

## Our Poultry Corner

If you have some things you do not understand in connection with your poultry and want some information, state your case briefly and to the point, writing on one side of paper only, and address it to THE MONITOR PUBLISHING COMPANY LIMITED, we will submit it to Prof. Landry, and when his answers are received we will publish them withholding your name if you so desire it.

### KEEP ONLY PRODUCERS

With the price of feed advancing it becomes more necessary than ever to keep only productive birds in the flocks. A few good pullets or yearling hens properly housed and carefully fed oftentimes give greater net returns than a flock twice the size that does not receive sufficient attention. If the poultryman has accommodation for 200 laying hens he should endeavor to fill the pen with birds that qualify to a certain standard. This will necessitate hatching many more chicks than will be required. There is sound to be in a certain percentage of being profit producers. They should be placed in the fattening crate. They may make good roasters if they don't qualify as layers. Plenty of constitution is required and they should show some life. To the average person choosing a good bird is a more difficult task than the selection of other farm animals. The poultryman who picks pullets with a good head, alert eyes, with face and wattles of fine texture, has taken the first step toward establishing the type that generally are the best layers. Birds with dull appearance, long narrow head, or crooked breast bone should be put in the fattening crate rather than in the laying pen. As the winter advances further culling may be necessary in order to keep the flock up to the standard.

The flock of yearling hens should also be culled in the fall when not entirely disposed of. The birds which are last to moult are considered to be the heaviest yearly producers. With the yellow-leg breeds it is not always those with the brightest legs that should be selected as layers. It is claimed that the coloring pigment in the legs is reduced by heavy laying. The white-faced birds the wattles lose their pure white color. Too often it is the birds with the brightest colored legs or the whitest wattles that are selected, when in reality they may be the very ones that have been taking care of themselves. It appears reasonable that the heaviest laying birds can not look as fresh as the medium producers. The busiest birds are often the layers. A rule followed by some poultrymen is to select the birds that are last to go to roost at night and first to leave it in the morning.

Show qualities and heavy laying are difficult to combine in the one bird. The poultryman who makes a practice of following the shows selects and breeds a somewhat different style of bird from the one bred for utility purposes. It is as necessary to have a definite breeding area, mating policy with poultry as it is with the larger classes of live stock. The non-producers in the flock keep down the average egg yield. The fewer of the unprofitable birds kept the greater the net returns from poultry raising. Trap nests are the most reliable method of distinguishing between the profitable and the unprofitable hen. On the farm this system cannot conveniently be followed; other methods must be resorted to. The flock can be greatly improved through the male bird. The utility flock should be headed by a male bird of laying stock. The Experiment Stations are commencing to keep records of the fowls and issue pedigrees for the birds. Results have proven that breeding counts for a great deal in improving the laying qualities. However, the more intensely the birds are bred for egg production the less likely are they to show fine feathers. It is for eggs and not feathers that most farm flocks are kept.

### MILK FOR POULTRY

If there has been one thing definitely proved in poultry investigations it is that animal protein in some form is essential to the best egg yield and rapid growth in young stock. This element of the food can be supplied by feeding either skim milk or buttermilk. On most farms where cows are kept the buttermilk or skim milk goes in the hog trough. While milk is certainly an excellent food for hogs, my experience is that it will yield a larger profit when fed to the hens and growing chicks. The hens will not only keep healthy and thrifty, but will do their very best to keep the egg basket full.

Milk may be termed a forcing food, and is especially valuable for growing pullets. If the most is to be made out of poultry the pullets should be fully matured and laying by October, when the price of eggs is up. If the pullet is not fully matured before the cold weather sets in the probabilities are all that she will not lay until spring.

When the chicks are hatched in March and April, and milk is kept before them, no difficulty will be experienced in getting them to laying maturity before cold weather. Experiments have shown that the April hatched pullet, fed a milk diet, will lay as soon as the one hatched in February and fed on grain alone.

In feeding milk some care should be exercised. If sour milk is fed it should be fed all the time. It will not do to feed sweet milk today and buttermilk tomorrow, as the change from one to the other will upset the fowls' digestion and bowel trouble will result. The milk can be fed alone or used to moisten the mash. Perhaps the latter method is to be preferred, since it can be fed without danger of waste, and all the fowls have an equal chance for a share.

### FEED WELL AND WISELY

The need of feeding hens a well-balanced ration is shown by Missouri experiments. Four pens containing five hens each were treated just alike, except for the feed.

The test with a wide ration containing elements which would produce 3 yolks for each white laid 379 eggs in the first six months.

The test with a narrow ration containing elements which would produce 2 whites to each yolk, produced 269 eggs.

The test with a ration containing equal yolk and white material, but without minerals to produce the shell, produced 161 eggs.

The test where the ration contained elements necessary to produce equally all parts of the egg produced 1,603 eggs in the same time. This ration is called a balanced ration for egg production.

The following ration is fairly well balanced for egg production: One hundred and fifty pounds each of cracked corn and cracked wheat, 20 pounds each of wheat bran, middlings, corn meal, ground oats, and gluten meal, 30 pounds beef scraps five pounds each of alfalfa meal and old process linseed oil meal.

For hens having free range of the farm a very simple ration is made of equal parts cracked corn and cracked wheat, and a dish of beef scraps to which they can help themselves.

### DISINFECTANTS FOR POULTRY

Fresh air and sunlight are wonderful disinfectants and, combined with cleanliness, are preventives against most of the ills of the poultry yard.

One of the very best disinfectants to use against mites is made as follows: Dissolve one pound and a half of concentrated lye in as small a quantity of water as possible. It will be necessary to do this three or four hours before it is required, as the lye should be cold when used. Put three quarts of raw linseed oil into a five-gallon stone crock and pour in the lye very slowly stirring meanwhile. Keep on stirring until a smooth liquid soap is produced then gradually add two gallons of crude carbolic acid or commercial cresol, stirring constantly until the resulting fluid is a clear dark brown. Use two or three tablespoonfuls of the mixture to a gallon of water.

It will be realized that the quantities given here will make a very large amount of disinfectant. These quantities are simply given as an indication of the proportions of the different ingredients. Each person can make up just whatever amount he thinks he will require. It is well to always have a supply of disinfectant on hand.

The foregoing is offered as a most effective remedy against mites; but those who regard the preparation of the mixture as too much work may use a good strong solution of coal tar preparation.

I have solved the marketing question by bringing the market to my door. When my chickens reached the proper size I advertised in the daily paper, which brought customers right to my door. Now I buy up young chicks of my neighbors, put them in a large shady pen, feed plenty of grain and green stuff, and keep fresh water before them at all times, thereby insuring good health. In this way I am able to market those that are fat and free from vermin.—Mrs. J. Martin.

It is estimated that egg production alone in Canada for 1915 was \$30,000,000. This is two and a half times the value of the whole fruit crop of Canada, six times the value of all that she will not lay until spring, the cattle produced.

## The Orchard

### FRUIT WORMS OR APPLE WORMS IN NOVA SCOTIA

(By G. E. Sanders, Field Officer in charge of Dominion Entomological Laboratory, Annapolis Royal, N. S.)

The Fruit Worms present in Nova Scotia probably number a dozen species, belonging to the genera Yllina, Calocampa and Scoploesoma. The life history and damage done by each species is very similar. On species, Yllina Bethunei G. and R. is the most common, far outnumbering all of the other species combined, and its life history is in a general way similar to that of all species of fruit worms so far studied in Nova Scotia.

### Life History of X. Bethunei.

The adult moth emerges in September and early October, flies until winter, hibernates under rubbish in old fences, grass, etc., and is one of the first moths to be found on the wing in the spring, usually being found flying early in April. About one month after its emergence in the spring it begins depositing its eggs on the apple. The eggs are deposited singly, about one inch back from the tip, on the under side of the outer limbs of the apple. The period of egg deposition covers the month of May. Eighteen days after the egg is deposited the larva emerges and begins to feed on the leaves. The greatest number of larvae emerge about the time the Gravenstein buds begin to show pink. For the first three weeks of its existence, or until it is in the third instar, the larva feeds on leaves and blossoms. At the beginning of the third instar it forsakes leaves almost entirely and feeds on the fruit eating holes in the sides of the young apple, usually biting into a new apple for each meal, so that the larvae may do an enormous amount of damage in one season. In all the larvae moult five times and begin to pupate about July 2; pupation continues until about August 5. For a week or so before pupation, the larvae revert to their early feeding habits, eating as much if not more of leaves than of fruit.

The pupa is formed in a very thin silken web, one or two inches below the surface of the earth. The pupal stage lasts about two months, the first adults emerging about Sept. 15.

### General Description

In general the adults of the Fruit Worms are strong flying, somewhat sharp winged moths, from 1.25 to 1.5 inches across the extended wings. The eggs are conical, ribbed vertically, with a small depression on the top. The larvae are for the most part green in the earlier stages, sometimes faintly marked with white color in X. Bethunei, the sixth stage larvae being slaty gray. In the Calocampids the sixth stage larvae are heavily striped with brown; in some of the Xylindris the final stage of the larvae is greenish white with white markings.

### Injury.

The fruit worm larvae during the first weeks of its existence feeds on leaves and blossoms, eating proportionately more surface for a meal than later when it is feeding on the fruit. During this period the damage to the leaves is negligible, but the damage to the blossoms quite extensive, as the young larvae have been observed eating the pistils, stamens and corolla, but owing to the number of false blossoms always present the actual percentage damaged cannot be determined.

When the apples are a little thicker than a lead pencil the third stage larvae begin feeding on them, eating small regular holes in the sides, consuming a large quantity of inner pulp in proportion to the amount of surface eaten. As a rule a fresh apple is eaten into, for each meal, in cases where the fruit worm eats through the outer pulp or what is technically the receptacle of the apple, and in to the core, serious malformation of the fruit usually results; in cases where the injury is confined to the outer pulp, the injury heals out to form a somewhat regular malformation. It has been found by actual count that 72 per cent of the apples eaten by fruit worms in the spring drop, as a result of the injury; so, roughly speaking, for every three apples found in picked fruit showing fruit worm injury, seven have already dropped to the ground as a result of the injury. On the picked fruit which was No 1 and 2 in size, and showed no defect excepting fruit worm injury, 75 per cent was thrown into No. 3 and culls, in an observation conducted to determine the actual injury.

### Distribution in Nova Scotia

Although the numbers of fruit worms vary slightly from year to year, they are on the whole, fairly constant and evenly distributed in every locality where apples are grown in Nova Scotia. An observation carried on in one locality, with the idea of determining

## WHO IS RESPONSIBLE

for the health of the family? The mother, of course! She is naturally particular to give her children only the purest of internal medicines, but she may not always know that a remedy applied to the skin enters the child's system, by absorption, just as surely as a medicine that is swallowed. This is a fact, and the mother should, therefore, use only the purest ointment obtainable.

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### Controls

From following the life history of the fruit worm, it can easily be seen that the time to spray for it, is when it is eating the greatest amount of surface in proportion to the amount of food consumed. Actual experiment proves this to be the case, and the two sprays one immediately before the blossoms, and one immediately after, gave a reduction in injury of 65 per cent. The spray applied from ten days to two weeks after the blossoms, gave no reduction in injury for the year in which it was applied, but gave a slight reduction the following year, showing that it poisoned the fruit worm after it had done its damage for the year, probably when it was feeding on leaves just before entering the pupal stage.

### Carnivorous Habits

During the season of 1913, in collecting the larvae of Yllina Bethunei in the field, it was found that the fifth and sixth stage larvae ordinarily when they find the cocoons of the common Tent Caterpillars, Malacosoma diastria and M. americana, they gnaw their way in through the cocoon and feed on the pupa contained in it. The cocoons of M. diastria cocoons collected on apple, on July 12 and 13, were found to be destroyed by X. Bethunei. In 1914 the cold season retarded the Tent Caterpillars more than the Fruit Worms, which pupated at about the same time as the Tent caterpillar, so only 5.99 per cent of the tents were destroyed by them in that season.

### WHAT CO-OPERATION WILL DO

Co-operative marketing is the only method whereby the shipment of the produce of the farm can be so regulated as to not overcrowd certain markets and leave other markets bare. It is the only method whereby our apples can be placed in right quantities on the market to realize the highest prices.

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### WASTE OF WEEDS

According to the United States Department of Agriculture, the annual waste due to weeds is estimated at \$300,000,000 for the whole United States. In certain states where diversified farming is the exception and approximate \$40,000,000 per year. What the waste is in Colorado cannot be accurately estimated, but it is undoubtedly true that considerable waste occurs. In the intensively cultivated sections the waste is not very large

because of the clean culture needed for certain crops. In sections where grain crops are very popular the waste is quite large.

The principal ways in which weeds affect farming are through direct damage to the crop, cutting down the yield, cheapening the product, and lowering the value of land.

The New Brunswick potato crop totals 7,300,000 bushels from forty thousand acres. This will total at present market selling prices six million dollars.

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