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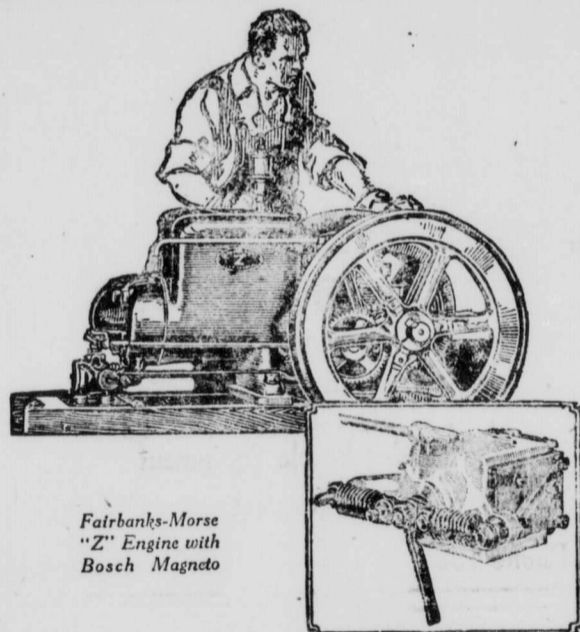
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**THE CORN EAR-WORM**

Most Destructive Enemy of the Corn Crop.

The Mother Moth Lays Eggs During June, July and August—Egg to Moth Cycle About Forty Days—Deep Fall Ploughing Advocated—Horse's Efficiency Depends on Rations.

(Contributed by Ontario Department of Agriculture, Toronto.)

The moths responsible for the erg laying that produces so many destructive worms appear in June and deposit their eggs on various food plants during June, July and August. The female moths that are attracted to corn lay their eggs on the silks. The eggs are small yellow circular flattened discs, that hatch three or four days after being deposited. The young worms feed on the silk for a day or two and then work down into the interior of the husk tips, where they continue to feed on the silks and tender kernels at the tip of the ear, gradually working downward as they grow to maturity. When fully developed the larva worms leave the ear and the silk, going down about four inches to pupate. Two weeks after entering the soil the transformation is completed, the worm that went down comes up as a moth.

Egg and Moth Cycle Covers Forty Days.

The life cycle, egg to moth, is completed in about forty days. The worm that attacks the corn silks is the same brood of the season. The moths are strong fliers, and may go considerable distance from their birthplace in search of new fields. No satisfactory method of destroying the corn ear-worm has been devised. Deep fall ploughing to destroy the last brood of the season is in part successful. If all land owners would plough a general clean up and deep ploughing of all lands in the autumn this pest would be reduced considerably. With many neglected areas scattered through the corn growing sections this insect's presence will be felt for some time.

Date of Planting a Factor in Control.

The date of corn planting is a factor of importance in escaping Ear-worm injury, with the probable date of the second brood of moths emergence, being known with fair accuracy, the planting may be done at a time to insure the corn ears being developed beyond the green silk stage before the moths of the second brood appear. The early planted corn has suffered less injury than the late.

Deep Autumn Ploughing Recommended.

Deep autumn ploughing of all land not in crop, the cleaning up of all materials that gather about the base of the corn, and the ploughing varieties of corn, early planting on well prepared land at dates well calculated to miss the major portion of the egg laying moths, are ways of reducing the damage done by the corn ear-worm. (Contributed by Secretary Dept. of Agriculture, Toronto.)

Horse's Efficiency Depends on Ration.

One of the factors that materially affects the efficiency of the work horse especially in hot weather is the feed he receives and the manner in which he receives it. It is often that a horse may do a full day's work regularly throughout the summer season and yet maintain a present condition if he must be fed just well to his capacity. In order that his work and his health, care and his physical must be exercised in the most efficient manner used.

The ration best suited to form the principal components of the ration are good timothy or upland clover hay and bright, clean, good oats. The average horse weighing 1,500 pounds will require about 20 pounds of hay and 22 to 24 pounds of oats a day.

There is a wide variation in feed requirements of different horses of the same weight however. Some do not have the capacity to consume and digest that much feed, and must be fed less even though as a result they cannot be expected to work so hard, while others will keep up and do well on a still less feed than the prescribed amount. The successful farmer or driver will study the individuality of his horses and feed accordingly.

It is a fact that are handled quietly and patiently will do much more work and keep in better condition on a given amount of feed than will horses that are abused and continually kept nervous and in fear of the driver.

The ration given above can be improved upon by using one feed per day of good, bright, clean alfalfa or clover hay, or by substituting bran for about 15 to 20 per cent. of the oats used. The grain feed should be replaced by a bran masa or feed of boiled barley or boiled oats on Saturday evening. The daily grain allowance should be reduced by about one-fourth on Sunday. Corn can be used in place of oats to constitute one half of the grain ration,

though straight oats is conducive to slightly more satisfactory results over a long period of time.

The heavy feed of hay should of course be given at night, while the heavy feed of grain may be given at noon. Watering both before and after feeding grain is the most satisfactory method. Work horses should also have an opportunity to eat all the salt they care for.—W. H. Peters, chief of the Division of Animal Husbandry, University of Minnesota.

The efficiency of the hog is determined by his ability to make a maximum gain on the minimum amount of feed. To do this the young pig must be kept thrifty.

Farm Trespassers Scored.

Mrs. Bess Wilson, editor of the Redwood, Minn., Gazette, very properly censures town people who drive through country districts and raid the farmer of his tame and wild fruit and other products. "Everything that grows on a farmer's farm belongs to that farmer," is the way the Gazette puts it. "To take even wild fruit without his permission is as much a misdemeanor as to take his corn, potatoes or chickens."

Improving the Sink.

An old wooden sink was made handier by attaching a zinc drain board. Three shallow grooves were beaten into the zinc, and it was nailed to the wooden frame with a slight incline so the water easily drained back into the sink.

Combating Field Mice.

Traps for field mice can be used only on limited areas. In the case of large tracts, recourse must be had to poisoned grain. One ounce of sulphate of strychnia dissolved by boiling in a pint of water and an equal quantity of cheap syrup added will poison half a bushel of wheat or corn. Cracked and crushed corn is better for this purpose than the uncrushed kernel. This grain should soak in the poisoned liquid several hours and then be allowed to dry. Grass growing about the base of a fruit tree encourages the presence of mice, as do also early milching. Cover crops such as buckwheat, oats or clover may harbor mice. Snow about fruit trees should be tramped down occasionally to keep mice from working under it. These pests would be less numerous if neighboring swampy areas were drained and thorough ploughing and harrowing resorted to in cultivating crops. Hawks and owls, weasels, skunks and foxes destroy large numbers of field mice.

The free use of an effective lice powder is always in order with poultry. A dusting is very essential in raising the fowls of lice. White-washing is effective against vermin. Use kerosene on the roosts and in the cracks to exterminate mites.

Mustard, cross radish, lettuce, set onions and spinach are crops that can be grown in a hotbed.

Be sure that the snow is well tramped about the apple and plum trees. This will discourage mice from nesting near them.

Vegetable Matter.

The advantage of matter in the soil may be summed up as follows: it affords aeration, retains moisture, prevents baking, provides conditions suitable for bacteria, aids decomposition of soil particles, supplies plant food, deepens soil layer, prevents leaching, washings and drifting. Every opportunity to return to the soil vegetable matter of any sort should be taken advantage of by all farmers having any respect for the soil of their land.

Continuous grain cropping decreases the productivity of soils. This is due largely to the reducing in quantity of the fresh vegetable matter in the soil, that is essential to chemical and bacterial action. Without chemical and bacterial action in the soil the feeding of plants would be difficult.—L. Stevenson, Toronto.

Save Shelling Peas.

Save shelling peas by using the following method: Wash, and put the unshelled peas in a stewpan. Boil ten or fifteen minutes, until thoroughly with a fork, then pour them into a colander, and drain the water. Pick out the empty pods, put the peas in a strainer, and return all to the fire. Season as usual. You will have saved the sweetness from the pods and much valuable time.

Marl.

Marl is a mixture of disintegrated limestone and clay. It contains in varying proportions lime, phosphorus and potassium. There is no better fertilizer for sandy lands than peat and marl, and it is surprising that greater use is not made of this material on many farms. Small marl beds are common over the Province of Ontario, and this material can usually be obtained for the labor of excavating. Farm labor and teams might be well employed during odd days during the summer and autumn period getting out marl for future applications. Crushed or finely divided marl can be directly applied to the land at any season of the year.—L. Stevenson.

**BEDDING FOR STABLES**

Straw, Peat Moss, Sawdust and Shavings Considered.

Straw Preferred for Many Reasons—Measuring Hay in the Mow and in the Stack—Hand-feeding Lambs—Farm Trespassers Scored.

(Contributed by Ontario Department of Agriculture, Toronto.)

The materials used for bedding domestic animals are generally straw from the grain fields, peat moss from the swamp, or shavings from the saw or planing mill. Straw is used to a greater extent than any other material, first because of its abundance; secondly because the stable offers a medium for transferring this by-product of the field to manure, and thereby facilitating its return to the land; thirdly because it is a good absorbent of liquids. Straws from oats, peas, rye, wheat and clover vary in value as a litter or bedding material. The hard rye and wheat straws, while durable to the wear of animals, is not as good an absorbent as the softer oat, barley and pea straws. Wheat straw not being highly valued as a feed finds its greatest use as a stable bedding. The nitrogen, potash and phosphorus contained in a ton of wheat or rye straw has a value at commercial fertilizer prices of \$2.25, oat straw \$2.60, and barley straw \$2.10. Straws have a further value in that the organic matter content is large, and of such a nature as to be particularly valuable in soil improvement. Peat moss is valuable as an absorbent of liquids, it is also valuable for its nitrogen content. The manure from stables where peat moss is used as bedding is generally of considerably higher value than the manure from any other source. It has one objection in that it is not as clean as straw. Sawdust and shavings, while serving the purpose as a litter or bedding material, add little value to the manure. Useful as an aid in keeping the animals clean and preventing the loss of the liquid portion of the manure, sawdust or shavings serve a good purpose; but it must be remembered that the fertility value of sawdust is low. Those who have straw should use it. Those who have neither straw or peat moss should then use the sawdust or shavings.—L. Stevenson, Sec. Dept. of Agriculture, Toronto.

MEASURING HAY.

The following simple and practical hints regarding the measuring of hay are worth noting and using:

**Tons of Hay in the Mow.**  
To find the number of tons of hay in a mow multiply the length by the breadth and then by depth of hay. This will give the number of cubic feet. Divide by 400, the resulting number will be the answer in tons. Hay varies in density due to the character of the grasses or clover from which it is made, the length of time it has been stored, the size and depth of the mow. Timothy and other grasses pack closer than clovers, shallow mows do not pack to the same density as do the deep mows, so judgment must be used in selecting a factor above or below 400 when estimating. The hay in the bottom of a mow 20 feet deep will be packed into half the space observed in a mow only 10 feet deep. If the mow is only 10 feet deep the factor used should be 600, if 20 feet deep 350 will be nearer correct. A fair average for all conditions is 400.

**Tons of Hay in a Stack.**  
To find the number of tons of hay in a stack, measure the overthrust distance of the stack and multiply by the length and breadth in feet, then divide by three. The resulting number will give the number of cubic feet. If the hay has been standing two months and the stack not over 12 feet high, divide by 600, the resulting number is the answer in tons.—L. Stevenson.

**Hand-feeding Lambs.**  
Lambs that have lost their mothers or have milkless mothers can be successfully reared by using goat or ewe's milk in a rubber-nipped nursing bottle. The newly-born lamb requires a small quantity of milk at very frequent intervals. Two or three teaspoonful every hour for the first day with a gradual increase as the lamb grows older. Many make the mistake of giving a newly-born lamb all the milk it will take at two or three feeds a day. This treatment is very frequently fatal. Keeping the feeding bottle clean and sweet and using the milk from a fresh cow and feeding every hour or two until the lamb is four weeks old will generally give good results. Milk may be continued as a feed as long as the lamb will take it. Should bottle-fed lambs develop scours, this condition can be checked usually by heating the milk to boiling point and then cooling quickly. A teaspoonful of castor oil given with the milk is also an effective remedy.—L. Stevenson.