



Autumn and Spring Manuring

The application of manures takes place in the autumn and spring, and the reasons why some manures should be applied in the autumn and some in the spring is worthy of consideration, says an English journal.

Farmyard manure and low class organic manures, such as shoddy, wool waste, fish heads and similar refuse materials, should as a rule be applied before the winter sets in, so that there is time for their decomposition and conversion into available plant food when the crops require nourishment in the spring. Speaking in a general way, the time for application depends on the different requirements of the crops.

Manures may be divided into two classes:

1. Those quickly available, containing nitrogen, phosphates, and potash in a form soluble, and therefore immediately effective.
2. The slowly available, containing the elements of plant food in a condition that necessitates transformation in the soil either by bacterial chemical, or physical agencies requiring more or less time before the plants can assimilate them.

Moreover it will be understood that autumn sown crops which are a long time in the ground are in a position to utilize the more slowly acting manures, but even they benefit by a little active fertilizer as a top dressing when vegetation starts after the turn of the year. Thus for wheat sown in the autumn a moderate dressing of slow acting farmyard manure is excellent when backed up by a little nitrate of soda in spring.

On the other hand, spring sown crops, especially oats, barley and spring wheat, having to grow and mature in a relatively short time and to assimilate in this brief period an equal quantity of nourishment, require all their plant food in a more active form. From commencement of growth to maturity, the fertilizing substances required by the plant must be easy available and therefore the phosphates and potash, as well as the nitrogen, should be in soluble forms—hence the value for spring sown cereals of superphosphate, concentrated nitrate salts, and active nitrogenous fertilizers.

The same consideration applies to turnips, manure and potash, they only have a few months to grow and therefore require a big supply of fertilizer material in an easily available condition. Farmyard manure, unless applied in excessive quantities, does not furnish sufficient available plant food to enable the rapidly growing plants to draw the necessary nourishment, hence the wisdom of giving smaller dressings of farmyard manure, helped by superphosphate or citric soluble basic sludge with nitrogen and potash when desirable in quickly acting forms.

These are points worth bearing in mind when considering what fertilizers should be employed.

Wintering Horses

The feeding of horses during winter differs largely according to the methods of the farmer and the nature of the crops he is accustomed to raise, but hay, straw and oats usually form their staple food. Frequently meadow hay only will be allowed, but grass seed hay is much better, while oats two or three times a day as an excellent adjunct. It is not unusual when it is desired that the animal should be kept in the best of form, especially if it be in daily draught, to substitute for the night feed of corn warm bran, to which may be added Swede turnips, or mangelbeets. In the giving of corn care should be taken not to make too liberal allowance, because it might result in more harm than good. Under such a system of dieting, if the farmer has plenty of hay and oats to spare, very poor animals purchased at this time of the year are in excellent condition in spring when there is a good demand for trained workers, so that even if there be very little to do for them on the farm in winter a fairly remunerative profit may be made.—Agricultural Economist.

Putting Away Tools

The wearing out of farm implements is as a rule due more to neglect than to use. If tools be well taken care of it will pay to buy those made of the best steel, and finished in the best manner, but in common hands, and with common care, such are of little advantage. Iron and steel parts should be cleaned with kerosene and a scrub, or scraped with a piece of soft iron, washed and oiled if necessary, and in a day or two cleaned off

Bacteria in Milk

Fortunately for the milk producer, it has been shown that there is no relation at all between the quantity of sediment in milk and the number of bacteria. The commonest forms of bacteria found in the sediment from milk are streptococci and leucocytes, and where the latter are present in large numbers they are regarded as pus cells.

It has been demonstrated that nitrate certainly does remove some of the bacteria from milk, but not much, of course, because these micro organisms are so small—some of them are only one twenty five thousandth part of an inch in length—and they will pass through any material that is to the slightest extent porous. As a rule the greatest proportion of bacteria in milk finds an origin in the litter in the cow sheds, and much of the sediment in milk comes from the same source. If for example, peat is used as litter, as many as two million bacteria may be found per gram of milk. It was also found in a series of tests by a famous German bacteriologist, that good straw litter produced seven and a half million bacteria per gram of milk, while bad straw produced ten millions per gram. Much of the bacteria contamination of milk is also due to the use of dirty milk pails and other utensils. Thus, with a sterilized milk pail, the number of bacteria per cubic centimetre was only 1,200, while when the pail was simply closed out the number reached 28,000. There is a similar disparity between the bacterial contents of milk drawn from clean and dirty cows, the former containing 20,000 bacteria per cubic centimetre, and the latter 170,000. Not all bacteria are not, of course, harmful, though the fact remains that the greater their numbers are in a given quantity of milk, the greater is the chance of there being pathogenic organisms of a dangerous character present.—Farmer and Stockbreeder.

The Use of the Filter

The use of milk filters or strainers is direct evidence that the methods of milking dairy cows are not as cleanly as they might be. In a large establishment like Lord Rayleigh's, in Essex, says the "Farmer and Stockbreeder" Ent., the milk is cleaned by a special type of centrifugal machine before it passes through the separator. If no dirt or sediment were introduced into the milk during milking there would be no need of the filter, nor should we hear so much about separator "slime," which is simply the sediment in milk that is thrown out by centrifugal force, and collects in all the cracks and crevices of the machine.

Naturally it has come to be taken for granted that the cream separator is also a milk filter, and it is looked upon as such by many dairy farmers who do not pay as much attention to hygienic methods in the cowsheds and dairy as they might. It is a mistake however, that is likely to cost the milk producer dear, for while one may reasonably expect a separator to remove a large proportion of the dairy sediment in milk, it certainly will not get rid of offensive and dangerous bacteria. And if the producer relies on the machine for removing dirt, and is inclined to be lax in his methods of ensuring cleanliness during and after the milking of the cows, he must also rely on it for removing undesirable bacteria which gain an entrance to the milk in such large numbers entirely owing to lack of cleanliness.

Although a cream separator helps to remove a lot of sediment and foreign matter from milk, it is only where cream is produced that these machines are in use. Ordinary milk sellers depend on one or other of the various milk filters that are now on the market. Generally, the more progressive recognize the advantages of using filters of cotton wool besides the ordinary wire sieve strainers. These small discs of cotton wool collect an extraordinary amount of dirt from the milk, and once used are immediately destroyed. They cost but little, and the assurance that each consignment

with the corn cob and dry sand. Finally paint the iron with resin and beeswax, in the proportion of four of resin to one of wax, melted together and applied hot. This is good for the iron or steel parts of every sort of tool.

Woodwork should be painted with good, boiled, linseed oil, white lead and turpentine, colored to any desired tint, red is probably the best color. Keep the cattle away until the paint is dry and hard, or they will lick with death as the result. If it is not desired to use paint on hand tools, the boiled oil, with turpentine and "liquid drier," does just as well. Many prefer to saturate the wood work of farm implements with crude petroleum. This cannot be used with color but is applied by itself, so long as any is absorbed by the pores of the wood.

Parcel Post and Poultry

When the parcel post system is introduced in Canada, it will be a most decided benefit to the poultry industry. Strictly fresh eggs and specially fattened poultry may be mailed direct from the producer to the consumer. The farmer and the city man will be neighbors. Eggs may be laid on a farm one hundred miles from the city one day and the next morning for breakfast the city man enjoys eggs which are not twenty four hours old. The introduction of the parcel post system will mean much for the poultrymen and farmers near the larger cities. The yearly income from the average farms will be greatly increased. Furthermore, it will mean much better satisfaction for the consumer, because he can get a superior quality of goods which do not cost him any more and are delivered immediately. Freshness and quality can be relied upon. In the largest cities and towns throughout the country there are thousands of consumers eagerly awaiting an opportunity to buy eggs, dressed poultry, and other farm products direct. It will certainly mean a decided improvement in the private trade. Eggs may be shipped in packages containing from one to five dozen. Poultry may be shipped in packages holding two and five fowls, each weighing two lbs., boxes for one and two roasting chickens, and boxes for two squabs. These sizes will accommodate the requirements of almost all classes of consumers.

Pullets Were Too Fat to Lay

A farmer in the country recently asked what could be delaying the laying of seven months old pullets. They were fat, being fed on bran and pollard in the morning and as much wheat in the evening as they could eat; for sometime they also had a little most at midday. Greenstuff was available in plenty in the orchard. Some one year old hens were also late in laying, though the moult was three weeks past.

The poultry expert's reply was that some strains of fowls commence to lay as early as five months, but the majority, including Lehorh, do not usually commence before seven months. This farmer's fowls were evidently too fat, and a packet of Epsom salts to each dozen fowls twice a week for two or three weeks was recommended. The feed supply should be reduced till the birds be lean to lay, when it should be increased a little.

Manges and cabbages make good green food.

It is certainly greater economy to turn 40 per cent. of the feed into milk than 10 per cent., and the latter with a greater amount of labor.

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Domestic Birds

Many and varied are the publications devoted to the interests of poultry culture, and one of the best is "Domestic Birds," by J. H. Robinson, author of "Principles and Practice of Poultry Culture." Mr. Robinson is a poultry culturist of considerable repute, and during the last few years has produced several books on poultry culture. His latest book is especially adapted for college and school work, as well as being a very readable book for the practical. In his preface he remarks, "the object is to tell in plain language the things that everyone ought to know about poultry, pigeons and cage birds, to reach fundamental facts in such a way that they will be fixed in the mind, to excite interest in the subject where none existed, and to direct enthusiasm along right lines. While the demand has been almost wholly for a poultry book, pigeons and cage birds are included, because they are of more interest than some kinds of poultry and better adapted than any other kind to the conditions of city life." This book is well worth "while" for the farmer and poultryman. It is published by Ginn and Company, Boston, Mass.—M. A. J.

Chicken Chant

By M. A. Jull, Macdonald College, Quebec.
When the comb and wattles become frozen, thaw them out with ice and snow. Then apply camphor, followed by vaseline. Apply the vaseline once a day for several days.

Scatter all the whole grain in the litter during the cold weather. Exercise not only keeps the hen warm, but it keeps her in good laying condition.

Before deciding to venture deeper into the poultry business, visit the plant of some one who is going out of the business and find out why.

All dressed poultry should be sold as soon as possible now. Prepare for the Christmas trade and fatten well. If you have enough birds, put them in a fattening crate or coop. Feed them lightly the first week, then all they will eat up clean. Use oatmeal feed, cornmeal and broken wheat ground fine.

Real Economy Feeding Dairy Cows

A common error in feeding dairy cows is to spare the feed in order that it may last as long as possible. In some things it is economy to save but in feeding for milk and butter fat it is false economy. A cow must become satisfied before she will do her best work. While a reasonably liberal grain ration is necessary, the amount of roughage consumed by a heavy producing cow is surprisingly large. The large consumers are invariably the large producers. Under liberal feeding, a heavy milking cow requires about 60 per cent. of the feed consumed to maintain the body, in meagre feeding it often requires 80 per cent., leaving only 20 per cent. for milk production. Thus one well fed cow should produce as much as four scantily fed ones. In many cases they do.

Do not hold keep-over winter very young pullets. They will not do well and will only lose money for you.

Does Each Cow Pay?

Some records of total production for the last seven months sent in to the dairy division, Ottawa, showing how individual cows on adjoining farms vary in real earning capacity, will be of both interest to the average farmer and of value to men who are planning for better results next year. A ten year old cow that calved on March 12 has given since then just 2,812 pounds of milk and only 102 pounds of fat. A neighboring 7 year old, calved 2nd April, gave 6,420 pounds of fat, a little more than twice as much. In another contrasted pair in Glangarry, an eight year old calved 6th April gave only 3,394 pounds of milk and 129 pounds of fat, while a five year old calved 26th March gave 7,280 pounds of milk and 241 pounds of fat, or again more than twice as much milk.

Have these two owners of two such poor cows the wrong type of cows is it the old placid contentment with "average" yields, which are liable to degenerate so quickly into poor yields? An income from the milk of one cow of only \$28, when another adjoining cow earns \$72 as seen above, cannot be considered satisfactory when a man is supposed to be keeping cows with the object of making money. A simple milk record shows definitely which cows in the herd earn the most; don't "average" good and poor together, keep the best but make sure that each cow pays.

The large kind of West Indian frey gives a light so bright that by it printed matter may be read at a distance of two or three inches.

A new administration building has been erected on the poultry plant at the Ontario Agricultural College. This will be of great service to the department, and will add much to the present extensive equipment.

The first known doe with horns was shot in Dummerston, Vt., last Thursday. The doe had one horn five inches long and another three inches in length. The hunter violated the law in shooting it, but under the circumstances was quickly excused.

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(Every day except Sundays)
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P. M.—1.15, 1.45, 2.15, 2.45, 3.15, 3.45, 4.15, 4.45, 5.15, 5.45, 6.15, 6.45, 7.15, 7.45, 8.15, 8.45, 9.15, 10.00
Leave Chatham Head—A. M.—7.15, 7.45, 8.15, 8.45, 9.15, 9.45, 10.15, 10.45, 11.15, 11.45
P. M.—12.15, 1.30, 2.00, 2.30, 3.00, 3.30, 4.00, 4.30, 5.00, 5.30, 7.00, 7.30, 8.00, 8.30, 9.00, 9.30, 10.15
SUNDAY TIME TABLE
Leave Newcastle—A. M.—9.00, 9.40, 10.20, 11.20
P. M.—12.30, 1.45, 2.15, 2.45, 3.15, 3.45, 4.15, 4.45, 5.15, 5.45, 6.15, 6.45, 7.15, 7.45, 8.20, 8.40, 9.25
Leave Chatham Head—A. M.—9.20, 10.0, 10.40, 11.40
P. M.—12.40, 2.00, 2.30, 2.50, 3.30, 4.00, 4.30, 5.00, 5.30, 7.00, 7.30, 8.00, 8.30, 9.00, 9.45
After the 15th October the last boat will leave Newcastle at 8.45 unless otherwise advertised.
If more teams are waiting on wharf than boat can take in one trip, it will return for them immediately.
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