

are, from a practical viewpoint, singularly confusing, inconclusive, and discouraging. The immunity acquired under the most favourable conditions appears to be of short duration, and any advantage which may be gained, is, to my thinking, more than offset by the danger of spreading the disease.

Where cultures of the human type are used the risks appear to be, if possible, even more serious. Weber and Tirze working under the direction of the German Imperial Health Office, report, according to Theobald Smith, that the udder of a cow vaccinated with a human culture, shed human bacilli into the milk for a period of fifteen months.

Let us make haste slowly in work of this kind and be sure of our ground before we issue any more of these definite pronouncements which make nasty swallowing later on.

I have now briefly and inadequately placed before this Congress my views regarding the various methods recommended by scientists for the control of bovine tuberculosis. While these views may to some appear pessimistic, they are at least honest and have been carefully considered with due regard to the responsibility which the veterinary sanitarian, entrusted with large interests, owes to humanity at large as well as to those interests. Dogmatize as we may, we are still groping, and in this as in other matters of a like nature, those who have delved the deepest are the least sure of their ground.

In the meantime, while we are awaiting, as I fear we will, for some time yet have to await, the discovery of a certain and satisfactory scientific method of dealing with bovine tuberculosis, let us, as practical men, carry on an energetic campaign of education among cattle owners and the general public. Bovine tuberculosis will be stamped out when individual owners realize that it pays much better to keep sound cattle than to lose money and feed in maintaining herds tainted with disease.

In this campaign of education there should first be taken up a question in regard to which veterinarians have hitherto, in most cases, been culpably negligent. If there is one matter to-day in which veterinarians are behind the age, it is that of failing to insist at all times, in season and out of season, on the importance to live stock of thorough and effective stable ventilation. Having before us the object lesson afforded by the medical profession, and the marvellous results which its members are achieving by open air treatment, not only helping, but actually curing advanced cases of tuberculosis, to say nothing of checking the disease, as is now daily done, in its early stages, it is nothing short of disgraceful that we are yearly permitting thousands of valuable animals to become infected owing to the unsanitary conditions under which their owners insist on keeping them.

Of the truth of this contention, which is, perhaps, at first sight, rather sweeping, there is no lack of proof. In northern countries where cattle are generally closely housed, and where a proper system of ventilation is the exception and not the rule, we almost invariably find bovine tuberculosis rampant. In milder climates where animals have free access to fresh air, as for instance among the Hereford cattle in England, it is a rare thing to find a case of that disease. On the ranges tuberculosis is unknown, except where it has been introduced by some pampered stable-bred individual, and even such a one is more likely to recover than to die, provided the malady is not too far advanced and the first winter can be endured.

To put the case plainly, stockmen are breeding tuberculosis a great deal faster through neglect of this important subject of ventilation than it will ever be possible to stamp it out by the promiscuous use of tuberculin and the slaughter of diseased animals.

I may be pardoned if, while on this subject, I refer briefly to an experiment which I have been carrying on for the last three years. A herd of forty-three (43) cattle, (twenty-one (21) being dairy cows) twenty-eight of which had reacted to tuberculin, the remaining fifteen being apparently free from disease, has been kept under open air conditions since the fall of 1905.