

Veterinary.

Abortion in Cows.

The season is at hand when attention should be paid to this matter. You should bear in mind the causes to which abortion is usually attributed before any remedial measures are taken. As many as possible of the causes should be removed, even when there are no signs of abortion. The following are the most usual causes: A faulty construction or a diseased condition of the genital organs; knocks or blows against the belly; bloating; constipation or diarrhoea, or other conditions which produce straining; bad food, especially such as irritates or contracts the womb; the presence of sharp tasting plants in the food, or the effects of irritating medicines; feeding bulky foods which overload the stomach and press the womb backwards; feeding innutritious foods, deficient in certain constituents, by reason of which the calf dies; through contagion, as when a cow which aborts makes discharges from the genitals into the gutter, where they stagnate and produce minute plants which, on being set free, find their way into the genital ducts of other cows and produce abortion. By removing as many as possible of these causes, little danger need be apprehended.

There seems also to be other causes which baffle the ingenuity of the best veterinarians, and the question is receiving close attention in England.

Ergot in the grasses has been considered as a leading cause of abortion, but experiments have proved that the effects of this cause have been exaggerated. It is now not supposed that the quantity of ergot usually found in the English grasses is sufficient to produce abortion. It will be remembered that it was ergot in the grass, or rather in the hay, that caused the foot and mouth scare in the United States a few years ago, so that our farmers should look out for ergot.

The French Department of Agriculture are also examining the question, under the commission of M. Nocard. The Farmer's Gazette thus sums up his report to the Department:

Epizootic abortion, sums up M. Nocard, appears to be a microbial disease of the fetus and its envelopes, and not a malady of the mother.

M. Nocard, however, hesitates to affirm absolutely that this is so. He awaits the completion of experiments still in progress before pronouncing a more definite opinion on the subject, which he reserves for a second report. The immediate aim of these experiments is to reproduce the disease in healthy cows by inoculating them with microbes obtained from the aborted animals, the animal liquor, &c., and of the affected animals.

The experimenter believes he has already acquired certain knowledge which is sufficient to suggest various practical preventive measures, and which he, therefore, hastens to publish.

The contagion, he thinks, is communicated through the genital organs of the dam, which, however, seems to be none the worse for the presence, sometimes prolonged, of the microbes. While believing that the contagion is imparted by this channel, he has not yet conducted sufficient experiments to prove that the microbes may not pass into the organism of the mother, through the digestive and respiratory organs, the action of which they may be able to resist, and thence pass to the fetus.

Should M. Nocard's inference, however, be correct—namely, the communication of the contagion through the genital organs—it would

be comparatively easy to take effectual prophylactic measures.

1. The ground of the cow-house should be scraped every week, thoroughly cleansed, and watered with a solution of sulphate of copper (blue vitriol) in the proportion of 40 grammes to a litre.

2. Once a week the following mixture should be vigorously injected into the vagina of the pregnant animals with a horse syringe. The liquid should be thus composed:—Distilled water, 20 litres (if distilled water cannot be procured, rain water may be substituted); glycerine, 100 grammes; alcohol, 36 degrees strength; bichloride of mercury, 10 grammes. Dissolve the bichloride of mercury in the alcohol and glycerine. Mix this solution with the water, and stir well. This mixture (the bichloride, is, as we need scarcely warn our readers, a violent poison) should be kept in a wooden barrel, vase, or bucket, out of reach of children and animals.

3. Every morning the vulva, the anus, and the under side of the tail of all the pregnant animals should be carefully washed with a sponge.

4. Should an animal abort, she should be delivered immediately by hand aid, the fetus and afterbirth should be immediately destroyed by fire or boiling water, and the uterine cavity should be washed out with eight or ten litres of the above liquid slightly warmed, and introduced through a caoutchouc tube inserted by the hand.

These delicate and difficult manipulations should, of course, be performed by a veterinary surgeon.

M. Nocard's experiments have necessarily been on a restricted scale, and will need more general trial for their complete corroboration. Nevertheless, he believes the measures he has indicated are sufficient to banish the disease, and they have, in fact, done so hitherto where they have, upon his advice, been put in practice.

Pleuro-Pneumonia in Britain.

The rapid spread of this disease in Britain and the United States makes the subject one of vital interest to our farmers' and stockmen. The insidious nature of the disease is now becoming better understood, which gives occasion for greater precaution. Prof. Walley, in an address delivered before the Royal Veterinary College, Edinburgh, makes the following allusion to the disease:

For a century, or thereabouts, prior to 1842, pleuro-pneumonia existed in this country only in name, and it is now some 33 years since, on returning to my home after a prolonged absence, I first became practically acquainted with the malady; one of the first sights which met my gaze being nine valuable cows lying dead or dying in an outbuilding attached to the farm. It was a sight which at the time impressed me very powerfully—it was one I have witnessed, to a greater or less extent, many a time since in the pastures and farm steadings of Shropshire, Cheshire and Staffordshire, in the dairies of Lancashire, in the byres of Edinburgh and Leith, and in many other places. I have seen herd after herd, stock after stock, swept away—in some cases several times over—by this dire and hitherto uncontrolled malady. During the last thirty years fitful efforts have from time to time been made to arrest its course, and at this day we are still witnessing the application of every inadequate measure for its prevention and suppression. How long this is to go on, I know not; but of one thing I am convinced, and that is that until the Privy Council of this country determines upon the prosecution of more vigorous measures, and until the voice of the stock-raising community is heard demanding the initiation of such measures, pleuro-pneumonia will still continue the insidious foe and the decimating scourge of the bovine race in these islands. I have called the disease an insidious one—the term is no libel on its character. It is the most insidious, the most treacherous, and the most intractable of all the zymotic class of maladies.

In my early days there was neither let nor hindrance to the empirical application of remedies to the sick, or to the indiscriminate disposal of the dead or living members of contaminated herds; consequently, many animals that were wrongfully stated to have recovered from the malady and thousands of animals bearing the infection in their systems were scattered broadcast, and acted the part of firebrands throughout the length and breadth of the land. In my view, the question of the eradication of pleuro-pneumonia, any more than other diseases of the same class, is not a local question at all, nor is it limited to the discussion of any measures of local application. It is—and I have frequently during the last few years pointed this out—it is a national question. It is one which not only affects the agricultural community and the veterinary profession, but is of immense importance to the general public and to the state.

If we allow a death-dealing malady like pleuro-pneumonia to linger within our borders, and to stealthily creep among and infect our best herds, what can we expect but that one of our greatest sources of insular wealth will suffer a ruinous depreciation? It is all very well to boast that we have the best cattle in the world; but of what value will the best be to us when our foreign and colonial customers close their gates against us, and block up the only profitable outlets for our live produce? Can we blame them? Certainly not. The only wonder to my mind is that we have escaped so long.

The opposition to the adoption of vigorous suppressive measures has come mainly from the cattle interest of the country, and has been based largely on the assumed value of our pedigree herds; but of what value is pedigree if the cow or the bull bears in its system the seeds of a malady which is no respecter of pedigrees, of symmetry, or of form?

I am of opinion that this disease will never be got rid of except by the summary process of slaughtering, coupled with strict regulations in reference to the movements of animals, and thorough disinfection. The Netherlands Government gave every known method of suppression a trial, and as we in this country had to do with sheep-pox a quarter of a century ago (after inoculation had failed), and with rinderpest, they had to resort to the finish to the radical method above mentioned.

In concluding this part of my address, I would ask to be allowed to say that, in my opinion, the regulations for dealing with contagious diseases in this country are very deficient in several respects. Firstly, in not being carried out by one central body; secondly, in the matter of prosecutions. Certain penalties attach to the breaking of the law, but an offender has only to plead ignorance, and to back up his plea by the corroborative evidence of his own hirelings or by that of his friends, to escape the punishment he deserves. In many instances the plea of ignorance is undoubtedly a just one, especially in the case of pleuro-pneumonia; and I think in order to ensure that punishment shall be meted to those who deserve it, the Privy Council should establish a universal system of licensing or registering the owner of animals, and should direct local authorities to supply all licensed persons with a brief and plain printed description of the symptoms of the contagious diseases peculiar to the animals so licensed.

If this were done there could be no plea of ignorance put in as a justification of neglecting to report the existence of contagious disease. Thirdly, I am of opinion that full power should be given to veterinary inspectors to slaughter suspected animals for the purpose of gaining satisfactory evidence as to the nature of any malady of a doubtful character under which they may be suffering. Fourthly, I regret to see that in the last Animals Order (1886) issued, the old mistake of sparing animals which have been exposed in fair or market with diseased animals is perpetuated. Such a regulation, especially in connection with foot-and-mouth disease and swine fever, is, in my view, a grave error. Fifthly, the permissive nature of many regulations renders them practically