

FARM AND FIELD.

PERMANENT PASTURE.

The Seventh Annual Report of the Ontario Agricultural College and Experimental Farm, being for the year ending December 31, 1881, is replete with valuable information about various crops. That section which relates to pasturage is of special interest and importance. If the farmers of Ontario could only be induced to follow the guidance of its teachings, the result would be a large increase of individual and national wealth. The section referred to is as follows:—

We cannot too often impress upon the Province that, in connection with mixed farming, root cultivation and so much permanent pasture are the building up of our best agriculture—they are the surest foundation of our future success. A big chapter could be written on this subject, but all that can be looked for in this report is to abstract its important features, and hint at some of its advantages:

(1) IT GIVES SEVERAL CROPS PER ANNUM.

When a variety of grasses and clovers are established in association, the case is one much similar to what nature, under the best of circumstances, offers to animal life—a change every week from May to October. It is then a point to be studied in choosing the kinds, that they do not all, or even many of them, come during one month or leave off altogether at the same time of the year, but come, and mature, and go off, if possible, in regular succession from spring to autumn. Thus every week, or every month at least, is equal to a change of field, and secures the value so much desired through such conditions.

Beginning in 1878, we have had great satisfaction in handling nine grasses and five clovers in connection with this subject, as thus illustrated, showing the order in which they come, and their duration each season. Of course the red clover generally leaves us after two years, but it is well to have a little at the start in order to get all we possibly can.

GRASSES AND CLOVERS FOR PERMANENT PASTURE AS FOUND RELIABLE IN ONTARIO.

Lucerne: May, June, July, August, September, and October.

Red Clover: May, June, July, August, and September.

Rye Grasses: May, June, July, August, and September.

Meadow Fescue Grass: May, June, July, August, September, and October.

Yellow Clover: May, June, July, and August.

White Clover: June, July, August, and September.

Fan Oat Grass: June, July, August, and September.

Orchard Grass: June, July, August, September, and October.

Kentucky Blue Grass: June, July, August, and September.

Alsike Clover: June, July, August, and September.

Timothy Grass: June, July, August, September, and October.

Red-top Grass: June, July, August, and September.

Bent Grass: June, July, August, September, and October.

The quantity of each may be as follows:—

Grasses: Timothy, 7 lbs.; Orchard, 4 lbs.; Italian Rye, 2 lbs.; Perennial Rye, 2 lbs.; Fan Oat, 2 lbs.; Red-top, 2 lbs.; Meadow Fescue, 3 lbs.; Bent, 1 lb.; Kentucky Blue, 2 lbs. Total, 25 lbs.

Clovers: Lucerne, 4 lbs.; White, 3 lbs.; Red, 1 lb.; Alsike, 1 lb.; Yellow, 1 lb. Total, 10 lbs. Grasses, 25 lbs. Per acre, 35 lbs.

Note.—The Rye grasses will hold in the most favourable positions in Ontario, in association with others, but rarely alone. They are the best English fodder plants, and should be encouraged with us.

(2) IT OFFERS AN EARLIER AND LATER BITE THAN OTHER PASTURES.

It is a well-known fact in the growth of pastures where a number of different plants exist, that by such an association there is mutual support, nursing, and shelter, which give early and late growth. In our own experience we have much earlier offers, many of the grasses and clovers coming in at middle and end of May. The value of this early bite is something incalculable after a long, close winter, and, particularly, it meets the heavy "back-going" of which we see so much in ordinary practice among cattle and sheep. So, also, the rich "foggage" sends on deep into winter.

(3) ANIMALS ARE MORE HEALTHY AND LESS LIABLE TO DISEASE UPON IT.

All experience goes to show that browsing animals more than others require change of food often, not only in the form of soft succulent growth, but harder and woody matters at the same time. Some of the grasses and clovers are also directly medicinal to cattle and sheep, so that altogether, with a choice of ten or twelve throughout the season, health is better and diseases less frequent.

(4) IT CANNOT POSSIBLY BE DESTROYED BY DROUGHT OR FROST.

The immense importance of this needs little comment; it comes strongly home to us in this country. It is obvious that as association of plants and roots gives mutual support and protection with a close surface, there is necessarily much less risk of damage when rain is scarce and heat abundant—much less evaporation and less "cracking" of the surface. As crop after crop succeeds each other week by week and month by month, the soil is not exposed to the burning sun, and moisture is retained to nourish at all times. Then again, if winter or summer excesses do kill two or three kinds, there remains enough to make the pasture still of greater value than anything else. All through the very severe drought of this season our permanent pasture was never bare, never wanting a fresh bite, but so close and strong that we had to separate with the hand in order to view the surface soil.

(5) IT GIVES MORE DAIRY PRODUCE THAN ANY OTHER FORM OF FODDER.

During the last half century the best managed old pastures of England have stood at more value per acre than the richest arable land, partly because of their permanency of crops, and largely because of their being able to graze three cows per acre. There seems no reason why Ontario cannot do one-third as

well as this, and I am convinced it can be done. For three years in succession on our farm, on a small scale, on comparatively old permanent pasture, and on that of two years' standing, we have clearly proved that seven sheep per acre can be well done to. This is equivalent to one and one-quarter cow per acre. There is, then, no other form of fodder that can do the same thing.

(6) IT GIVES THREE TIMES MORE BEEF AND MUTTON PER ACRE THAN OUR ORDINARY ROTATION PASTURES.

The average timothy and clover pastures of the Province, in connection with mixed farming, just graze, on an average, one cattle beast to every three acres, taking from 1st May to 1st November on an average of years. This is substantially correct. But we have shown, in the preceding paragraph, that three and three-quarter cows can be kept on three acres of the permanent kind required, and as the proper stamp of two-year-old steers and heifers preparing for the butcher eat more than an ordinary milk cow, we shall say one beefing animal per acre. There are at the present time about 20,000,000 arable acres in Ontario, possessing practically no permanent pasture, but 3,500,000 acres of rotation pasture that do or should therefore maintain 1,190,000 head of, say beefing cattle. Were only one-tenth of this rotation pasture under the permanent form of it, the annual gain to the Province would exceed \$11,000,000. The magnitude and national value of a few acres, per farm, of first-class permanent pasture is thus apparent.

(7) IT CAN BE USED AS A SOILING CROP ANNUALLY.

When everything is most propitious and grass abundant, and where a number of bulls and calves are housed during summer, and a reliable cut of green fodder is most important, this can always be had from well-managed permanent pasture, early and late, at the rate of ten tons per acre, green weight, where no systematic soiling crops are upheld.

(8) IT IS LESS EXPENSIVE TO PRODUCE AND MAINTAIN THAN ANY OTHER CROP.

While it cannot be maintained that there is no trouble, time and expense incurred in establishing successfully all that we desire in this connection, nor that its permanency and value can be upheld without top-dressing materials, it is not difficult to see that once fairly afoot, permanent pasture costs a great deal less per acre per annum proportionately to produce received than any other crop can possibly do.

(9) IT IS A CONTINUAL SOURCE OF RELIANCE AND WEALTH.

Most other things may fail during a particular season; times may be bad, and decimate the farm, yet the permanent pasture will smile and invite a share of its wealth.

(10) IT IS PERMANENT.

The successful establishment and maintenance of permanent pasture implies:—

1. A soil free of dead water. 2. A rich surface, friable but firm. 3. Depth of soil to allow roots beyond reach of drought. 4. A retentive soil to resist drought and hold moisture. 5. Securing variety of grasses, and clovers, and thick seeding. 6. Easy pasturing for first two seasons. 7. Heavy stocking, to