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large enough, and are becoming overcrowded. This, we presume, is the reason why the Superintendent of the Grounds is unable to relegate to a less conspicuous position the noisy side-show element, admitted for the revenue it yields the Fair, though it certainly tends to mar the otherwise fine general effect of the grounds and buildings. The character of this end of the show is now very sharply looked after. With the resources at their command, the Western Fair Association can afford to be steadily raising the standard of the exhibition, and this, we believe, is the policy which the directors and officers are determined to pursue, and, in doing so, they will have the support of the best elements in the community.

Our Maritime Letter.

Having accepted the conclusions of Dr. Rutherford, Veterinary Director-General for Canada, with regard to the culpability of the Ragwort, or Baughlan, in producing that peculiar disease in cattle, known to America, at least, as the "Pictou Cattle Disease," and also his solemn assurances that both are co-extensive, it may perhaps be permitted to us to indulge the belief that, after all, it is not the plant itself which is directly to blame, reproach being centered in this only that indirectly it constitutes itself a menace in being the breeding-ground or host-plant of fungoids acting adversely to the health of animals after being ingested into the stomach.

Hepatic cirrhosis, or cirrhosis of the liver, a condition in animals analogous to that of "fatty liver" in men, can be produced, the Cloverdale experiments abundantly prove, by the feeding of a ration containing dried ragwort, in whole or in part. Cattle are wary of the plant in summer in the pastures. It is plentiful round here—to our

discredit we say it—and still, bare as the pastures often are, hungry as are the animals upon them, we have never, to our knowledge, seen it touched in the whole period of grazing by any animal, with the exception of sheep, which, it is averred, have an immunity from it.

This Senecio Jacobaea, Ragwort, Baughlan, Stinking Willie—call it what you will—belongs to the classification of plants known as Compositæ, and is accused of so irritating, in pollen time, the mucous membrane of the bronchia as to cause that distressing malady called Asthma, or Hay Fever. The Golden-rod, its close parents, are equally arraigned before the bar of popular belief. It is contended that the rough, granular pollen particles, released into the air, and coming into contact with the organs of respiration, produce this peculiar asthmatic affection, which, long known in its symptoms to medical science, is, nevertheless, but little understood in its nature and causes. Those plants, then, are indicted by asthmatics as disturbers of the first order.

Now, with regard to this cattle disease, a theory has been advanced which, we confess, appeals to us more cogently than any assertion that the ingestion of the green wort itself can produce Orange Liver. Indeed, all the experiments—if we except possibly the fourth experiment of the report, which seems to imply that the eating of the green plant caused death in animal No. 19—furnish nothing contradictory. This theory of ours (we have had no means of turning it into demonstration) places the culpability on a fungous growth, which increases with great rapidity on the dried ragwort when put up with other grasses. A gray, moldlike substance often covers the plant; and, under its parasitic action, may be withdrawn qualities which set up a sort of bio-chemical action that will produce the poison which affects the cattle eating it. Those fungi are an intricate study at any time; the family is exceedingly long-tailed; the specific differences manifold; the effects, baneful or beneficial, not completely explored. These, then, although the subject of endless volumes by scientists, and under the heading of bacteriology, the most discussed of vegetable growths to-day, are practically a terra incognita in the particular sense of which we are speaking. We hope to see this condition reversed, however, in the not-too-distant future, and fully believe that such experimentation as that concerned with the Pictou Cattle Disease will do much to effect this result.

If the Baughlan is, then, the mere host of this fungus, and it is not produced except in the drying stage, either alone or with other grasses, there can be no danger from its ingestion green. The Cloverdale experiments should have included a test of this kind. If animal No. 19 had been fed on green ragwort, with the usual admixture, there could have been no doubt of its deadly nature *per se*; but it was fed on "ragwort cut before the blossom appeared." This proved that the flower was not alone to blame, and that only; it did not prove that even before the blossoming it might not be a host-plant for Hypodermia, or some of the endless fungoids which infest vegetative life. Then, too, we should like to see the plant sent to the laboratory, and, so far as science can determine, submitted to a careful analysis, so we may know to a verity just what its constituents are.

Dr. Rutherford says he wants the Station maintained a little longer, so that he may determine which of the graminivorous animals are immune and which are not. We believe he needs its assistance to settle forever, since he has already gone so far and done so admirably, just such important questions as we have suggested. In the end, we believe he will find that the parasite is the enemy, not the plant. This may make little difference in *praxis*; it must greatly assist accurate knowledge. And knowledge is power.

A. E. BURKE.

Man, which all ages of revolving time,
Lives in every varying clime,
On every land of every land the King,
Whom heaven over all the world has
Placed the spot of earth supremely blest,
A chosen, favored spot, that all the rest
Of nature's works should honor as the spot
Where God himself does lodge his throne,
And longest shadows stretch.

HORSES.

Ringbone and Spavin.

Since olden times the term "ringbone" has been used to indicate an enlargement around the coronary joint. This enlargement is hard, being a growth of the bone, and in many cases forms a complete ring, hence the name. A ringbone has a tendency to continue growing, and in rare cases attains the size of a man's head. Any conditions which favor sprains, such as fast driving over hard or uneven roads, unequal paring of the hoof, thus causing the weight to be unequally distributed in the joints, and severe labor in early life, are causes. In addition to these may be mentioned blows, bruises, or any injuries to tendons, ligaments or joints. There is no doubt that colts inherit a predisposition to ringbone.

Just as soon as the covering of the bone is bruised, a liquid is poured out in the region of the injury. This inflammatory liquid hardens, and forms the uneven growth known as ringbone. If the covering of the bone continues to be inflamed, more growth is formed. Before the ringbone has become chronic the disease passes unnoticed. If the abnormal growth of bone is between the bones of a joint, or if it tends to injure ligaments or tendons when they are moved, a ringbone is very painful. On the other hand, a ringbone may be very large and not cause very much annoyance, from the fact that it may not interfere with the free movement of ligaments or tendons, or encroach on the gliding surface of a joint. In addition to the growth that can readily be seen, a horse affected with ringbone is very lame when first taken out of the stable, but, after moving for a few hundred yards, gradually "works out" of the lameness, as horsemen call it, but when allowed to stand and become cool, and is then moved again, the lameness reappears.

Preventive treatment consists in keeping horses' feet trimmed properly, not overworking colts while young, careful driving on hard and uneven roads, and avoiding all injuries that are liable to strain tendons, ligaments and joints of the limbs. Even after a ringbone has developed, it may be cured by proper treatment of the feet, and applying a fly-blister. The fly-blister is prepared by mixing thoroughly one ounce of pulverized cantharides, one ounce of bismuth of mercury, and eight ounces of lard. The hair is clipped over the ringbone and the blister applied with considerable rubbing. The horse's head should be tied, so as to prevent his biting the part blistered. A second application of the blister is to be used about a month after the first. If blistering fails to cure a ringbone, point-firing may be resorted to. It is necessary to fire rather deeply to secure good results, care being taken not to fire into a joint. After firing, a fly-blister should be rubbed into the holes where the hot iron has been used.

When all of these methods have failed, and the animal is not worth keeping for a long and uncertain treatment, a skilled veterinarian should be employed to perform an operation for the removal of the nerves supplying the limb in the region of the ringbone. After a horse has been operated on, great care should be taken of his feet, from the fact that there is no feeling in the foot operated on, and serious results may come from stepping on nails, etc., and carrying them many days before the driver would notice foreign bodies.

The disease known in common language as bone spavin is an enlargement of the hock joint, similar to ringbone about the coronary joint. It may affect the hock joint in such a way as to cement the small joints together, not causing lameness and apparently no blemish, but the free movement of the limb is impaired. In addition to the causes given for ringbone, may be mentioned sprains caused by jumping, galloping or trotting animals faster than they are accustomed to; also straining by starting a heavy load, slipping on an icy surface, or sliding on a bad pavement.

If the patient be examined before any bone growth has developed, inflammation will be detected on the inside of the hock joint, at the junction of the cannon bone and the joint. While in the stable the horse prefers to rest the diseased leg by setting the heel on the toe of the opposite foot, with the hock joint flexed. In travelling, the patient is very lame when first taken out of the stable, but after travelling for a short distance, goes sound. The diseased leg is not lifted clear of the ground, but nicks the toe in the middle of the stride, which is very noticeable on a pavement. Like a ringbone, a spavined horse becomes very lame after being allowed to stand for even a very short time, then moved again. The treatment for spavin is much the same as for ringbone—C. L. Barnes, in Farmers' Gazette.