

A flock of Shropshire sheep are in fine order, the lambs coming early are sold at highly remunerative prices and the ewes are fattening on good pasture for market in the fall. Since Dr. Ball has occupied the estate, he has made great improvements in the buildings, his cattle barns are made on the most approved plans for the comfort of the cattle, and the preservation of manure (a point to which the utmost importance is attached) and, notwithstanding, the young doctor's extensive veterinary practice, he is assiduously paying attention to his farm, and adopting all the methods which he finds good in the new lines of husbandry. Such men as these we need to make Canada great.

GEO. MOORE.

### A MASSACHUSETTS FARM.

During a visit to Boston and vicinity I had the opportunity to make a brief inspection of the farm of Mr. N. J. Bowditch of Framingham and hope a little sketch of it may be interesting as illustrative of what our neighbours over the border are doing in Agriculture.

I found Mr. Bowditch very kind and affable; he seemed pleased to welcome a Canadian farmer and willing to show me all he could and explain his practice.

The farm is 675 acres, a good deal under cultivation, with extensive pastures. The land is rolling with gentle acclivities, good mellow loam and well watered. The farming is the highest, and no expense is spared to obtain this very best results.

The production of milk is the leading feature, Mr. Bowditch has brought it to a state of perfection seldom attained, and a handsome profit is realised notwithstanding the enormous outlay, is the pay roll averaging \$14,000 per annum.

Of course the profit could not be made under ordinary circumstances but the products are sold at retail. The farm supplying several of the hospitals in Boston with milk, cream, and butter, for which they are content to pay an extra price to insure its uniform purity and quality.

Butter too is made of so fine a quality that it is sold for 60 and even 80c per lb. to customers who think they cannot get the best without paying a fancy price for it. It certainly looked most tempting, of a beautiful golden color, no coloring matter being used, but the breed and feeding of the cattle, added to the method of creaming and churning, causing the superiority. Mr. Bowditch repudiates the centrifugal separator but adopts the deep setting and says that it is quite impossible to make butter up to his standard without setting the milk.

As to breed he is entirely in favor of the Guernsey cows, he says that he has proved that they give a larger flow of milk and a greater proportion of butter fat per cow than any other breed, and further, that, by his method of feeding and management they are in good condition all the time, so that if any accident occurs they can be sent to the butcher and are not all loss as the poor little Jerseys are.

Some Holsteins are kept but are not considered so profitable as regards butter fat, although some individuals come pretty close to the Guernseys.

The animals of this breed are from stock imported some years ago, by Mr. Bowditch's father, and have been improved by selection until now many

of them are hard to beat. A two year old bull showed points which were near perfection, and his mother, a ten year old cow was making 23½ lbs. of butter per week.

Last year Mr. Bowditch commenced the ensilage system, he says he went into it with strong prejudice against it, but one year's experience was enough to prove to him its great utility, and would not omit it in future upon any consideration, but would not use it unless perfectly sweet. This year he is growing 80 acres of Indian corn and proposes to ensile a good part of it.

The feeding is done upon strictly scientific principles, a differently mixed ration being fed to produce milk or butter (1) as the case may be. The ration too is varied to suit the case in different animals and given to them in the morning, with hay as a basis, and then the meal or ensilage, then water, then they are milked and remain undisturbed until evening when they are again fed, watered, and milked, and left for the night. Mr. Bowditch, facetiously, remarked, that if you went to disturb a cow in the middle of the day she would groan to be let alone. I was rather surprised at one thing he told me, which was that he heated the water for his cows in the winter time up to 70°, and said that cool water made a great difference in the quantity and quality of the milk. He further said that he looked upon a cow as a machine for producing milk and worked her up to her full capacity; he could not see that they were injured by this treatment, for he had cows that he had been working for all they were worth for years and he could not see any deterioration.

The barns were well lighted and arranged, each animal being allowed 800 cubic feet of breathing space, and still more in a new barn. Ventilation was looked upon as most important and to make it complete, tubes were being put in to conduct air in front of the cattle, and ventilators with fans in the roof so that an accumulation of foul air is quite impossible.

I was much struck by the docility of the creatures, the bulls did not show the slightest disposition to be wicked, but came out to be examined, led by their keepers, and suffered themselves to be handled as quietly as lambs. Every cow came to Mr. Bowditch at his call and it was easy to see that they had been treated kindly. No man is allowed to speak harshly to a cow on pain of dismissal. On the question of dehorning, Mr. Bowditch says he does not like it and is of opinion that if the cattle are well brought up there will be little necessity for the operation.

Speaking of tuberculosis, he thought that it was not very prevalent or alarming if proper sanitary measures were taken, but he never sold or bought an animal without giving or taking a certificate from the duly appointed officer.

Of course farming on so large a scale as this is only possible to a few, and hence perhaps it does not afford so good an object lesson as a farm of lesser proportions, where less capital is involved, but it is well for us all to have an idea of what can be done with money and brains, to guide us in our more humble efforts, and whether we own one or one hundred cows the rules as to breed, feeding, and general management will hold good.

GEO. MOORE.

(1) Then Mr. Bowditch believes butter can be fed into milk!—Ed.

### ORCHARD GRASS AND CLOVER

EDS. COUNTRY GENTLEMAN—I want to ask some questions, the answers to which I have not been able to find either in "Storer's Agriculture" or "Flint's Grasses," both of which books reached me through you last week.

About the economic value of orchard grass and clover for an orchard—I have, say, 10 acres of orchard, excellent land, which I desire to seed in late August, and which I shall have in first-rate condition. I have thought of putting in orchard grass and clover, but the farmers about here think I should do better with timothy and red top, as they consider that orchard grass, although it looks thick and heavy while growing, proves to be thin when out, and shrinks up greatly in bulk and weight when cured. I find no satisfactory information about this in either Flint or Storer, though both apparently think highly of this grass. (1)

What quantity of clover should I sow with orchard grass?

Flint says (p. 70) orchard grass should never be sowed alone, and (p. 69) quotes Col. Powell as saying that one bushel per acre should be used when sown with clover, but does not suggest quantity or kind of clover. (2)

I want to use this land exclusively for hay, not for pasture, and as I board horses in winter have thought the mixture of orchard grass and clover would be a valuable change in diet from timothy; but it is a great object to me to get as large a bulk of good hay as possible.

Do you consider that this hay would be a good feed for horses, or is so much clover objectionable? (3)

I have also considerable land to lay down in timothy. I have read your articles and note you consider six quarts timothy and one of clover good seeding, and eight quarts timothy and one of clover very liberal, and shall seed as you recommend. This is a much smaller quantity than Flint mentions, though he speaks of over seeding. I was disappointed to find that he does not recommend any quantity only gives examples of what some use.

As I intend to seed this fall, or rather in August, am I right in understanding that the grass seed should be put in alone, and clover sown on it in the spring? (4)

I fear this is a deluge of questions, but I think the answers will be of value to others besides myself, and I am anxious to "keep up with the procession," and do my seeding in the best way. I wish you could get some of the farmers who are your frequent contributors, and whose articles I always read with great respect and interest, to give us some accounts of their practical experience in laying down land to grass, amount of seed sown, &c. I am sure any discussion by them would be of the greatest interest and value to many of your readers.

JUNIOR.

Lincoln, Mass.

This letter was submitted to a correspondent who had much experience with orchard grass, and who kindly furnishes the following reply:

1. Orchard grass and clover do well together when mown for hay, as they come to their best condition pretty nearly together, and clover is almost the only plant that answers this requirement with orchard grass. In the latitude of Massachusetts orchard grass should be cut by June 15th; in some years by 10th, and never later

than 20th. Much of the prejudice against this grass for hay comes from cutting it too late. Its greatest value is as a pasture grass, for when sown with a proper mixture, it will do its valuable part in furnishing continuous feed throughout the season most satisfactorily.

2. With one bushel of well cleaned orchard grass we should sow one peck of red clover. Some would think this heavy seeding, but we find heavy seeding most profitable.

3. A mixture of orchard grass and clover is well suited to wintering horses that do no work. The prevalent opinion that timothy is best for horses is based upon the fact that it is so for driving horses or any that have severe work, but timothy is not the best hay for animals that do not work. It tends to constipation of the bowels, and does not contain the best elements for simple nutrition. A horse wintered upon orchard grass and clover should be in the best possible condition for spring feeding and use.

### A CURE FOR CLOVER SICKNESS.

On one of the fields in the Rathamsted experiments last year clover sickness began to make its appearance and, with a view to at once arresting its extension, steps were taken to dress the field with certain mixtures. On the most diseased portion of the field an application of 3 cwt of sulphate of potash and 1 cwt. sulphate of ammonia was given early in April; on another portion 2 cwt. sulphate of iron, and on a third plot, half the quantity of sulphate of iron. By the middle of May it was found that the disease had entirely ceased to exist on each of the first two pieces of land, the clover growing most vigorously—especially on the plot dressed with sulphate of potash and sulphate of ammonia, on which there was not a gap to be seen. At the end of July the good effect of this application was found to have extended to the second crop of clover. While the disease showed no sign of existence on the plot to which 2 cwt sulphate of iron had been applied, it did show itself where only half the quantity was used; but the growth was much more luxuriant where the mixture first named was put on. Mr. John Elder, of Uphall, Linlithgowshire, also cured a crop of clover of the disease in a previous season by the use of ammonia and potash.

Farmer's (Dublin) Gazette.

### AVAILABLE MINERAL FOOD IN SOILS.

There is no more complex question in connection with manuring than that in which we are compelled to take account of the quality of the soil and of the plant food which is really available. So far, little or nothing is known upon this point; but it has been shown that phosphates, for example, although highly soluble, are not liable to loss through being carried off in the drainage water. If, therefore, they are rendered insoluble by chemical combinations with some other soil constituent, such as carbonate of lime or alumina, how are they taken up by the plant? It has been shown that the root sap of agricultural plants is acid, and agricultural scientists have long been engaged in teaching that this sap has the power of re-dissolving the material with