

1877, when a yearling, and since then has known little but success. Having purchased Netherhall estate, near to Castle-Douglas, and erected on it a beautiful mansion, by way of a house-warming, he was presented with oil-painted portraits of himself and Mrs. Montgomery, the late Mr. Wellwood Maxwell, of Munches, presiding over a large and representative company, which included such noted agriculturists as Sir Mark J. Stewart, M. P., Sir Jacob Wilson, Mr. Pole Gell, and Mr. Andrew Mitchell, of Alloa. Mr. William Montgomery, who joined his brother in 1885, bought the now famous Baron's Pride, when rising four years, from Mr. John Findlay, of Springhill, Baillieston, Glasgow, he then being first in the aged and champion classes at the Highland and Agricultural Society's Show at Aberdeen. Messrs. Montgomery have largely fixed the modern type of Clydesdale—i. e., flat bones, well-set pasterns, and sound, ample hoofs. They also may largely claim to have elevated Clydesdale breeding generally to a platform erstwhile represented by the Shorthorn-cattle world. Since their advent, foreign and colonial business in British draft horses, betwixt quotations of shipping freights and rates of insurance, has attained an aspect hitherto associated with maritime commerce. Some of the consignments, such as that to Cape Town, South Africa, in which a special train to Liverpool docks had to be employed, were quite of international importance.

FOR REARING COLT.

Editor "The Farmer's Advocate":

In reference to C. H. O.'s case of colts with habit of rearing, on page 851 of May 16th "Farmer's Advocate," I know of a horse being cured of this habit in the following manner: When a horse rears, the internal organs naturally tend to the posterior part of the abdominal cavity, thus causing its expansion. On this principle, a cord was tied right around this part of the body just tight enough so that he would be comfortable while in natural positions. He was then provoked to rear, but the cord cut him so severely that he went only part way up. On a second provocation he ventured up one foot, but this was enough for all time to come.

He had previously been very vicious in this respect, had broken his master's leg by rearing and falling back on him, and had also broken a number of wagon shafts by coming down crooked, but was an excellent animal after being cured of the habit.

Wellington Co., Ont.

L. L.

LIVE STOCK.

RAPE FOR HOG PASTURE.

Editor "The Farmer's Advocate":

If there is one thing neglected more than another on the farm it is the provision of a green forage crop for hogs. Every farmer should provide at least one acre of rape for pasture for the pigs during the summer and fall. I consider rape the best and cheapest bulky food for hogs. One acre will pasture about twenty head of swine, and is ready for use about six weeks after sowing. The rape may be sown in drills, as are turnips, using about two pounds of seed to the acre. But I prefer sowing broadcast with an ordinary grain drill. I put the seed in the grass-seed hopper, and set it to sow eight pints per acre. This sows the rape about six pounds to the acre, which I think is about right. The hogs should be fed a grain ration of about one pound of barley chop for each pig twice daily while on the rape. This will keep them growing well. When the hogs reach the weight of 150 or 160 pounds, they should have a pound each of pea meal added to the ration, and be kept right on the rape till fit for market. Hogs in a good healthy, growing condition, weighing about 75 or 80 pounds when turned out, should make an average daily gain of at least 1½ pounds each. Some will easily make two pounds per day from the time they are turned out until finished for market. With prices for live hogs in the neighborhood of 6c. a pound, there is a good margin for profit. A shallow box should be kept in the hog pasture with salt in it, and it is surprising the amount they will do away with. It is very important to keep a plentiful supply of water in an extra trough so the hogs can drink at their own sweet will. As for the best time to sow rape, I think the latter half of May the best time. Of course, it will be just as well, perhaps, if sown in June or July, but you miss the early pasture. As for the land, all the rape requires in any kind of soil is that it be in fair heart, fall-plowed, and fairly well drained. I think readers of "The Farmer's Advocate" who have once tried rape, would not be without it for hog pasture.

Bruce Co., Ont.

WESLEY POLLOCK.

BOVINE TUBERCULOSIS BACILLI PASSED IN THE MANURE.

Whether tuberculosis of animals constitutes a source of serious danger for man, is yet an unsettled question. Many prominent investigators are convinced that it is; others hold that human and bovine tuberculosis are caused by bacilli of different species, and that man is not likely to contract the disease from exposure to the germs of bovine tuberculosis. Consensus of opinion seems to be, however, that bovine tuberculosis is at least a source of occasional danger to man, more especially to children, whose diet consists largely of milk. If such be the case, it behooves us to exercise every reasonable precaution to guard against possible infection from this source. There are other reasons, also, for studying tuberculosis. The disease is an insidious and ever-increasing menace to the health and thrift of our herds, while an accumulating mass of circumstantial evidence points to germ-infected skim milk as a prolific cause of tubercular infection in swine. In view of these considerations, we give space to a summary of some recent experiments by Superintendent E. C. Schroeder, M. D. V., and Assistant, W. E. Cotton, of the Experiment Station in conjunction with the Bureau of Animal Industry, Washington, D. C. These experiments, which are supplementary to many others previously conducted at the Station, were with ten animals (nine cows and a steer), seven of which had tuberculosis in varying stages when the test was begun, while the other three were healthy animals that were fed a small amount of tubercle bacilli in their drinking water while the observations were in progress. The lines of study pursued were microscopical examination of the dung, to discover tubercle germs, if present; inoculation tests with guinea pigs; and ingestion (feeding) experiments with hogs.

The first conclusion presented by the investigators is that fæces (manure) are the most dangerous factor in the dissemination of tubercle bacilli by cattle affected with tuberculosis. The bacilli may be thus disseminated by cattle very slightly affected. In human beings the sputum is regarded as the chief source of danger. With animals the germs pass off through the bowels. Animals do not expectorate. The infectious matter coughed up from their lungs is swallowed, passed through their bodies, and scattered with their fæces. In this connection, it is important to note that these tubercle bacilli, when swallowed by cattle, are, to a great extent, passed through the digestive tract without losing their vitality or infectiousness.

Bacilli may reach the environment of tuberculous cattle from their mouths, but this is thought to be of rare occurrence compared with the dissemination through fæces, especially when the cattle are in the early stages. The nasal discharge, also, was found to be free from infectious material, though the experimenters discreetly add that further tests may modify their deductions on this point. Urine, they state, is probably free from tubercle bacilli, except where the genito-urinary organs are affected.

MANURE THE SOURCE OF DANGER TO MILK.

A very important point set forth by the investigators is that milk from tuberculous cows with unaffected udders is believed to be free from infection until it has become contaminated with fæces or other stable filth bearing the germs. This conclusion is supported by earlier work, extending over a dozen years, during which time milk from scores of tuberculous cows was injected into the abdominal cavities of hundreds of guinea pigs.

A very small quantity of manure from tuberculous animals may introduce a large number of tubercle bacilli into a pail of milk. Herein we have another strong reason for strict cleanliness in milking and the care of milk. This is the chief practical deduction from the experiments.

We quote below recommendations made regarding the detection and care of tubercular cattle in dairy herds. We fear, however, if carried out universally, the price of milk would soar, for tuberculosis is widely prevalent in cattle all over the continent:

Physical condition gives no information from which it is possible to determine how seriously a cow is affected with tuberculosis or how freely she is scattering tubercle bacilli. Cattle affected with advanced tuberculosis, from which infection is being disseminated in a dangerous way, may retain the appearance and give the general impression of perfect health. Frequently nothing abnormal can be detected about them after the most searching examination by the owner or even by a trained veterinarian; and besides, it is not customary to make careful examinations or to employ professional men to do so until cattle show marked symptoms of disease.

In order to guard against the spread of tuberculosis among cattle and other animals, and more especially for the protection of persons, every dairy cow should be periodically tested with tuberculin, and every cow that shows a reaction, indicating that she is affected with tuberculosis, should at once, regardless of her general appearance or

condition or semblance of health, be removed from use as a dairy cow and from all contact with dairy cattle or other healthy animals. If segregation is practiced, it should be complete, so that no healthy animal will be exposed to fæces that may swarm with living, virulent tubercle bacilli."

LOSSES OF YOUNG PIGS.

Numerous letters from different sections have reached the office of "The Farmer's Advocate" in the last two months reporting heavy losses of spring litters, one breeder having sustained the loss of no fewer than 115 pigs, born dead, or having died within a few hours or days after their birth. Such losses, while distressing in these times of good prices, are not new to some breeders at some time in their experience, and are, in some cases, difficult to account for, though, as a rule, they are attributed to lack of exercise on the part of the pregnant sow, together with the feeding of too much cold, sloppy food. There is, however, no certainty about this being the cause, though it appears probable, since litters coming in the fall, after the sows have had ample exercise and a run on the grass, are almost invariably healthy and strong. We are glad to learn that such losses have not been general this spring, however, and that most breeders have had good success with their litters. A circular letter, addressed to a number of breeders, asking for their experience and their opinion regarding the cause of such fatalities as have been reported, and the responses from most of these have shown that strong litters have been the rule rather than the exception.

Messrs. J. Featherston & Son, Streetsville, Ont., write: We have had no such losses of spring litters of pigs, and have heard of very little in this district. We keep our sows in an open shed under bank barn all winter, and allow them to run out at their pleasure. We feed whole corn and sugar beets most of the time. We close the sows in pens at night for a week or more before farrowing, and have had good success with them this spring. We had two sows farrow on May 4th; one had 16, the other 10; the latter is raising 8 nice pigs, the other is raising 12 beauties. We have had over 100 pigs since the first of March. One sow had 16 on that date, 4 of which died before they got on their feet. Our sows had an average of over 9 pigs each, all of which are doing well.

Messrs. Colwill Bros., Newcastle, Ont., write: Re causes of such heavy losses in early spring litters, in our opinion it is traceable to one or more of the following causes: First, too much close confinement during the long, cold winter; second, often not enough laxative food, such as roots, bran and oats; third, sometimes sows in farrow are exposed to a yard where horses and cattle run at large, and they get hurt in this way. From our experience, we like to let breeding sows have plenty of exercise in an open yard every day the weather is fine, and when not fine, have a large, comfortable pen for her. We never like to keep too many brood sows confined together, as they generally give birth to a lot of dead pigs as a result; the huddling together in a heap seems bad for brood sows. Feed a mixture of roots, bran, oats and barley, but do not keep too fat.

Mr. Thomas Teasdale, Concord, Ont., writes: I have never noticed any difference between fall and spring litters. We have seven sows that had pigs this spring, and the pigs have all been strong and healthy, with only one or two exceptions. As regards feeding, we generally feed our brood sows clover leaves and a little meal mixed, and just wet enough so that the meal will adhere to the clover leaves; probably cut clover would answer the same purpose. We feed considerable clover to our stock in winter, and when the hay is thrown down from the loft, we can generally get as many leaves as we want for the brood sows. As to exercise, we generally let them have a run in the yard every day for a while. We had one sow that was in a very small pen all winter, and was not out to get exercise more than half a dozen times all winter. I noticed that her pigs were smaller than the others, but they were thrifty and have done all right.

THE PACKERS' POSITION.

The most amusing circumstance in connection with the Chicago packing-house exposures has been the persistent way in which the packers and their defendants have been asserting and reasserting that there was nothing wrong. If there was anything wrong, it is all right now under the system of federal inspection; but, as a matter of fact, things were all right before—at least, there was nothing very much astray. It reminds us of the Irishwoman arraigned on a charge of damaging a kettle borrowed from a neighbor: "O! have witnesses, yer honor, to prove, first, that O! niver had Mrs. O'Flaherty's kettle; second, that it was cracked whin O! got it, and third, that O! returned it to her in good shape."