

CLOVER.

By George Geddes.

There are two well defined and distinct varieties of red clover. The differences between these varieties are well understood where both kinds are cultivated, and the farmers who raised them usually described them by using a term that indicates the most marked difference between them—the 'large' and the 'small' red clovers. By the large they mean what the books call *trifolium pratense*, and by the small they mean what my old book calls *trifolium medium*.

There is still another variety of red clover, still smaller than the medium, but it is never cultivated so far as I have been able to learn, and only occasional plants are found in our fields. They are quite like the medium in appearance, but they are smaller and earlier in blossom. This variety I mention here as explaining the origin of the term medium.—For all practical purposes it is of no account, and we may as well accept the words 'large' and 'small', usually employed by farmers to express the important characteristics of the only red clovers that are cultivated for pasture, for hay, and for manure. The other points of difference between these varieties may be stated as follows:

The large red clover is slower in starting its growth in the spring, or after being fed or cut off, than is the small variety. The large produces a coarse long stalk, with fewer leaves than the small, and but one full crop can be produced in a season, that is to say, there cannot be a full crop of hay cut and after that a second crop that will ripen its seed be raised in one season, in such a climate as that of Central New York. While the small clover will produce a full crop of hay by the middle or 20th day of June, and give the farmer time to make his hay and take it off the ground, and after that new stalks will start from the roots and produce a second full crop, and mature the seeds in time to secure the whole before cold weather sets in. This is true of the climate found at the forty-third degree of latitude to about 1200 feet above the level of the sea. Above that level, or thereabouts, in the latitude of Central New York, the small red clover does not mature the two crops in sufficient perfection to lead the farmers to cultivate it to the exclusion of the large kind, and they generally think that one full crop, with the spring pasture furnished by the large variety, to be worth more to them than the two imperfect crops that they might secure from the small kind.

Their manner of treatment, in general, is this:

Pasture their clover fields till about the 10th day of June, and put on stock enough to feed the whole down close. In case any part of the field is not fed down close, the scythe is used to cut off the top. Then remove the cattle, and apply gypsum (plaster) freely, and if a good shower soon comes, the clover plants will each throw up a number of stalks that will grow rapidly, and mature seed in time to secure it before cold weather sets in.

Another method sometimes adopted is to sow the large kind of clover seed with timothy to make hay, in which case there is no pasturing allowed in the spring. The clover and timothy will mature at about the same time; that is, the large clover will be in full blossom at the time the timothy is in its best condition to make good hay. When the books say that this large clover blossoms from May to September, they can only refer to some very rare blossoms in May—perhaps the production of some stray seeds of the small kinds that have become mixed with the large.

Mr. Torrey is right in his conjecture that the plants that remain after the crop has been sown for two years, are mostly due to seeds that have produced plants since the first year after sowing. But this statement must be qualified by saying that in our mode of raising clover some part of three different years are really used. We sow in March or April clover seed on our winter wheat, and the young plants being shaded by the wheat, are prevented from growing much until after the wheat is harvested. This first year is really counted for nothing in the yield of crops. The second year the small clover gives two crops—one for hay and one for seed; and the third year two like crops, but usually much smaller, especially the last one, than those produced the second year.

When the large or small red clover is either cut off or fed off so often as to prevent

seed forming, it is the opinion of some very observing practical men that the plant will keep alive and increase its roots for more than two or three years. When clover has many times been sown, and many seed crops taken off, there will be so much seed in the ground that a succession of plants will sometimes come forward, and thus clover will continue to grow for a long time in timothy meadows and pastures, and for many years after any seed has been sown. Very often our barley crops at harvest have been accompanied with so much volunteer red clover as to give an appearance equal to full allowance of sown clover seed, when it was really due to the fact that a crop of clover seed was, the year before, cut on the same fields, and a good deal of it shelled, or otherwise, was left on the ground to grow and show itself in the following barley crops.

Farmers that raise the large variety of red clover generally insist that the roots are larger and longer than those of the small kind, and they say of more value as a fertilizer of the soil. Roots of red clover go very far down for food and moisture, and some facts that have come to my knowledge lead me to believe that where the soil is not rich the clover roots go deeper down than they do in more fertile ground. In case there is an abundance of plant food in a mellow surface the tap roots throw out more laterals and fill the surface soil with fine fibrous roots and thus receive the food required. In harder, less broken and less fibrous sub-soils, the clover roots push their way down through the fine crevices and seams to an unknown depth.

I have seen a root that was dug up with some care traced fully four feet deep into these shales, and there broken off while yet of considerable size. Roots three feet long, and broken off where they were a quarter of an inch in diameter, are frequently found in fields that have been plowed when the earth was saturated with water, and a dull plowshare was used. In such cases these broken and pulled-up clover roots will stand far up over the plowed ground, giving the appearance of the stalks of dead weeds.

Where clover is sown, and the only object is to provide the most pasture possible from the crop, it is best to mix the seeds of the two varieties, half and half, and sow twenty pounds (a bushel has sixty pounds) on an acre. The early or small kind will start first in the spring, or whenever eaten off, and the large variety will come after, and perhaps grow somewhat stronger. If the object is to make hay of the crop, the smaller variety is almost universally preferred where both kinds can be raised in their best perfection.

The choice of variety has been decided by climate. On the high lands of the south part of the country, where the season is too short to mature two full crops of the small, there the large is generally cultivated. The north half of the country has but a very little land that rises more than four hundred feet above the sea, while in the south part of the country there is land that reaches nearly 2000 feet above tide level. 300 to 350 feet of altitude has been determined as equal to a degree of latitude, measured on a level surface, in influencing the climate.

I add one thing as perhaps of more importance than anything I have said. Red clover, large or small, should have frequent dressings of finely ground gypsum, commonly called plaster, applied on the young plants soon after they commence their growth, and immediately after mowing a crop of hay, to start a vigorous growth, either for a seed crop or for pasture.—*New York Tribune*.

BONE DUST.

An intelligent English farmer, writing to the *Mark Lane Express*, states his experience with bone dust and superphosphate made from bones. He believes bone to be the "cream of cream" as manure. On pasture land in Cheshire, where he lived seven years, he found it indispensable. In Wiltshire he found it developed the best grasses and produced a superior herbage; it produced the best roots, and on the wheat crop, in the shape of superphosphate, it secured a good stand. He used \$2,500 worth of it, and believes it to be the best worth a farmer's attention of any outside manure. He found on clay lands, impregnated with oxide of iron, that until the land had been limed the bone had no effect, but as soon as lime was applied bone was used with success. Finally, on experimenting with it on sandy soil, he found it perfectly useless, and even in quantities of 700 pounds per acre, applied to old pastures or young grass lands, it had no perceptible effect during many years.

ROOTS AS MANURE.

It has been found that the roots of a good crop of red clover left in an acre of land after the removal of the crop, weigh six thousand five hundred and eighty pounds, or from three to three and a half tons. The same examination gave the weight of an acre of rye roots at thirty-five hundred pounds, and of wheat roots at thirty-four hundred lbs.—All of this matter is of course valuable for the use of those crops that may be grown during or after its decomposition.

The well-known superiority of clover as a manuring crop, however, is not due alone to the greater amount of organic matter, taken mainly from the atmosphere, which its roots supply, but also to the position in which the matter is deposited. The roots reach deeply into the soil, and on their decomposition they serve to draw moisture from the lower soil, and by the decomposition of fertilizing matter to a considerable depth they induce the descent of the roots of other crops to a point where they are much more sure of a supply of moisture during dry seasons than they could be if nearer the surface. Then again, these deeply penetrating roots traverse parts of the subsoil not heretofore open to vegetation, and in their decomposition they produce a chemical effect on the inorganic substances that lie along their courses, and help to render them, too, serviceable for future crops.

CAUSE OF RUST ON WHEAT.

The close, long-continued analytical researches of Dr. Sprengel led to the conclusion that an excess of iron salts, and especially of the phosphate of iron, greatly favors the growth of red rust on the leaves and culms of wheat and other cereals. A soil in the vicinity of Brunswick that did not lack draining, but lime, was remarkable for growing wheat and barley always attacked and generally blighted by rust. A quantity of this soil was taken into a field generally free from this often ruinous parasite, to form an artificial soil fifteen inches in depth. Wheat planted in this was badly rusted, while that grown all around it in the same field was free from the same malady. There was something in the soil peculiarly favorable to the fungus which stains one's clothing as red as bog iron ore itself. Low ground, in which salts of iron collect in excess, is generally recognized as being very subject to rust. Drainage is a partial remedy and no more. Dr. Sprengel found on analysis a fraction over a half per cent. of the phosphate of iron in the soil under consideration, with only a trace of lime uncombined with silicic acid. As free lime will take phosphoric acid away from iron, and indirectly convert iron into the harmless peroxide, and at the same time produce the valuable fertilizer, phosphate of lime, liming was prescribed and the cure was perfect. Here is a plain case where the analysis of a soil by a competent expert detected the source of a great and permanent evil, and transformed, as by magic, a mineral poison into plant food of inestimable value. To deprecate soil analysis by skillful chemists is shallow quackery—a weed that finds too much favor with American farmers.

SAVING SEED CORN.

A correspondent of the *Prairie Farmer* states that there had never been such a failure of seed corn in coming up as in the present season. His observations and those of his neighbors had shown that corn that had been selected and hung away from all heat had its vitality destroyed by freezing. Corn husked and thrown on the floor, and covered with snow had (seven-eighths of it) grown. Corn left in the shock in the field had produced. Corn put in the crib had failed. He concluded from these observations and his experience that all seed corn, if husked, should be kept from freezing during the winter; that, if husked, it should never be allowed to lie on the ground over night; and that corn that is to be hung up in a cold room for seed should never be husked until the planting time arrives.

In this vicinity also there have been many complaints from the failure of seed corn.—Several persons had to procure another supply of seed to sow the ground a second time. The conclusion arrived at was that the vitality had been destroyed by the freezing during the unusually cold winter. We planted corn, an apparently good sample, that had been shelled, and it turned out a complete failure. We again sowed the ground with corn, saved in the ear, of the previous year, and have a good crop.

LIVE FENCE POSTS.

Seeing several letters in your paper on the subject of live fence posts, I will write a few lines and you may print them or not, as you choose.

Live trees can be used for fence posts, if they are set the right distance apart (12, 14 or 16 feet), then take boards and make your fence in panels, which you can make rainy days or in the winter when you have the leisure. You can make the panels by sawing fence boards the length you wish the fence high, then lay the boards apart the distance you wish them in the fence, then nail the strips (you have sawed the right length) to the boards, one strip to each end of the board, and one in the middle, and if sixteen feet boards are used two strips would be better, for the boards would not be so liable to break as they would if the strips were eight feet apart; the top end of the strips to come even with the top of the upper board. If cut nails are used to make the panels they should be heated red hot before they are used, so they will clinch without breaking.—After one panel is made it can be used as a pattern by laying the next board over the boards in the first panel. The panels can be set up and wire put around the trees and around the strips at the end of the panels; the wire will hold the panels up in their places, and the wind swaying the trees or the trees growing will have no nails to break, and as the trees grow the wires can be loosened.—*Com. Michigan Farmer*.

CUTTING RYE FOR HAY.

Rye is almost as important a crop in New Jersey as wheat is in Minnesota, and, as a matter of course, I have to sow a few acres every year or be ruled out of fellowship among New Jersey farmers. Hay appears to be always scarce in my neighborhood, and, whenever I have to buy the price goes up to about twenty-five cents per hundred above New York City market rates. I concluded to see what kind of hay green rye would make. This morning, when I proposed to cut the rye, which was just merely showing its flowers, John was ready to strike; for such a piece of folly had never before been heard of in this neighborhood. The rye, however, is cut, and if the weather continues fine it will be hauled into the barn to-morrow. I do not think that rye hay will equal good timothy in quality, but it is certainly superior to more than half of the stuff called hay sold in city and country village markets. Another advantage which I expect to gain by cutting before ripe is a better growth of grass from the seed sown among the rye last fall. If the weather should continue dry for the next two weeks, or until rye is ripe, the young grass growing among it must suffer much less.

CAUTION TO FARMERS.

We have been informed that parties are travelling through the townships, trying to impose upon the credulity of the farmers.—Their mode of operation is this:—

They say that there has been a great failure in Manchester, England, and creditors having taken possession of the stock of goods desire to dispose of them with the least possible delay, so that the estate may be wound up. Having thus given a plausible excuse for the urgent desire to sell, and the pretended low price of the goods, they produce a grain bag with the Lewiston mark upon it, with a few samples of Brussels carpets, beautiful flannels and cottons, putting prices upon them far below their real value, and make bargains for certain quantities to be delivered at a future time; they then produce their finely finished shoddy, and having previously worked upon the cupidity of their customer, soon make a bargain for a quantity of their trash, at a price that would be high even for good material. Having accomplished their end they pass on to their next dupe, no more to be seen in that neighborhood.

If farmers will deal with unknown and irresponsible parties they must expect to be taken in; they are to blame for encouraging these parties. If they will look through our columns they will find the advertisements of respectable merchants, whose interest it is to offer good articles for sale at prices that will just pay them for the handling and no more, as they are all anxious to establish a permanent business. So long as there is competition no one need fear of paying much more for an article than it is really worth, if they deal with a respectable house.

Let the farmer and his family refuse to deal with any unknown person, no matter how cheaply he offers his goods, for if they are below their value, he must have come by them dishonestly, and if they are of poor quality they are dear at any price.