

Studies in Contagious Abortion.—No. 1

Almost All Abortions are Contagious. Is the Disease Present in all Herds?

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BREEDERS and dairymen in seeking advice regarding abortion frequently inquire whether in a given herd it is contagious, or whether it may be due to accident or to the food, such as ensilage. In all cases recorded, so far as we know, where the cow has been killed immediately after aborting and post-mortem examination made, the abortion was clearly due to contagion. No case of accident or food poisoning in cattle, so far as we have seen recorded, has been proved by post-mortem examination. Bad food and bad feeding may lower the resistance of the animal and render abortion from contagion more probable. Under these conditions we believe it prudent to regard all abortions in cattle, whether occurring singly or in groups, as contagious, unless otherwise proved.

Abortion is most often seen from the fifth to the seventh month. Occurring earlier it often escapes observation and is classed as sterility. Occurring after the seventh month, it is frequently classed as premature birth.

So far as investigations by post-mortem examinations have led, it appears that abortion in cows is at least practically if not technically always accompanied by the presence of the "exudate of contagious abortion," with abortion bacilli in the space between the uterus and the afterbirth.

The Prevalence of the Germ

The organism of contagious abortion has also been found in the milk, and we believe it may exist in the digestive tract, in the vagina, and elsewhere. So far as has been shown by post-mortem examination, the organism does not cause abortion when located elsewhere than in the uterus. Even the infection in the uterus does not always cause abortion. If very severe before breeding, it may prevent impregnation—may cause sterility. If less severe, it may cause abortion at any time during pregnancy, or the calf may be expelled alive and more or less diseased at a premature time. With extensive infection in the uterus, the cow may carry her calf full time and have retained afterbirth. Accordingly, abortion, premature birth, retained afterbirth, and sterility are regarded by us as largely identical, generally due to a common cause, the infection of contagious abortion. You must distinguish between an abortion (the death and expulsion of immature young) due to contagious abortion. The infection, the organism of abortion, may exist in the animal and may cause abortion, premature birth, retained afterbirth or sterility, or may cause no recognizable disease of loss, but its presence may still act as a menace, and later become more active and may reach a more vulnerable spot (the cavity of the uterus) and then cause serious harm.

The prevalence of the infection of contagious abortion is variously estimated according to the symptoms accepted by the individual as indicative of its presence. If measured by observed actual abortions, large herds of more than 25 animals are but rarely free if the observations are made to include three or four years. If we add to the abortions as equal evidences of the presence of the infection the premature births, retained after-

births, and a large proportion of the cases of sterility, nearly all herds of as many as five cows exhibit annual proof of the presence of contagion.

The variations in intensity lead to the belief in one case that the infection has not been present or has died out or been curried in a herd. In other cases a sudden increase in intensity leads the owner to believe it has been introduced from another herd. Probably it is at times introduced in this sense that a more virulent strain of the same species of organism has been brought in, which then causes greater loss.

The Control of the Infection

The control of abortion must be based upon our knowledge or belief regarding the origin of the infection and the manner by which it reaches the uterus. Thus far the multiplication of the organism has been recognized as occurring naturally, at least chiefly, in the uterus and that this is the essential source of supply for the infection. The new-born calf may, and according to the agglutination test apparently does, sometimes get the infection in its mother's milk. Possibly in some cases these bacilli in the milk of the cow play an important part in the white scours of calves. At a later date the infection, escaping from the uterus, may be transferred to the vulva of a neighboring cow, and thence to the uterus. The infection may be transferred by the bull.

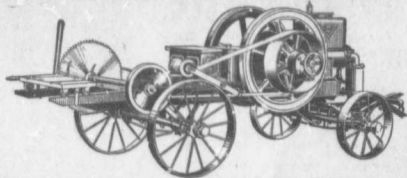
As stated above, so far as we know, the infection must have entered the uterus in order to cause abortion, premature birth, or retained placenta, and must have invaded the genital tract to cause sterility. In the control of this it is of primary importance to disinfect as far as possible the highly infected vagina and uterus, partly in order to restore the breeding powers of the individual and partly to minimize the amount of infectious material, which may be discharged and endanger other cattle. At about 30 days after impregnation, the cervical canal (the mouth of the womb) becomes closed by a firm seal, leaving a sealed cavity between uterus and chorion (afterbirth). We believe that the infection from the uterine cavity prior to impregnation and the formation of this seal. Most people believe that the infection may also enter the uterus from the vagina through the cervical canal after the uterine seal has formed, or from the digestive tract through the blood stream and the walls of the uterus.

Condition of Root Crops

THE condition of root crops at September 30, measured against a standard of 100 as representing a full crop, for all Canada 73 for potatoes, 85 for turnips, 87 for mangolds, carrots and sugar beets, 83 for fodder corn, and 88 for alfalfa. These figures are below those of September 30 last year for potatoes, but are about equal in the case of other crops. Owing to the heavy rains, the potato crop this year will apparently turn out to be poor, especially as compared with last year's splendid showing. In New Brunswick and Nova Scotia the condition of potatoes is only 68 and 69 and in Ontario it is as low as 54. —Census and Statistics Office, Ottawa.

The Leeds County Plowmen's Association will hold its annual plowing match on Tuesday, November 2nd.

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