

Dr. Maria Montessori

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or nuts, cleaning every bearing, replacing worn parts, and cleaning away the dust and sand that mean unnecessary wear and loss of power. Care of this sort will add a great deal to the efficiency of his equipment, to say nothing of adding years to its life. There are hours that are being wasted now discussing the high cost of living that would be better invested in increasing the usefulness of farm machinery, though the farmer who knows his business will find time for both activities. "The maximum of efficiency," that is the highest returns possible from the time and money invested, must be the slogan of the farmer who would get things done with profit. During the days that have meant a slacking up of manufacturing, big firms have employed experts to put their plants in the best condition possible in view of the return of the good times. These winter months afford the farmer his opportunity of proving himself his own efficiency engineer.

York Co., Ont.

J. C.

Feeding Out Silage.

Editor "The Farmer's Advocate":

A great many farmers are not careful enough in taking out their silage. I came in touch with several neighbors last week and found, in their silos, six or seven and even more inches of ensilage frozen to the wall, to the height of five or six feet. This is the result of a bad practice. If ensilage is frozen, it will spoil, more or less, if exposed to the air for a considerable time. Experiments have shown that such ensilage, after being thawed out, did not smell as sweet as good silage taken fresh from the center of silos, neither is the former relished by the cattle as well as good silage.

The easiest way to prevent freezing of silage to the wall during cold weather is keeping the outside edges lower than the center. This is altogether too much neglected in this neighborhood. I also noticed some farmers taking out silage roughly, leaving an uneven surface and letting loose silage lie around on it. This increases freezing on the surface and should therefore be avoided. Keeping silage even on top and all loose particles raked off is good practice. A wooden hand rake is almost a necessity in emptying a silo. Another point which I would like to emphasize is, keep the wall entirely clean. It is not good to allow bits of leaves to hang around on the wall of the silo all summer. The moisture gathered between these leaves and the wall makes the latter moldy, and, as whitewashing is often neglected while filling, this mold extends into the silo several inches next year. An easy method of preventing this is scraping off the loose particles on the wall with the back of the fork every time after five or six feet have been taken out. I also don't like to see silos without a roof. I know when I first had my silo the first year no time was left to put a roof on. That winter I had to shovel out the snow after every snow storm before I could get at the silage and even then I had to take a little snow along with the feed. Freezing on the surface is also more serious without than with a roof. Considering the inconvenience and the labor, it does not pay to save the small cost of a roof by being without it.

In cold weather I generally take out the silage about two hours before feeding. This gives a little time for the frozen particles to thaw to some extent before feeding. I believe it to be bad practice to feed frozen feed of any kind to farm stock. The ration I give to my cattle is: A bushel box full of silage and one gallon of oat and barley chop three times daily, the same box full of oat chaff twice daily and as much straw as they will eat at noon. This is the ration for milk cows. Other cattle get less, according to size. I believe the above to be an average good ration.

S. K.

Waterloo Co., Ont.

How He Fooled the Crows.

Editor "The Farmer's Advocate":

Last spring I sowed my corn in a field running downward to a swamp which was well inhabited with crows. Crows seem to know when corn should be sown, so for two days the crows sat on the fence waiting for me to sow it. I thought one or two more workings would not injure the soil any, so I gave it and left the land in extra fine condition. I sowed the corn with a common hoe drill, removing all the feet that I did not sow with—I sowed with every fifth hoe—so I got it in deep without making it heavy for the horses. If I dropped any seed turning the end I picked it up. As soon as I finished sowing, I rolled it, then harrowed it rather crooked. The crows had grown tired of waiting and disappeared while I was sowing, and I feel quite safe in saying that the crows did not get a dozen grains of seed.

B. N. F.

Wellington Co., Ont.

THE DAIRY.

Avoid Disease Dangers in Buying Cows.

It is a matter of comment that disease in dairy herds seems to be in some districts on the increase. We hear considerable about contagious abortion and tuberculosis as being two of the very worst diseases with which the cattle owner has to contend. A man with a healthy herd of cows requires to use a little care in the selection of new breeding stock for his herd. It is better to pay a high price for a cow that you are sure is healthy in every particular, and is not likely to carry the germs of a dread contagious disease to the herd than to buy an animal cheap, about which there lurks a suspicion that something must be wrong else she would not be offered for sale. The practice of buying up carloads of cows here and there throughout certain districts and shipping them some distance and holding an auction sale, spreading them among the herds in the new district is very often, we believe, responsible for the spread of contagion. Far better would it be for the man who wishes to add to his herd to go himself to the stables of those who have cattle to sell and select his animals. He should look into the conditions under which they have been kept, and find out as much as he can about the cow which he selects. Cows bought in car-load lots to be resold to the individual farmers are usually purchased by the latter upon their own snap judgment. The original buyer takes little pains to find out the past history of the cow, and there is always the shadow of a doubt about such an animal, no matter how good she may appear. Even where cows are selected from the herd by the purchaser himself, a certain amount of danger must be reckoned with. We would advise that the seller be questioned carefully in each case. The buyer should find out as much as he can about the herd. A pretty good indication in most cases is a number of healthy, robust calves. This shows that the cows are regular breeders, and that contagious abortion has not gained a foothold in the herd. The buyer should keep his eyes open on all occasions.

Injury from Neglecting Milking.

We recently received the following letter from the secretary of the London (Ontario) Humane Society complaining of cruelty to dairy cows:

Editor "The Farmer's Advocate":

Among dealers who conduct auction sales of milk cows, it is a common practice to purposely neglect milking them for 12 to 24 hours before selling them. This is done in order that they may have "a good appearance for milk," as one dealer was heard to express it. This is, of course, a fiendish practice, as it results in extreme pain to the animal, and frequently in permanent injury. The "dealer" buys these animals from the dairyman or farmer under different circumstances, as they have been regularly milked. In justice to the animals, he should, when selling them, be forced to offer them for sale in the same condition. It is most unfair to the purchaser, and the only redress he has is to refuse to buy an animal unless it be in good condition. If this course were adopted the cruelty would soon cease. However, if this practice does not cease in the near future, the London Humane Society will be forced to prosecute those "dealers" who still persist in this cruelty. The inspector of this society has the matter in hand and will attend these sales, and so report on the matter.

LONDON HUMANE SOCIETY.

HORTICULTURE.

Insects Attacking the Tomato.

Editor "The Farmer's Advocate":

FLEA BEETLES.

There are several different flea beetles which feed upon the leaves of the tomato, but the most important is the potato flea beetle (*Epitrix cucumeris*). This is a very small species, measuring from about one-sixteenth of an inch to one-twelfth of an inch in length, black in color with pale reddish legs. The potato is also freely attacked, the beetles eating numerous small holes in the leaves. Other plants attacked are cabbages, cucumbers, beans, squashes, pumpkins, etc. The adult beetle passes the winter in dry, sheltered spots under leaves, rubbish, etc., and makes its appearance early in spring, when it attacks young and tender plants. The leaves of the tomato are often thoroughly riddled by the beetles soon after they have been planted out. In our experiments we have found that this flea beetle can be controlled by spraying with the ordinary Bordeaux mixture. When the beetles are present in extraordinary numbers it may be neces-

sary to spray at least twice a week, and if such is the case arsenate of lead might be applied with the Bordeaux mixture in the proportion of three pounds to 40 gallons of mixture. Remnants of crops, such as tomatoes, cabbage stumps, etc., and other refuse should be removed from fields and gardens in autumn, so as to reduce as much as possible suitable hibernating quarters for these and other destructive insects.

CUTWORMS.

These well-known caterpillars destroy many young tomato plants at the time these are set out. It is wise, therefore, to scatter a small quantity of poisoned bran around each plant when the same is transplanted. (Half a pound of Paris green is sufficient to poison fifty pounds of bran. The latter should be dampened slightly with sweetened water and the Paris green added slowly and thoroughly mixed through the bran.) There is one species of cutworm, namely, the spotted cutworm (*Noctua c-nigrum*), which has the habit of climbing the stems and feeding upon the fruit. This cutworm is of a pale brownish or grayish color, the conspicuous character by which it may be recognized being a row of triangular-shaped blackish markings (very conspicuous on the rear segments) on either side of the back. In some outbreaks we have found as many as a dozen of the cutworms eating into a single tomato. When not feeding, this cutworm remains hidden in the soil near the plant. If the fruit is noticed to have been eaten into, the placing of a small quantity of the poisoned bran around the base of the plants, near but not touching the stems, will prevent further injury.

BLISTER BEETLES.

There are three species of blister beetles which are liable at any time to attack the foliage of the tomato. These insects appear suddenly, mostly in July and August. The black blister beetle (*Epicauta pennsylvanica*) is uniformly dull black. The ash-gray blister beetle (*Macrobasis unicolor*) as its name implies is ash-gray in color, and the gray blister beetle (*Epicauta cinerea*) is black, uniformly clothed with short, gray hairs. All three of these beetles are of a similar size, namely, about half an inch in length. They are elongate in shape, soft-bodied, and have rather long legs. When these insects attack vegetable crops probably the easiest way of getting rid of them is for two or three boys to walk through the field waving from side to side boughs of spruce. This will cause the beetles to fly ahead, and when they come to the edge of the crop they will disperse and seldom return. Spraying with arsenate of lead, 2 or 3 pounds in 40 gallons of water, will, of course, kill many of the beetles.

TOMATO STALK BORER.

Complaints are often received of a boring caterpillar in the stems of tomatoes and potatoes. Upon investigation it has been found that the species was the tomato stalk borer—often spoken of simply as the stalk borer—(*Papaipema cataphracta*). The caterpillar, which is cylindrical in shape and smooth, is, when full grown, about an inch and a quarter in length. The head is yellowish brown, and the pale flesh colored body is marked with conspicuous longitudinal stripes. The presence of these caterpillars in the stems is usually detected by the unhealthy appearance of the plants, the tops of which become withered and fall down on one side. Unfortunately, owing to the boring habits of this caterpillar, the only remedy which can be suggested is to cut off the portion of the plant bearing the caterpillar and destroy the same. Injury by these caterpillars is usually noticed in the latter half of July. In addition to the tomato, the stems of potato, rhubarb and other plants are frequently infested by this insect. As the caterpillars also bore in the stems of certain weeds, such as thistle, burdock, etc., it is wise to keep fields as clean as possible of such useless plants.

THE TOMATO WORM.

Occasional reports are received of a large green caterpillar (*Phlegethontius quinque-maculata*) injuring tomatoes. This caterpillar when mature measures about four inches in length. It feeds on the leaves and also eats into the fruit. In some seasons in Southwestern Ontario it is very injurious. In gardens, the simple remedy of hand picking will usually stop the attack, but if at any time the caterpillars are abundant enough to require special treatment, spraying with Paris green or arsenate of lead will soon destroy the "worms."

THE TOMATO FRUIT WORM.

This caterpillar, which is usually spoken of in Canada as the corn worm (*Heliothis obsoleta*), on account of its habit of boring into the ears of sweet corn, is also destructive some seasons to the fruit of the tomato. In feeding habits it resembles the spotted cutworm, eating into the green and ripening fruit. When mature it is about an inch and a half in length and of dull greenish or brownish color, with longitudinal