

CLAIMS OF PRACTICAL FEEDERS.

We shall present a synopsis of the claims of the witnesses on both sides of the case in order that our readers may be their own judges. The advantages claimed by the practical authorities are as follows: 1.—Green fodders can be safely secured independent of the weather. 2.—More stock can be raised on the same area of land. 3.—Coarse vegetable matter can be utilized which would otherwise go to waste. 4.—Ensilage-fed cows give more milk and butter.

Now, before presenting the claims of the scientists, let us take a common-sense glance at these "advantages." Taking the average of seasons, if the weather is such that hay cannot be secured in a good condition, then it is quite possible that "pickled grass" may be as good as spoiled hay. Even if this view has force in any part of the continent of Europe, that is no reason why the boom should rage on this continent, where hay can be cured in average or good condition. The evidence as to the extra stock kept, varied from none extra to more than double the number. Let us suppose, for the sake of argument, that double the number can be kept, then this proves that half the nutriment of the hay is lost in the process of curing, providing no loss of nutriment occurs in the silo. The most casual observer must know that a loss of nutriment does take place in the silo. Every farmer who scents the escape of ammonia from his manure heap is aware that waste is taking place, and yet a whole neighborhood surrounding a silo is expected to snuff the escaping gases with the conviction that no waste is occurring. It has been asserted that coarse grasses, sedge, thistles, etc., which have little nutritive value, can be ensilaged and thus turned into profitable account. Why should these eminent practical authorities waste their valuable land by growing thistles and other noxious plants? If they become more nutritious in the silo, they must obtain their nutriment from the more nourishing grasses with which they are mixed. It may be true that cows fed on ensilage will give more milk than those fed on dry foods, but it is absurd to extol the silo on this account, for all succulent and stimulating foods produce this effect, and the authorities do not attempt to prove that "pickled grass" is cheaper or superior in this respect to other stimulating and succulent foods. Perhaps a small quantity of vinegar sprinkled over the dry food would be still cheaper and more efficacious. Why has the evidence of some of those milk companies who have repudiated "pickled milk," not been taken? It may also be true that more butter can be made, but this is also nothing to the credit of the ensilage, for all succulent foods produce milk which easily yields up its butter fats, both in setting and in churning, so that a change in the method of separation would produce the same results with dry foods. The duration of the milking period and the longevity of the cow, as well as the healthfulness of the milk, are injuriously affected by the use of ensilage or other stimulating foods.

PRACTICAL TESTS

One of the most exhaustive sets of practical experiments ever conducted in the feeding of ensilage was commenced by the late Dr. Voelcker, chemist of the Royal Society of England, and the results have lately been made

known. Eight bullocks were selected, four being fed on ensilage and four on roots and hay chaff. After sixty days the ensilage set gained an average of 1 lb. per head daily, and the other set gained 2½ lbs. per head per day. The experiment was then reversed, but the period is not yet complete, 18 days only having elapsed when the report was published. However, during this time, the ensilage-fed bullocks lost 1½ lbs. per head per day, while those fed on roots and hay chaff gained 1½ lbs. per head daily.

WHAT SIR J. B. LAWES SAYS.

The following questions and answers are found in the evidence taken before the commission, the answers being those of Sir J. B. Lawes:

Q. Supposing that we could show that maize could be cut in September and put into the silo, and that you could get from 20 to 30 tons to the acre, how would you compare the value of a crop of maize with a crop of roots?

A. Well, weight for weight upon the dry matter—some substances having 20 and other 40 per cent. I should say that the roots would contain more nutritive matter than the maize, either in or out of the silo. Weight for weight, I think that roots would be better than maize. If I am right in saying that roots contain more digestible matter, the roots ought to give the best results when mixed with other foods. The dry matter in the maize would be less feeding than the dry matter in the roots. Roots are very good food, because there is hardly any indigestible matter in a root. There is a great deal in straw, less in hay, and very little indigestible matter in cakes. The Germans made experiments in silage, and they said that it did not increase the digestion. The Germans showed enormous losses in the fermentation, but at present English chemists did not see those great losses.

Q. Would not food softened by the silo be more easily assimilated into the system of the animal than food not softened? A.—No; animals seem to have a great power of acting upon dry food.

AMERICAN EXPERIENCE.

With regard to the changes and loss which take place in the silo, let us also quote the conclusions arrived at by Prof. Jordan, director of the Maine Experiment Station,—an eminent agriculturist who has devoted three years specially to this department of the question.

1.—Silage contains more ash, nitrogen and crude fibre, but less total carbo-hydrates, than the material from which it is made.

2.—Green fodder has a larger percentage of nitrogen in the albuminoid form than is the case with the silage produced from it. The average percentage of nitrogen in the non-albuminoid form is, for the green corn, 21.5 per cent., while in the silage from the same material, it is 51.3 per cent.

3.—There is evidently a breaking up of the albuminoids into true amides, most largely into amido-acids.

Let us explain that these amides are nitrogenous compounds, like the albuminoids of the food, but unlike them they are not flesh-formers, being chiefly employed in the production of heat, and have therefore a low feeding value. We now see that investigators on both hemispheres agree as to the loss of nutriment in the silo, although the extent of that loss has not yet been thoroughly investigated, and that these results of analyses have been corroborated by actual feeding tests.

ANOTHER ENGLISH AUTHORITY.

We shall conclude by quoting the remarks of Prof. Warrington, one of England's greatest agriculturists, which were made at a recent farmers' gathering:

"Every new thing people thought was going to do a great deal for them, but a good deal of experience had to be gained before the illusion was dissipated. It was, however, especially applicable in those cases where hay could not be successfully made. But all the chemical investigations yet made on the subject of ensilage by no

means bore out the flourishing accounts which the farmer, pure and simple, was indulging in. With regard to the heating process, the chemist at once saw that, by allowing the vegetable matter to get hot, they were burning away part of the food in order to heat the rest. It might be true, that by so doing they had got sweet silage, which was enjoyable to animals; but they had effected a waste, and the loss on silos was far greater than what took place in the hayfield. Chemists who had examined the matter found that half the flesh-formers did not remain in the ensilage after fermentation."

We would not have dealt so fully with this question, knowing that very few of our farmers have been affected by the ensilage craze, but as our Government and our agricultural journals have been led astray, we fear that many of our farmers may yet be smitten by the infection. If a mode of preservation can be discovered, which will prevent fermentation in the silo, there can be no doubt of the utility of the system in various respects.

Green Food for Swine.

Prof. S. R. Thompson, of the Nebraska Agricultural College, writes to the American Agriculturist that green food makes thrifter and larger hogs. Farmers who raise many pigs, and feed them exclusively on corn, know that some of the shoters will cease to grow at an early age, begin to lay on fat, and never reach the size of good, merchantable hogs. A pig fed on bulky, green food will develop a larger stomach than one fed on concentrated food like corn; and when you come to fatten it, this enlarged capacity will enable him to eat and digest more corn, and thus fatten faster than the other, and be a more profitable hog to grow for market.

Green-fed hogs are healthier than those grain fed. Every intelligent breeder knows the advantages of feeding green food to sows about to farrow. They have less difficulty with their pigs, are less liable to destroy them, will give more milk, and nurse them better. Grass-fed hogs are less liable to disease. The dreaded hog cholera is not much to be feared where hogs have the run of a good clover pasture. Undoubtedly, if exposed to contagion, they would take the disease, but they are not likely to develop it. For an example, a farmer had his hogs in a small pen, destitute of grass, with no water except a muddy pool, which was soon made as vile as possible by the hogs. After a while the hogs began to die in considerable numbers, with symptoms resembling cholera. The owner was alarmed, took them out of his pen, turned them on a patch of green rye, and gave them water from a well. The disease was checked and the deaths ceased.

To a hard-working horse, repose is almost as much a necessity as good food, but tired though he may be, he is often very shy to lie down, even when a clean bed is provided for him. Unless a horse lies down regularly, his rest is never complete, and his joints and sinews stiffen; and while it is true that some horses that sleep in a standing position continue to work for many years, it is equally true that they would wear much longer, and perform their work much better, if they rested naturally. Young, nervous horses not unfrequently refuse to lie down when first made to occupy a stall, and, when introduced into a town stable, the habit may be confirmed, unless inducements are offered to overcome the disinclination.