

Grasses and Forage Plants.

Alfalfa.

A Mitchell correspondent sends us the following note respecting the above-named plant:—"In a recent number of your paper I observed an article concerning a grass named 'Alfalfa,' which praised the superiority of the grass over any other kind. The above-named grass being new to me, please inform me where it is generally grown, its habits, mode of culture, &c. By so doing, you will confer a favor on me, and a great many others likewise."

When we state that the common name of the grass referred to is "lucerne," our correspondent will probably be disposed to retract, or at least modify his remark that it is "new" to him, as he is probably familiar with its usual name, though perhaps, like the majority of our farmers, unaccustomed to its cultivation. It is not much grown in this country, from an idea, erroneous as we think, that it is not suited to the climate and soil of Canada. It is extensively grown and highly-prized in England, especially as a green forage plant, but we are inclined to think it has never been thoroughly tested in this country. A farmer in the county of Wellington wrote us the following brief communication respecting it in the summer of 1870:—"It is a capital grass if you can grow it. The climate of this country is, however, too hot. In England it would cut *three times* generally, and would last five or six years, but requires good deep cul'ure, well manuring, and continued mowing in the beginning. I tried it here, and gave it all these chances. It was certainly early timed; but it only came to one cut, and that a poor one. Older soils and cooler season make a difference." We should hardly be disposed to give up the attempt to grow so valuable a forage plant because of one unsatisfactory trial of it. The season might have been an exceptional one, or some condition of soil or culture lacking to make the experiment thoroughly successful. Considering that lucerne is a native of semi-tropical regions, the conclusion ought not to be hastily arrived at that failure was caused by excessive heat. It has a remarkable habit of sending down long tap-roots to a great depth, and for this reason is well-fitted to endure considerable heat and drought. This peculiarity, however, makes it essential to its best performance, that the sub-soil should be deep, rich and easily permeable. It will not succeed in a thin soil, and it languishes in compact clay soils. A good friable loam, with a sub-soil admitting of ready penetration by the growing roots, are indispensable to the best results in the culture of this plant. Wherever a stiff hard-pan exists, as we believe it does in that part of the county of Wellington where the farmer above alluded to resides, a subsoil plough must be used faithfully if lucerne is to be grown successfully. A wet sub-soil is as fatal to it as hard-pan. Rham says of it:—"The only enemies of this plant are a wet sub-soil and a foul surface. The first is often incurable; the latter can be avoided by good cultivation. If the land will not bear to be laid flat without water furrows, it is useless to sow lucerne in it." He recommends "deep ploughing if not trenching," and to secure perfect cleanliness in the soil, prescribes two successive crops of turnips, highly manured, as the most effectual preparation.

Lucerne is cultivated in Chili, and grows wild very luxuriantly in the pampas of Buenos Ayres, where it is called "Alfalfa," a name also given to it commonly, we believe, in California and the Southern States. Its botanical name is *Medicago Sativa*. It is a leguminous plant, and obtains a large proportion of its nutriment from the atmosphere, by means of its abundant, broad-leaved and succulent foliage. Hence, although it yields enormously, it is considered an improving rather than an exhaustive crop. When

the land in which it has been grown is again broken up by the plough, a vast quantity of roots are left to decay in the soil and enrich it. Thus it actually increases the fertility of land for other crops. In one instance on record in the agricultural books, a soil only capable at first of producing a medium crop of wheat, yielded a greatly increased quantity after being laid down to lucerne for a few years, until its roots had enriched the soil.

Mr. Flint, a New England writer, in his "Grasses and Forage Plants," observes: "It is thought by many that lucerne will not endure our northern climates, but I do not think it satisfactorily proved, and I have been somewhat minute in speaking of it, in the hope of inducing more careful experiments on a scale and under circumstances sufficient to determine its relative value for us. I am the more anxious on this point from the fact that I am convinced, after much study and observation of our climate, that we should direct our labors in farming more with reference to the frequent droughts of summer to which we are liable every year, and from which there is no immediate and practicable escape, except in thorough drainage and deep tillage, which most farmers are unwilling to undertake at present."

Rham says: "Where it thrives its growth is so rapid and luxuriant that no other known plant can be compared to it. In good deep loams lucerne is the most profitable of all green crops. When properly managed, the quantity of cattle which can be kept in good condition on an acre of lucerne almost exceeds belief. It is no sooner mown than it pushes out fresh shoots; and wonderful as the growth of clover is, in a field that has been lately mown, that of lucerne is far more rapid. Lucerne will last for many years, shooting its roots—tough and fibrous almost as those of liquorice—downwards for nutriment, until they are altogether out of the reach of drought. In the driest and most sultry weather, when every blade of grass droops for want of moisture, lucerne holds up its stem, fresh and green as in the genial spring."

Hogs are very fond of this plant, and will keep in high condition on it. Small unweaned pigs will begin to bite off and eat the tender shoots, and when weaned, will continue a thrifty growth upon it, until their full size is attained.

The *Sacramento (Cal.) Record* says: "A good fattening breed of hogs will keep in very fine condition for slaughter upon alfalfa with no stronger food. Hogs are even more fond of the roots of alfalfa than the tops, and will, if not prevented, soon destroy a good setting by rooting it up and consuming that which supports them. This may be prevented by putting a ring in the rim of the nasal muscle with which the nose is furnished. This ring may be made of common hay baling wire, but, if the hogs have attained a good size this wire may require to be doubled to prevent it from breaking out. Especially must hogs be rung if they are to be kept on an alfalfa field during the rainy season, for while the ground is saturated with water, it is so easy to get at the roots that they will be sure to take them all out."

If, after perusing the foregoing reply to his note of inquiry, our Mitchell correspondent is disposed to experiment on the culture of this plant, as we sincerely hope he and others will do, it will be easy, in view of what has now been stated, to perceive the necessary mode of cultivation. Seed may be obtained, we presume, without difficulty, from any seedsman whose business is large enough to include the importation of English and other foreign seeds. As the seeds of lucerne are somewhat larger than those of clover, and the plant tillers less, it is necessary to sow more to the acre. It may be sown in the spring with grain crops, like clover, and if the crop is not very large the first year, it will be likely to improve as the roots have time and opportunity to make their way down into "the deep places of the earth."

FEED THE SOIL WELL.—A correspondent of the *Vermont Farmer* says: The Lord loveth a cheerful giver, and so does the soil; and just in proportion to our generosity to it, will it reward us at the harvest time.

Plaster on Grass.

I see many notices of commercial manures, and of almost endless varieties, which I have no practical knowledge of. The phosphates are but little used in this region, and with what results report does not say; and for some reason I am led to suspect that many commercial manures are put into the market mostly for the benefit of the trade, and not of the land. It is but just, however, to acknowledge that so varied are the soils in different regions that what is worthless in one section may be of great value in another. It was never my fortune to realize any benefit to the land or crops from the use of wood ashes, either leached or unleached, yet I know how the best farmers of Massachusetts for 100 years have valued them at fabulous prices. In like manner I have witnessed the value of gypsum or plaster in Eastern and Northern Maine, which leads me to suggest experiments in all grass-growing regions till it is fully known where it may be used with profit. It is certainly a mystery to us all what a bushel of plaster on an acre can do when distributed over the surface, yet the wonderful effect of doubling a crop of grass cannot be disputed. Not all results are alike, but the most worn-out lands are most affected and most strongly improved. I give the facts of a single old barren farm of Alvin Haynes, of Passadumkeag, Penobscot County. The farm, settled 50 years ago, was left 35 years ago for the buildings of a tavern stand on the opposite side of the wide river ($\frac{1}{2}$ mile), since which no more ploughing or manuring has been done. After cutting the hay for the tavern ten years, much of it cut but one-fourth ton to the acre, and they were about to give it up to pasture for what it would fetch at that time. Twenty-five years ago facilities for getting plaster cheap induced a trial. I do not know the amount used, but plaster was cheap and used liberally. The mowing land soon came to yield a ton and more to the acre, and I think has continued that yield now for 25 years. The old fears of exhausting or sapping land by the use of plaster have entirely disappeared in this region. I might give an instance of an old run-out pasture in Fort Fairfield with equally strange results. Nova Scotia plaster comes here where I write for about 25 or 30 dollars per ton, and yet I hear good farmers say they will give 60 dollars if need be. Long-continued experiments in some sections seem to make it probable that the perpetual use of it will make the growth of grass perpetual without our returning to the land the manure that is made from it.—*Cor. Vermont Farmer.*

HOW TO TEST BEETROOT.—The *Memorial de Lille* states that M. Corenwinder, a member of the Agricultural Society of Lille, has made public a very simple method of testing the saccharine richness of beet-root intended for the work of reproduction. The roots are plunged into a trough filled with a saline solution of three degrees of density. The rich roots sink and the poor ones float.

CUT-WORMS.—The *N. Y. Times* says: We have succeeded in greatly reducing the number of this pest by enticing a flock of poultry into the field while it was being ploughed. The fowls followed the plough closely, picking up every cut-worm exposed, and searching every furrow for more. There is no other way of ridding the fields of these vermin but by encouraging their natural enemies. These are crows and blackbirds, which devour the grubs, and skunks and moles, which devour both the grubs and the beetles, of which they are the larvæ. While these creatures are killed or driven off we shall suffer from the depredations of the insects which are their natural prey. To prevent the destruction of the young corn by the cut-worms, to some extent the seed should be rolled in common pine tar and then dried in plaster before it is sown.

"DUTCH CUSS."—A correspondent of the *Maine Farmer*, writing from Long Island, states that the above is the baptismal name applied by the New Jersey farmers to the common white-weed or ox-eye daisy. He then proceeds to detail what a villainous weed it is, how easy it grows, how hard it dies, how fast it spreads, how surely it drives out clover and the grasses, and how useless it is as a fodder plant—hogs even refusing it. Now that the New England and Middle States are under the "cuss" he wants to find some way of deriving benefit from it, as men sometimes think they do from sickness and misfortune of other kinds. Unless farmers have a care this "Dutch cuss" will be casting its evil eye over all their fields. In travelling we have seen patches of it here and there, which, if left undisturbed, will extend over a township. It is an adopted brother to the Canadian thistle, and deserves to be treated the same way.