

Different Varieties of Red Clover.

BY W. A. HALE, SHERBROOKE, Q.

As clover growing is rapidly increasing in popularity year by year, two points of great interest present themselves to us; first, what varieties are best suited to our soils, climate and requirements, and second, where can we be sure of procuring clean, fresh, unmixed seed free from other varieties. Of alsike and white Dutch clover, their uses for hay and pasture are so well known and their seeds usually so little mixed that they need not now be considered. Of sanfoin, lucerne or alfalfa, as substitutes for clover, not being suited to the soils nor climate of Canada, I believe we need never trouble ourselves, especially as such good results can be obtained from red clover; crimson clover also, though no doubt very valuable in more southern latitudes, is of no use to us. Red clover therefore seems to be the staple variety upon which we must principally depend, and its importance in nearly every class of farming, gardening and fruit growing can hardly be overestimated. As to the danger of overdoing it and rendering our land liable to clover sickness, if we are judicious enough to keep our hard wood ashes at home and apply them as the main fertilizer of red clover, we need have no fear upon this score; and while upon this subject I would like to call the attention of all intelligent clover growers to the fact that hard wood ashes are to-day advertised for sale in Philadelphia at \$2.50 per barrel, while we can buy them here for 25 cents! and yet we send them away by train loads. Two things at present seem to tend towards making clover growing unpopular with those who are not familiar with its many good points; one is the supposed difficulty of curing it properly for hay, and the other is the confusion into which many of our seedsmen have thrown the distinguishing names of the different varieties of the common red clover. Your correspondent, Mr. J. Hoyes Panton, on page 30 of the FARMER'S ADVOCATE, has, I believe, very correctly described the *Trifolium Medium* as cow-grass or zigzag clover, but is he right in also calling it Mammoth? *Trifolium Medium* is spoken of by Henry Stephens in his admirable Farmers' Guide, written over forty years ago, as follows:—I suspect that this true cow-clover has been confounded with the perennial variety of red clover, otherwise so worthless a weed would never have been recommended as a valuable constituent for our permanent pastures on light soils, where it never fails, by its obtrusive character, to destroy the more valuable pasture plants around it. The *Trifolium Medium* is inadmissible in alternate husbandry, on account of its creeping roots, constituting what in arable land is termed twitch." Dr. Stebler, director of the seed station of Zurich, says: "In agriculture two varieties (of red clover) are distinguished:—1. Wild clover or cow-grass, *Trifolium Pratense Percune*. 2. Cultivated red clover, *Trifolium Pratense* var. *Sativum*. The height of the first is less, the root much branched and very fibrous, the stem is usually more hairy and full of pith (not hollow), and it has the following points of advantage over the other variety:—It lasts longer (for two or three years), is less sensitive to soil and climate; the crop is more certain and hay making easier. Cultivated red clover, the second variety, is a larger plant than the former, and can only be used for a single year; the tap root branches little and produces few fibres; the stem is longer and usually hollow, and the flower generally lighter in colour. This variety is produced by cultivation, as is easily proved experimentally. If genuine seed is collected from wild cow-grass and sown for several generations, plants are obtained which cannot be distinguished from the variety *Sativum*. Also when both varieties are planted together for a few years the plants become similar in their mode of growth and properties, and of equal value." Dr. Stebler then goes on to describe red clovers of this same variety from seven different countries, each with different characteristic properties, so that we may naturally infer that we have in this country at least two different strains of the *Trifolium Pratense* or common red clover:—1st. What is known under the various names of "Western," "Common," "June," etc.; and 2nd, under the names of "Mammoth," "Peavine," "Long Vermont," etc., while the modern or improved cow-grass, *Trifolium Pratense Percune*, is, I believe, a distinct variety, and has come originally from the *Trifolium Medium* or wild cow-grass, so strongly condemned by Mr. Stephens as "a worthless weed." Mr. Jenner Fusk, manager of the Journal of Agriculture, an excellent authority upon all such subjects, gives it as his opinion that "the real cow-grass, *Trifolium Pratense Percune*, is from a cross between *T. Medium* or wild cow-grass and *T. Pratense* or common red clover. In the illustrated dictionary of gardening by George Nicholson, curator Royal Botanic Gardens, Kew., he simply describes under the head of red clover, "*T. Medium*, cow-grass, meadow or zigzag clover, and *T. Pratense*, red or broad leaved clover." In the Province of Quebec we have for many years, in describing red clovers, employed the following names:—1st. June or Western; 2nd. Raw-

don, and 3rd, Long Vermont. The first, being ten days to a fortnight earlier than the others, was not considered a good mixture to put with timothy in seeding down, as it ripened before the grass and so became woody and apt to turn dark when cured with the hay, and to this fact may be attributed much of the prejudice which some have against clover growing. This variety ripens more in season with Orchard grass, and is therefore being employed as a mixture with it. The second, Rawdon, is larger than the Western, and being later is far more suited to seeding with timothy and is said to be harder than the third, Long Vermont, between which and the Rawdon there seems to be very little difference; lately, however, we have been getting this third variety as Long Vermont, Cow-grass, Mammoth, Giant, Peavine, etc. etc., and I cannot help thinking that these names do not represent what we used to know as Long Vermont. I am now making a test of the matter, but do not expect to decide any definite results till the different plots have blossomed next season, and it is in such important matters as this that our Experimental Farm could so clearly decide and define, not only the comparative good points of these different strains, but the names under which each should be sold as well. In the Country Gentleman of Aug. 4th there appears a complaint from Colorado against the "Giant" clover, saying that "it is not *Trifolium Pratense*, that it produces one crop and then dies as completely as a crop of wheat or rye;" while during the past season there was a warning note sounded in the same periodical about the Peavine clover as being very liable to lodge and so succulent as to be extremely difficult to cure, and far more suited for ensilage than for hay. And, from my past season's experience with making hay from the larger growing varieties, I would say to those who are accustomed to the old Western or June clover, go cautiously at first with the "Peavines," the "Mammoths," and the "Giants," till you are more familiar with their peculiarities.

Feed Your Land.

BY J. E. RICHARDSON, PRINCETON, ONT.

In Ontario there are few farmers that raise enough barnyard manure to keep their farms up, still less to improve the condition of the soil. This is an acknowledged fact. Yet, how many farmers are there that know this, and still do not try any other way of manuring their land?

Every farmer should be very careful to see that his land is improving in quality. As there are so many ways of enriching the soil, there is no reason why our farm lands should fail in raising good crops. Clover should be sown more than it is. A good crop of clover plowed under in June, the land worked thoroughly on top till the end of August, then let it be gang-plowed, and it will be in first-rate order for wheat, and on light land especially it will raise just as good a sample, and as much, if not more, grain to the acre than on a bare summerfallow with a good coating of barnyard manure.

For oats, a second crop of clover can be plowed under to advantage. Cut the first crop of clover as soon as possible, so as to let the second crop get a good start. Some farmers sow land plaster after the first crop has been taken off, so as to make the second crop as heavy as possible, which is a good plan. Even if clover is not plowed under it leaves the land richer, as it draws so much nitrogen into the soil. As clover is a high price now, no doubt many farmers will not sow much, if any; but even if it costs ten dollars a bushel and you sow say twelve pounds to the acre and plow it under, it is really very cheap for manure, as the twelve pounds you sow to the acre only cost two dollars, and then there is so very little work connected with it.

There is a short but very good article in the editorial column of the FARMER'S ADVOCATE for March 15th, re clover seed, which is concise and to the point, and with which I thoroughly agree. It should be read carefully by every farmer.

Then, there are wood ashes. Ashes should be kept under cover, and will be found very beneficial to wheat, peas, grasses, potatoes, etc., especially on light land, as they contain potash.

Then, again, there are fertilizers, such as bone and potash, nitrate of soda (which comes from South America), Peruvian guano (which is the excrementitious deposit of certain sea fowl, which is found on the coast of Peru and islands off the coast). No doubt soluble fertilizers, if properly applied, are a great help to the crop; but, as the prices are so high, great care must be taken, for although more grain may be raised where the fertilizer has been applied, yet it is quite possible that there will not be a sufficient increase in the yield of the crop to pay for the outlay on the fertilizer. I would advise farmers most certainly to try some fertilizer, but on a small scale at first, and then if they are found to be a paying investment continue to apply them in larger quantities. I have used nitrate of soda on light land to advantage. One thing is very important, and that is, do not sow a fertilizer unless your land is clean. It would be well also if land was well worked and free from foul weeds before manure of any kind was applied.

In conclusion, I would recommend all who go in for mixed farming to feed all their coarse grain, and not sell hay, straw or turnips. The old adage is very true: "Feed your land, and it will feed you."

GARDEN AND ORCHARD.

Spring Time in the Orchard.

BY G. C. CASTON.

The season is now approaching for planting and grafting and other work in the orchard, and a few hints at this time may be helpful to some who contemplate improving their orchards or planting new ones. As to filling up gaps where trees have died, it is not much use unless the tree has died while young, for where a tree has grown to or near bearing age and then dies, a new one planted in its place will not thrive, unless one goes to the trouble of digging out the soil nearly as far as the roots extend and replacing it with fresh soil. This has been my experience; but changing the variety of fruit is an advantage in such cases. For instance, I have found that a plum tree will do fairly well planted where an apple tree has grown by giving it a liberal dose of manure.

Now is the time to select scions for grafting; they should be cut before any growth has started, and when there is no frost in the wood; they should be selected from young, thrifty bearing trees that are making a good annual growth of wood; they should be tied in bunches, each kind by itself, labelled and packed in sawdust till wanted. There are many trees growing through the orchards that are not profitable, which, if taken in hand while young and thrifty, might soon be entirely changed into a profitable variety. There are also many vigorous seedlings that would make the very best of stock upon which to work some of the best varieties.

I regard this as a very important matter, for I am convinced from my own experience that this is the very best way of growing some of our best market apples, and extending the culture of many varieties to localities where they could not be grown in any other way. It will improve the bearing qualities of some of the varieties that, though high-priced in the markets, are faulty in productiveness and also in hardness.

Among the highest-priced apples sent from Canada to Britain are the King, truly a fine apple, clean skinned, but tender and a shy bearer. I think the same may be said of the Blenheim Orange Pippin, a magnificent apple, and one about which there has been considerable controversy among Ontario fruit growers as to its merits. I have no doubt both these varieties could be made profitable by top grafting upon hardy, healthy stock.

The Spy, which has the fault of being a long time in coming into bearing, would be brought into fruitfulness early by this plan, and thereby rendered more profitable. The Baldwin and Ribston Pippin in many localities would succeed better by the same treatment.

Although much has been said and written on the subject of grafting, yet a few general directions may not be amiss here. What is known as cleft grafting is usually practised for top working, which is performed as follows:—In May, just as the buds are beginning to push out, saw off the limb to be grafted where it is about three-quarters or an inch in diameter; trim the stub edges smooth, and split horizontally through the centre of the limb to a depth of about four inches, not more. When the scion is prepared ready for setting, it should comprise three buds; the lower end is cut wedge-shaped to fit into the slit, and on one side of the wedge part should be left one of the three buds; this will be the outer side of the scion, and should be a trifle thicker than the inner side. When the scion is set in position this lower bud will be pretty well down in the cleft, and will likely be covered with the wax, but being nearer the source of nourishment will likely make the most vigorous growth and soon push through the wax. Great care must be exercised in placing the scion in position (this is the most important point of all), the *inner surface* of its bark must *match* the *inner bark* of the stub; then the whole must be waxed over so as to keep the sap in and the air out, and leave no crack exposed. Two pounds resin with one of beeswax and a half-pound of tallow make an excellent wax for this and all other purposes for which it is required. As soon as melted, pour into cold water and pull and work it with the hands till nearly white, first greasing the hands with tallow to prevent it from sticking. An important point is to graft while the stock is young and vigorous; after trees have passed their prime it is little use; they will not succeed well. Take about one-third of the top at a time, so that a new top is formed in three operations. This will keep up a balance and will not check the growth severely, as it would by cutting off the whole top at once, as is sometimes done, but which I consider a bad practice and endangers the life of the tree.

Concerning the root-grafted varieties from nurseries, I would like to say a few words in favor of a variety that has been much maligned, but which I consider one of the best suited to the greater part of our province, and, if handled properly, one of the most profitable. I refer to the American Golden Russet. It is a hardy tree, lives to a good old age, and one of the most regular bearers. As to profit, I need only refer to the fact that few varieties reach the Old Country in such good order as it does, and that during February it was quoted in the British markets at twenty-two shillings a barrel. But the mistake is often made of sending this apple forward too soon. It should be stored in cool, dry storage in barrels lightly pressed so as not to bruise it, and then repacked and forwarded after the rush of fall