

One-third of the enormous crop B mentions of fodder corn as reported from South Carolina would be most encouraging as against any possible root crop. The south has also a most admirable balance for its corn ensilage in decorticated cotton-seed meal, beside its cow peas, clover and other nitrogenous crops. Here is a capacity to produce very large ensilage crops, having at hand the most nitrogenous foods to balance this for a milk, butter and fattening ration. Using moderately its available means, it may not be tributary to any part of the earth for its beef, butter, bacon and mutton.

B's views as to the importance of a more intensive system of farming in this country, where the struggle is to work the greatest number of acres rather than to produce the most profitable crops, are very sound. It would be much more profitable to raise 36 bushels of wheat on one acre than to raise this amount on three acres, as we do, and so of most other crops. And the most encouraging out-look of the present is this increased tendency toward a more intensive system of agriculture.

#### Silos and Silage in Scotland.

The late appearance this year of the annual volume issued by the Highland Society is in some measure atoned for by its very lengthy and exhaustive report on "Silos and Silage in Scotland," which must have entailed a good deal of labour, and required extra time to complete. It will be recollected that at the general meeting in January last year it was resolved to appoint a committee "to gather and publish details of a practical nature regarding the use of silage." Shortly thereafter a committee of six was appointed, with Mr. Mackenzie, of Portmore, as convener, who drew up a set of queries regarding the construction of silos and the making and using of silage, and sent them to all persons in Scotland who were known to have silos.

Dr. Aitken, to whom the task of editing the replies and drawing up the report was entrusted, in the absence of Mr. Mackenzie, of Portmore, the convener of the committee, has done his work well. No fewer than ninety-five silos are described by seventy correspondents, of whom about two-thirds have single silos, in some cases divided into compartments by brick or wooden partitions, twelve have two silos each, while one has three, another four, and another five. The capacity of the silos varies from 10 to 900 cubic feet, and the dimensions differ accordingly, length from 7 to 60 ft., with an average of over 20 ft.; width from 8 to 27 ft., but the usual width from 10 to 12 ft., which is found most convenient for placing and removing the covered boards; the depth varies from 4 to 24 ft., but the usual depth is from 10 to 14 ft. The material of which new silos were built were stone, brick, and concrete, with a smooth facing of cement inside to oppose as little friction as possible to the sinking silage. The cost of making a silo varies, of course, with the material of which it is built, the presence or otherwise of pre-existing structures, the kind of labour employed, and many other contingencies.

The crops ensiled are divided into three classes—first, those which are valuable, and which, if not eaten green, are usually made into hay, such as meadow grass, rye grass, clover, tares, and lodged corn; second, those which are frequently allowed to go to waste, or which are used for litter, such as grass from woods and hedge-rows, lawn mowings, rushes, bracken, &c., and coarse hill grasses refused by stock; third, forage of various kinds put into silos by way of experiment, such as comfrey, nettles, thistles, cabbage-leaves, &c.

As regards the first class, the uniform verdict of the exper-

imenters is, that the crops have been preserved in excellent condition as a whole, while the expense of cutting, hauling, and pressing is variously estimated at from 1s. to 8s. per ton—the usual cost being about 3s. per ton. As regards the second class, the success has been no less complete, and we are presented with the substantial fact that hundreds of tons of fodder have been preserved and eaten, which but for the silos would have been in great measure wasted. In the third class, the few experiments recorded appear to have been failures, the method of making good silage from leafy forage not being yet so well understood.

In almost all cases the grasses were ensiled whole; where chaffing was tried it was found to be no great advantage. Tares, rye, and green oats, on the other hand, made very sour silage when put in whole, but were much improved by chaffing. Ensilers are not agreed as to the best time for cutting crops for silage. Some prefer them immature, others at their greatest bulk, and others when full ripe; but crops put in dead ripe have frequently produced poor silage. Crops have been ensiled in all weathers, but the best silage seems to have been made in dry weather, especially when the crops were full of natural sap. The drier the crop the more need of heavy pressure. Various systems of mechanical pressure were tried with varying success; but in most cases the pressure applied was dead-weight, consisting of stones, bricks, concrete blocks, gravel, sand, earth, or water, amounting usually to between 100 and 200 lb per square foot; and where different amounts of pressure were tried the heavier pressure was usually preferred. Nevertheless, good results are said to have been attained with pressure much below 100 lbs. It is not considered necessary to apply pressure when the silo is being filled on consecutive days. But great importance is attached to the heavy tramping of the forage while filling, especially round the walls and the corners. The less the pressure the higher the temperature usually attained by the silage during fermentation; but much depends on the dryness of the forage. If very dry or very wet it does not heat so much.

Four instances of making silage in stacks are recorded, and the success attending the experiments is such as to encourage many to adopt it. The chief requisites for the success of stack silage seems to be that the forage should be pretty wet, and that it should be trodden equally on all sides and not so much in the middle. The heat attained is very great, and the silage is much discoloured, but it is excellent feeding material. There is considerable waste round the sides from mould, but that may be greatly prevented by syringing with brine or other antiseptic solution.

Silage has been given to all classes of stock, sometimes with and sometimes without other feeding, and the uniform experience is that having once eaten it stock prefer it to other kinds of fodder. The daily ration of cattle was about 30, 50, or 70 lb., according as the animal was one or more years old. Calves received 12 lb., and sheep from 7 to 9 lb. A great proportion of the silage was given to dairy cows, from 50 to 70 lb. daily when given alone. The silage in about one-half of the cows was given instead of turnips, either in whole or in part, and in the others it took the place of hay. A mixture of silage and other fodder was usually preferred. In twenty-one cases a direct comparison is made between silage and turnips, and in sixteen of these cases silage is considered the better feeding material; in four cases they are regarded as of equal value, and in only one case, in which cabbage-leaves and other green stuff formed part of the silage, were turnips considered better.

The universal opinion of the experimenters is, that silage is a great boon to agriculture; and it is the opinion of Dr. Aitken and the committee that we are only at the threshold

(1) Bracken is fern