

Soils and Crops

This Department is for the use of our farm readers who want the advice of an expert on any question regarding soil, seed, crops, etc. If your question is of sufficient general interest, it will be answered through this column. If stamped and addressed envelope is enclosed with your letter, a complete answer will be mailed to you. Address: Agronomist, care of Wilson Publishing Co., Ltd., 73 Adelaide St. W., Toronto.

Saving Farm Manure.
A skycraper could be built every month of the year by the farmers of Ontario with the money lost through the poor handling of barnyard manures. Probably this loss amounts to \$18,000,000 a year.

The price of fertilizers at the present time gives deep significance to this great waste. Every ton of barnyard manure can be conservatively figured to be worth at least \$4.00 per ton, according to present quotations on nitrogen, potash and phosphates.

Another factor that emphasizes the importance of conserving the manure pile is the prevailing food values. Never before has there been so great a world shortage of food. It will be some years before agriculture can replenish the world's larger. During that time farmers should capitalize their manure piles.

The two suggestions that we have heard time and again are: 1. "Spread that manure immediately after it is made," or 2. "Build a tight manure pit." We have been told that leaching is the cause of the loss, we have heard the pathetic tale of the dark brown liquid which floats down the stream, etc.

The fact of the matter is, that for ninety-five per cent. of the farmers it is a most impractical proposition to draw manure out each day. Moreover, the experience of farmers in this province, especially on the lighter soils will bear me out when I say it has not been proved that the application of fresh manure is advisable. All farmers will admit that were it possible they would rather have the rotted manure, provided they were assured that it had lost none of its value.

The rarity of the cement pit in the province, disregarding for a moment its value and necessity, proves that most of the farmers in Ontario have thought they could not afford to bother with it. We are struck with the fact that specially constructed costly manure pits are not known to the Chinese and are rare in Europe where the conservation of manure is imperative; where it has become a necessity, a matter of life and death to save every particle of manure.

As has been said by many other scientific facts, the impractical suggestions for their application have hidden the fundamental facts concerning the keeping of manure. I have heard hundreds of farmers in the province say, "What's the use. I have no cement pit, I cannot draw it out, I cannot prevent the waste."

Let us consider bottom facts. We have just finished filling a silo. There was a time when corn was cut, and left in an open barnyard and fed. The weathering and rotting caused a loss in feeding value so that soon afterward it was arranged to put the corn under cover. But the experience of men proved that much of the corn was still wasted and it did not keep till the following spring, so the stack silo was developed. The reasoning was something like this: "If we can pickle this corn, preserve it through the winter, we can have feed throughout the year. The corn was tramped and tightly packed. The outside rotted forming a complete shell around the inside which pickled and preserved."

Then, the bacteriologist came to explain. He said that there were two kinds of decay. There were germs which lived in the presence of air, needed air for their development. When these germs attacked a substance they rotted it, they burned it up. Then, there was this other group of germs which could not live in the presence of air. These germs were the "pickling" germs. If you arranged to put a substance in a container or packed it so that air could not reach it, these pickling germs would get busy, and produce the conditions by which the material would be preserved.

Here are facts we note every day: If meat is placed in a jar and surrounded with pickling germs and the air is excluded, it will keep. If we leave it exposed to the air and to the rotting germs, it will decay, and finally disappear.

What would you think of the farmer who threw his corn out into the barnyard and expected to have feed for his cattle next spring and summer? What should you think of the farmer who throws his manure out into the barnyard without any further attention and expects to have feed for his soil next spring and summer? The facts are the same.

We cannot afford to build silos for our manure, but we can build stack silos of manure. We can tramp it each day as we spread it on heaps which are constructed as a stack silo, at least six feet high, with almost perpendicular sides. We can keep it moist, keep the air out of it and never let it dry out. In doing this we will not allow the undesirable germs to take the place of the pickling germs. There will be no leaching in the compact pile any more than there will be leaching from a stack silo. Of course, the outside of the heap will rot and there will be some loss but this will form the shell, the wall around the precious stuff on the inside. Thus, we have reached the first suggestion.

I have seen many men water a dry manure heap to rot it. I have known men who have manure pits to water the manure which had become dry in the pit. There is no simpler way to throw your money into the air. When the "rotting" germs do their work in a loose dry manure heap, the nitrogen salts are finally formed wherever air is abundant. These salts are easily dissolved in water. A rain washes these salts, not down to the stream, but down into the centre of that manure heap where there is no air and where the "pickling" germs are doing business.

When this happens these nitrogen salts are broken up so that the nitrogen is released from the pile as a gas. The great loss from the manure pile which is exposed to the elements is, not leaching into the ditches and creeks, but leaching into the air. One-third the nitrogen in the manure heap is probably lost annually in the alternate wetting and drying of the manure heap. This loss can occur in the open cement pit, as well, if the manure is allowed to become dry, while in covered pits the loss is just as great if the farmer plays the water hose on the manure pile after it has become very dry. The manure pile must be kept continuously moist.

If excessive bedding is used, the water should be applied as the manure is stacked just as you do with dry silage. Thus, we can understand why it is advisable to keep manure covered. This need not be an expensive cover. If it leaks a little, so much the better, it will keep the manure moist. A cover for the manure like the typical covered barnyard shed in which cattle are fed, is excellent but perhaps too expensive. The ordinary farmer can build such a shed roof to his barn with very little expense.

The entire matter may be summed up as follows: If the farmer of Ontario want to save at least ninety per cent. of the eighteen million dollar loss in Ontario each year and convert it into food, there are these simple things to remember: Pack your manure tightly by tramping or by allowing the stock to tramp it, keep it moist and never let it dry out, and keep it well covered.

FUNNY FOLD-UPS

CUT OUT AND FOLD ON DOTTED LINES



TODAY I'M PLAYING BARBER SHOP. SIT DOWN, PLEASE, WHILE I TRIM THAT NOSE.

MY HAIR CUTS MAY NOT HAVE MUCH STYLE BUT YOU'LL ADMIT THEY LAST A WHILE.



Horse Sense

The colt should be taken away from the mare when between five and six months of age. In order that the weaning may be accomplished with the minimum of discomfort for both colt and dam, commence the process gradually. Allow it to suckle for a short time twice daily for a week or so, then once daily for another week, at the end of which time it should be weaned entirely. The dam will then be secreting no large quantity of milk, but she should receive some special attention for a time. Feed dry, non-heating foods which will tend to check the milk flow. Draw the milk from the udder only often enough to prevent inflammation from setting in. If it can be arranged a complete rest for the mare until she has dried up entirely is desirable. But if she must perform work, avoid getting her hot.

A good grain ration is composed of one-fourth corn, one-fourth bran and one-half oats, or one-fourth corn, three-eighths bran and three-eighths oats. Crushed oats are to be preferred to whole oats.

When the nights become cold and frosty the young colt should be sheltered each night, but allow it its liberty again the following morning. It never pays to confine a colt unnecessarily, as it needs lots of exercise, fresh air and plenty of good feed in order to develop bone and muscle and to grow into a large, shapely animal. Half of a horse's growth is made during the first twelve or fifteen months of its life, hence during this period the aim should be to secure a uniform and proper development of all the parts of the young animal. Keep the colt in a thrifty, growing condition every day during its first winter. Feed liberally; it is costly economy to stunt the colt by stingy feeding. The growing colt should never be in high flesh, however, but just in good, growing condition. By good management an ordinary colt can be made to grow as large as either dam or sire. Feeding colts is like feeding any other class of stock: Good judgment must be exercised by the feeder at all times.

The Dairy

Study up a system of ventilation for the dairy barn if it has none. The cows need fresh air to keep them healthy. The milk is better if the barn is ventilated and as free as possible from odor. Everything that conserves the health of dairy cattle should command the attention of dairymen as there is nothing more discouraging to peace of mind and profits than a sick cow. The cattle with plenty of fresh air develop a vigorous condition, helps them to resist disease and produce quantities of milk.

Stock raisers should get together and decide what breed is best suited to their locality and then stick to that breed.

A bull with a good beef form and a marked tendency to early maturity is a prime requisite in producing baby beef.

Roughage is an important item in the calf's ration. At two to three weeks of age a calf should have all the good clean hay it will eat. With skim milk and alfalfa hay little grain will be needed.

Storing Farm Machines.

Shade trees and fence corners are not good places in which to store farm machinery for the winter. Storing machinery in such places merely decreases its life of usefulness. Machinery experts say that the life of any machine is lengthened by protection from winter, by frequent oiling and by prompt attention to repairs. Farm machines, therefore, should be stored in the fall where they can be overhauled and put in shape for the next season's use before the time for such use arrives.

GOOD HEALTH QUESTION BOX

Dr. Currier will answer all signed letters pertaining to health. If your question is of general interest it will be answered through these columns; if not, it will be answered personally if stamped, addressed envelope is enclosed. Dr. Currier will not prescribe for individual cases or make diagnosis. Address: Dr. Andrew F. Currier, care of Wilson Publishing Co., 73 Adelaide St. West, Toronto.

Treatment of Ulcer of the Stomach.
Three symptoms are almost always present with gastric ulcer, pain, vomiting and hemorrhage. The pain is constant in some cases and intermittent in others, it may be worse just after eating or an hour or two later. Sometimes it is worse when one stands up, sometimes when one sits down or bends over. It is often very severe and may be felt at the pit of the stomach or in the middle of the back and it is intensified by pressure over or upon the stomach.

Vomiting sometimes occurs from half an hour to two hours after eating or drinking and blood may be mingled with the digested food. Blood is the positive evidence, or one of them, of ulcer of the stomach and is present in half the cases either in the substance vomited or the stools. Bleeding may be provoked by excitement or any unusual exertion. Heartburn and constipation are also common symptoms though the appetite may be good. Rest is the most effective means of treatment, that is one must not only remain in bed several weeks, but the stomach must be kept empty and free from motion and the work of digestion. Digestion means the preparation of gastric juice and this juice is often very sour, when ulcer is present, from an excess of hydrochloric acid, indeed this may be the principal cause of the ulcer. Proper nutrient injections should be given to the patient every six hours, when ulcer is present, from an excess of hydrochloric acid, indeed this may be the principal cause of the ulcer.

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The demand for food, both in this country and abroad promises to be very large for several years to come, and the outlook for good prices should encourage wider and more thorough cultivation of the soil.

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Questions and Answers
X. Y. Z.—Is there any cure for

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MASTER YOUR MEDIUM

"Mother, what's a medium?" demanded one of the boys at a breakfast table the other day.

"Medium!" repeated the mother. "I suppose you mean a person who is used in efforts to communicate with spirits—like the experiments of the Society for Psychical Research, for example."

Roy shook his head. "No, that can't be it."

"Perhaps Roy means medium in the sense we use it in to describe his general average at school!" said Pauline slyly.

Roy grinned good-naturedly. "No; that's not it, either. It's something you work with."

"Why, so it is. You've described it yourself," said the mother. "For example, the clay that the potter uses is his medium. But how did you hear it used in that sense?"

"A man talking to us at school to-day," explained her son. "He's in charge of this big reconstruction fund they're going to raise here, and he was telling us how to help. He said, 'Put your heart and soul into it; give enough time to insure success—and master your medium!'"

"That's a rather cryptic remark to address to a crowd of youngsters," said the head of the house. "I don't believe I could quite define that myself."

"I don't know about definitions," said the mother, "but nobody practices that mastery of your material any better than you do. How about all your Rotary Club members turning out to work for the last Victory Loan?"

"Oh, they'd have done that anyhow!" said the governor of the club. "I heard Judge Wittecomb say you could do more with the men in this town than anybody in it, dad," put in Pauline.

"Anybody could get good work out of them if he would study them a bit," protested her father.

Pauline looked up quickly. "I know what it means when it comes to Young Women's Christian Association work," she said. "If you study your girls and what will appeal to them in the way of work or sports you can do twice as much with them. You remember the Saturday afternoon 'hikes,' mother?"

Mrs. Campbell smiled ruefully. "I certainly do! How sure Miss Archer was that the office girls would want to spend their precious half holidays in long walks over bleak winter roads, and how absolutely she failed to realize their point of view or to understand their reluctance, until the scheme died a lingering death under her very eyes!"

Roy had lapsed into sober thought. He had recently become president of the Boys' League in the High School, and, although he was flattered by the prominence of the position, he had seemed to be totally unwilling to bestir himself to win the co-operation of the members. Only the week before the Red Cross had asked the League to take part in a parade, but when Roy arrived at the starting point a meagre handful of Leaguers greeted him. The committee thought it best to omit that feature from the programme.

New Roy raised his head and glanced round the table at the other interested faces.

"Maybe that's what made such a mess of my League business," he said honestly. "I guess if I went to get anything out of those fellows I'll have to find out what they are keen to do. After this, 'medium' will be my middle name!"

Plants That Poison Stock.

It is impossible to say with exactitude how much damage results from cattle, and live stock generally, eating poisonous plants. It is, however, certain that the waste thus caused amounts to serious proportions annually. Cattle, sheep, and swine are taken ill, and frequently die from trouble attributable to the consumption of poisonous plants when other things are supposed to have been the cause.

If it were the custom in all cases of this kind to call in a veterinary surgeon to investigate it would be discovered in many instances that the consumption of poisonous plants was at the foundation. Some of these plants are common to every province in the Dominion, others are only to be found in sections of the country.

The Agricultural Gazette of Canada in the September and October numbers deals with this matter in a very lucid way and supplies accounts of the most troublesome of these weeds in seven out of the nine provinces.

In Ontario it would seem that there are only two poisonous weeds that cause farmers serious trouble. These are Spotted Cowbane or Water Hemlock (Cicuta maculata) and the Common Horsetail. Both these plants are found in low places, or in sandy land which has a poorly drained subsoil, the Cowbane being especially poisonous to cattle and the Horsetail to horses. There are other poisonous plants found in the province such as Sneezeweed, Sheep Sorrel, or Lamb Kill, Stinking Willie, and Purple- or Corn Cockle. The last named is hurtful particularly to young chickens.

The doll is probably the most antique of toys. It has been found inside the graves of children of ancient Rome.



GIVE USEFUL GIFTS
EVERYBODY prefers a gift that is really useful, to some pretty but purposeless novelty. So that it is easy to be patriotic and comply with the Government's earnest plea—Give Useful Gifts.

This applies equally whether you are buying the gift for yourself—as a "treat" after the harvesting—for your friend or relative who may be "over there" for months yet, or for the folks here at home.

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