

ANIMAL HUSBANDRY.

TEMPORARY STERILITY OF DAIRY COWS.*

THE condition generally known as temporary sterility of dairy cows is a cause of considerable loss and trouble to farmers in New Zealand and in all other dairying countries. In females of all types of animals, including cattle, there are always some who, through individual idiosyncrasy, will not breed regularly or not breed at all. This temporary form occurs so frequently that it raises a perplexing problem. Cows exhibiting it will almost invariably get in calf at times varying usually from two to four months from the time of the first unsuccessful service; hence there can be no permanent defect in the generative organs of the animals, though there is evidently some cause or causes operating which prevent conception taking place at the time of the first or second service.

Intensive research aimed at determining how the trouble comes about and how it can best be combated is in progress in this country, in America, Britain, Denmark, and other countries on the Continent of Europe. Meanwhile, all the knowledge we have available must be applied to the problem of reducing the number of cases of temporary sterility to as low a proportion as possible.

MANAGEMENT AND TREATMENT OF THE BULL.

In examining the position the degree to which the bull may be responsible for cows failing to hold must be fully considered, and there is good reason for believing that the adoption of the best methods of management of the bull will be of definite value. Points in such management are as follows:—

(1) Never let the bull run with the herd, but keep him apart in an enclosure where adequate shelter is provided. Take each cow to him for service only when she is ready. Let her have two services, and then take her back to the paddock. This enables the bull to conserve his energy, instead of wasting it in unnecessary services and perhaps (especially in the case of a very young bull) rendering himself temporarily useless from time to time.

(2) Do not allow the bull to be fat and "soft" when the time for service arrives. He needs to be in really good condition, but this can be overdone at the expense of the sustained energy and vitality necessary for the effective carrying out of his season's work.

(3) If a bull aged eighteen months or thereabouts is used, do not overwork him giving him too many cows to serve.

(4) Examine the bull's organ carefully before the season commences, in order to be satisfied that it is perfectly clean and healthy. Also examine it at frequent intervals afterwards. If it is not healthy, treatment must be applied at once. The form of treatment depends on the nature of the trouble affecting it, and, wherever possible, the advice of a Veterinarian or Stock Inspector should be sought. If this is not immediately available it is a good practice meanwhile to syringe into the sheath twice daily a mild solution of ordinary table salt. This should be prepared as follows:

* Bulletin No. 144 of the New Zealand Department of Agriculture, April, 1929. In view of the wide-spread sterility of cows on estates in Ceylon it is hoped that this article will be of interest.

Boil one quart of water to sterilize it, and add $\frac{1}{4}$ oz. salt. Allow the fluid to cool to blood-heat, and then inject it gently into the sheath, the opening of the sheath being at the same time held as closely as possible round the injection tube so that the fluid does not escape too quickly. Skilled advice should be obtained on the spot as soon as possible, so that, if necessary, more specialized treatment, according to the exact nature of the affection, may be applied. But the salt solution is a good standby for the farmer until he can secure this advice.

(5) A bull with any diseased condition of his penis should never be allowed contact with any cow.

MANAGEMENT AND TREATMENT OF THE COW.

The modern dairy cow, especially if milking heavily over a full season, is subjected to a steady call upon her system which is far in excess of what would be the case were she living and rearing her calf under natural conditions. There is an intimate association between the functions of milk-production and the functions of procreation. Hence it is not difficult to realize that the dairy cow is liable to fail to respond always in a natural way to the requirements of the farmer as to getting in calf quickly, after she has concluded a season's hard work in milk-production and has commenced another. It is necessary, however, in the interests of the dairy industry to do all that is necessary in the light of our present knowledge to get cows to hold at the time required, and the following points should therefore be carefully observed:—

(1) Examine the passage of each cow as carefully as circumstances permit, in order to determine whether there is any indication of an inflammatory condition or whether any discharge is present. If either is the case, do not put the cow to the bull until the trouble has ceased, and if possible get skilled advice on the spot regarding the treatment necessary to bring about recovery. Pending this, the passage should be gently washed out once or twice daily either with the salt solution recommended for the treatment of the bull or with a very weak solution of permanganate of potash. A cow with any discharge from the passage should be isolated from the rest of the herd until the discharge has completely ceased. This is an important matter of general sanitary precaution. Vaginitis (an inflamed condition of the membranes of the vagina) is a disease frequently met with in this country, and has often been regarded as the chief cause of cows failing to hold to the bull. While such a condition, more especially in acute cases, cannot be ruled out, our investigations have failed to show that this is always the case, and it would appear that vaginitis is only a minor factor in temporary sterility.

(2) At the time when it is desired to put cows to the bull, graze them on paddocks where the feed is fresh and sweet, and free from rankness or roughage. This will assist in maintaining normal conditions of bodily health, and prevent digestive disturbances which may react on the nervous system, and through it upon the generative system.

(3) Any cow that has aborted or has retained the cleansing longer than is normal, or has shown a discharge from the vagina for a time after calving and cleansing, should be at the time washed out once or twice daily with a mild antiseptic solution until the discharge ceases. The other parts should also be washed with the same solution. In addition to this, she should be washed out with the salt solution already described once daily for a week before she is expected to be ready to go to the bull. It is also a good practice to give such a cow—or, for that matter, all cows in good health and condition—two doses of laxative medicine at intervals of four days before service. Epsom salts, 12 oz. dissolved in $1\frac{1}{2}$ pints of warm water or thin gruel, will answer this purpose admirably.

(4) When a cow fails to hold to her first service two courses are open to the farmer. One is to allow her to miss the next period of heat, and try her again when the following period occurs. This often results successfully. The other course is to try her again at the next period, and if this is adopted it will certainly be advisable to give her a dose of laxative medicine two or three days before service, as advised in paragraph (3). Care should be taken to graze her on the best and cleanest pasture available. The practice of washing out the vaginal passage is largely adopted, and, provided mild and suitable liquid solutions are used, no harm is likely to result, and some good may be done in individual cases. The salt solution already mentioned is safe and useful, and the same applies to a very weak solution of potassium permanganate.

GENERAL.

On account of the trouble experienced it has become quite a common practice to let a cow miss a complete season when she has failed to hold to her first service. When this is done she almost invariably holds, when she is later put to the bull. This, however, means a loss, and what is desired is to get as many cows as possible in calf at the proper time. Hence farmers are advised to adopt, as fully as they can, the methods which have been described here.

It may be added that, apart from the exact and extensive research which is being carried out, the Department of Agriculture is this season conducting a number of experiments with foods, soil treatment, and special forms of medicinal treatment. The results of these experiments are not yet available, but they will be made known as soon as the work is completed, and meanwhile progress reports will be published from time to time.