there appears a marked inflamation of the membrane of the eye and a characteristic discharge. If the animal be not tubercular there will be no disturbance whatever.

The intradermal test consists in injection into the loose folds of skin on one side of the tail a small quantity of tuberculin. The injection is made at the point named because the location offers opportunity for comparison with the opposite side. The injection must be made into the skin and not under it. If the animal be tubercular, within forty-eight hours after injection there will appear at the point of injection a well marked swelling of non-inflammatory nature, and the animal will display a characteristic switching of the tail. If the animal be not tubercular there will be no disturbance at all.

Fifty-eight head of cows were given the ophthalmic test, January 31st. Of that number thirty-three had previously been given the subcutaneous test. Six reacted to the ophthalmic test, but only two had reacted to the subcutaneous test. Post mortem examination showed lesions of tuberculosis in five of the reactors. Of the one which did not react, none showed any lesions. These results tend to indicate that some cases of tuberculosis may be detected by the ophthalmic method which may not be detected by the subcutaneous method, while on the other hand there is possibility of error in the results.

Forty-two head of cows were given the intradermal test January 30th, one of which reacted. Thirteen head of these cattle had previously been given the subcutaneous test, and the same animal had reacted. Post mortem examination disclosed ample evidence of tuberculosis. Of the animals which did not react, none showed any lesions. The results tend to indicate that the intradermal test is comparatively accurate.

Comparatively similar results were obtained from other experiments, and Dr. J. R. Mohler, Pathologist of the Bureau of Animal Industry, stated recently that if money could be had, extensive tests of the two methods would be made with a view of establishing one of them as the official government test. The state officials of Missouri have employed the intradermal test to about fifteen thousand cases recently with 98 per cent of correctness, and Dr. S. Sheldon, State Veterinarian of Missouri has stated that he believed the state of Missouri would make the test official in Missouri within a short time.

In speaking of the intradermal test Dr. J. H. Reed, Professor of Veterinary Science of the Ontario Agricultural College, to whom the foregoing was referred; says: "it is much less troublesome and less expensive than the hypodermic test, but it requires much greater skill and care in injection, and the symptoms carried in tubercular animals probably not so definite, at the same time to the skilled practitioner the symptoms are reasonably definite." Dr. Reed has never practiced this method, but has learned that the system is liable to cause an enlargement even in a healthy animal, but that it often appears earlier and subsides much more quickly than in a diseased animal. With the hypodermic method he has never known a healthy animal to react, but believes that in some cases from causes unknown a diseased animal will not react. "I do not think that any method is infallible but the hypodermic and I believe the intradermal methods make few mistakes," concludes Dr. Reed.

The meeting of the Veterinarians also discussed Hog Cholera and the serum treatment. Hogs suffering from cholera and those affected with plague were killed to illustrate the similarity of the lesions. It was also pointed out that worm affections of the bronchial tubes might be mistaken for cholera. Many of the ill results from the use of the serum are due to its administration in herds which have another disease than cholera, in which case no desirable results can be expected.

It was also pointed out that the serum is often used in too small doses, and the operator is often in too great a hurry to insure proper results.

The cornstalk disease has as yet no satisfactory treatment further than drastic bowel stimulants in the early stages, and change of feed immediately the disease appears. The mould on feed stuffs is believed to be in a measure responsible for the disease, but the mould is not disease-producing until certain chemical substances are present in the food itself. It was suggested that soil and climatic conditions may be responsibile for the presence of this chemical substance in the food at certain times. It was also suggested that corn could very often be made safe by shelling and removing the mould by fanning.

Make Beef Rapidly.

When beef is furnished by calves suckled on their dams, they must be pushed rapidly ahead from the day of birth. During the nursing period they will take practically all the milk of the dam, except for a few weeks at the start, and they must be allowed to take the same for not less than six to seven months, or until the time comes for drying off the cow. If another calf of good formation can be obtained of suitable age, the dam can suckle two calves quite well when the calves are given supplementary food, that is suitable from the time that they are able to take it. In any case supplementary food, such as oats and oats and bran, should be fed as soon as they will eat the same. It is imperative that they shall be given food right along that will keep them growing rapidly, and that they shall be turned off at an early age, say between the ages of 12 and 24 months. These calves must be of good breeding and of the beef breeds, though not necessarily pure, and they must go to the market in high condition. The profit from them comes in great part from the high prices that are paid for them, because of the high quality of the beef.—Farmer's Advocate and Home Journal, Winnipeg.

Dual Purpose and Dairy Beef.

A few years ago a man who stated that dairy cattle could be used to supply beef for the table was laughed at, but the scarcity of the beef type is now beginning to be felt to such an extent that some of the type of calves which heretofore were slaughtered at birth or shortly after are being kept for baby beef. There seems to be no good reason why cows should not be used for the production of meat and milk. Prof. Shaw writing in the "Farmer's Advocate and Home Journal" Winnipeg, Man., describes the matter as follows:—

"Beef will be largely obtained from cows of the dual types, as the milking Shorthorn, the Red Poll and the Brown Swiss, and, in fact, from any cows of good frames where mated with a beef bull. As such cows milk freely but not so freely as the straight dairy cow, the milk is usually considered too valuable to be fed to calves in the whole or new form; it is fed to them as skim milk. If the proper adjuncts are given at the same time, these adjuncts will so force the calves along that they will be nearly as large and heavy at a given age as calves from straight beef dams. Beef thus grown will pay the farmer better than beef grown from beef cows that suckle their calves, but the element of labor must not be overlooked. A very large part of the beef supply of the future will come from this source. Fortunately, after the calves are two or three weeks old, skim milk with some oil meal will serve them about as well as new miik.

"Some beef will come from straight dairy sources. It was the custom in some dairy sections years ago to kill all, or nearly all, the male calves from straight dairy cows as soon as they were born. The sole object sought in such reproduction was to freshen the cows. The day is coming, however, and now is, when it will pay better to grow such calves into some kind of baby meat. If sired by beef sires they can be grown to a greater age with profit than when of straight dairy lineage on the side of both sire and dam.

"Calves of the latter type will sometimes be sold as veal when a few weeks old, but there will be more profit if they are sold at six to twelve months old. When thus grown the milk fed after two or three weeks may suffice almost as well as new milk, if the adjuncts are judiciously fed. These adjuncts may consist of various meals, but oil meal and corn meal are probably best adpted to produce that fat and plump condition in which they can take the market at a profit. As they grow away from the selling age named, they revert more and more to the dairy form. They lose that plumpness which heavy feeding will give to them as calves. When they are from beef sires they will retain the beef form for a much longer period."

THE FARM.

Will a Spreader Pay?

The season for the most frequent use of the manure spreader is approaching. Many farmers are debating the advisability of purchasing. Many doubt its economy on farms of less than 200 acres. All are aware of the great advantage in extra evenness of scattering manure with the spreader. Most farmers realize that a given amount of manure will cover a larger acreage when spread in this manner. The advantage is especially great on meadows where coarse bunches of straw are a nuisance in the hay crop.

Farm management investigations on a number of farms in Minnesota indicate that the spreader will make a financial profit on any farm which distributes 250 tons or more per year. This takes no account of the added ease of labor to the farmer, but considers only the financial saving and the fact that man-and-horse labor are enough, more effectively employed, to more than pay interest, repair and depreciation charges of the spreader. This amount of manure should be handled on farms of 160 acres or over, or on any farm which has 22 cows, 16 head of young stock and eight horses or equivalent stock.—F. W. Peck, of Minnesota.

Alberta in the Lead at Lethbridge Dry Farming Congress.

Of the seven annual International Dry Farming Congresses so far held, that which was recently convened in Lethbridge, Alta., was in every way the most successful. Approximately 2,600 noted representatives were present from many of the States of the American Union, from Great Britain, Australia, South Africa, India, Persia, Italy, Holland, Germany, Hungary, Russia, Turkey, China and Mexico, Alberta led the list with 1,898 delegates. Saskatchewan had 111, British Columbia 93, Manitoba 44, Oklahoma 25 and Ontario 28. Delegates from these provinces, states and countries exchanged ideas, and did what they could to impress on the world that the methods needed practically all over the world are those urged by the Dry-Farming Congress—simply good and thorough farming.

The big congress was not the only record-breaker for the display of all kinds of products from the dry-farmed area was phenomenal.

Practically all crops from cotton or rice to corn and pumpkins were in evidence everywhere. Alberta carried off the lion's share of the awards, with Saskatchewan a close second in cereals. Henry Holmes of Raymond won the Sweeptakes award for bushel of wheat on a sample of Marquis, while R. H. Carter had similar honors with a sheaf of wheat on a bundle of the old standby, Red Fife.

Fifteen nations were represented, and good wishes came by telegram from many more. The officers elected are as follows:

International president, Hon. W. R. Motherwell, Minister of Agriculture for Saskatchewan; International vice-president, Dr. John Widstoe. Corresponding secretaries, British Columbia, W. E. Scott, Department of Agriculture, Victoria; Saskatchewan, A. F. Mantle, Department of Agriculture, Regina; Alberta, Geo. Harcourt, Department of Agriculture, Edmonton; Manitoba, Prof. S. A. Bedford, Department of Agriculture, Winnipeg.

Provincial and state vice-presidents were elected as follows: Manitoba, Dr. Hughes; Saskatchewan, Prof. J. A. Bracken, Saskatoon; Alberta, Hon. Duncan Marshall, Edmonton; British Columbia, Hon. H. Bostock, Victoria; Kansas, Prof. A. M. Jardine, Manhattan; Washington, Daniel Morgan, Spokane; Arizona, R. A. Fredericks, Prescott.

Even a brief survey of the long rows, huge banks and wall decorations of dry-farmed products at Lethbridge was an inspiration. A man with any love for farming could spend days to advantage, all the time becoming more anxious to produce something as good or better. It is difficult to particularize. Perhaps Marquis wheat was the sensation of the show. In the threshed grain class there were 42 samples. When the judges made preliminary examination they had held out 17 that were considered about perfect. A more scrutinizing examination reduced the number to 10. When all was over Raymond's unassuming farmer, Henry Holmes, was found to have won top honors. Later he won the sweepstakes award, a $2,500 Rumely engine, offered for the best bushel of hard wheat at the show. In the final tussle he was hard pressed by the Red Fife sample shown by J. A. Johnston, of Woolchester, Alta., and by P. C. Hansen's (Pincher Creek, Alta.) Alberta Red. This latter was said to weigh 68 pounds to the measured bushel, being about two pounds heavier than the other prize samples. It was not as uniform as the others, and was not considered by the judges to be as high in milling value. For sheaf of hard wheat, the outfit offered by the Stewart Sheaf Loader Co., went to R. H. Carter, of Fort Qu'Appelle, Sask., on Red Fife.

In oats also there was keen competition. First prize in the class open to Canada including a gang of Oliver plows, went to Joseph Lanigan, of Elfros, while T. P. Conlan, of Moose Jaw, carried off the $100 silver cup offered by the Continental Oil Co., for the best bushel of oats grown on land plowed, seeded, harvested and threshed with machinery using gasoline or oil fuel.

British Columbia carried off most of the big honors with a fine fruit exhibit. The commercial packages were particularly striking. The $400 silver cup donated by the Manitoba Government was awarded to a B. C., and a Provincial sweepstakes on boxed fruit, and a sweepstakes for potatoes was won by the same Province, which captured one special, sixteen firsts, sixteen seconds and five thirds, getting a prize in every class in which they had an entry. In garden vegetables and field roots there was size and quality, with honors pretty well distributed over the Canadian provinces and the northern states.

In threshed grains and grasses Alberta took sixteen firsts, nine seconds, and three thirds; Saskatoon one first, three seconds, and seven thirds; Manitoba one third; Washington, two firsts and one second, and B. C., one second.