

Grasses and Forage Plants.

New Forage Plant--Gallega Officialis.

At a meeting of the Cirencester Chamber of Agriculture, Professor Church made a report of his labors during the year. In the report is an account of a new forage plant, upon which, for some time, he had been making experiments, and which had been proposed as a substitute for clover on clover-sick land, and generally as a green fodder plant similar to, but more robust and producing larger growth upon poor soil, than lucerne. It is a leguminous plant, known as *Gallega officinalis*, and though European, is not a native of Great Britain. It is hardy there, as it is in the greater part of Europe. Though it is very enduring, and yields immense cuts of green fodder, it is not, so far as Prof. Church could learn, very much relished by farm stock. The analysis was disappointing on account of the abundance of woody fibre present. The plants analysed were cut on the 10th of June last, the seed examined having been gathered in September, 1872.

Analysis of Gallega Officialis.

	In 100 parts of the		
	Fresh plant	Dry plant	Seed.
Moisture.....	81.9	—	14.9
Oil, &c	1.3	6.5	7.0
Flesh formers ..	4.1	22.9	33.2
Sugar, starch, mucilage, and } digestible cellulose.....	6.9	33.8	31.6
Indigestible fibre.....	4.5	24.8	10.4
Ash.....	1.3	7.0	2.9
	100.0	100.0	100.0

Orchard Grass in Quebec.

A correspondent lately enquired in the *Country Gentleman* whether orchard grass will do well north of lat. 46°. He gets the following reply from Mr. A. P. Ball, of Stanstead Co., Quebec:

In 1872 a friend of mine, residing in Northern Vermont, persuaded me to try orchard grass. I sowed four bushels on four acres of barley. It came up nicely, and after the barley was harvested, it covered the ground completely, as with a heavy green mat. I cut it for hay on the 30th day of June, 1873; it only yielded a ton to the acre. I was satisfied I had used too little seed; it was thin, growing in bunches. It soon started again, and in the fall there was another crop; this I did not cut. The past season (1874) I found a portion of it had been winter-killed, but cut one and a half tons per acre at the first cutting. The autumn being fine and free from rain, I cut a second crop, one ton to the acre. This second crop was removed early enough to permit it again to grow, so that when snow came the ground was again nicely covered, looking from a distance like winter wheat. This is the result of my first trial with orchard grass north of 45°. My second trial in sowing it was in 1873. On nine acres of spring wheat, I sowed at the rate of one bushel per acre, adding also ten pounds of Alsike clover seed per acre. After harvesting the wheat, the grass grew luxuriantly—sufficient, before the close of the season, had I cut it, to have given a good crop of hay. Last season (1874) I cut it twice; the first crop was principally clover; the second had a large proportion of orchard grass. Before the close of the season, it had again made growth enough to cover the ground.

From the little I have tried orchard grass, I think I failed both times in not using enough seed. Two bushels per acre would be none too much, the habit of the plants being to grow in bunches. I think enough seed should be used to grow plants enough to cover the ground. But my friend said, the oftener I cut it the better it would be; next year will be my third one for cutting it, and if it times to improve, I shall of course admit that he is correct in his statements.

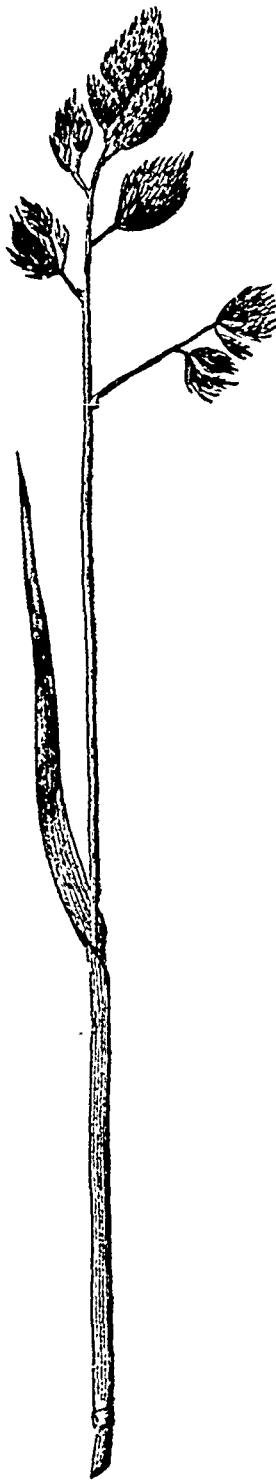
The autumn cutting, well cured, makes the very best of feed for calves; they seem to prefer it to any other kind of hay I have ever fed them. The hay made from this grass has been fed to all kinds of stock, and appears to be relished by them as well as either timothy or clover.

MR. A. W. CHEEVER says:—Early autumn is the best time to sow grass seed, for the grass will get well established in the fall and overcome the annual weeds which start in the spring. He does not like the idea of sowing grain with the grass. He found in his farming that it paid to make a specialty of growing grass instead of making it a second or third object. In order to do this, thorough cultivation was necessary, and the farmer must make a deep or mellow soil and mingle fertilizers very thoroughly with the soil. The ground must be well plowed in the early autumn.

Orchard Grass.

The grass of which an illustration is given on this page is the orchard grass, *Dactylis glomerata*, a species which is deservedly growing in favor all over the continent. It is a very widely diffused variety, being found in the whole of Europe, parts of Asia and Africa, and on this continent.

It is one of the most valuable grasses, being early, of luxuriant habit, giving good aftermath, and being adaptable to a variety of soils. It generally grows about three feet high; but it has been known to reach five feet. A yield of five and three-quarters tons to the acre has been recorded. Two tons to the acre, on the most fertile soil, may be taken as a very good crop.



It receives its names of Orchard grass from the readiness with which it will grow in the shade, being equalled in this respect only by the Rough-stalked Meadow grass, *Poa trivialis*. It has established its place among the very best of our forage plants. It should be sown early in the spring, and is better sown than with a growing crop; but it will do well if sown on Fall wheat. Some farmers prefer to sow in the fall upon a light snow; and such sowing gives excellent results. If sown alone, not less than two bushels to the acre should be used. Two and a half bushels are better. The weight of the seed is about twelve pounds to the bushel. If sown thinner it is apt to form tufts, which is its natural habit, instead of a good sward. If sowed with other grasses, the proportion of orchard grass will vary according to the end in view.

There are few conditions of soil or climate to which orchard grass will not adapt itself. Though succeeding well in the shade, it stands drought well and will succeed in the open. It is equally at home on light or heavy soil, wet land or dry. As a meadow grass it is earlier than Timothy, and more permanent. For hay, it must be cut very early, before the seed forms. When left to form seed, the stem becomes woody andavorless. As a pasture crop, it is the most valuable of all the grasses. It will stand close and constant cropping, and is much relished by stock. As it blooms simultaneously with red clover, it is well adapted for mixing therewith. In this, again, it is superior to Timothy, which does not mature till after clover has been woody and comparatively worthless.

Under chemical analysis orchard grass is found to be superior to nearly all other grasses in albuminous or flesh-forming constituents.

RENOVATING OLD MEADOWS.—Mr. A. B. Allen says, in the *New York Tribune*:—As soon as frost is out of the top of the grass field you wish to renovate, say early in March,

take a heavy, fine, close-set tooth-harrow and go over the field, tearing the top of the turf all to pieces, which is then easily done, as the turf is very tender. Then sow what grass seed you wish to grow, roll the surface and give it a dressing of rotted stable manure, compost, guano or superphosphate, as required, and you will have generally just as good, if not a better growth of grass than you will get otherwise. The advantage of this is threefold; you get a large crop of grass the following July, you save the expense of ploughing, and you save seed in re-stocking the field. If there be small stones in the land, all such should be picked up previous to sowing the grass seed and rolling.

Getting a Set of Clover.

A paper was read at a meeting of a Maryland Farmers Club, by Mr. E. P. Thomas. The paper brought forth much discussion in the club, and was finally directed to be sent to the *American Farmer* for publication. From the essay as published in that paper we make this extract:

It has been justly remarked that clover is the base of all good husbandry, yet the loss of a set would not make such great odds did not each failure bring us one year nearer our graves. X. A. Willard says: "Life is too short; we cannot afford ever to miss a set of clover." And we need never, if we manage properly. I feel sure of what I say. We have seen enough good stands of clover these three or four past dry seasons to prove my assertion. And those good stands have not been on land carelessly cultivated or sparingly manured.

They have been in almost every instance where barn-yard manure and superphosphates have been used with a liberal hand. Now, what I would advocate is this: that we bring our minds and our acreage down to the level of our means. Instead of investing \$150 in manures for 10 acres, put the whole amount on 5 acres; not all in superphosphates either but vary the material: say, 500 lbs. of Bond's "I X L" at a cost of \$15; 50 bushels oyster shell lime at \$6; 500 lbs. of potash or 50 bushels ashes at \$6; and the remaining \$3 in plaster applied at different times to each acre. The lime, we are to understand, has already been used a year or two previously.

Far greater exertions should be used in properly preparing the seed-bed. Such delicate seeds as wheat and grass seed need a carefully prepared soil, if we expect them to do their prettiest. This is verified by the parable of the sower, in the 4th chapter St. Mark: "And it came to pass as he sowed, some fell by the way-side, and the fowls of the air came and devoured it; and some fell on stony ground where it had not much earth; and some fell among thorns, and the thorns grew up and choked it and it yielded no fruit." But it was only that which fell on the fine rich mellow soil that sprang up and produced an hundred fold.

Now, if we would adopt the course I have indicated above, instead of a failure in a set of clover, or perhaps a partial set, producing from half to one ton per acre, I would almost guarantee a good set with a yield of from two to two and one-half tons per acre, regardless of the season.

If we furnish to young clover suitable nutritious and stimulating food, such as lime and potash have proved themselves to be, we encourage an early and vigorous growth of the clover plants, in the cool moist spring weather, and such a growth I have never known the severest drought to annihilate.

THE hay product of the United States has more than trebled in the last thirty years.

CLOVER AND NITROGEN.—Dr. Voelcker has discovered and established the fact, that an immense amount of nitrogenous food accumulates in the soil during the growth of clover, especially in the surface soil; amounting, including that in the clover roots and tops, to three and a half tons of nitrogen per acre; equal to four tons and a third of ammonia. If this be a fact, the wonderful effects of clover, vetch, and similar plants on the soil cease to be mysterious, and the farmer need no longer buy ammonia in his commercial fertilizers, but only add to the soil the lime and other ash elements required, which can be cheaply furnished in available forms.

NEW GRASSES.—Says a Southern paper:—After Gen. Sherman made his march to the sea, all in the wide track of waste and desolation that he made with the tramp of his footmen and the iron feet of his cavalry, there sprang up a new and unknown grass from the soil, which the farmers called "Sherman clover." It would grow up in the most unexpected places, and it is said would root out Bermuda grass; and, as a strange similarity, we now hear that after the Franco-Prussian war of 1870-71, in many districts of France a new vegetation sprang up, evidently the result of the invasion. It was believed that this vegetation would become acclimatized, but very few of the species introduced in this way appear likely to continue to flourish. In the departments of Loir and Loir-et-Cher, of 163 German species, at least one-half have already disappeared, and the surviving species diminish in vigor each year. Scarcely five or six species appear to manifest any tendency to become acclimatized. Can any of our naturalists account for it?