

two quarts of ground oats, barley, and corn at each time they came in for milking. Still another thing which is very important—the cows at all times have access to a running stream of spring water, to which it so arranged they can go from any field on the farm. I insist on kindness, regularity, and careful milking, with a constant supply of salt that they can go to at will.

Our herd seems small for the size of farm, and it is much smaller this year than usual. We aim to keep 14 to 16 cows. Unfortunately we were forced to turn off five cows last winter and spring owing to deranged udders, and as I did

not see just what I wanted at the time, I am replacing this winter with heifers.—A. W. Van Sickle, Onondaga, Ont.

There is a deplorable ignorance of the names and methods of eradication of weeds among the majority of the farmers, consequently weeds are increasing everywhere, and nearly every weed known in the catalogue may be seen growing upon the roadsides. This is something that should be taken up by the local municipal authorities, and a strenuous effort made to keep down these robbers of soil fertility.—F. C. Nunnick, Commissioner of Conservation.

Roots and Their Feeding Value*

By PAUL A. BOVINE, Root Specialist, Macdonald College

There are two crops which produce succulent winter feed for milch cows and which should be much more extensively grown than at present. I refer to roots and corn. In spite of their difference in growth and character they have many qualities in common. They are both invaluable as clearing crops in a regular rotation; both are grass feeders, requiring heavy manuring and good tillage; they are apparently expensive to grow but they yield so heavily that the extra labor is more than repaid.

I believe that it is a mistake, however to commend the growing of corn where roots will do better, for instance, even at Macdonald College roots do better than corn.

FEED UNIT VALUATION

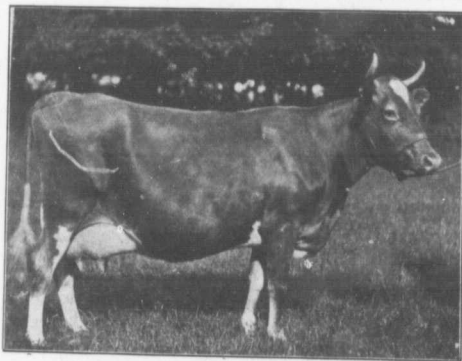
One of the easiest ways for the dairyman to calculate the value of a crop is to reduce the yield to what is known in many countries as "feed units." The feed unit consists of one pound of Indian corn or its equivalent of other feeds in feeding values. Thus, 1.1 lbs. of oats, five lbs. of straw, 2.5 lbs. of mixed clover hay, eight lbs. of silage corn, 10 lbs. of mangels, swedes or carrots, and 12.5 lbs. of turnips, all have the same feeding value in a properly balanced ration.

With these figures as a basis let us consider the following table:

AVERAGE YIELD IN FEED UNITS PER ACRE AT MACDONALD COLLEGE 1908 TO 1911		
Crop.	Tons Hay.	Feed Units
Mixed Clover and Timothy	2.5	2,000
Tons Straw, Lvs. Grain.		
Siberian Oats	1,911	2,410
Barnier Oats	2,315	2,658
Tons Podder.		
White Cap Yellow Dent Corn.	12,868	3,217
Leaming Corn	15,969	3,742
Tons Roots.		
Turnips (2 varieties)	17,145	3,629
Swedes (2 varieties)	21,705	4,541
Carrots (1 variety)	22,890	4,572
Mangels (4 varieties)	31,090	6,204

We see that the mangels have yielded more than three times as many feed units as are contained in two and one-half tons of good hay, 2.27 times as many as the best oat variety and almost double that of the corn. Labor is, or should be, the only limiting factor in root growing. The small crop is expensive, but the big crop pays.

*An address delivered by P. A. Bovine, Macdonald College, at the Guelph Winter Fair.



A Product of the Skill of an English Breeder and Feeder

Lichen Lady Mary, the pure bred Guernsey cow here illustrated, was first at the Royal Counties Show, England, in 1911. This breed has not made great progress in Canada. There are a few good herds in Quebec and the Maritime Provinces, and one or two in British Columbia. In the United States they are popular, and Guernseys outnumbering any other dairy breed at the late National Dairy Show at Chicago. The breed also has to its credit some of the world's best butter records.

appearances, yield a heavy crop of hay. The plot sown with two pounds an acre is much too thin, and we notice a considerable number of weeds in that plot, while in the other plots that were sown thicker there were no weeds.

Regarding the different seedings of clover we were rather doubtful at first as to the advisability of sowing in the fall, as it did not show up very early in the spring, and we were under the impression that it had been mostly winter-killed. We bought enough clover seed then to resow the whole field with 10 pounds an acre, sowing at the same time two acres of the field that had not been sown in the fall. During the summer we noticed that owing to the very dry weather, there was practically no clover on the two acres that had been sown in the spring only, while on the rest of the field that had been seeded, both in the fall and spring, there was a splendid catch. I believe the reason we did not notice the clover in the spring was because the top dressing of man-

Have You Voted Yet?

Sir James Whitney once said that if we were thoroughly convinced that the farmers of Ontario were in favor of any public scheme he would be the last to oppose that scheme, no matter what his own personal convictions. Most other politicians of note have pronounced similar sentiments. The difficulty has always been to know just what the farmers do want. Our folks are just as capable of pronouncing intelligently on public issues as any class of the community, but we have heretofore lacked the medium through which to do so.

Farm and Dairy's Referendum now supplies the medium. The ballots are published on page 10 of this issue. Through this Referendum you can give your opinion on eight questions of great national importance. The results will be communicated to the leaders of both parties at Ottawa. The more of Our Folks vote the greater will be the influence of Farm and Dairy's Referendum. Let us all cooperate to make this first farmers' referendum a success. Have you voted yet?

ure had covered it and in that way it was able to pull through the dry weather.

The alsike, sown 10 pounds to the acre, took the best, although the lighter seeding shows a well, much better indeed than our best catch in another field that was sown in the spring. The only disadvantage with thick seedings of clover and timothy in the fall is that it might tend to lighten the yield of wheat. It is quite possible that the extra yield of clover and timothy would more than repay the loss, if any, in the yield of wheat. We will be better able, after next year's hay harvest, to judge the different seedings.

The only tests we made in that line this year were with oats and wheat. The quantities of oat sown were 1½, 2 and 2½ bush. an acre.

From the appearance of the stocks after cutting, the part sown with 2 bush. seemed to be slightly the best. It was a little thicker on the ground, but was somewhat shorter in the straw than the 1½ bush. an acre seeding. The part sown 2½ bush. an acre was very short, due no doubt, to the dry season, and part being on a higher portion of land. As this has been an average good fall for wheat, we are unable to tell the difference so far between the thick and the thin seeding.

Hogs in Winter

John Archibald, Carleton Co., Ont.

I have often observed that those of my neighbors who spend the most money on buildings for their hogs have not the best success in producing porkers. On the other hand, I have noticed that the simplest kind of buildings very often give the best success. Having observed this peculiarity I formulated my own plan of accommodation for my hogs and it has been most successful. The plan applies only to wintering the brood sows.

Their winter quarters consist of a shed with tight walls, one window and a door. The lower portion of the door consists of a large open pane covered with a heavy grain sack. The sows can push this sack aside and come in or out at will. The only attention the sows receive in this shed is to have it well and comfortably bedded and kept clean and dry. Following the advice given in an agricultural paper, I located the shed about 100 feet to the rear of the barn.

Here is my plan for making the sows take exercise: I feed them in the barnyard and it is necessary for them to come twice a day at least from their shed to the feeding trough.

It seemed cruel to me at first to force those sows to come wading through the snow on a cold winter day, especially as before I had kept them in a comfortable house. But they do well, came through the winter perfectly healthy, and gave birth to large litters of strong pigs. I have had no conscientious scruples since my experience of the first winter.

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