

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.

WINTER LAYING

The Basis of All Successful Egg Farming

(By L. A. Waide, in the Poultry Item)

No poultry farm can hope for a great success on either a commercial egg or breeding plant basis unless the production of winter laid eggs and the founding of a strain with strong winter laying tendencies is given constant thought and effort. Here is where the margin of profit lies in the production of commercial eggs, and your ability to send out to your customers stock which will show a marked tendency in this direction will very largely determine your financial success in the breeding business later on.

To accomplish this to a marked degree is a matter of some years of effort but patient work in the right direction, with a well laid out plan, will most certainly bring about the desired conditions, and the fact that a steady improvement will be noted even from the first makes a constant incentive to further effort.

The fact must also be squarely faced that there is no standing still in the poultry business. The plant or flock which is not constantly on the up grade toward better conditions and better production, is certain to be on the down grade, and unfortunately the trip down is made much more rapidly than the trip up.

It is in assuming a steady progress in the right direction and as a safeguard against slipping back that the trapper finds its greatest value. Any workable system intelligently applied will do a great deal toward flock improvement, where tramping is impossible, but no other method can possibly be devised or operated which really eliminates the risk of serious errors in this regard.

The average poultryman in considering egg production, and the possible profit to be derived therefrom, is very liable to overlook the importance of winter production. It is not only possible but true, that many birds in a flock which are only moderate layers, considering the comparative annual records, may still have yielded a larger net profit in commercial eggs than birds of considerable higher annual records.

The maximum cost of feed per month for leghorns should not be over twelve cents and three eggs per bird per month in October, November or December will usually offset feed and a really reasonable production of from twelve to fifteen eggs per month at this season will yield a fine profit, the equivalent of that produced by a yield of twenty-five per month during March, April and May.

In many cases the birds capable of laying well in the early months are also the heaviest annual producers, but this does not necessarily follow and it is by no means safe in building up a strain to depend on this as a rule. Because this winter laying tendency is desirable is no reason for neglecting to also work for a good spring and summer production. In fact a good late summer production is almost as essential as winter laying, and it is a point in which many flocks, otherwise good layers are weak. There is no reason why, although individual hens may not all be capable of doing it that the flock as a whole may not be so bred that every calendar month of the year will show at least production enough to cover all feed and labor costs. Many poultrymen who are much elated over fine production at certain periods, will find upon examination of their books that they have shown practically no production against the feed bill for at least four months each year.

In arranging your breeding, your efforts should be aimed toward the very best possible results, and you, therefore cannot afford to neglect taking into consideration all these important points. To work consistently toward this end it will be necessary that every bird used in the breeding pens shall be, on female side, a good winter layer, a good spring layer, and a good late summer layer and that the male birds shall be from similarly bred birds, or still greater laying record if possible.

Breeding from pullets is always undesirable on account of immaturity, usual lack of stamina in offspring, and the danger of gradual decrease in size of the eggs produced by the progeny. This undesirability is further increased by the fact that with pullet mating one never has had an opportunity to give the breeders any suitable test for efficiency before placing them in the breeding pens. Pullet matings should be resorted to only as a matter of necessity, and with a well

laid out system the necessity will not occur.

Another factor which enters strongly into both good fall and winter production, and also into the matter of intelligent selection of birds from their records, is the time of hatching. Pullets to do well as layers must be sufficiently early hatched to permit their attaining maturity by the early fall months. It is this that makes the Leghorns especially suited to the purposes of egg farming. Leghorns produced as late as the last of June, may by proper care be turned into good fall producers. In working with the heavier breeds the ideal hatching season covers only a very limited time, and birds to give the best results must be brought out in February and March usually under very unfavorable conditions for either hatching or brooding. Of course, the ideal period with the Leghorns is, in most localities, from April 1st to May 15th. Where circumstances prevent bringing out all the chicks desired during this period however, good success can be had with the Leghorns from hatches over the entire period of February 1st to July.

Under such circumstances the early hatched chicks, those hatched previous to April 1st, should be allowed to develop without any forcing ration whatever, as any tendency to force, particularly at about the time they are coming into laying is very likely to produce a molt. To bring chicks hatched later than May 15th into good fall laying a slightly forcing ration should be used. This may be accomplished by using a rather heavy proportion of wet mash, feeding two or three feedings of it each day moistened with skim milk if possible, throughout the entire growing period but at the same time giving as much free range and exercise as possible, to prevent their coming to maturity with undersized growth.

The writer believes that in all selection for laying and breeding pens, and for winter laying especially, an endeavor must be made at all times to keep the size of the individuals in the flock well up to the maximum for the breed, so as to give good capacity for work. It will also be found that size, as a general rule goes hand in hand with good vigor. Note carefully, however, that the writer says good size for the breed, and believes that it is a serious mistake to endeavor to breed oversize. If change to a heavier breed, but no attempt should be made to grow oversized birds. The writer has never seen an instance of breeding for extreme size which has resulted favorably to either egg production or fertility. Whenever it is attempted it always eventually results in losing the breed characteristics, with the consequent damage to production, and no good results to compensate therefor.

The day has passed when crosses for utility purposes are to be considered at all. Nothing can be gained in either size, production or vigor by first crosses between breeds, which cannot be better accomplished by proper mating within the breed, and the ultimate results of crossing is bound to be mongrel stock.

The production of a strain of high producing winter laying birds, is just as much of an art as the production of blue ribbon show room winners, and the real utility poultryman has just as good a claim to the name of breeder as the fancier. To the writer's mind at least, his accomplishments deserve far greater praise and are of much greater value to the industry. This fact is now rapidly coming to be recognized and the idea that utility means the culls from the fancy product is fading rapidly from the mind of the poultry public.

It is just as impossible to produce the highest grade of utility birds from the matings of the fancier as it is to breed a herd of cattle which will represent the top notch in beef and milk qualities at the same time.

THE ANNUAL CLEAN UP.

It is time for the annual clean up. As soon as the breeding season is over and the old hens disposed of the yearlings should be gradually culled until just the number required for next year's breeders are left. Where possible those held over should be either turned out to free range or put into fresh runs, so that the old runs may be renovated. The best way to do this is to plough and seed them, as nothing will freshen land like a good rich crop. For this purpose nothing is better than rape as it is a strong grower and makes the very best of green feed. Where it is protected by snow it will come through the winter, and make splendid picking for the breeders in the spring.

Rearing the Parasites of the Brown-Tail Moth in New England for Colonization in Canada

(Continued from page 2)

In localities into which they have not had sufficient time to spread.

On account of the comparatively light and widespread area of infestation of the brown-tail moth in Canada, it was necessary to select parasites which were parasitic not only upon the brown-tail moth but also upon native insects, otherwise the chances of the parasites becoming firmly established would be greatly reduced. Two species of parasites, *Apanteles lacteicolor* Vier and *Compsilura concinnata* Meig., and one

caterpillars have left the webs, the mosquito netting is rolled back and the empty webs removed. The caterpillars are then fed three or four times daily until the emergence of the parasites is noted. A second mosquito-netting is then placed on the tray and fresh foliage spread over it, which draws up all the live caterpillars. The second netting together with the caterpillars is then transferred to another tray. The first tray is closely examined for the *Apanteles* cocoons, the dead foliage being turned over leaf by leaf and the cocoons removed

average number of gipsy and tent caterpillars killed by a single beetle in a season was 328. The beetles live from two to four years hibernating in the ground during the winter. The adults emerge from their winter quarters about the first of June feed for a few days and then the females deposit their eggs in the ground. A single female has been recorded as laying as many as 653 eggs. From three to ten days later the eggs hatch and the newly hatched larvae commence to feed attaching caterpillars or pupae regardless of size. The larvae moult three times and then pass into the ground pupate and hibernate as adult beetles during the winter. The most satisfactory method of colonizing these

inches high. The condition is uneven and owing to the dry weather the straw will be short. About three quarters of the hay is harvested and the crop is a very good one. Roots have started well, but much depends upon the next few weeks. Corn is poor. Potatoes are healthy, but are not setting well because of the drought. The crop is likely to be light.

Manitoba—Telegrams from Brandon and Morden report that wheat prospects have deteriorated during the first few days by an attack of rust. From Brandon it is reported that cutting will be general by August 10. Oats and barley are a heavy crop and uninjured. A heavy crop of hay was harvested during July. Corn is doing well. At Morden the weather is dry and conditions will be serious if rain does not come soon.

Saskatchewan and Alberta—Weather conditions of July have been generally favourable, although hailstorms have done local damage. Grain crops continue to show fine promise especially on breaking and summer fallow. Grain on stubble is not so good and there will be a greater difference between stubble and fallow grain than last year. In southern Alberta crops are all good to excellent, and harvesting will commence sooner than was expected a month ago. Wheat cutting is expected to begin about August 20. Hay, roots and potatoes are good.

British Columbia—At Agassiz the weather has been cool and bad for hay, though excellent for roots; corn has suffered badly. Cereal crops are growing well; the second crop of clover is good. At Invermere cereal crops are good and are ripening fast. Field peas are exceptionally heavy; roots are looking well, except mangolds; the second alfalfa crop is coming on well. From Sidney it is reported that beneficial rains fell during the month. Autumn cereals are ripening late, spring cereals and forage crops are growing well. A portion of the oat crop is being cut for hay.

CANADIAN PRISONERS OF WAR

Two thousand Canadians are prisoners of war in Germany, according to the latest figures available.

The first exchange agreed upon in the case of those utterly incapacitated was carried out three months ago, and the British prisoners taken to Switzerland, not as prisoners, but as invalids who would benefit by recuperation in the mountain air. The work is directed especially by the International Red Cross Society. In the initial exchange few Canadians were included.

So far as the Militia Department is aware, there is no Canadian representative in Switzerland unless one has been detailed from London. The Canadian Prisoners are treated as British and are looked after by the British authorities.

Minard's Liniment cures Garget in Cows.

FIELD CROPS REPORT

Ottawa, August 2nd, 1916.—A special press bulletin issued to-day by the Census and Statistics Office reports on the condition of field crops in Canada at the end of July, as summarized from telegrams received from the Dominion Experimental Farms and Stations in accordance with arrangements made between the Departments of Trade and Commerce and Agriculture.

Prince Edward Island.—All crops have made strong growth; hay is an average crop; potatoes and roots look well.

Nova Scotia.—Cereals have made good growth; corn and potatoes are good; turnips are fair, but mangolds poor.

New Brunswick.—All crops have made good growth, except where damaged by June floods; hay much above the average; grain mostly headed and indicates an average crop; potatoes and roots promise well.

Quebec.—All reports agree that the hay crop is very abundant, and of good quality. Grain crops have suffered considerably from drought during the month, and apparently the harvest will be earlier than usual. Potatoes are reported as good, except from Ste. Anne de la Pocatiere, where they have suffered from drought, and from Cape Rouge, where they were hurt by too much rain. Corn is reported as doing well.

Ontario.—In the peninsula (Essex Co.) a large crop of hay has been harvested in splendid shape. Wheat and barley are harvested, but are not quite a standard yield. Oats will be below average. Corn and hoed crops are fair though later than usual. In Eastern Ontario crops are suffering from lack of moisture. Wheat is little grown; its condition is fair and it is beginning to ripen. Barley is poor, rather late and very uneven. Oats, the most important crop of the district, shows great divergence, some crops being far advanced, others only a few

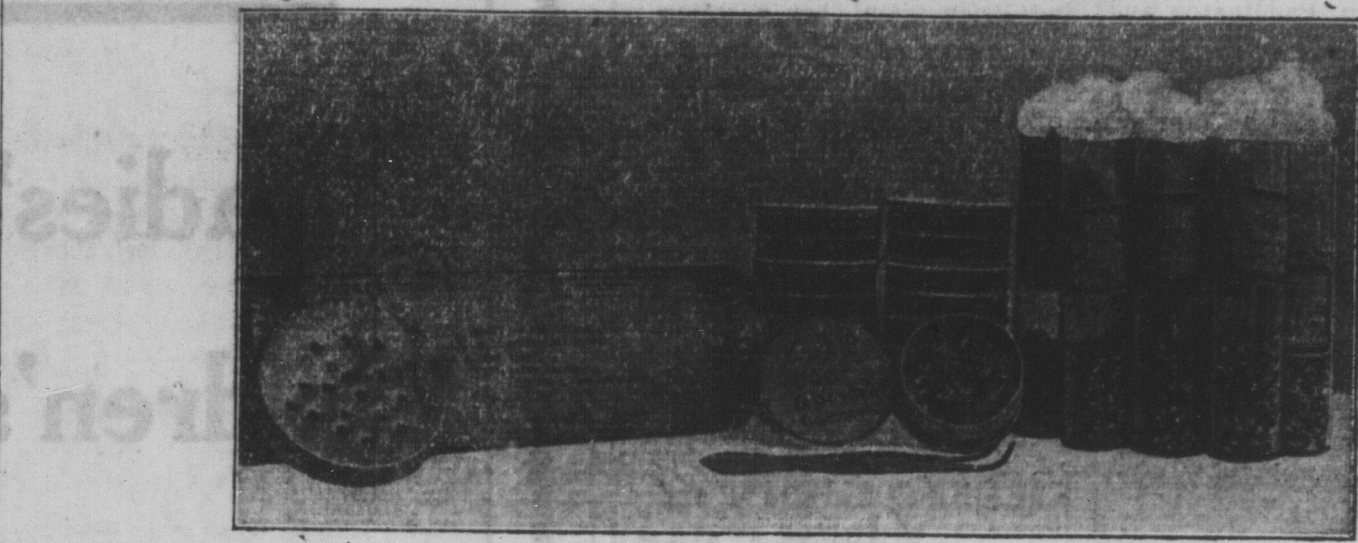


FIG. 2. Showing the method employed in shipping the cocoons of *Apanteles* to Canada for colonization.

predacious beetle *Calosoma sycophanta* L., seemed to be suitable to fulfill these conditions.

Apanteles lacteicolor is a small hymenopterous parasite measuring only 2.5 mm. in length. The female *Apanteles* deposits an egg under the skin of the young brown-tail caterpillar in the fall. The egg hatches and the young parasite larva develops slowly during the fall in the body of its host remaining passive within the body of the hibernating caterpillar during the winter. Upon the appear-

carefully for forceps to glass vials. The cocoons are placed in an ice chest to retard the development of the adults until it is time to colonize them in the field. When a sufficient number of cocoons are collected they are removed from the ice chest, transferred to pill boxes, a thousand to a box, and the latter are placed in mailing tubes which are forwarded to the point of liberation. During the past three years 67,500 *Apanteles lacteicolor* cocoons have been forwarded to Canada for colonization.

beetles especially when they have to be shipped to any great distance is to collect them in the adult age. Both the beetles and larvae are great climbers and the most suitable localities for making collections are in young oak woods with the trees three or four inches in diameter and where the gipsy caterpillars are abundant. The saplings are given a kick and any beetles that may be feeding are jarred off and fall to the ground. The collector needs to be alert as a beetle on reaching ground will rapidly crawl

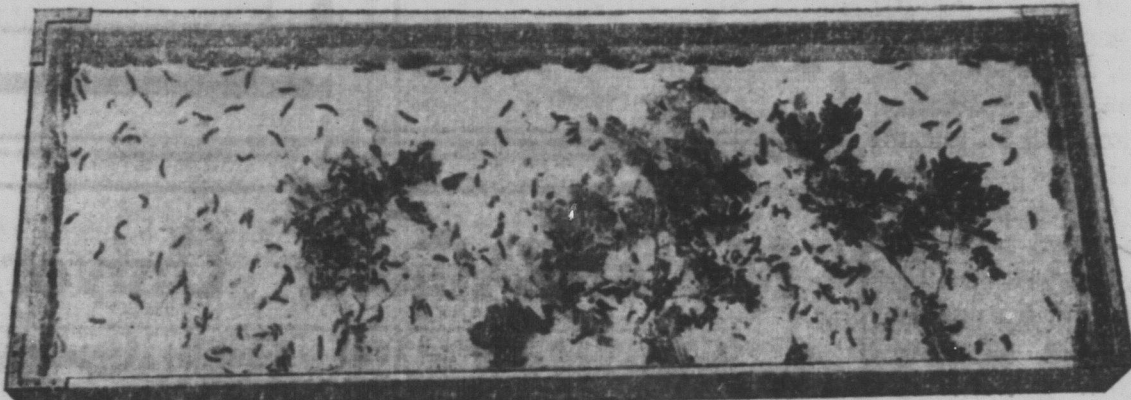


FIG. 3. Feeding caterpillars of Gipsy moth on oak foliage in Fiske tray to obtain puparia of *Compsilura*. Remains of caterpillars that have been parasitized and puparia may be seen among the healthy caterpillars.

ance of spring and the bursting of the leaf buds, the caterpillars emerge from their winter quarters and commence feeding upon the opening buds. The parasites likewise awaken from their long rest and start to feed upon the body of their host; they first devour the less vital portions but finally, soon after the second moult, they kill the caterpillar and emerge from its body. After emerging the parasite spins a

Compsilura concinnata is a tachinid fly resembling somewhat the common house-fly but slightly smaller. It differs from the house-fly in that it is always a parasitic insect and does not normally enter houses. The female deposits a newly hatched larva beneath the skin of the young brown-tail or gipsy caterpillar in the spring. In about two weeks the larva kills its host and emerges as a maggot, which soon forms a puparium about itself. Ten days later the adult fly emerges from the puparium. *Compsilura* has two or three generations a year and is recorded as having about fifty different species of insects as hosts. On account of the often times severe poisoning contracted by handling the brown-tail caterpillars, *Compsilura* is reared from the caterpillars of the gipsy moth. The gipsy caterpillars are collected after being parasitized, in the field, brought into the laboratory and placed in trays. The caterpillars are fed on white oak foliage which is kept fresh and palatable by placing the stems in bottles of water. A daily

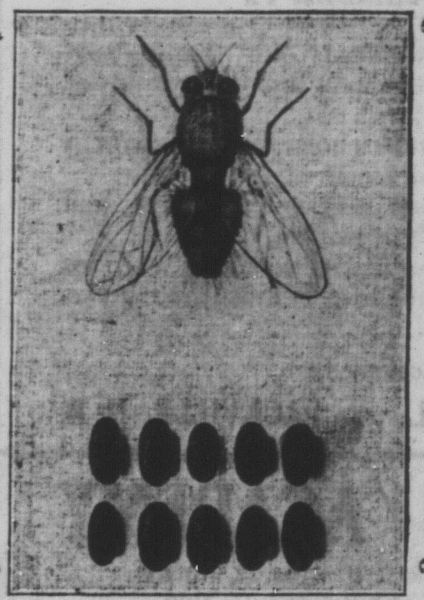


FIG. 4. The Tachinid fly *Compsilura concinnata*, showing adult fly and puparia.

silken cocoon about itself and about ten days later emerges as an adult insect. *Apanteles lacteicolor* has two or three generations a year; after emerging from the brown-tail caterpillars it may attack either the gipsy, *Datana* or *Hyphantria* caterpillars, the second or third generation carrying them through until the young brown-tails have hatched in the fall. It is while the parasites are in the cocoon stage that they are forwarded to Canada for colonization.

During the winter months brown-tail webs are collected from points where *Apanteles lacteicolor* is known to be firmly established and fairly abundant. The webs are then placed in cold storage to retard the emergence of the caterpillars until the wild cherries have developed leaves in the spring. When the cherries are in full leaf the webs are removed from cold storage and placed in trays. The trays are rectangular in shape with wooden sides about six inches in depth. The upper portion of the inside of the tray is covered with "tanglefoot" to prevent the escape of the caterpillars, the bottom of the tray being covered with cloth drawn tightly and pasted to the sides. The webs are covered with mosquito netting upon which cherry leaves are placed as food for the emerging caterpillars. When all the

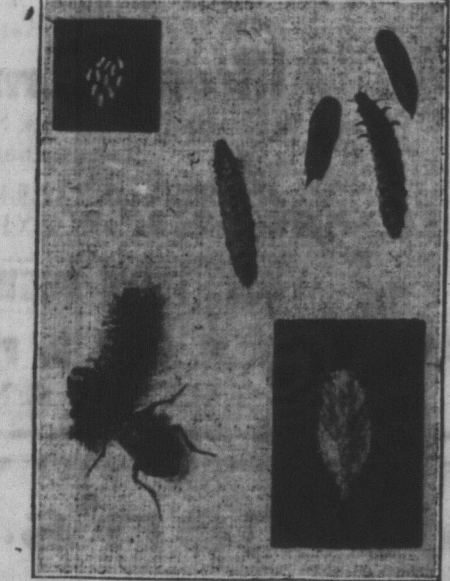


FIG. 5. The Calosoma Beetle, *Calosoma sycophanta*, showing eggs, larvae and pupa of the beetle and an adult beetle devouring a Gipsy Moth caterpillar.

examination of the trays is made, the *Compsilura* puparia removed and placed in a glass vial in the ice chest. When a shipment is to be made the puparia are moved and packed in a small wooden box containing damp moss. Fifteen thousand puparia have been forwarded for colonization during the past three years and these were obtained from 146,000 gipsy caterpillars collected in the field.

Calosoma sycophanta is a brilliantly colored green beetle measuring a little over an inch in length. It is predacious in its habits and feeds readily on nearly all species of caterpillars. Experiments show that the

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