These are not completely immune to the human tubercle bacillus, and adult human beings can be infected with the bovine type, even the consumptive form of the disease in man being caused by the bovine tubercle bacillus.

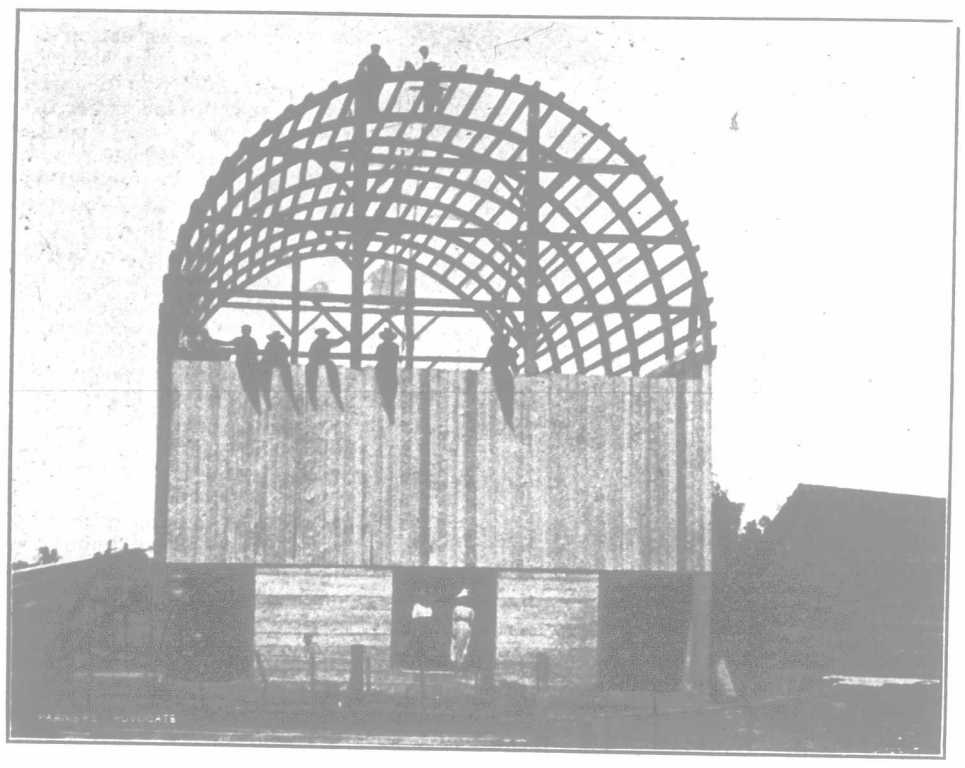
The conditions under which the transmission of tuberculosis from animal to man takes place, and the favorable or unfavorable conditions for such transmission, is the third phase of the question the commission were called upon to investigate. Transmission of tuberculosis from animals to man must obviously be mainly dependent upon the susceptibility of any given animal to this disease, and on the opportunities afforded such animal for transferring its acquired and developed infection to the human subject. From what already has been said, man must clearly be regarded as being liable to risk of infection from at least two or three types of tubercle bacilli, particularly the human and the bovine.

Whatever may be the animal source of tuberculosis in children and adults, there can be no doubt that a considerable proportion of the tuberculosis affecting children is of bovine origin, more particularly that which affects primarily the abdominal organs and the cervical glands. Further, there can be no doubt that both these forms of tuberculosis are commonly due to eating food infected with tuberculous germs. Judging from feeding experiments, it takes comparatively large doses, given either singly or by frequent repetition, to produce acute, generalized tuberculosis, but instances are recorded in which a very small dose administered but once has produced this result.

Applying a like presumption to man, borne out by observations on the monkey and the chimpanzee, it may be asked in what way children are especially liable to exhibit acute fatal tuberculosis, commencing as an abdominal affection, most likely to obtain a large and fatally infective dose of tubercle bacilli?

In pursuance of the above, attention is directed to the very grave danger from bovine tuberculosis, especially as regards the milk of tubercular cows. It is not necessary, the commission holds, that a cow should be tubercular in the udder for her milk, to be infected. Any tuberculous cow is dangerous. Measure for securing the prevention of ingestion of living bovine tubercle bacilli with milk would greatly reduce the number of cases of tuberculosis in children, and such measures should include the exclusion from the food supply of the milk of the recognizably tuberculous cow, irrespective of the seat of the disease, whether in the udder or in the internal organs.

The commission recommends that existing regulations and supervision of milk production and meat preparation be not relaxed; that, on the contrary, Government should cause to be enforced throughout the kingdom food regulations planned to afford better security against the infection of human beings through the medium of articles of diet derived from tuberculous animals.—[Farmer's Advocate and Home Journal, Winnipeg.



Frame of a Round-roofed Barn.

Built for Alex. McCallum, Middlesex Co., Ont., by R. Hair.

Successful Stock-breeding Requires Skill.

Truly this twentieth century is a wonderful age in the development of almost every form of business and commercial enterprise. New inventions of labor-saving devices, intended to annihilate as far as possible time and space, are of almost daily occurrence. The agricultural communities have not been slighted in this development. They have received the benefit of the machinery originated by the keen, fertile brain of the greatest of inventors, and so they have progressed.

There is one department of farm life, perhaps the most valuable branch of agriculture the world over, and certainly the most interesting to the agriculturist, that is beyond improvement from the class of inventor who uses his ideas to formulate a machine or device to facilitate the different operations which concern humanity. The department referred to is live stock. And yet it requires just as keen and active a brain, and just as far-seeing and penetrative mind to be successful in the rearing of live stock as it does to be a successful inventor of machinery or new appliances. Every successful stock-breeder, then, is an inventor. He has formulated in his own mind a certain type of a certain breed, and he starts out to breed with a view to realizing his ideals. He studies and experiments, tries this cross and that, until finally he attains his object, and his animals conform to the desired type, and breed reasonably true to that type. But he can never be sure when he breeds those animals that he is going to get the exact type wished, as he can be sure that the machinery invented to do his harvesting will not fail to cut and tie the crop.

How many breeders have reached that stage in the fixing of type where they are sure of what the result of the mating of two animals is going to be? None. Their business is far more complicated than that of the inventor of machinery. They must deal with that something called life, of which very little is yet known. They must be prepared to overcome inheritance. They are experimenting with something which is influenced by the breeding for generations back, whereas the other class of inventor is benefited, rather than handicapped, by what has gone before. He can use the brains of his predecessors to good advantage to help him in his work, while the stock-breeder often has first to eliminate the undesirable qualities which have resulted from previous indiscriminate breeding. Bad breeding and indifferent feeding have paved the way to the inevitable ruin of many a stock-breeder, and the effect of one cross of inferior blood often takes years to overcome.

But, you say, if the breeder is never sure of the result of his matings, what is to be gained by care in breeding? True, he is never absolutely certain, but it is quite possible for him to breed so as to fix a type that will be under most conditions transmitted from generation to generation, without much diversion; and, at any rate, his chances of producing a desirable animal are far greater than where no rules of breeding are followed. As much of the uncertainty attendant upon stock-breeding as possible must be removed from the breeder's operations, and, to do this, nothing but the best type of animals can be used as breeders. Poor individuals almost invariably give uncertain and unreliable results. In order that the status of our animal husbandry may reach the highest possible position, it is necessary for stockmen to have a definite object in their breeding, and not to rest until that object has been attained. The object can only be attained by following advanced ideas. Inventors must have right ideas, and so must the stockman. If the ideas are not practicable and useful, the invention is useless; and if the stockman's ideas are not founded upon experience and knowledge, the chances are that the results of his breeding will not prove very satisfactory. Choose your breed and determine the type of greatest utility, and then, by adhering to the principles of animal breeding, proceed to improve the individuals until a uniform type has been established and the animals breed so true to it that it is lasting. Do not rest even then, but, like the inventors, advance with the times. Keep the class of animals of such a high order as to merit attention, no matter what may be a counter-attraction. This is being done by our best breeders, and their example is worthy of being copied. There are comparatively few really good breeders in the country. A very large number mate indiscriminately, and these should lose no time in awakening to the fact that they are not making the most of their business chances. Stock shows are good places to form ideas, and from the stock exhibited can often be chosen sires which will go a long way toward realizing the ideals in the breeder's mind. Get the best of foundation stock, and from it build up the herd, flock or stud, until it represents a degree of excellence which may be looked upon by interested people with as much favor as the most wonderful machine that the greatest modern inventor can make a reality.

outhdowns.

In flock of Col. R. McEwen, Byron, Ont. See Gossip, page 1460.

Stock Require a Variety of Diet.

All classes of live stock do better when they get a variety of diet, and this is the time of year when the average stockman finds that the feeds at his disposal do not offer any too great a diversity. This is perhaps the season when it is most difficult to keep the animals from failing in flesh, and, with the pastures short and dry, they become stale to the stock, and they long for fresh, green feed of some kind. The man who has prepared for this by sowing some rape or by reserving his clover aftermath for pasture, or has fodder corn or fall turnips, has little to fear, and his stock stands a good chance of going into winter quarters in good condition.

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