

September 5th 1888.

ARTHUR R. JENNER FESC, ESQ.,

Sir.—A few months ago you wrote us respecting the price &c. of superphosphate of lime. The value of the article is unchanged, but the more immediate object of this letter is to apprise you that the "Lake Nepigon" has sailed from this port with about 170 tons of superphosphate for Montreal.

When you or your friends require any we shall be glad to hear from you. We are, Sir, your obed. servts,

SAMUEL DOWNES & CO.

Per H. J. Langar.

ENSILAGE.

It rarely happens that two seasons so entirely opposite in their character as those of 1887 and 1888 follow each other in succession. In June and July 1887 we registered at Rothamsted $1\frac{1}{2}$ inches of rain. In the same two months of the present year we registered $8\frac{3}{4}$ inches. Last June rain fell in more or less quantity on 29 days, leaving only two days without rain. The mean temperature of the two months in 1887 was 64 F. This year it was only 57 F. Last year our silos was almost empty, this year they are loaded to their full capacity. Practical farmers have never looked with very favourable eyes at the system of ensilage—in fact they have looked upon it more as a kind of plaything, suitable for landowners, who have had farms thrown upon their hands. It is said that the last disastrous haymaking season has caused many practical farmers to direct their attention to ensilage who have never done so before. The present time therefore affords a good opportunity for me to draw some general conclusions from the results of our experiments.

We began to carry out experiments on silage in 1884, and they have been continued up to the present time. A good many of the experiments have been published, while others have not yet been written up. The crops which have been used have been pasture grass, clover, oats, and a mixture of beans, peas, oats, and tares as a special silage crop. The crops were all weighed, both in and out of the silo, and they were chaffed, one of our great objects being to ascertain what was the loss of food material during fermentation. The silos were constructed of brick and cement and were water tight. The feeding experiments were carried out either with dairy cows or fattening oxen. I have upon my farm about fifty dairy cows for the production of milk which is sold in London, and above one hundred head of cattle of various ages. The questions, whether silage was a good food, and also an economical food, and whether it could take the place of hay and roots, were therefore questions of considerable interest and importance. All our evidence points to a very considerably larger loss of food in the silo, than there is during hay-making, and the loss appears to be larger in grass silage than in clover. In one set of experiments where green oats were made into silage and were fed by oxen against the ripe crop cut into chaff, straw, and corn together, the silage proved so inferior to the ripe crop that we were led to think that much of the starch of the grain, which when put into the silo was quite soft, was destroyed during the process of fermentation.

As silage contains a great deal more water than hay it is necessary to calculate the two substances as equally dry, before we can compare their feeding properties. Both clover and meadow-grass silage are equally good foods as clover and meadow hay. As however there is a larger loss of food in the silo than in the hay stack, less stock can be kept from an acre of land when the product is made into silage, than when it is made into hay. This is, however, assuming that the hay is not injured by the weather. It has been said that by the use of silage crops, we can dispense with the costly root crops. Grain

crops appear to me to be quite unfit for silage. A mixture of peas, beans, oats and tares, make a very suitable crop for silage as the oats and beans keep up the other two plants. If this crop is thick enough, the land from which it is removed will be quite free from weeds; this cleanliness is somewhat deceptive and is totally different from the cleanliness of a root crop. In the silage crop the weeds could not grow for want of light, but they still remain, while in the preparation for, and after culture of the root crops, every effort is made to germinate and destroy the weeds. The root crop is said to be a costly crop, and if we compare the cost with the value of the food it yields, it is so, but should not the corn crops bear a larger share of the cost than is generally assigned to them? At all events I have not seen my way to substitute silage for root crops, nor can I say that where seasons are favourable for hay-making I see my way to converting grass crops into silage. If, however, silage is only to be made in those seasons when good hay cannot be made, it will be argued that a silo is not required, and it will be better to adopt the stack system. That there is much greater loss of material in the stack than in a well made silo cannot be denied. Still in those cases where silage is only used when good hay cannot be made, and when the plant may be idle for possibly two or three years in succession, the less capital expended in the plant, the better it will be for the farmer. A good silo is I think indispensable where farm crops are regularly grown for silage purposes, but under other circumstances the cheapest method by which the necessary pressure can be obtained is perhaps the best.

It may probably be considered that I have not selected a good time to make my remarks upon silage? Now I quite admit the value of silage during the recent wet summer, but the system of farming in any locality ought not to be altered because one season is very wet, and another season very hot and dry. The average climate of the locality ought to regulate our course of cropping.

With a rainfall which averages about 28 inches per annum and a dry atmosphere, I have come to the conclusion that upon my farm, which is about one half permanent pasture and one half arable, ensilage cannot be adopted successfully as part of the regular farm crops, but it is of great value during wet seasons when good hay cannot be made.

If I lived in other parts of the British Isles, where the atmosphere was moist and the rainfall greater, I should then place a much higher value on the process, as I should consider ensilage crops as part of the regular system of the farm.

J. B. LAWES.

Sober data about Silage.

BY PROF. J. W. SANBORN, COLUMBIA, MO., U. S.

It is flood tide of interest in ensilage in many parts of the West. Is anything like foam raised as it beats upon the shores of our bad practice; or is there only displayed the steady pressure of abiding forces? Millions of our farmers await sober data, and fear that there is still an effervescence of enthusiasm in the reports coming to them from those whose personal observations, loose though they be, are loudly proclaimed conclusive and final. Unfortunately, I have been regarded as an opponent of the silo, when in truth my only effort has been to hold it to the hard facts and confine its growth to its merits. Many of its swaddling claims have passed or are passing into an oblivion from which I do not care to raise them again into view. Entering upon the now of the question I will take in two equal sections of land respectively in corn, either for fodder or for the ripened ear...one for ensilage and the other for the air-dried product. If conditions of fertility and culture are the same, evidently the yield by either system will be the same. More, it will be similar even though one