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our Shorthorns to the condition of mere grades, and, consequently, to slaughter? And this, too, when it is admitted that a large portion of this stock is equal in excellence, and, as breeders, to any Shorthorn in the land!

Standing as I do, as a humble advocate of the best and most liberal policy for the improvement of our stock, I am bound to state here that we as breeders are driven to face this question—whether this restriction and the extraordinary avowal that it is the criterion of what constitutes “thoroughbreds” will not exercise a powerful influence in retarding the progress we are making by the diffusion of the blood of this matchless race in the improvement of American Cattle?

Mr. President, in view of what has been accomplished by the enterprise, intelligence and liberality of the American breeders represented by this association, it seems to me we have just cause for saying that we are “proud of our constituency.”

When in all the world's history has so much been done in the same length of time to improve and add to the value of the farmer's stock? And, sir, looking at these grand results, whatever may have been the necessity for increased care in keeping and recording pedigrees, there can be no cause for adding restrictions to the registry of pedigrees that must exclude such a multitude of animals of substantial merit, whose increase we are bound by every consideration of public policy to aid and encourage!

Cabbages for Stock.

Cabbage are rich in nitrogen, and for making milk or flesh are valuable. In gathering a patch of cabbage for market, there will always be more or less soft heads, which are unsaleable, but will answer for stock feeding, and where heads are cut off and sold instead of being pulled up by the roots, the leaves make good feed. It is very hard work to induce farmers to change their practices, but we think that if they would try the experiment of raising an acre or two of cabbages for stock-feeding, they would be so well pleased with the result as to make it a part of their system of farming. When cabbages are high, the larger, firmer heads could be sold, and the poorer, with the leaves, fed.

The above clipping we take from the *Rural Home* on “cabbages for stock feeding.” Cabbages are very highly valued for this purpose, and in European countries are planted in large quantities. The quantity of food for stock from an acre of cabbage is greater than from almost any other vegetable. Some farmers plant acres of cabbage and feed them to horned stock and pigs, and they say they pay them better than any other crop on the farm. When given regularly to milch cows, a feed once or twice a day, they serve to increase the quantity of milk, and at the same time improve the condition of the animals. There is no more healthy food. We have known them to be used medicinally, and with good effect, as in the following instance:—A horse had taken a bad cold, and, from being neglected, there was a mucous discharge from his nostrils. He was induced to eat cooked cabbage by mixing it, at first in small portions, with his food, and afterwards increasing the quantity given. After continuing the use of it for a short time the mucous discharge ceased, and the horse was restored to health. It was so serious a case that, a veterinary surgeon having been called in, he expressed his fears that it was incipient glanders, and yet, with no medical treatment further than the feeding with cooked cabbage, he was soon as well as ever.

The only obstacle in the way of growing crops of cabbage as extensively here as in some parts of Europe is the severity of our winter, which prevents us sowing the plants in the autumn and leaving them in the plant beds through the winter months, in the open air, and transplanting them early in the spring. This obstacle, however, can be got over. The seed can be sown, as it is now, in small quantities in spring, and the plants protected till the time for transplanting.

A heavy, sandy soil, from which the water passes freely, is most suitable for the growth of cabbages. To grow them to perfection a large amount of time is required. When thus in the soil, the cabbages are free from disease, mature earlier, and form larger, closer heads. Where there is no lime in the ground it should be applied; and the ground, when dug for this crop, should be subsoiled. Cabbage planted 24 feet by 16 will grow from 12,000 to 13,000 plants per acre. The root grub, black fly and wire worms are sometimes destructive to the plants, but they are harmless if the following remedies are applied. As soon as

the cabbages are planted the root grub commences at the surface of the ground and gnaws in two the stem of the plant. To guard against this, place around the plant a piece of paper two or three inches square, half of it under the surface; the grub will then leave the plant untouched. The black fly attacks the plant as soon as the seed puts forth the first leaves, and until the rough leaf is fully formed the plant cannot be safe from its ravages. To guard against it, sprinkle wood ashes, soot or bone dust over the plants while the dew is on them, or after a shower. The wire worm lives and works beneath the surface, and is very injurious. When the lower leaves of the plant turn yellow and die you may be sure the wire worm has been at work. Mix hen manure, one part with six parts of water, pour the liquid mixture from a watering pot around the root of each plant, taking care that it does not drop on the leaves. Large York, Early York, Jersey Wakefield, Oxheart, Winningstadt, Australian, Flat Drumhead and Flat Dutch are among the best varieties of cabbage.

American Meat in London.

Good market for Canadian beef necessitates beeves of good quality, improved stock, well fed, and improvements in agriculture, all depending on each other. From our last receipt of English papers, we clip the following article from the *Farmer*, London, headed as above:—The last received cargo of American meat, treated by the dry cold air process, did not reach London until Wednesday last. It was evident that the salesmen in the market were much interested in what must still be called an experiment—the attempt to contribute stocks of fresh meat for London consumption from New York. Only one opinion was expressed on Wednesday, and that was that, with respect to the meat then seen, the experiment was perfectly successful. As the quarters were stripped of their canvas wrappers, and hooked up, the people gathered about, looked and handled, and had to admit that, in quality and in clean marketable condition, the meat was equal to anything else then on sale. The consignors had prepared a small surprise for their friends here. It is intended to send carcasses weighing an average of about 800 lbs., as that is supposed to be about the best weight for this country. But with the last four carcasses, weighing an average of about 12 cwt., were sent, and the meat was exceptionally firm. The fore ribs of one of these was sent to the Lord Mayor, and Mr. Sheriff Knight also had a portion for his table. The whole weight of the American beef in the consignment was about 50 tons, and it met with a quick sale to dealers at from 4s. 4d. to 4. 8d. per stone of eight pounds. In the same “dry, cold room” of the vessel which brought this beef were the carcasses of 20 pigs, which were, like the beef, good in quality, and in first rate marketable condition. They met with a ready sale, at about 6d. per lb.

This does not refer to Canadian meat, but if the experiment be successful of shipment of fresh meat for New York, we may look on the question as solved for our meat as well as for others.

The Lung Worms of Sheep.

R. H. Saunders, of Illinois, writes to the *N. Y. Tribune* on this subject, having lost from five to eight per cent. annually for three years of his lambs from tape-worm, and sheep from one to eight years old from parasites in the lungs, the latter being the more difficult to contend with. His flock, he says, are all in excellent condition with the exception of those affected. The affected sheep show no symptoms of parasites in the bronchial tubes, but are suddenly taken with dullness and loss of appetite; the wool becomes loose, many of them pine away and die in a few weeks; others become poor, their appetites return, and they live several months. In the latter stage of the disease a watery serum appears under the root of the tongue and dysentery sets in. Upon examination after death he finds thread-worms, from two to four inches long, coiled up in bunches in the air passages of the lungs. Do these parasites, he asks, have a separate existence, and do the pastures or water become infected, or are they due to the condition of the sheep? He has observed the sheep to have been more infected when confined several years to the same pasture.

In remarks in the same paper by Prof. Jas. Law, he says that 20 years ago the lung-worms of sheep were almost unknown in England, whereas to-day there is scarcely a flock in the southern and midland counties but suffers severely from their

ravages. It is a mere question of the introduction of the parasites, as their eggs and embryos will live in almost any soil, and increase in proportion to the number of systems (sheep and goats) in which they can pass the adult period of their lives. The most important points are that not only do these worms live in their embryo condition in water, soil, vegetation and fodder out of the body, but when once introduced into the system they will reproduce themselves without limit throughout the whole lifetime of the sheep without any new ingestion of worms or eggs; and, as they rarely prove fatal to old sheep, one infested animal may stock any number of fields with these destructive creatures.

TREATMENT.—Turpentine may be given in oil for the intestinal worms, and sulphur fumes inhaled for the lung parasites. The affected sheep should be put in a close building and a pinch or two of flowers of sulphur burned on a piece of paper laid on an iron shovel, the sulphur being added pinch by pinch until the air is saturated as far as can be breathed without violent irritation and coughing. The administrator should remain in the building with the sheep, and thereby avoid the risk of an over-dose. This should be kept up for half an hour, and should be repeated at least once a week. It is only partially successful, as eggs and encysted embryos still escape destruction and are ready later to start a new brood. Abundance of nourishing food, including oil-cake or dry grain, is an important element in treatment. A tonic mixture of equal parts of sulphur of iron, ginger, gentian and common salt, may be given daily at the rate of an ounce to every five sheep.

PREVENTION.—1st. No infested sheep should be allowed to leave the pasture alive. They should all be fed off and slaughtered where they are. If any loss is incurred, it ought to be met by the state, as the object is to prevent an extension of the parasite to other grounds. The propriety of this will be seen when we consider that the killing out of the lung parasites in a single animal is a long and uncertain process; that if the sheep are kept on the old pastures the worms are perpetually finding their way into the system from without, while if turned on new land they stock that with the parasites from their own lungs. 2nd. No other sheep or goats (camels nor dromedaries) should be turned out on that land for several years, nor allowed access to water which has run through it. The land may be safely pastured with horses and cattle, for they do not harbor the lung parasite of the sheep. Hogs were also supposed to be exempt, but Mr. Saunders' experience seems to throw doubt on this matter. It would be better still to plow up the ground, and subject it to a rotation of crops. 3rd. The carcasses of those dying of the affection should be deeply buried or better still, the head, throat, wind-pipe and lungs may be carefully removed and subjected to prolonged boiling. 4th. Hay roots or other aliment grown on the infested pastures should on no account be supplied to sheep or goats, stored near fodder or litter designed for them, or in any place to which sheep may afterward have access. Such would be the main elements in the absolute prevention or stamping out of this affection, but if a restriction of the increase of the parasites only is aimed at, and not their extinction, then suggestions may be obtained from the conditions above named as favoring the propagation of the worms:—1st. Let salt be eaten at will; this destroys the young worms if brought in contact with them. 2nd. Avoid turning lambs on land occupied or vacated by the old sheep. 3rd. Avoid overstocking. 4th. Drain wet land. 5th. Don't sow clover for sheep pastures. 6th. Shut out from water coming through infested pastures. 7th. Keep lambs off pastures when covered with dew. 8th. Give artificial feeding when necessary to keep up vigorous health. 9th. Fumigate frequently, both old and young, with the fumes of burning sulphur.

A series of carefully conducted experiments has shown that boiled sugar beets, tops and all, fed to hogs three times daily without the addition of other food, caused an increase in weight at the rate of two pounds per day.

The *Western Rural* says: “The noted Devon herd of William Mattoon, of Springfield, Mass., was sold at Sheriff's sale, Dec. 27. The cattle sold at very low prices. The bull, Duke of Hampden, famous as a prize-taker, brought only \$55.” Pity this “noted” animal and “famous prize-taker” was not sent to Kentucky or the interior of New York, where, according to published statements, many thousands of dollars might have been obtained for him.