

## LICE INFESTING DOMESTIC FOWLS

Licenses due to the infestations of the various fowl species of lice that infest domestic fowl are in the aggregate many thousands of dollars annually to the poultry keepers of Ontario. Small insects working out of sight of the human eye, their presence is often unsuspected until the birds show unthriftiness, loss in weight, lower egg production, and reduced vitality, causing the owner to make an examination. If the examination is thorough, lice are generally found in the great majority of flocks. A few may not be serious, but if the little crawlers are permitted to increase to thousands the effect on the poultry-keeping part of the farm business is serious. Infested birds present a drooping and unkempt appearance, the wings lowered, the feathers ruffled, and the birds may suffer from diarrhoea.

### INFESTING CHICKENS.

Of the forty species that infest fowl, seven have a decided preference for and infest chickens. The body louse, *Menopon biserialis*, is light yellow in color and sticks pretty close to the skin. It lays its eggs in large clusters on the small feathers below the vent. It takes about three weeks from egg to mature louse. This species sticking close to the skin and feeding thereon is very irritating. The *Menopon pullidum* is similar to the preceding, only somewhat smaller and has the habit of spending its life on the feathers. It is not so irritating and deposits its eggs singly at the base of the feathers. The head louse, *Lipeurus heterographus*, is commonly found on the head and neck of young chickens. It is dark grey in color, deposits its eggs singly on the down about the head of the chick. It takes

about one week to reach the hatching stage and two weeks for the young louse to grow to maturity. The large hen louse, *Goniocotes abdominalis*, sometimes called the "blue louse," is smoky grey in color and one-third larger than the preceding. It sticks closely to the body, may be found anywhere and is easily recognized by its size and large round head.

The wing louse, *Lipeurus caponis*, is a small, long and slender species with a large rounded head. It confines its activities to the wing feathers. Two other species, the "fluff louse" and the "brown louse," are rarely present in numbers. Both inhabit the body feathers.

### INFESTING TURKEYS.

Two species are commonly found on turkeys, the *Gonoides stylifer* and the *Lipeurus polytrapezium*. The *Gonoides stylifer* is the most common. It is a large louse bearing some resemblance to the large hen louse and may be distinguished from it by having the posterior angles of the head extended backward and terminating in long bristles.

### DUCKS AND GESE.

Three species infest ducks and geese to a limited extent, the oily nature of the skin of waterfowl being a good preventive against these external parasites. The species commonly found are *Dooophorus lateralis*, a very small parasite, and the *Lipeurus squallidus*, a long, slender, yellowish colored louse.

### PIGEONS.

These birds are frequently infested with one or all three species—*Lipeurus bacillus*, *Gonoides damicornis*, and *Goniocotes compar*.

teeming with bacterial life. We must also grow a variety of crops, and not one of them but has a life history of its own which has to do with plant food requirements, insect pests, and diseases. These may seem trivial things, but the success or failure of any plant or tree or flower is often entirely dependent upon a knowledge of these things and of the methods of their control. And when we come to live stock there is a whole new list of things to learn. Balanced rations, parasites, internal and external diseases and how to prevent and treat them.

There is a great wide range of things that are full of absorbing interest for him who aspires to do things in the country. To know and do the right thing at the right time and to know how and when to prevent or repair the wrong thing is the price of success. There is no time to loaf or sleep on the job. It is this job that calls insistently for eternal vigilance.



Hard Luck. Bug Lover—"Who can spoon under a bright light like that, anyway?" Jamaica was originally named Xaymaca, meaning "Land of Wood and Water."

## THE NEED OF ETERNAL VIGILANCE

The farmer must be ever on the alert. He is a man of all work, a sort of Jack of all trades. His business as it must generally be conducted these modern days has various ramifications. No longer can the man who is inclined to rest that part of his anatomy which lies above his ears, expect to farm with success. Brawn has ceased to be the only requirement. The man who would make the farm a successful concern these days should be a first class mechanic. Few occupations demand familiarity with a greater variety of machinery than modern diversified farming. More and more of the physical operations of the farm are being done by machinery, and more will be done as time goes on. But we may go all up and down the long line of physical tasks that are apparent to the casual observer, from the turning of the sod in early spring to the shucking of the last ear of corn in the late fall, and still the half has not been told.

## ICE CREAM FOR THE FARM HOME TABLE

BY BELLE MILLAR, DAIRY DEPT., O. A. COLLEGE.

On the farm we have the cream and in many cases the ice also. A freezer is all that is needed to give the boys and girls much pleasure. When purchasing an ice cream freezer get one a little larger than what is required for the family so when company comes one freezerful will do. When a freezer is purchased that is rather on the small side, it means extra work if two lots have to be prepared and frozen.

It is well to have two openings in the tub of the freezer. One near the top to prevent the brine getting too high. The other opening should be near the bottom and kept plugged until it is necessary to repack the ice cream, when the cork may be removed and the brine run off without tipping the freezer.

Buy the very coarse salt such as ice cream manufacturers use, as it will give more satisfactory results.

The ice should be broken very finely. One good way is to place it in a sack and pound it well.

Although many cook books give the proportion of ice to salt as 3 to 1, experiments conducted along that line in food laboratories have found that 8 to 1 is a good proportion for freezing.

Do not fill the can more than two-thirds full with the mixture that is to be frozen, then put on the top and fill up the space between the can and the tub with ice and salt.

First put in enough ice to fill it up one-third of the way, then put in one-eighth as much salt and continue putting it in layer by layer but keeping the same proportion of salt to ice. It is not necessary to put salt near the bottom as it will work its way down.

Recipes are many and I think it a good plan to make note of results. For example, if a recipe is tried and we think too much or too little sugar has been called for, mark it down so

that next time the proper proportion may be used. If another recipe has given good results and a dish much liked by all, make a comment to that effect on the margin of the book.

Some one asks, "What is the easiest ice cream to make?" It is one made by freezing a cream that has been sweetened and flavored.

To a quart of thin cream add three-quarters of a cup of granulated sugar, stir well, and when the sugar is dissolved, add about two teaspoonfuls of vanilla extract and freeze. No definite amounts of flavoring can be named as there is a great difference in the strength of different brands of flavoring.

It is always best to taste the mixture before putting it into the freezer can, remembering that it will not taste so sweet nor will the flavor be so pronounced after it is frozen.

There is more plain vanilla ice cream used than any other kind, but by making additions many fancy dishes may be made. For example, when vanilla ice cream is partly frozen, the addition of strawberries that have been crushed and sweetened and then the work of freezing continued, gives a can of strawberry ice cream that will be much enjoyed.

For nut ice cream the nuts should be chopped and added to the freezer when the mixture is partly frozen.

Thus we see that by varying the flavorings the fruits and the nuts, we can give the family many pleasant surprises.

Then we should bear in mind the fact that it is not necessary to have cream in order to have frozen treats. We all know that fruit juices with the addition of water and sugar make refreshing drinks. Sherbets are made by taking this same mixture and after adding the beaten whites of eggs, it is frozen, and the resultant dish will be very welcome on a warm day.

If London's soot for one year could be collected in a pile, it would cover Westminster Abbey.

## Poultry

### Hardy Alfalfa in Ontario.

A large number of tests have been conducted in past years on the experimental plots at the Ontario Agricultural College with different varieties and strains of alfalfa. It was discovered more than a decade ago that the Common alfalfa from the Central Western States would not live long in Ontario. Variegated alfalfas, such as the Grimm and the Ontario Variegated, however, proved hardy in this province. These two varieties are now increasing substantially as the farmers appreciate their superiority over the Common, violet flowered variety.

In one experiment at the College, alfalfa has been cut for hay three times a year for eleven successive years without re-seeding. The first cutting this year, therefore, is the thirty-fourth crop obtained from one seeding. The average yield of hay per acre per annum from the eleven years of this test was slightly over four tons.

In another experiment of thirty-four plots seeded in the spring of 1922, the highest yield of hay from the first cutting of this year was of the Variegated type.

The Common alfalfa has variegated flowers of different densities and colors. Variegated alfalfa has violet, green, blue and yellow of various blends which can be seen when the blossoms are fully opened.

Several car loads of seed of high quality of Variegated alfalfa have been produced and sold for seed purposes in each of the past two years in Peel county alone. Also in a number of other counties seed of the Variegated type of alfalfa is being produced.

### When the Drain Clogs.

The other day the kitchen sink drain clogged, and not having the usual type of force pump on hand, it was necessary to improvise one for the purpose, or else put a stop pail underneath.

We didn't have to use the pail. I cut a block of wood about four inches in diameter and a good inch and a half thick, boring one hole clear through the centre and another half through the large end of the hole, over the end of a small bicycle pump. A tire-pump barrel would do just as well, providing the plunger leather are tight. By making the hole slightly smaller, the threads on the end of the pump barrel cut into the wood, forming a tight connection.

A large circle of rubber was then cut from an old inner tube and the edges tacked about the sides of the wood disk. A hole was cut in the bottom. The sink was filled half full of water, the lower end of the pump immersed and the handle raised. This filled the barrel with water. Then the rubber was pressed about the drain and the handle forced down. Water isn't compressible and the clog was not very tight. It came out the first attempt. Now we keep this pump on hand for further cases of this kind.

D. R. V.

### Bands Check Tussock Moths.

The tussock moth is a midsummer pest of shade trees and orchards and should always be watched for. Some seasons it appears in much larger than normal numbers and if neglected may do great injury. The female moth is unable to fly and must crawl to any tree upon which she lays her eggs.

After the eggs hatch, the young caterpillars may crawl from tree to tree and infest a large area. These facts are taken advantage of in fighting the insect.

Trees that are free from the cocoons of the moth may be kept clean by banding the trunks with some sticky material that will prevent either the adult moths or the caterpillars from reaching the branches. Sticky fly paper may be tied around the trunk or a band of a special preparation may be smeared directly on the trunks.

### A Rainy-Day Job.

A good rainy-day job for these days is to clean up the apple-storage house. Throw out everything that might become moldy; sweep the room out thoroughly; open all the windows and air it well. Then make up some good whitewash and give the whole interior a thorough dose of that.

And in this general clean-up don't overlook the storage packages. If one is using new barrels or new boxes for the purpose everything will be all right. But very frequently one uses secondhand packages for the storage, and the balance should be thoroughly cleaned and aired so that there may not be the slightest odor to them.

Few people realize how quickly an apple will absorb odors from the container in which it is stored, or from the air of the room. Mustiness or bad odors of any kind will very soon cause an apple to become unpalatable.



Wise Worm. Chick—"Don't you want to play with me, Mr. Worm?" Worm—"No, I'm afraid it might be foul play!"

## The Sunday School Lesson

AUGUST 17.

Jesus Cleanses the Temple, John 2: 13-22. Golden Text—My house shall be called the house of prayer. — Matt. 21: 13.

ANALYSIS.  
I. CHRIST THE REFORMER OF WORSHIP, 13-17.  
II. CHRIST THE NEW CENTRE OF SPIRITUAL WORSHIP, 18-22.

INTRODUCTION.—One of the first public acts of Jesus was to claim the temple for the pure service of his Father. Going up to Jerusalem at the Passover season, he was filled with holy indignation at the desecrating traffic which went on in the Temple courts, and with fierce gestures of intolerance, he drove the traders from the holy precincts, declaring that God's house was not to be turned into an emporium or market. This act of zeal for God's house provoked the angry remonstrance of the Jews, who asked Jesus what "sign" of authority he could point to for taking upon him the reformation of the customary usages. Jesus answered, "Destroy this temple, and in three days I will raise it up." The evangelist says that these words of Christ referred to his resurrection, that in fact the resurrection proved the validity of Christ's claim to assume control of the institutions of worship in the name of God. In future, not the material Temple, but Christ himself would be the centre of worship, the means and the sphere of man's approach to God.

I. CHRIST THE REFORMER OF WORSHIP, 13-17.  
V. 13. The Passover began in each year on the fourteenth day of the month Nisan, the day preceding our Good Friday, and lasted for over a week. Jerusalem at Passover was thronged with pilgrims.

Vs. 14-17. The outer courts of the Temple were the scene of a busy traffic of the day preceding our Good Friday, and lasted for over a week. Jerusalem at Passover was thronged with pilgrims. The Temple was the centre of a busy traffic of the day preceding our Good Friday, and lasted for over a week. Jerusalem at Passover was thronged with pilgrims. The Temple was the centre of a busy traffic of the day preceding our Good Friday, and lasted for over a week. Jerusalem at Passover was thronged with pilgrims.

Public Assembly. The need of this is a living issue to-day. The motor car has changed family habit. The Sunday picnic is a poor substitute for the family pew. And now we have the radio, a boon and a blessing to many, but to others a poor excuse for absence from evening worship. Jesus went to church. And he observed the helpful customs of the religion of his day by visiting the distant temple at the appointed times. Amid these associations he found much of interest, of benefit and of happiness. And, best of all, he found opportunity to reach great numbers from all parts of the world, with his teaching. The public market, the auction sale, the annual fair, the race track, the patriotic celebration, any place or time where great crowds gather, is a challenging opportunity to Christian workers, to seek and to find ways and means of honoring him who said, "Ye are my witnesses."

## TRAINING OUR CHILDREN

How to Keep Children Happy and Contented During Hot Weather.

BY ETHEL CLARK BICKEL.

"Oh, look, dear, see that lovely baby oriole!" exclaimed Betty's aunt. "See me, Aunt, but it isn't an oriole, it's a redstart," returned Betty after a momentary glance upward. Betty was, at that time, only a trifle over four years old.

I have repeated my little girl's remark merely to illustrate what I have tried to do for my little folks during the summer months, namely, to teach them to know and love God's wonderful out-of-doors.

Watch steadily with one's children is the most delightful and helpful of summer pastimes. In order to get the most joy out of it, one should go to the woods often; two or three outings a week are none too many. However, one can study birds in one's own yard, if necessary. In our yard, with its many trees, we frequently have birds nesting in a single season. We have a feeding table for them, which the children keep supplied with crumbs, suet, corn and other bird delicacies. There is also a drinking pedestal. The cardinals, bluebirds, orioles, phoebes, woodpeckers, sparrows, thrushes and chipping sparrows visit this bathtub daily, and the children never tire of watching them.

Occasionally an unknown visitor arrives. Then for the bird guide! "Oh, Mother, I've found out what it is! See here, the picture of it is on page . . . ." Betty will exclaim delightedly. Sometimes a flock of cedar waxwings stop with us for a day, meanwhile helping themselves to our neighbor's cherries. Once, early in the summer, an orchard oriole happened our way, and another time a flock of goldfinches. Each event was hailed with delight by the children.

Wild flower study necessarily, must be conducted in the woods or fields or along the country roads. Frequently, when the father of our family has finished the day's work, we all pile into the car, and, with a simple lunch, speed away from town. The children are never happier than when some flower, new to them, is discovered, and must be hunted up in the

## CONTROL OF POULTRY LICE

BY L. STEVENSON,  
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In the control of poultry lice one remedy has come very much to the front during the past seven years. It is sodium flouride, a chemical that is easy to obtain, easy to apply, effective and safe in its application. Sodium flouride may be obtained in fine white powder form or as fine crystals. The powder form, if guaranteed 90 to 98 per cent. pure, is the most desirable form to apply as a dust. Sodium flouride retains its efficiency and may be kept if need be in closed tight bottles or cans and used when wanted. One application, if thorough, will destroy all lice on the birds and remain effective long enough to get many of the parasites that hatch later. There are three methods of application in common use; all are effective, but the "pinch method" is the most commonly practiced in small flocks. It consists of the application of the sodium flouride powder directly to the skin and feathers of the bird, the operator taking up what he can hold between the thumb and forefinger and applying on breast, each thigh, each side of back, on the neck, head, underside of each wing, and below the vent. It takes ten pinches of the chemical to cover the bird by this method and skilled operators can handle sixty birds an hour.

The dusting method of applying sodium flouride is by mixing with a filler material, as flour, or talc, or plaster, to make four times the bulk of the insecticide, and then apply by shaker or blower duster to the ruffled feathers of the bird. Greater speed in treating the birds is secured at a greater expenditure of chemical. The dipping method of applying sodium flouride can be practiced during the summer and early autumn season when there is ample warmth and sunlight to dry wet birds. The bath is prepared in a wooden tub and consists of one ounce of commercial sodium flouride to a gallon of warm water. Sufficient quantity should be mixed to handle the work at hand. Five gallons of the solution will do for 100 birds. The birds to be treated are placed in the dip for twenty seconds and just before removal the head is soaped and the bird taken out and allowed to drain. The dip should be body heat for fowl, about 170 deg., and the work done on a quiet, bright day, when it is warm enough to dry the birds quickly.

There are a number of other methods that have proved to be highly efficient, among which the carbolic acid, gasoline and plaster of Paris mixture is coming into general use. This dusting powder is prepared by mixing 3 parts gasoline, one part carbolic acid (90 per cent. pure), and stirring in enough plaster of Paris to take up all moisture. It is applied as a dusting powder with a shaker or by hand. A medicated dust yard beneath the shade in the poultry yard or within the shelter of the building is a great aid in keeping the louse population down. A box partly filled with fine road dust with which tobacco dust has been added at the rate of one to six is very useful and relieves the old hen of many an itch.

### Green Feed in Late Summer.

Although green or succulent feed is always to be desired in any poultry ration, there seems to be some justification for paying particular attention to this matter during late summer, when much of the natural vegetation is so dry and tough as to render it unpalatable.

One of the reasons why green feed is so essential is to be found in the fact that most sorts contain vitamin B, which is necessary to normal health and activity. A deficiency of this vitamin brings about a condition known as polyneuritis.

It is pointed out that polyneuritis may develop in a mature cockerel in as short a time as three weeks if he is fed exclusively on degerminated corn. The corn germ contains relatively rich in the B vitamin, as are also the germs of other cereals, such as wheat, oats and barley.

When green feed is short on the range, so that the chickens are not likely to eat enough to maintain the necessary vitamin supply, it is important that the grain and mash mixture be made up of something other than degerminated grains and by-products, or that a special supply of green feed be secured.

### She.

She is the canny one who sings Of little things, Of little things.

Of lines counted carefully, Letters dispatched deliberately, Slow figures added manfully,

The stitch in time on a torn glove, Wood piled upon a tattered stove, Books read with eyes that do not rove,

So may she reach the end of day With no more baggage, let us say, Than berries gathered by the way.

Mary Cass Canfield.

Originally golf balls were "quite smooth." They easily became dented, however, and it was noticed that dented golf balls travelled farther than smooth ones. The present type was then introduced.