

a tendency to cause the hoof to turn up in front and prevent the animal from walking squarely on his feet. If the hoof gets out of shape, it should be shaped properly by the use of a saw, pinchers and chisel.

Exercise is a very necessary feature to the health and general thrift of the breeding bull. The best way to afford exercise is to have a small lot tightly fenced and allow him to run with one or two in-calf cows. In this way he will be more contented than if kept confined alone. If kept confined in a small pen where he is constantly fretting he will have a spoiled disposition.

It is very important to always handle breeding bulls carefully and treat them with kindness. If proper precautions are taken there is very little danger, yet it is always best to be on the safe side and handle them with a staff attached to their nose-ring, as an animal of this class is never safe to trust no matter how quiet he may be. The idea that a bull must be ill-treated to know his place is a mistake. He is cunning and treacherous and if abused will await his chance to even up with you and when he does get his temper aroused he is a very dangerous animal to be around. It is many times best to put up with a few of his eccentricities than to undertake to club them out of him or you will have a merry time in bringing him to your way of thinking. Give him a little feed and pet him, even if you are playing the role of a Judas. I have handled dairy bulls for a number of years and have never had but one dangerous animal and this one I bought from a man who was afraid to handle him any longer. On the other hand, I never allow an attendant to take a bull, young or old, out of his pen unless he uses a strong staff. It teaches him you are his master and he willingly takes up with the program.

As a rule, it is best not to use a bull for service until he is fourteen or fifteen months of age, and then he should be used with extreme care. If handled properly during the first two years of breeding, he may give good service for many years. The folly of selling a good bull before his calves show their worth as individuals and breeders has been made plain to more than one man who has parted with a good sire. As a general thing, it is best never to allow more than one service.

The young and growing bull should have more feed, care and attention than a mature animal. He needs more exercise to build up healthy and vigorous vital and reproductive organs. This demands a strong and vigorous body and nervous system. No animal can develop into that symmetrical form that he should unless he has plenty of the right kinds of food and good care. Neither will he be able to beget calves that will be a credit to his ancestry if he is kept in a run-down, emaciated condition.

Good results from the breeding bulls are what we desire and to the accomplishment of this end we must feed them liberally and furnish them clean and well-ventilated quarters. Handle them quietly and not overtax their vitality by too much service. The well-kept bull and his calves are objects of admiration to successful stock farmers and dairymen. We must not forget when feeding the breeding bull that we are feeding half of the herd, that is, from the standpoint of reproduction. W. H. UNDERWOOD.  
Johnson Co., Ill.

### Write Your Member.

Editor "The Farmer's Advocate":

I am glad to note by editorial in your issue of January 22nd, that you are urging the removal of duty from the parts or repairs for traction ditchers. A year ago some of the agricultural press suggested that readers should write their respective members of Parliament, urging the removal of duty from traction ditchers. I know that a considerable number did so, and am satisfied that these letters played an important part in the success that followed. I would suggest that those of your readers who are interested in having the duty removed from repairs for these machines should again write their members of Parliament, asking them to urge that these repairs be admitted free of duty.

I would further suggest that the new regulations should come in force by the first of March or by the fifteenth at the very latest, because most of the machine owners get their repairs in early so that they may have their machines fitted up and ready to start work as early in April as the ground is dry enough. A regulation coming into effect later than March 15th would be too late for the largest benefit during this present year.  
O. A. C.

WM. H. DAY.

### Causes of Loss in Animals and Poultry.

That the bovine and avian forms of tuberculosis are becoming more prevalent year after year seems evident. In looking over the latest report of the Veterinary Director General, which was very recently issued for the year ending March 31, 1913, we notice that the figures given regarding animals condemned as being unfit for human food were 7,258 carcasses and 624,382 portions of carcasses. It was stated in this report that this number represents only about 50 per cent. of the total number of animals killed in the Dominion, as not all killing establishments are under inspection. It was further pointed out that the animals bought for these establishments, which are under rigid inspection, are carefully inspected by the buyers, who reject any animal which shows clinical symptoms of disease, or which from general appearance suspicion is aroused. This being true, there is little doubt but that many animals which are rejected by the buyers for the inspected institutions find their way to the market through the channel of the uninspected meat shop and slaughter houses.

Of the number of condemnations, 55 per cent. of the cattle and 75 per cent. of the hogs were destroyed because they suffered from tuberculosis and of the condemned portions of carcasses, 20 per cent. from cattle and 90 per cent. from hogs are affected with this disease. Judging from these figures, a large number of the cattle and pigs in this country must be suffering from this dread disease.

There is nothing in the report to show the extent of the avian type, but from questions which come to this office and from the experience of poultry experts who have occasion to visit flocks throughout the country, we know that a very large percentage of the poultry in this country is affected by the malady. It is not always that the hens get thin and emaciated, but quite frequently hens heavy and plump topple over dead as a result of the trouble. Of course, they generally "go light" and become pale about the head and very often are lame, but not all show these symptoms or markings. If the fowl dies of this disease a post mortem examination will reveal raised spots on an enlarged liver or marked infection of the mesenteries. The disease is on the increase and those owning flocks of poultry should make it a point to isolate all birds as soon as they notice any symptoms of disease and thoroughly clean up the premises.

While on the subject of condemned carcasses, it might be well to state that in the report of the Chief Meat Inspector to the Veterinary Director General attention was called to the increased number of losses due to bruises, cripples and animals found dead. A good deal of this loss was occasioned by insufficient care in transportation. Cars are often overcrowded to such an extent as to cause death to dozens of prime animals. The overcrowding may be due to the shipper trying to reduce freight charges per head, but bruising and crippling cannot be attributed to that cause. Train workers often show lack of judgment in shunting the cars and very often the club is used too freely in abusing live stock while loading

and unloading cars. This is a point worthy of serious consideration and for the purpose of being humane and to increase the net returns from each carload shipped the greatest possible care should be exercised in handling the stock that losses may not be caused by abuse or neglect.

In this connection, another important point is brought out in the report—98 cattle, 36 sheep and 153 hogs were condemned on account of pneumonia. Nearly all these occurred during the hot weather and the inspector states that the disease is due to carelessness and improper handling, more particularly in the case of swine. How often when a farmer is called upon to deliver hogs on a very hot day he carries along with him a large pail or bucket which he uses to throw cold water over the heated pigs whenever he passes a handy pump or running brook! The practice is often continued after the pigs are loaded into the cars and cold water is dashed over them to rapidly lower their temperature. Reasonable care in this particular would no doubt prevent to a very large extent the waste of a considerable quantity of meat food, which at prevailing prices is very valuable. Cold water should be used with discretion in such cases.

## THE FARM.

### Artificial Fertilizers, Their Nature And Use—XI

By B. Leslie Emalie, C.D.A., P.A.S.V. F.C.S.

#### METHODS OF MIXING FERTILIZERS.

Machinery for mixing fertilizers is rarely available on the farm, but the operation may be easily and simply carried out with the implements, ordinarily at the farmer's disposal. The apparatus requisite for the operation are: (a) the fertilizers, (b) the mixing floor, (c) a shovel, (d) a broom, (e) a wooden post or tamper, to be used as a pulverizer, (f) a sand screen or a screen from the fanning-mill, and (g) a weigh scale. In mixing large quantities, the latter may sometimes be dispensed with, but is useful to check the weights.

The modus operandi is as follows: The mixing may be done on a solid, level part of the barn floor, but if a concrete floor is available, it would be preferable to the wooden one, since the shovelling and crushing could be more easily done thereon. One ton will usually be a sufficient quantity to manipulate at one time in order to ensure thorough mixing. Sweep the floor clean; empty part of the phosphatic fertilizer, spreading it level on the floor; on this put part of the potash, then the remainder of the phosphate and of the potash. If the nitrogen, either in the form of nitrate of soda or sulphate of ammonia, is to be mixed with the rest, empty it out by itself on the floor and, with the aid of the tamper or the back of the shovel, reduce the lumps, for both of these materials are apt to become caked in the sacks. When the material has been reduced to sufficient fineness, spread it over the heap. Then take the shovel and turn the heap, first to one side and then to the other. After doing this a couple of times, the whole heap may be put through the screen, any lumps



A Scottish Smithy.