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EDITORIAL.

Two Noteworthy Reports.

Literature on the subject of bovine tuberculosis and the tuberculin test continues to abound, but if we read aright the signs of the times it has passed the "boom" or alarmist stage, and is upon the wane. Two of the latest contributions are a bulletin by Prof. H. W. Conn, Ph.D., issued by the Storrs Experiment Station, Connecticut, and a report by Prof. McFadyean, of the Royal Veterinary College of England, published in the "Journal of the Royal Agricultural Society." These documents may fairly be taken to represent the advanced professional view of the situation. Prof. McFadyean's paper is based upon experiments conducted with the test. At the outset he concedes that the test is not infallible, as might be said of most things with which man has to do. The first of the causes why tuberculin may occasionally prove unreliable even in skilled hands is in the nature of the substance itself. He says that tuberculin is not a substance of definite chemical composition and strength. Its efficacy depends upon certain substances of ill-defined chemical composition which are added to the liquid in which the bacilli are cultivated by their own vital activity. Tuberculin is weak or strong according as it is richer or poorer in those substances, and he acknowledges that by using a sufficiently large quantity of tuberculin one may cause the temperature to rise in an animal that is free from tuberculosis, and a rise in temperature may fail to follow, even in a tuberculous subject, from the use of too small a dose or from the tuberculin being weak on account of some error in its manufacture. Still he thinks the risks of miscarriage are inconsiderable if the tuberculin is got from a trustworthy source; and there is a wide margin between the quantity that will excite a reaction in a tuberculous animal and the quantity that will cause a rise of temperature in a healthy one. But the Professor is compelled to state that which to us seems a serious admission, that the temperature of the animal may rise from some cause quite unconnected with the injection of the tuberculin, and the only safeguard is to note the manner of the rise as well as the extent of ascent. A sudden rise followed by a sudden descent is not proof that the animal is tuberculous, but a steady and gradual rise, followed by an equally steady and gradual descent, does afford such proof. The former indicates that the rise is due to some local or accidental disturbance. He also points out that the test is not to be relied upon when used under exciting conditions, as in the market or slaughter house. It follows obviously that providing in the first place reliable tuberculin be secured, then only men of skill who are thoroughly experienced in the application of the test should be permitted to apply it. This fully sustains the position strongly contended for in the FARMER'S ADVOCATE, and indicates that great mischief might be done by allowing every "Tom, Dick and Harry" to apply the test or to permit local authorities, such as boards of health or medical health officers, to condemn cattle to slaughter on the amateur diagnosis of some chance veterinary surgeon. On the whole, Prof. McFadyean's report tends to unsettle faith in tuberculin as a sure test in general veterinary practice or connected with measures for the promotion of public health.

Prof. Conn's report gives the result of a year's special study by the author, of bovine tuberculosis in England, Holland, Denmark, Germany, Switzerland, and Italy. He found the disease much less prevalent in southern than in northern countries, for the reason that in the former the cattle are less confined and roam the greater part of the time in the open air. Here at once is a strong argument for better ventilation, greater cleanliness, and more sunlight in all northern stables—in short, rational methods in cow management. He reports

that tuberculosis is much more general among the cattle of northern Europe than was commonly supposed, and appears to be increasing, particularly in Denmark, which is almost entirely given over to dairying and where about half the cattle are said to be tuberculous. The apparent increase is probably due to the recent use of the tuberculin test and slaughter house examinations, and is probably not as real or serious as it seems. One would naturally suppose that the cattle of the country would present some striking evidences or results of the disorder, but, strange to say, Prof. Conn's bulletin mentions nothing of the kind. On the other hand, we know that Denmark has built up an annual \$30,000,000 butter trade in Britain, practically capturing that market against the world, besides sending in over \$13,500,000 worth of bacon, largely the produce of dairy by-products. Evidently tuberculosis has not seriously impaired the usefulness even of the Danish dairy cow.

Prof. Conn concedes that the passage of tuberculosis from man to animal or from animal to man is not a common method of dissemination; and states further, that while bovine tuberculosis has apparently increased many fold during the past fifty years, human tuberculosis has diminished nearly fifty per cent. This indicates that tuberculosis in cattle is not the menace to human health that has been commonly supposed. Of the tuberculin test Prof. Conn says:

"Nothing has been taught more conclusively as the result of the last five years' study than that there is no necessity, from the standpoint of public health, nor of the health of the herd, that every animal reacting to tuberculin should be slaughtered. Many of these animals have the disease in such an incipient stage that recovery may take place. Many of the animals which have been shown by experiment to be tuberculous are still capable of many years' active, useful service in the dairy, and the slaughtering of all animals reacting from the disease is extremely wasteful and unnecessary."

Where the disease is suspected he recommends the use of the test and the rigid isolation of any reacting animals from the rest of the herd, which would necessitate carefully separated compartments and pasture lots if in summer the animals are to graze. The calves of infected cows are to be reared on boiled milk, and the healthy herd guarded strictly from any infection from without. This all involves a rather serious undertaking for the American dairy farmer and stockman.

Fodder Crops.

The raising and feeding of live stock has become so large and essential a part of the work of Canadian farmers, especially in the older provinces, that they find one of their principal studies to be the cheapest and most economical means of producing and providing not only the necessary winter supply of fodder to keep their animals thriving and doing good work during the months in which they are stabled, but also to supplement the pastures which are liable to fail during the late summer months, owing to protracted drouths which generally fall to the lot of limited districts, if not to large areas. It is only in exceptional years that in most sections of the country pastures remain fresh and sufficient through all the summer months to keep the stock improving, or even to enable them to hold their own, while frequently heavy loss is sustained owing to the falling off in the milk supply in the case of dairy cows, and of flesh in the case of beef cattle. This difficulty has been aggravated in late years by the prevalence of the hornfly, which heavily handicaps cattle stock in the production of flesh and milk, and renders it almost imperative in order to securing good results that the animals be stabled during part of the day in midsummer and fed with fodder of some sort. To meet this contingency to advantage, it is necessary to make provision for the growth of some green crops for soiling purposes,

and this can perhaps in most cases best be done by sowing vetches and mixed grain at different periods, to be cut green and carted to the stables. This will fill the bill until corn is far enough advanced in growth to take its place. Fortunate is the stockman who has a sufficient supply of ensilage to carry his stock through the winter and a reserve fund for the summer months. This is, no doubt, the cheapest and most convenient manner of meeting the situation, because the supply is close to the cattle stables, and can be fed out with little loss of time even in the busiest season.

We are firmly convinced, from experience and observation, that corn and the silo are bound to solve the problem of economical stock-feeding more satisfactorily than any other means can do. There is certainly no other crop of which so great a bulk and weight of wholesome food can be grown upon the same acreage, and we are perhaps safe in saying none more sure to grow and produce a profitable crop in the average of years. Its cultivation leaves the land clean and in good condition for future crops, and it requires no special skill to grow it successfully. From ten to twenty tons per acre of succulent food, together with a good percentage of nearly if not quite ripened grain of high nutritive value, represents a crop which is readily attainable, and which the Canadian farmer and stock-feeder cannot afford to despise or reject. We are thoroughly persuaded that the silo has come to stay, and from an extended observation we are confident that it is growing in favor with those who have had experience with it, and will be more generally adopted by farmers and feeders as the years go by. To those who have no silo, our advice is, sow and cultivate corn on the plan outlined in other columns in this issue, and prepare for building a silo during the present summer or autumn. A stave silo of 100 tons capacity can be built for \$100, or less, and smaller ones in proportion, and if a more enduring structure is preferred, cement concrete fills the bill. It is worthy of consideration whether two small silos are not more desirable than one large one, especially where the number of animals kept is not large, and the object is to keep part of it over for summer feeding. In this case the smaller circumference leaves less surface exposed to the air, which is a decided advantage when small quantities are being fed daily and during warm weather. While we have no desire to see less attention given to the growing of roots and clover, which are among the most valuable stock foods, yet we all know that these crops are liable to fail in some years, and we vote for corn, not as a substitute for roots or clover, but as an invaluable supplementary fodder crop, and one which we hope to see more largely and more generally cultivated.

The Prospects for Wheat.

The series of brief reports on the condition and prospects of the fall wheat crop in many sections of Ontario, published elsewhere in this issue, show that while in some districts, as was feared, the crop has suffered severely from the very erratic character of the winter it has just passed through, and in a few counties has been declared a partial if not a complete failure, yet in many others its condition is reported as very favorable and the prospect at this date quite satisfactory. In some counties the scarcity of snow on the fields during the excessively hard freezing weather experienced in February exposed the crop to exceptionally severe conditions, which may well account for its unsatisfactory appearance; but it is gratifying to find that on the whole the prospect is brighter than was generally anticipated. In the northern counties, where the snow remained steadily upon the ground throughout the winter, the condition of the wheat is all that could be desired, and the unusual character of the month of April this year—the complete absence of alternate freezing and thawing which in most years is associated with that month—has been exceedingly favorable, and if the present warm temperature continues, and occasional showers of rain are vouchsafed, the indications are that the wheat crop of the Province will be quite up to the average.