

Manures for Potatoes.

The experimental work conducted by Prof. Wright, of the West of Scotland Agricultural College, is recognized as being of a particularly practical character. Instead of confining tests to a particular field or to several fields in a district, trials are conducted on a number of farms in different parts of the country. The *Farmer's*

Quantities of Silage to Feed.

[From Prof. Thos. Shaw's new book on Soiling Crops and the Silo.]

Much difference of opinion exists as to the quantities of silage that may be fed with advantage. Some authorities claim that it may be made the sole food of animals for weeks and months in succession. That is not the view of the author. Much, of course, will depend upon the character of the silage. When it has been well preserved, the silage is not markedly acid, but it is acid in some degree. Now, that is not the condition in which nature provides green food for live stock, hence it does not seem wise to confine animals to a diet of acid. To test this question the author fed steers that were being fattened on silage and meal for a period averaging about 140 days and during three successive experiments.

These experiments were conducted at the Government Experiment Station at Guelph, Ontario. The first experiment began in the autumn of 1889. Two steers were thus fed each winter. They were pitted against an equal number of steers that were fed meal, an average of thirty-three pounds of corn silage per day, and all the cut hay they would eat in addition. A third lot of two steers were fed meal, cut hay and field roots. The amount of meal fed was practically the same in each instance. Of the six steers that were fed all the silage they would consume in addition to the meal, two died before the experiment was completed. The veterinarian of the

Station reported that death resulted from serious derangement of the digestive organs caused by the acid in the silage. More or less trouble was also experienced with all the steers confined to the ration of meal and silage. They occasionally got "off their feed." The steers fed on the ration of meal, hay and roots were uniformly healthy and hearty throughout the experiment. With silage less acid, the fatal results chronicled might not have occurred. But since the silage fed was quite as well preserved as corn silage usually is, the inference would seem fair that there is an element of danger in feeding silage in unlimited quantities to farm animals for months in succession.

While it is impossible to state definitely how much silage may be fed for a prolonged period to cattle without crossing the danger line, in the judgment of the author it is questionable if the amount fed daily to a mature breeding animal of the bovine species should exceed thirty or forty pounds per day. Of course, for a limited period it may be safe to feed larger quantities, and it is possible that larger quantities than those named have been fed to breeding animals for a period somewhat prolonged without any apparent harm. Nevertheless, the conclusion would seem fair that there is an element of danger in feeding silage in unlimited quantities to animals for months in succession. The most intelligent feeders concur in this view, and it finds further countenance in the craving which domestic animals manifest for a certain proportion of dry fodder while silage is being fed to them in large quantities.

Four to five pounds per day may be named as the maximum amounts to be fed to breeding ewes for months in succession, but it is possible, and indeed, it may be commendable, to feed larger quantities for a limited period.

Any kind of fodder that is palatable and well preserved may be fed along with silage. But when practicable the fodder thus given should be made as far as possible to give the entire ration the desired balance or equilibrium as to food nutrients. For instance, when corn silage is being fed, clover in any of its forms will make a ration more nearly balanced than would be obtained from feeding dry fodder, the product of corn, sorghum or any of the non-saccharine sorghums.

More About Removing Stumps by Dynamite.

In answer to "Enquiring Farmer's" question, I would say that dynamite is the cheapest means of getting rid of his pine stumps. It will be necessary to use great care in doing this work, otherwise both labor and explosives will be thrown away. If an experienced "stump blower" is not available, the next best thing to do is to get a man who is accustomed to handling high explosives. If such a person is not to be had in your locality, then do the work yourself, always following instructions as below:

Get fresh dynamite, 40% to 60% in strength. Make sure that it is not frozen. If it is soft, it is all right; but if at all stiff, it should be gently warmed till it feels soft and warm in the hand. Next cut your fuse to proper length; insert it in the detonator cap, making sure the fuse is cut off square, and that it fits down tight to bottom of cap. Make sure that there is no sawdust in the cap, but do not attempt to pick anything out of the cap with a pin or like instrument, as you might explode the cap, which has sufficient force to blow your hand off. Next crimp the edge of cap on to fuse, to hold the cap tightly in place (do not do this with your teeth—you might lose them, and also the place where your brains should have been). Next take the fuse, with the cap properly fastened on to it, and insert the cap into the dynamite cartridge, taking care that the end of the detonating cap is in contact with the dynamite in the cartridge, otherwise the cap may explode without exploding the dynamite. Also take care that the cap does not penetrate the cartridge more than its length, as if the naked fuse comes in contact with the dynamite it may set fire to it, and the dynamite burns so much faster than the fuse, that the dynamite will be burned away from the detonator, and your charge of dynamite will burn away without exploding. To repeat: First get fresh-made explosives. Make sure that it is not frozen (it will freeze at 45° F.). Second, make sure that the detonator is securely fastened to end of fuse, and that fuse fits tightly into cap. Third, see that end of detonator is in contact with dynamite; i. e., that it has not been pressed into the soft dynamite and afterwards moved out a small distance, thus leaving a space between the end of cap and the dynamite.

If more than one cartridge is required at a single shot, place as many as are required in contact with the one the fuse is connected with, and the whole will explode. All of the above is, of course, nothing new to any person accustomed to the use of explosives for other than stump extracting.

The placing of the charge is the all-important point in blowing out stumps. In no case should the explosive touch the stump, but should be, if at all possible, at least two feet below the stump, and in very large stumps I would prefer to have the charge placed even deeper than that. The cheapest way of placing the charge under the stump is to use an auger made specially for that purpose, by boring a hole in the earth, at an angle of about forty-five degrees, so as to extend slightly past the center of the stump. The charge, with cap and fuse attached, can be lowered to the bottom and the balance of the hole filled up with dry earth or sand, and firmly tamped. Light your fuse, return to a safe distance, and wait for results. Now, as to the amount of dynamite. This will altogether depend on the nature of the ground. On heavy clay ground,



LANGTON'S DANEGELT.

Three-year-old Hackney stallion. Sired by Langton Performer. First prize at London Exhibition, 1900.

OWNED BY EDWARD C. ATTRELL, GODERICH, ONT.

Gazette reports the results of a series of potato-manuring experiments conducted by Prof. Wright in different parts of Scotland last season, when several styles of manuring ordinarily practiced by farmers was dealt with. With a dressing of ten tons of farmyard manure, the yield of tubers showed an increase of slightly over two tons per acre, as compared with the plot that got no manure. The total yield of the latter was 4 tons 2½ cwt., and on the plot which got 10 tons of manure, 6 tons 4½ cwt. In the case of the unmanured plot, the average yield of large tubers was exactly two tons, while on that which received ten tons of farmyard manure, the large potatoes weighed 4 tons 3½ cwt. Estimating the value of the potatoes at £3 per ton for the large, £2 per ton for the seconds, and £1 per ton for the refuse, the total value of the crop on the unmanured plot worked out to £9 14s.; whereas on the plot that received ten tons of manure, the produce amounted to £16 2s. 6d., an increase of 12s. 6d. for every ton applied.

To another plot, twenty tons of farmyard manure was applied, and on this the yield worked out to 7 tons 6½ cwt., but there was a greater proportion of seconds and refuse potatoes on this than on that which only got ten tons per acre. The second ten tons of manure, therefore, proved much less efficacious than the first, and gave only about half as great an increase.

Comparisons were also made between the use of farmyard manure and artificials, and with combinations of the two. From the results obtained from this line of tests, Prof. Wright has come to the conclusion that it is practicable to produce larger and more valuable crops of potatoes by the combined use of a small dressing of farmyard manure with artificials than can be grown with a large dressing of farmyard manure alone. The average returns for each ton of farmyard manure applied were as follows: Where twenty tons were applied alone, each ton gave 5s. 5½d.; where ten tons were applied alone, 12s. 10d. per ton, and where ten tons of farmyard manure were applied with complete artificials added, each ton of farmyard manure gave 17 shillings. The general conclusions arrived at by Prof. Wright, as a result of his experiments, are summarized as follows:

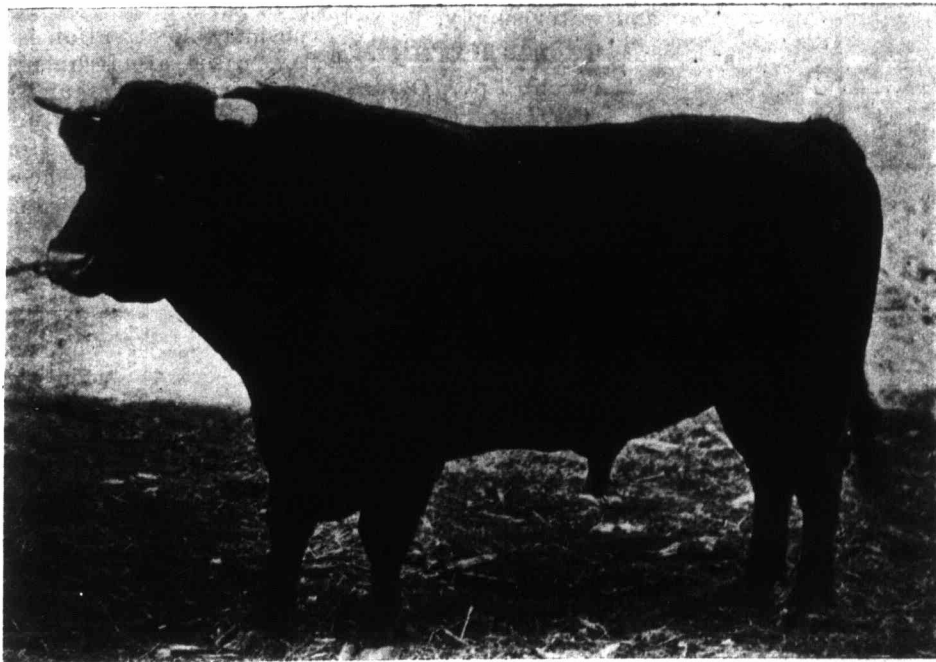
Large and good crops of potatoes can be successfully grown either with farmyard manure alone, or with artificial manures alone, or with a combination of farmyard manure and artificials.

A much greater increase in crop was obtained for each ton of farmyard manure applied when the manure was given in moderate quantity (ten tons per acre) than when it was given in a full dressing of twenty tons per acre.

A still greater increase of crop and a much more profitable return was obtained for each ton of farmyard manure applied when it was given in moderate quantity (ten tons per acre) along with suitable artificials than when it was applied alone, either in large or in small quantity.

A proper combination of artificial manures applied to the potato crop, either alone or with a half dressing of farmyard manure, gave a large and a profitable increase of crop.

Potatoes grown with artificial manures alone suffered more readily from drought on light soils than where farmyard manure had also been given. The safest and best method of manuring the potato crop is to use both.



LOVELY VICTOR =22170=.

Five-year-old Shorthorn bull. (See Gossip columns.)

AT HEAD OF HERD OF MR. THOS. MERCER, MARKDALE, ONT.

one stick of "Hamilton Stumping Powder" will blow out a cedar stump thirty inches through, provided the outer roots are cut. Also, five sticks of the same explosive will blow out a fir stump four feet through, provided the main roots are cut, say eight to ten feet from center of stump. The only way to do is to follow directions and experiment.