

Grasses and Forage Plants.

Turnip Crop of Aberdeenshire.

It may be interesting as well as useful to many of our readers to know how turnips are grown in places where no labor or cost is spared to secure large crops of good roots. We have before us the annual report of the Turnip Growing Association of Aberdeenshire, Scotland, for the year 1872, which was organized in 1857, and has kept careful annual records of the crop, and the cost of growing it, ever since. There were 93,603 acres last year sowed for turnips in Aberdeenshire; and as examples of the quantity of manure used for Swedish turnips, we have the following:

On the farm of Ardtannes, 22 yards farm-yard dung; and 392 lbs. of Langdale's challenge manure. Estimated cost of manure, \$30.79 cents per acre.

On Crichtie, 18 yards farm-yard dung; 8 bushels mixed bones, and 112 lbs. guano. Estimated cost \$30.16 cents per acre.

On East Ballhaggard, 14 yards barn-yard dung; 10 bushels mixed bones, and 224 lbs. turnip manure. Cost \$28.90 cents per acre.

And here are examples of the style of manuring for green-top yellow turnips:—

On West Ballhaggard, 14 yards farm-yard dung; 6 bushels bone-dust, and 336 lbs. Langdale's challenge manure. Cost per acre \$27.33.

On Upper-boat, 18 yards farm-yard dung; 224 lbs. dissolved bones, and 224 lbs. Langdale's challenge manure. Cost \$26.91 per acre.

On Conglass, 17 yards farm-yard dung; 7 bushels bone-dust, and 224 lbs. Langdale's challenge manure. Cost \$29.16 per acre.

On Crichtie, 15 yards farm-yard dung; 4 bushels mixed bones; 112 lbs. guano, and 112 lbs. Langdale's challenge manure. Cost \$28.45 per acre.

The report of the society states that the season was most exceptional for the enormous rainfall, and the worst for turnip growing since the society was instituted. The average crop of Swedes over the country fell 8½ tons below the average of the previous six years; and that of yellow turnips 6½ tons. Let it be noted, however, by Canadian root growers, that notwithstanding the fearfully bad season, the average crop of turnips got in 1872 from 93,605 acres, in Aberdeenshire was 12½ tons of 2240 lbs., or 14½ tons of our weight per acre.

The following is the statement of the society of the annual cost of manure, and the annual weight of Swedish turnips in the county since the year 1857, reduced by us to Canadian weights, and money currency:—

Year	Weight of Crops.	Cost of Manure.
1857	24½ tons.	\$23 75 per acre.
1859	23½ "	21 60 "
1859	12½ "	21 68 "
1860	24½ "	23 06 "
1861	29½ "	24 02 "
1862	21½ "	23 85 "
1863	24½ "	23 58 "
1864	24½ "	23 75 "
1865	22½ "	24 40 "
1866	27 "	22 98 "
1867	21½ "	23 52 "
1868	21½ "	23 10 "
1869	25½ "	23 94 "
1870	25½ "	25 52 "
1871	24½ "	25 56 "
1872	14½ "	26 77 "

During these sixteen years, therefore, the average crop of Swedes in Aberdeenshire was 23 tons of 2000 lbs.—and the average cost of manure was \$23 88 per acre. In Aberdeen, turnips are valued for ordinary cattle feeding purposes at \$2 per ton; the crop therefore yielded double the cost of the manure, besides cleaning and enriching the land for the succeeding grain crops.

We are persuaded that on suitable land, and with the same preparation of the soil, and similar manur-

ing, an equally high average to this can be attained in Canada, and that the value of the crop per ton is much greater here than in Scotland, whether for feeding purposes or preparation of the soil for succeeding crops.

When shall we have in Canada a reliable annual return of our farm crops? It would be invaluable if we had it.

Orchard Grass.

This grass (*Dactylis glomerata*) known in England as Rough Cock's-foot, flowers in dense clusters. Its stem stands erect and grows three feet high. It is a perennial plant—flourishes in fields and pastures—and flowers on this continent in June and July; It is much grown and greatly valued in the New England States. Judge Bach, the eminent agriculturist of New York State, said of it:—

"It is probably better adapted than any other grass to sow with clover and other seeds for permanent pasture or for hay, as it is fit to cut with clover, and grows remarkably quick when cropped by cattle. Five or six days' growth in summer suffices to give a good bite. Its good properties consist in its early and rapid growth, and its resistance of drouth; but all agree that it should be closely cropped. Sheep will pass over every other grass to feed upon it. If suffered to grow long without being cropped, it becomes coarse and harsh. Colonel Powell (a late eminent farmer of Pennsylvania), after growing it ten years, declares that it produces more pasturage than any other grass he has seen in America. On being fed very close, it has produced good pasture after remaining five days at rest. It is suited to all arable soils. Two bushels of seed are requisite for an acre when sown alone, or half this quantity when sown with clover. The seed is very light, weighing not more than twelve or fourteen pounds to the bushel. It should be cut early for hay."

Mr. Sanders, a well-known practical farmer and cattle breeder, of Kentucky, says of it: "My observation and experience have induced me to rely mainly on orchard grass and red clover; indeed, I now sow no other sort of grass-seed. It is nutritious, and well adapted as food for stock. Orchard grass is ready for grazing in the spring ten or twelve days sooner than any other that affords a full bite. When grazed down and the stock turned off, it will be ready for re-grazing in less than half the time required for Kentucky blue grass. It stands a severe drought better than any other grass, keeping green and growing when other sorts are dried up. In summer it will grow more in a day than blue grass will in a week. Orchard grass is naturally disposed to form and grow in tussocks. The best preventive is a good preparation of the ground, and a sufficiency of seed uniformly sown. The late Judge Peters, of Pennsylvania,—who was at the head of agricultural improvement in that state for many years,—preferred it to all other grasses."

The editor of the Massachusetts *Ploughman* says of it: "Orchard grass may be sown with red and alsike clover, say five pounds of red clover seed and five pounds of alsike. If only red clover seed is used it ought to be at least ten pounds to the acre and fifteen is better. But alsike seed is much smaller than red clover seed and you get a vastly greater number of plants. Alsike will not show a great deal the first season. If you sow red clover it ought to have a fair crop the first year and when it begins to disappear the second year you will find the alsike. Orchard grass grows more rapidly after being cut or fed off than any other grass we know, but the second crop does not send up flowering stalks, and does not, therefore, grow so tall and imposing as the first crop, but it grows thick and makes a bulky, though not so very heavy a burden. Sowing it very thickly prevents it from growing so much in clumps and gives it a finer growth. Two bushels of seed to the acre is little enough and more would be better. With orchard grass, clover and alsike the cost of the seed will be rather greater than Timothy and red top, but if you have never grown this grass we advise you to try it. Sow it as early in the Spring as you can, give it a good chance and you will see how you like it. But do not make up your mind till the second year, when you will like it, we think.

Messrs. Lawson & Son, the extensive seed merchants, of Scotland, say of it: "It grows in meadows, pastures, bushy places, and waste grounds. It is one of the best and most productive pasture grasses, of which a strong growing variety is known under the name of 'giant cocks-foot.'"

Mr. Flint says: "It is one of the most valuable and widely known of all the pasture grasses."

Is Pea Straw Good Food?

A correspondent says he has not found pea straw as valuable for fodder as good oat and barley straw. Very likely. And yet good pea straw may be secured and fed as to be worth far more than any other straw, unless it is choice bean straw. It is more nitrogenous than wheat, oats, barley, or rye straw, and should be fed, to get out its full value, in connection with a small quantity of corn. Sheep that have a pound of corn each day will fatten more rapidly on pea straw than on wheat or oat straw. The better plan is to let them have all they can eat of both pea and wheat straw—say pea straw morning and noon, and wheat or oat straw at night. Let us apprehend the trouble with our correspondent is not so much in the way of feeding, as in the method of cutting, curing, and preserving pea straw. If the peas were allowed to grow till dead-ripe, and after cutting were allowed to remain in heaps in the field day after day without turning, and were exposed to rains and dews until nearly all the soluble matter was decomposed or washed out of the straw, and half the leaves were knocked off them before they left the field, and they were stacked in a damp condition, it is not difficult to understand why "sheep and the chemist do not tell the same story" in regard to the value of the straw. On our own farm we have found pea straw from a luxuriant crop of peas, cured without rain, nearly as valuable as clover hay.—*Farmers' Union.*

Grasses.

Among the grasses said to be the most profitable for mowing, are timothy, red-top, white bent, orchard grass, perennial rye grass, June grass, rough-stalked meadow grass, fowl meadow grass, meadow fescue, and tall fescue. The artificial grasses comprise red, white, and other clovers, and some others not cultivated in this country. It is said that the grasses cultivated in England for the use of animals comprehend not less than two hundred varieties; but in America there are not more than twenty.

A greater weight of grass and hay can be obtained from an acre by using several judiciously selected species, than if one or two are used; since different species require different kinds of nutriment and the number of one species which will grow to vigorous maturity on a square foot of soil, will not be diminished by the growth on the same soil of plants of different species requiring different substances to support them. But in selecting the mixture for mowing or for pasturage, regard should be had to the modes of growth and other peculiarities of each kind. Some grasses are well adapted to cut for hay, but are not so suitable to form pasture-turf. Timothy is not so good to sow for pasturage, as it cannot bear the close cropping of cattle, though one of the best of our grasses for mowing.—*My Little Book.*

NUTRITIVE VALUE OF GRASS.—Some interesting experiments have been made by the German chemists, on the nutritive value of meadow grass at different points of its growth and upon hay cut at different seasons. An elaborate series of analyses show that young grass is more nutritious than mature grass, and more easily digestible. Thus grass 2½ inches high contains nearly 50 per cent. more of albumenoids than grass which is 6 inches high, and about 10 per cent. more of "crude fat" (5.24 per cent. against 4.82). The mature grass contains more woody fibre and less ash than the young grass, and besides this, it is found that the nutritious albumenoids exist in a less soluble form in hay than in young grass. Hence the difference of nutritive value and digestibility. Autumnal hay was found to be more nutritious and digestive than summer hay. English agriculturists must make some qualifications to this result, inasmuch as it was obtained from German hay, grown in a much drier summer climate than ours. Similar experiments were made by E. Wolff on clover. He found that its digestibility diminished during the four weeks from the beginning to the end of flowering, while the digestibility of clover hay was about the same as that of green clover cut at the same stage of growth. The moral of this is obvious: Don't be greedy with your hay crops, by leaving them to grow so very tall. By so doing you not only lose the seed, which if fully ripe falls on the ground during harvesting, but you also obtain a less nutritive and digestible blade and stem. Better cut early, and utilize the after-grass.—*Prairie Farmer, Feb. 8, 1873.*