

me to see here to-day this assemblage of so many members of the veterinary profession from all parts of the United States and Canada, as well also as the medical men and others who are interested in the promotion of the health of our animals, animals so closely allied with human life.

Referring to the close alliance and association between human beings and domestic animals, and recalling the statement made by the great German scientist, Dr. Koch, something about two years ago, the question of tuberculosis in our domestic animals would appear not to have the same significance as affecting human beings as was formerly generally supposed. The relation or similarity as between human and bovine tuberculosis and the communicability from the one to the other is, however, one for scientific and professional men to thresh out. I will not presume to express any opinion on

THIS COMPLEX QUESTION.

I will be permitted, however, I am sure, to say that for myself I regard the safest course, while doubt still remains, is to allow the doubt to rest on the side of the greater security and to continue to assume that there is danger until it is uncontestedly proven that there is no danger of human beings contracting tuberculosis in various ways from domestic animals so diseased. But even if, finally, it is proven that the disease is not communicable from animals to men, there is no reason why the efforts being made for the eradication of the disease in our animals should be stayed for a moment. In our best interests, having regard to the animals only, it is most highly desirable that the disease should be eradicated. It is to be found to the greatest extent in our pure-bred herds, the source from whence sires are obtained for the general improvement of the herds the world over, and unless our pure-bred herds are cleansed of the disease, the process of spreading it will go on until it pervades the entire live-stock interests of each country where it is not eradicated, and the extent to which it will be injurious to the live stock of each country will be measured by surrounding conditions, and the loss of animals will be measured largely by the general sanitary or unsanitary and other conditions prevailing, so that, regardless of the matter of the danger to human life, it is highly in the best interests of the stockman that his herds and flocks should be free of disease of every nature, and the question arises: Can tuberculosis, one of the most constant diseases present in our animals, be eradicated? My answer is "YES," most emphatically. It can be done, and once eradicated, by reasonable care, healthy herds and flocks in this respect can be maintained, and the system we recommend is

THE BANG SYSTEM.

which has been rigidly practiced on this farm since the year 1898. In the spring of that year, intending to ship some young bulls to Wisconsin, we asked our Dominion Veterinary authorities to test them, and to our surprise and regret it was found that all responded to the tuberculin test. This was our first knowledge of the existence of the disease in our herd. For a few days we were undecided what course to pursue, but on consultation with the Hon. Sydney Fisher, our Minister of Agriculture, who recommended testing the whole herd, and who further urged upon me the advisability of adopting the Bang System for the eradication of the disease, and on our consenting, he at once placed us in communication with Dr. McEachern, the then Chief Dominion Veterinary Inspector, who immediately had the entire herd tested, and gave us full information and instructions as to the Bang System. The greater part of the herd responded to the test, and a separation was at once made of the healthy from the diseased animals. The decision was to weed out and kill all but animals of desirable pedigree and individuality, and the slaughtering took place under veterinary inspection. Of the fifty to sixty animals slaughtered, only three proved unfit for human food, but in all traces of the disease, in a more or less degree, were found, but, in most cases, very trifling traces of it. The stables formerly occupied by the herd were most thoroughly disinfected for the reception of the healthy animals, and entirely new premises were erected for the diseased animals we retained in our herd, and in like manner the diseased animals have been kept in separate and distinct pastures from the healthy ones since that time and have never mingled in any way.

SUCKLING BETTER THAN STERILIZING.

In the inception of our experiments, we sterilized the milk from the diseased cows, as directed by Dr. McEachern, and fed the calves with the pail. This plan we found successful in so far as raising sound calves was concerned, but it is a somewhat troublesome one, and, further, we lost a few calves, as we believed, from the fact that they were so fed at once without first taking the mothers' milk in the natural way. This plan, while successful, we have discarded entirely, and we have adopted the plan of raising the calves on nurse cows, allowing the calf always to suck the mother once before making the change. This plan we found most successful in every particular, and in the practice of either of these plans described, we can vouch for it from our experience that healthy calves can be most successfully raised from diseased dams or diseased sires and dams, and if all is carefully carried out, the percentage of diseased calves raised will be very small indeed, so small that it need hardly be considered. In our experiments, everything has been entirely satisfactory to us, and we strongly recommend the practice to our brother breeders, many of whom,

we are sorry to say, have, up to this time, resisted the advice in this respect of our veterinary authorities, both in the United States and Canada, and the subject has been a most controversial one. We can only say, for our part, that after a very considerable experience we are firm believers in the Bang System, and we are believers in the tuberculin test as the only present means, so far as we are aware, of ascertaining the existence of the disease. The only failure, so far as we have knowledge of, is in cases where the disease is in such an advanced stage that reaction does not take place. In a well-conducted herd, such cases will be few and far between. Further, we have experienced none of the unfavorable results that are put up by those opposing the test. In no case have we known, in the many hundreds of animals we have had tested, of any injury to any animal, neither have we experienced any trouble in abortion in cows tested, and we have had them tested at all stages of pregnancy.

FAITH IN THE TEST.

We are firm believers in the tuberculin test, as we have described, and we are also firm believers in the Bang System, and until these are improved upon—if they can be improved upon—we shall practice both in the management of our herd. No matter what the practice and requirements of our Government authorities may be, we, on our part, shall not relax our efforts in the direction I have stated until all our herds are absolutely free from the disease, and until better means are known, we shall always use the tuberculin test to ascertain the conditions of the health of our herds.

Having given our practice on this farm, I may now be permitted, perhaps, to make a few general remarks.



PRINCE OF BENTON, IMP.

Aberdeen-Angus bull. First in his class and winner of silver medal at Winnipeg Industrial, 1903. Bred by Clement Stephenson, Newcastle-on-Tyne, England. (See Gossip, page 935.)

OWNED BY M'GREGOR & MARTIN, ROUNTHWAITE, MAN.

The discovery of the extent of the disease in the herds of various countries a few years ago caused such a commotion that most rigid enactments were passed by several legislative bodies; extreme conditions were imposed, doing, unfortunately, in our opinion, a great deal of harm, arousing the antagonism of breeders and stockmen. Much of this legislation has been rescinded, and more reasonable measures are now adopted as a result of a greater knowledge of the subject. Mistakes, if there have been mistakes, we not wilful, but well intended, on the part of the authorities of each country, but we submit that if the disease is to be eradicated from any country it must be through a campaign of education and united effort on the part of the breeders of the country. The exclusion of importation will never help to eradicate the disease just so long as the disease exists in the herds of the importing countries, and our veterinary authorities will do well to show the simplicity with which the disease may be eradicated, rather than impose unnecessary conditions.

RATIONAL PRECAUTIONS.

Apart from the test and the application of the Bang System, cleanly and sanitary conditions, good ventilation and plenty of sunlight, and as much outdoor life as possible, are the requisites. To the beginner in stock-breeding, we would advise great care in seeing to it that he begins his operations with animals free from disease and that he attends well to his ventilation and sanitary conditions, and if at any time he buys to strengthen his herd to see to it to a certainty that he does not buy disease with the animal.

To the breeder, small or large, who discovers the disease to exist generally in his herd, if the animals are of inferior pedigree and individuality, we recommend turning off to a butcher to be killed under veterinary inspection, all animals that respond to the test, and begin anew, but in no case would we recommend the slaughtering of valuable animals where they are still in good breeding form and vigorous appearance, but we advise the system of separation we have described in this paper. The same full measure of separation may not always be possible, but the best that can be done should be done in each instance, and under no circumstances neglect the matters of ventilation, good sanitary conditions, plenty of sunlight, and as much open-air life as possible. I am fully convinced of the reasonable possibility of the eradication of tuberculosis from our herds and of the maintenance of sound herds, and my earnest hope is that our breeders may at no distant day be so educated in the direction I have endeavored to describe that they will put into practice the only present known means of ridding their herds of a disease which in the past has been so destructive in its consequences.

DR. SALMON SPEAKS.

Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, Washington, D.C., followed with his paper on "Bovine and Human Tuberculosis." In this paper he reviewed the evolution of opinion regarding the relation of human, bovine and avian tuberculosis, and gave the results of investigations that had been conducted under his supervision at Washington to controvert Koch's theory that human and bovine tuberculosis are

not transmissible. Two sets of experiments were conducted by Dr. Salmon, and they resulted unanimously in support of his position. He gave instances where two cultures were isolated from generalized tuberculosis, and were found to be identical with the bovine bacillus. Calves developed generalized tuberculosis when inoculated with these human cultures. Goats and rabbits also contracted the disease when inoculated with cultures of human bacilli. Speaking of the transmission of the disease from beast to man, Dr. Salmon said that recent experiments had proven that the tubercle bacilli can penetrate the walls of the thorax and gain entrance to the lungs; they can penetrate the intestine without causing any local lesion, and pass through the chyle vessels to the blood vessels. It is, therefore, not necessary that tu-

berculosis should show itself in primary lesions on the intestines before it is possible that it was contracted from bovine sources. A difficulty presents itself when an attempt is made to prove that the patient has not contracted the disease from the thousand and one ways that are daily open. Dr. Salmon concluded by asserting his belief that the danger to human beings from bovine tuberculosis could no longer be doubted; the proportion of human beings who contract the disease from the lower animals having been sufficiently proven to make the prevention of inoculation a matter of the greatest importance. Many prominent veterinarians present expressed themselves as satisfied with the results of Dr. Salmon's experiments, and concurred with him in their opinions.

THE MINISTER OF AGRICULTURE'S ADDRESS.

On Thursday the Hon. Sydney A. Fisher read a paper before the convention on "The Importance of Veterinary Science to Agriculture." He expressed himself as of the opinion that in the past veterinarians had not sufficiently asserted themselves in the realm of agriculture. This had probably largely been due to lack of organization, and now since that was overcome and they were working together for the improvement of the profession, their influence should be more strongly felt. He gave Canada's annual exports of live-stock products as \$68,000,000, compared with