

The Farm.

THE ROBERTSON MIXTURE FOR ENSILAGE.

Considerable interest is being manifested by dairy farmers all over the continent in the experiments which are being carried on at Ottawa, Canada, by Prof. Robertson, in the way of ensilage corn, English horse, beans and sunflower seeds together, with the idea of getting thereby a mixture that would present a ration for cows fairly balanced in all elements, carbohydrates and fat. Our recent visit to Eastern Canada we spent a day at Ottawa and looked over the Experimental farm and especially the fields of corn, beans and sun-flowers which are there growing for the silo this fall. The DAIRYMAN has hitherto contained one or more articles from Professor Robertson on this subject, but as the question is full of practical interest to dairymen, we will give the few ideas we picked up during our visit.

The great object to be obtained is the production of a balanced ration on the farm: one that will save the farmer from buying so much of nutritious food outside, and at the end of the year leave more of the money his cows have earned in his own pocket. This has been a favorite doctrine with the DAIRYMAN, as our old readers well know, and so we have been counselling the growing of peas and oats. But peas and oats do not ensile well, so Prof. Robertson and some others have found, though they make a highly profitable crop when cut and cured as hay or for the sake of the grain alone. Professor Robertson's experiments with his mixture show that with a good crop of horse beans grown for fodder, in rows three feet apart, with 3 or 4 plants per foot in the row, he obtained an average yield of 6 tons 1,610 pounds per acre, of green fodder, which showed by Prof. Shutt's analysis to contain 170 pounds of albuminoid and 94 pounds of fat per acre. They were found to silo well either alone or when mixed with corn and sun-flowers. The sun-flowers grows with comparative freedom all over the continent. The variety known as the Mammoth Russian grown in rows with plants say 15 inches apart in the row yielded at the rate of $7\frac{1}{2}$ tons of sun-flower heads per acre. From Prof. Shutt's analysis the crop contained 352 pounds of albuminoids and 789 pounds of fat per acre.

The following table shows the quantities of the nutrients which are contained in a crop of the mixture from $3\frac{1}{2}$ acres at fairly average yields:

	Albumi- noids.	Carbohy- drates and fiber.	Fat
Indian corn a acres say 30 tons	lbs. 1,092	lbs. 10,302	lbs. 324
Horse beans 1 acre say 8 tons	435	1,210	111
Sun-flower heads $\frac{1}{2}$ acre, say $3\frac{1}{2}$ tons.	176	1,186	364
Total $3\frac{1}{2}$ acres, say $41\frac{1}{2}$ tons	1,703	12,698	799

A group of cows were fed on a ration of which the ensilage part was made from mixing the heads of sun-flowers from a half acre with Indian corn from two acres. The cows of another similar group were fed upon a like ration of which the ensilage part was made from Indian corn alone with two pounds of grain per day more than was allowed the cows of the first group. The milk from the two groups was set in ice water and the following results were obtained in nine tests:

	From ration with sun-flower ensilage.	From ration with ordinary corn ensilage.
Per cent fat in skim milk	0.35	0.51
Churning period, minutes	30	23
Percent fat in butter milk	0.25	0.40

This was interesting in showing the effect of the feed on the churnability of the cream.

The sun-flower ensilage was relished well by the cows, produced a higher flavor and color in the butter, and also developed an agreeable odor in the ensilage.

From what experiments Prof. Robertson has made with the horse-beans it appears to do much the best in moist, cool climates. For this reason he believes that for the dryer and hotter portions of some of the states some of the varieties of climbing beans planted with corn would be better. It should be remembered that the bean belongs to the family of plants known as legumes, like clover, peas, etc. which have the power of transforming the free nitrogen of the air into plant nitrogen and for this reason do not impoverish the soil.

Prof. Robertson's effort to find some combination of plants which will safely ensile together, can be easily and cheaply grown by any farmer, and when combined will make a rich and proper ration for the cow, is valuable work in the right direction. Very likely he will not come out at just the spot that he expects too, but that does not matter providing the effort sets the intelligent dairy farmer to thinking, and gives him a hint as to what he can do for himself. We would suggest that some of our readers, who have silos, try planting corn and climbing beans together, with an acre or so of sun-flowers. Then run the corn, beans and sun-flower heads through the cutter together and get for themselves some idea of the value of this combination.

Certainly the cost of bran, cotton seed meal, oil meal, and all the nitrogenous foods is great enough to pay for some right energetic effort on the part of dairy farmers to see if they cannot produce a substitute themselves.—*Hoard's*.

STATE OF THE CROPS.

The grain crop is nearly all harvested, except in that part of this province north and east of Quebec City.

Wheat.—Turning out fairly well—in some sections very well.

Oats.—The quality is fully better than the quantity. Some fields have turned out very well. Many people early in the season thought the oat crop was doomed, there was a peculiar blight struck it: some thought it was caused by a small insect.

Peas.—Are hardly an average crop, they have not done well the past 4 or 5 years. They should be more sown as they do not take a great deal of fertility of the soil away.—(Plough them in 3 to 4 inches deep.—*Ed*)

Barley.—This is the best crop of the four principal cereals, it was ripe very early and is turning out very well; with the reduction in duties by the United States farmers will probably get a better price.

Rye.—Turning out fairly well.

Vetches.—Quite a quantity of this grain sown in the parishes. It makes a good green feed to give cows, to help over the dry spell and if sown on

good soil can be cut twice if cut early the first time, I have cut it three times the same season. (1)

Corn.—Has done well through August. In a few places, frost has appeared before the corn was cut, hurting it a good deal for feed; but generally speaking, it has ripened well, some very good pieces of ensilage corn also.

Potatoes.—Are a good crop, although in some sections the dry rot has appeared. The early rose variety seem to be the worst in regard to rot.

Grass.—The cry in Western Ontario seems to be drought, also in the Western States, but here we have had frequent showers. Where hay and clover were cut early, the after grass is excellent, giving cattle a good chance to give plenty of milk. Cheese has sold remarkably well all the summer being quoted nearly a cent a pound better than last year at the same date, this article alone is going to bring a very large revenue this year into Canada, and especially into this Province. But-ter has been rather dull; the shipments are a mere bagatelle this year.

The season is so much earlier than usual that in some sections the harvest is all done, manure nearly all carted out, and in many sections the potatoes are dug and cutting corn is now the order of the day. Fall plowing has not yet started. A good deal of ditching has been done this year, a progressive sign of the times. A meeting was held in Huntingdon a short time ago to try and form a company for the manufacture of drain-tile. This is something that should pay the farmers well, *under draining*. Too few seem to understand this great and important part of farming. The farm on which I was born and brought up has more under drains in it than any other farm in this Province I believe, so that I know whereof I speak. I hope the company will get started and be able to manufacture tile so that the cost of draining will not be too expensive to give it a fair trial.

Apples are only fair. Fameuses are badly spotted. Quite a discussion took place at the recent fruit growers association held at Knowlton between Mr. Fletcher, Dominion Entomologist, and the fruit-growers round Abbotsford, in regard to spraying trees to prevent the spots on apples. Mr. Fletcher maintains it is a sure preventative, while many have tried it and found no benefit from it. Late apples are likely to sell well, as England seems to be short in the apple line. I hope those whose duty it is to pack the apples for shipment, will not put the best apples in each end of the barrel and fill up with trash and spoil the trade.

PETER MACFARLANE,
Gen. Inspector.

St-Hyacinthe, Sept. 10th 1894.

Correspondence.

Barnston, Que., Aug. 1894.

EDITOR *Journal of Agriculture*,
MONTREAL.

Dear Sir,—I wish to have advise as to how to get rid of Golden Rod (*Vergo dor*) in a permanent pasture. It has been used mostly for colts for several years. Two years ago I mowed them and sowed a bushel grass seed but they are worse than ever. I con-

(1) Tares or vetches should always be in bloom before cutting for stock.—*Ed*.

not plow and cultivate as it is in its nature stony and too stony to plow. Your best advice by letter (and through the *Journal* for all) will much oblige subscriber.
O. N. REMICK.

Ans.—We know of no other way of destroying such plants as our correspondent refers to than copious applications of salt or dilute sulphuric acid: The misfortune is, that the same dressing that kills the "golden rod" will kill the grass too. Frequent mowings might, if followed by rain, cause the stems to rot, as this treatment often does in the case of thistles.—*Ed*.

The Huntingdon *Gleaner* says: "Potato lifting on clay land is nigh done, and there has been much culling of diseased tubers. Whether the potatoes will continue to rot when in the collar remains to be seen. On gravelly soil they continue good and are still growing. Potato lifting in August is a novelty, and will be long remembered as an instance of the earliest season on record. Many farmers had everything secured except corn and roots, the third week in August, and had begun threshing the second week. The mill is showing the grain to be deficient in quantity, and farmers who counted on 40 bushels of oats to the acre find they will not have much over 30. The quality is uniformly good. Wheat is deficient in every way, the yield being small and the kernels shrivelled. Despite the dry weather of the past fortnight, there is no lack of feed for cattle in this vicinity, and the late showers will help the pastures."

Early season? Yes, we should think so, potatoes were stored here on the 12th August; tobacco cut on the 20th, and grapes, (but as sour as verjuice) sent to market on the 21st!

HILLING CROPS.

It is not easy to account for the extent to which the practice of hilling potatoes has been adopted. If may have originated, to some extent, from the idea that drawing the earth up to ward the plants would tend to prevent the escape of the moisture in the hills or near the line of the drills, as the case might be. There is some truth in the idea just mentioned, but, all things considered, the loss of moisture by the process is undoubtedly greater than the gain. We do well to call to mind that the practice of hilling corn was at one time universal, but now it is only done by those who are not skilled in growing corn according to the most approved methods. The reasons for this will be clear to the reflective mind: First, when the hilling is done we stir the ground deeply, no matter whether it is done by use of shovel plough or by the use of hoe. If dry weather follows, the soil loses a large proportion of its moisture through surface evaporation, and in consequence, there is less of this left to be taken up by the roots of the plants. Second, when the soil is thrown against the vines so as to form sharp ridges, when the rain falls it runs away from the roots of the potatoes to that portion of the soil which is most distant from them, so that, in consequence, they suffer. (1)

(1) In this Beauséjour district farmers are beginning to earth up flat and not too much. *Ed*.