the discussion sometime since the question was, clover or timothy? I have for some years noted the difference between the two, and have no doubt but a crop of timothy will exhaust land as much as a crop of wheat; whereas clover will enrich the soil in which it is grown. Why? Because timothy draws its entire nourishment from the soil, while clover obtains almost one-half of its sustenance from the atmosphere. One difficulty with most of us is that we allow our clover fields to run too long before we plow them up. Now, were I to suggest a method, I would say mow the clover early the first year, and cut a crop of seed, and mow again early the next season, let the second crop of clover grow until the first of August, then turn it under as perfectly as possible. Roll it, harrow and cultivate it thoroughly and sow it with wheat, and my opinion is that it will do better than summer fallow. My reason is, the soil is much lighter. By the decay of the clover roots wheat gets a good start in the fall, and when summer comes and the dry weather we generally have just before wheat fills, the roots get down to the moist, decayed clover, turned under, and the heads fill out beautifully, and the wheat will be very heavy. If you wish to plant with corn there is no better field for that purpose than a good clover sod turned under. Follow your corn with barley, then with wheat and seed with clover. Try this method with one field and another with timothy; give each field the same quantity of fertilizers for ten years and see which field will be in the best condition. With such a rotation of crops our land will improve with a crop every year, instead of losing one year in four or five for fallowing."