

The Use of Manure

M. F. Millar, University of Missouri.

The farmer should appreciate more fully the value of manure and of proper methods of handling it. He should figure it as worth at least two dollars a ton and he should get that amount, or in many cases much more than that out of it by proper handling. Just how it shall be handled will depend upon conditions. The best method where cattle are fed in barns, sheds or lots, is to haul the manure to the fields day by day or week by week as it is made. There is the least loss in handling it in this way, although this plan is not always feasible.

The next best plan is to feed under an open shed where the manure may accumulate and where it will be kept tramped down compactly by the animals. Under such a plan it will be kept sufficiently compact and moist to prevent rapid fermentation, and next to hauling to the fields as made, this is the plan which gives the least loss of fertilizing constituents. One of the cheapest plans is to feed directly back on the fields but too often in this case the feeding is done on some hillside where washing and leaching carries away the larger part of the fertilizing constituents contained or the cattle are fed in some sheltered wood lot where the manure is lost to the fields.

THE SPREADER SAVES MANURE

In this connection it should be said that a manure spreader will pay on the average farm of 100 acres or over, and where much stock is kept it will pay handsome returns on farms of much smaller size. Most men think that the value of a manure spreader lies in the saving of labor, and while this is an important reason for its use, it is not the only one. A reason that is as important, or even more important, is the fact that manure put on evenly and rather lightly over a large area will give larger returns per ton of manure applied than the same manure put on heavily and irregularly over a smaller area. This difference in return will frequently pay for the spreader in a single season. There is one other reason why a man should own a spreader and this is that when he has his money invested in such an implement he will almost invariably take better care of the farm manure.

Prepare the Foal for Weaning

L. C. Shaw, Kent Co., N.B.

A colt should be so fed for several weeks before weaning that it will not be seriously affected by the loss of its mother's milk. The secret of success in dealing with foals is never to let them lose their colt flesh. Keep them growing and vigorous from the time they are born. This cannot be done by making them depend altogether on poor pasture and what nourishment they can get from their mother's milk right up to the time of weaning. It is such care as this that produces the small, potbellied, ewe-necked colts which we see on too many farms in the fall of the year. A foal properly cared for will not seriously feel the loss of its mother's milk.

As soon as the foal is large enough it should be taught to eat grain. If the mare is fed grain in addition to the pasture the young thing will soon be seen nibbling the grain from the same box. If the pasture is poor it is desirable to make special provision for graining the foal. Some breeders who wish to push the foals along provide a small paddock in the corner of the field. The mares are allowed to eat grain in this paddock at first to accustom the foals to eating there. Bars are then arranged so that the foal can get under but not the mother. Oats and bran can be fed in troughs in this enclosure. The foals will soon get in the habit of visiting this enclosure regularly.

When weaning time comes, which is at five or six months old, the colt should be eating a regu-

lar grain ration two or three times a day. This will provide sufficient nourishment to keep the colt growing when deprived of the mother's milk. If the colt has been running with its mother all the time up to weaning it should be fed four or five times a day when weaned as it is used to frequent feeding from its mother. Weaning time is one of the most difficult periods in the life of a foal. No great difficulty will be experienced in bridging this period, however, if it has been properly cared for beforehand.

Principles of Soil and Cultivation

A. D. McIntosh, B.S.A., Hastings Co., Ont.

Soil has been described as the cemetery of all ages and the resurrection of all life. All things begin with the soil and at last all things return to it. Many agencies are continually acting upon the soil making possible the growth and development of plant and animal life; there are the heat and light of the sun, the frost and snow, the rain and wind, the floods of spring, the earthworms, the action of countless microscopic organisms, the decay of plants and animals, and so forth. Man calls on nature to assist him with all these agencies, and gives her an extra chance by exposing the soil frequently with plough and cultivator.

Soil is not plant food. It is the place where plants grow. It holds the plant firmly in one place and furnishes the material that is left in the ash when the plant is burned. It also furnishes the water to carry this material in solution to the leaves of the plant where the plant food is manufactured and stored in root, stem, fruit or seed according to the nature of the plant. Without the sunlight and heat there could be no green in the leaf of the plant. The energy furnished to the soil by the sun is so enormous that it seems incredible. By cultivation, man takes advantage of this energy and stores it up till such times as he wants to produce a crop. Soil being opaque, however, it is not enough to merely turn the ground over occasionally. Only thorough cultivation gives the soil the best chance to store energy. If a man were to get electric power for nothing he would think he had a bonanza, but when Nature lavishes her free will offerings of countless horse-powers of energy to produce his crops he is too often indifferent about connecting up the power to his machinery so as to get the full benefit.

AFTER-HARVEST CULTIVATION

Early after harvest shallow cultivation can be done at a time when there is plenty of moisture, a plenty of heat and an abundance of light to cause a ready and rapid growth of countless weed seeds that have found their way into the soil. Not to mention the inestimable value of the conservation of moisture, there is a great deal of energy stored up in the soil, a great deal of soluble plant food made available, a great deal of humus mixed in, and a great deal of anxiety dispelled when the crop is sown in the spring.

The Ontario farmer who is blessed with a sufficient annual rain-fall to produce a crop does not so fully appreciate the benefits of a great deal of shallow cultivation, as does the Western farmer on the arid plains where it requires two years' rainfall to produce a crop; and where the farmer cultivates one-half his land for the whole dry season to conserve the rain-fall of the year while the other half of his farm is producing him a crop. We, in Ontario, are fast coming to recognize the fact that while nature bestows on us an abundant rain-fall, there must be something done here as well as in the West if we are to get satisfactory crops. The land must be kept loose and friable; the sunlight must get in; the moisture must be conserved; the weeds must be held in check. Early after harvest, shallow and continuous cultivation goes a long way towards filling the bill without the loss of a crop for a year.

Finishing the Market Hog

E. F. Eaton, Colchester Co., N.S.

The rate and economy of the gains made in the final feeding of the market hog will depend on the way it has been fed during the previous three or four months and the age and weight of the hog. Hogs which have been kept on pasture with enough grain fed to keep them growing and vigorous are in ideal condition to make rapid and economical gains. The green feed and exercise give the pig a good hearty appetite. Its digestive organs have been shown by actual experiment to be larger and stronger than are those of the pigs fed grain only. The feeding of green feeds, as rape, in the peas, have the same effect on the digestive system though to a lesser extent.

YOUNG PIGS GAIN FAST

Another factor which has a large influence on fattening is the weight and age of the hog. We have found that when hogs get to be eight or nine months old and weigh 250 to 300 lbs., it takes considerably more grain to produce gain in weight than it would to get the same gain at five or six months. We aim to have our hogs marketed when six months old. They then weigh from 170 to 190 lbs. each.

For the final feeding which lasts about four or five weeks the pigs are confined in their pens with a small yard to exercise in. Too much exercise is not conducive to economical gains. The green feed is gradually reduced and the grain increased. At the end of two weeks we have them on full feed. A little rape or green oats is still fed once a day to keep their digestive organs in shape. This green feed also produces a firmer bacon than a straight grain ration.

DIRECTIONS FOR FEEDING

For grain we use a mixture of shorts and corn-meal, equal parts. This mixture, with a few, gives better results than either fed alone. Occasionally we feed ground oats but they are not economical, as whole oats can always be sold for 45 cents a bushel on our local market. The meal is fed three times daily in the form of a thick slop. Sometimes skim milk is used to mix the feed with, but more usually water. I cannot give any set rules as to the amount of slop to feed. It varies greatly with different bunches of hogs. Feed just as much as they will eat up greedily but no more.

The time the hogs are making the money for us is when they are on pasture or when huddled on rape. It costs almost as much to put on the added weight in finishing as it is worth. The profit for the final operations comes in the increased value of the whole weight of the hog. If the hog weighs 150 lbs. when we start to feed him and the pork is worth one and a half cents more as a result of finishing we have a profit of \$2.25 for our work in finishing.

The Work Horse in Warm Weather

G. H. Blair, Carleton Co., Ont.

Working on the field during this hot and dry weather causes the horses to perspire, and the skin will fill with dirt and dust, which is held by the perspiration as it dries. Unless this is removed, the skin will become irritated, and it makes the horse uncomfortable. In order to remove this, and to improve the general health of the animal, he should be well brushed nightly and morning. It greatly adds to the comfort of a horse to be brushed in the evening after a day's hard work. The curry comb should be used as little as possible, and only to loosen dirt that cannot be removed with the brush. To groom the horse well after hard work, does not only clean the skin, but it prevents various parasitic diseases of the skin. It gives the horse a glossy coat and keeps him in better condition.

If the horse has been perspiring when brought into the stable, it is a good plan to let them roll in the yard and then rinse them with water that is slightly warm. This will remove the dirt and

sweat. A currier skin should be used. Farm at this time of the year of the care and the year of continuing should

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