

SUGGESTIONS WITH A VIEW TO THE  
ENCOURAGEMENT OF THE USE OF  
TUBERCULIN FOR STAMPING OUT  
BOVINE TUBERCULOSIS, WITH A  
CONSIDERATION OF SOME OF THE  
DIFFICULTIES TO BE OVERCOME.

BY

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It will, I think, be generally admitted that our imperfect system of meat inspection and the Dairies, Cowsheds, and Milk-shops Order are very slight obstacles to the sale of meat and milk from cattle affected by tuberculosis.

The operations against pleuro-pneumonia showed how common tuberculosis is among cattle, and Professor MacFadyean last year estimated that 20 per cent. of the adult cattle in Great Britain are affected.

Yet how comparatively few carcasses are condemned, or how seldom is an animal stopped from supplying milk on account of tuberculosis!

The human death-rates from tuberculosis in England and in Denmark are much the same, and there is no reason to suppose that bovine tuberculosis is more common there than here.

In Denmark, under the new law for supplying the tuberculin test gratis to all farmers willing to enforce the necessary isolation afterwards, 1,675 herds, comprising 46,495 animals, had, up to last summer, been tested, with the result that 18,399, or 35·4 per cent., were found to be affected. It would, of course, be unfair to assume that 35·4 per cent. of the cattle in Denmark are affected, because, naturally, one would expect those farmers, who had reason to suspect their herds, to be among the first to have the test applied. Nevertheless, these statistics show how extremely common the disease is there; and I know no reason for supposing that it is less common here.

There can be no proper meat inspection till we have public *abattoirs* and compulsory use of them; and the day of public *abattoirs* seems far distant. Nor does there seem to be any immediate prospect of legislation for more stringent control of the milk supply.

It is all very well to adopt the standpoint that the milk or meat from an animal affected in any degree by tuberculosis ought to be condemned; but while we have no machinery for discovering the animals so affected, the mere adoption of this theoretical standpoint is valueless.

The farmer is apt to be a conservative being, and does not take kindly to "scientific fads," such as the contagiousness of tuberculosis or the identity of the disease in man and beast. He thinks that milk is milk, and that a few bacilli, tubercle or otherwise, in it are neither here nor there. Any-

one who wishes to appreciate this should read the discussion following the reading of a very able paper on "Tuberculosis," by Mr. MacNeillage to the Renfrewshire Agricultural Society, reported in the *Scottish Farmer* of November 16th last.

A farmer at present, even if his herd is considerably affected by tuberculosis, will have little difficulty in getting rid of his animals to the butcher before they "pine," and the latter will, as a rule, with our very imperfect meat inspection, be able to sell the meat as first-class meat. In the absence of systematic veterinary inspection, too, the farmer will be able to sell milk from his tuberculous animals till they are ready for the butcher.

There is therefore little inducement for the farmer to begin an active crusade against tuberculosis, especially if the use of tuberculin means that every animal in his herd which reacts has to be destroyed without compensation.

To sum up the situation, bovine tuberculosis is very common, and as very little meat or milk is condemned for that reason, it follows that a large proportion of our beef and milk must come from tuberculous cattle.

It therefore becomes the duty of all sanitarians to do all they can to encourage the stamping out of bovine tuberculosis, and with it, the dangers from milk and meat.

That bovine tuberculosis can be stamped out by the judicious use of tuberculin, is now an established fact.

The tuberculin may be used in one of two ways:—

1. All the reacting animals may be got rid of at once, and all the new purchases subjected to the tuberculin test before being introduced into the herd.

2. Bang's plan may be adopted, and only the obviously tuberculous animals got rid of, the apparently healthy reacting animals being retained and isolated from the non-reacting animals. In this case the retained reacting animals are gradually got rid of, the calves being isolated from their mothers immediately after birth.

In order that either of these plans may be carried out, it seems necessary that uniformity of action on the part of medical officers of health should be agreed upon as regards the condemnation of carcasses of animals affected in some degree by tuberculosis.

Suppose that an enlightened farmer, who wishes to rid his herd of tuberculosis and supply milk from guaranteed animals only, lives in a district presided over by a medical officer of health who is an advocate of the "total seizure."

Then this farmer will have all his cattle which react to tuberculin destroyed without compensation, for the benefit of the public health and to the detriment of his own pocket.

On the other hand, an unenlightened farmer in the same district will continue to sell milk from

tuberculous animals, and get rid of these animals to the butcher before they "pine," with, perhaps, a very occasional condemnation, to the benefit of his pocket and to the detriment of the public health.

Is it reasonable to expect such philanthropy on the part of the enlightened farmer?

Whereas, if all medical officers of health acted on the lines suggested by the Royal Commission, and passed carcases of animals slightly affected, when cut up under supervision, the affected parts being removed and destroyed, the farmer would be able to get rid of his reacting animals with comparatively little expense, and would then reap the benefit of having a herd free from tuberculosis.

If we get rid of the difficulty of the great loss to the farmer by the condemnation of all his reacting animals, there still remains the difficulty of buying fresh stock guaranteed free from tuberculosis.

Of course, if an apparently healthy animal is for sale, and, on being tested, it is found to react to tuberculin, its value is diminished. Again, in order that an animal may undergo a fair test, it must remain under normal conditions of keeping for a day or two previously.

At present there are two ways in which a farmer can replenish his stock with guaranteed animals.

(1.) He can say to the seller: "I will take these animals for a week on trial." During that week he has them tested with tuberculin. If they react, he returns them. If they do not, he keeps them. If they are returned, the would-be seller is not supposed to know that the reason of their return is that they have reacted to tuberculin.

(2.) He may buy cows just before calving, isolate the calves when born, test the mothers and get rid of them, if they react.

In either of these cases the result of the tuberculin test, if it is unfavourable, will be probably kept secret, if the publication of the result means the condemnation of the animal without compensation.

Another difficulty is that a certain proportion of animals which have reacted to tuberculin, do not react when the test is repeated after a varying interval, although they are not cured. For example, Bang found that about 20 per cent. of the tuberculous section of the farm at Thurebylille failed to react on being tested after the interval of a year from the first testing, and he proved by post-mortem examination that all of these animals, at any rate, were not cured. Thus animals, which are really tuberculous, might be sold guaranteed against the test. To obviate this difficulty, it would be necessary to make it compulsory that all reacting animals should be marked in a particular way, or else to forbid the sale of any animals which had once reacted, except for slaughter. Such marked animals would, of course, have to be carefully examined and cut up under supervision.

As regards the encouragement of the use of tuberculin, it seems to me that much could be done by sanitary authorities framing regulations, and publishing the lists of the farmers, who complied with these regulations, as supplying "milk under control." First and foremost among the regulations would be that the whole herd should be guaranteed free from tuberculosis by the tuberculin test, every freshly bought animal being subjected to the same test.

Other regulations as to veterinary inspection, and for the purpose of ensuring suitable feeding, cleanliness during milking, cooling of the milk, etc., etc., could be added.

Farmers complying with these regulations would thus get a free advertisement, and if at the same time the public were warned against the dangers from milk, it would become almost necessary for all farmers to conform to the regulations to prevent loss of custom.

Another advantage of this system would be that farms situated outside the district which they supplied could voluntarily come under this system of control.

In the *Liverpool Daily Post* of January 7th last, there appeared a long leading article giving publicity to the fact that Messrs. Walley, Tilstone Bank, Tarporley, whose Liverpool sale shop is in Bold Street, supply milk from guaranteed animals only, and in a former issue of the same paper there was a letter from the chairman of the Crewe Health Committee, congratulating Liverpool on being the first English town in which a large dairy had made the drastic departure of guaranteeing its milk to be free from tubercle germs by the use of the tuberculin test.

In the foregoing remarks I have endeavoured to show the desirability there is—

1. For the encouragement of farmers who supply milk from guaranteed animals only, and who conform to regulations for "milk under control";
2. For legislation as to the use of the tuberculin test to enforce the marking in a particular way of all animals which react; and
3. For uniformity of action on the part of medical officers of health, with reference to the treatment of the carcases of reacting animals, on the lines suggested by the Royal Commission on Tuberculosis.

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COMPULSORY VACCINATION IN GERMANY.—The *Reichstag* on March 12th discussed a motion brought forward by Herr Foerster, Social Democrat, for the abolition of compulsory vaccination. Dr. von Boetticher, Secretary of State, said that the Federal Council had, by an overwhelming majority, expressed itself in favour of maintaining the vaccination law. The motion was then rejected.