## THE FARMER'S ADVOCATE.

pillars which we see around are only a very small proportion of the number the eggs should have produced. But insects in all stages of their lives have many enemies, and if man should cease to grow food supplies, the checks supplied by nature would keep the balance of insect life level, but whenever plants are introduced by man, insects will follow, and generally in advance of nature's checks. Hence, the need of corresponding remedies by man to control injurious insects.

856

Among nature's own remedies is a genus of insects called Ichneumons, which prey upon caterpillars. The way these little flies work is as follows : After selecting a caterpillar, she will perch upon its back, and plunge her ovipositor (which is a sharp-pointed apparatus she has for laying her eggs in flesh) into the caterpillar's body Having deposited one egg in that fashion, she withdraws her ovipositor, and again plunges it, with another egg, into a different part of the body of the caterpillar, till she has laid in all from 30 to 50 eggs. It is remarkable that the poor caterpillar, whose body is thus pierced with so many wounds, does not die, but in due time the eggs hatch within its body, and the grubs feed in concert on the living body of the caterpillar. The most wonderful circumstance of the whole phenomenon is the instinct which guides the grubs to avoid devouring any vital part, so that they may not kill the caterpillar till they themselves are full-grown. When full-grown they eat their way through the skin of the caterpillar, and, spinning little cocoons, hatch later on into little fresh flies.

Another check furnished by nature is a still smaller fly, which hunts out the eggs of other insects, and actually lays its own eggs within them, and its grub will hatch and come to maturity inside the egg. There are larvæ of water beetles—fierce, hideous-looking things—which devour the larvæ ("wrigglers") of mosquitoes. Their appetite for these "wrigglers" seems insatiable, and I have known them to eat till they die through satiety.

Should the caterpillar survive its enemies, it will, when full-grown, retire to some secluded spot to undergo a wonderful transformation from one state of existence to another. There (either within a cocoon, or dispensing with one) it will for the last time throw off its skin and disclose a body somewhat resembling a mummy, without eyes, mouth or limbs, and exhibiting no appearance of life, except when touched. In this deathlike casement, which is called a pupa, the insect remains for months without food, and in a state of torpor. The casement at last bursts, and although at first not longer than an inch, and in diameter a quarter of an inch, a butterfly or moth springs into existence of dimensions extraordinary, covering in some species a surface of beauty nearly four inches square.

The greater insight we possess of the life of an insect, the better we can apply remedies for its control. The principal requirements in the way of apparatus for a beginner are very simple, and easily obtained. What is most necessary is the desire to make a start. Take even one caterpillar as a start, and watch its history : Its time for transforming into the pupa; the date when the pupa hatches; the food the caterpillar eats; and a beginning will be made. As to thinking the subject is confined to entomologists in the strict sense of the word, that is a great mis-(in addition to farmers' Know persons in all stations who are watching the lifehistory of insects of some kind or other, and there is every reason why the number should rapidly increase in this country.

already in the soil are excluded. The cheesecloth used in this experiment cost  $4\frac{1}{2}$  cents a yard of 40 inches in width. The height of the enclosure is about 6 feet 6 inches.

### B. C. Fruit Meetings.

Mr. W. A. Clemons, Publication Clerk in the Dominion Department of Agriculture, advises us that a grand series of meetings have been held in British Columbia under the auspices of the Fruitgrowers' Association, Mr. Maxwell Smith, Fruit Inspector, taking part, explaining the Fruit Marks Act

Mr. J. C. Metcalfe, of Hammond, President of the Association, emphasized the necessity of cooperation among the fruit-growers, careful selection and honest packing of fruit and strict attention to every detail. At the present time, British Columbia was supplying only about 20 per cent. of the fruit shipped into the Northwest.

Mr. R. M. Palmer said that Manitoba and the Northwest Territories were British Columbia's natural markets, and as B. C. fruit had already made a good impression there they could in time gain control of that field, if only first-class fruit were shipped. Oregon and Washington were now shipping apples to Britain at a profit, and the British market would always be open to the B. C. He claimed that they had suffered fruit-grower. much from inferior nursery stock, and strongly recommended the growing of their own trees, which could be done for one-third of the present He discouraged experimenting with new cost. varieties, and advised planting varieties that had already earned a reputation, and that were suited to local conditions.

Inspector Smith pointed out the possibilities of a large trade being established in Japan in canned fruits and pure fruit jam. At Salmon Arm, Mr. T. W. Stirling, of Kelowna, mentioned that when he had only two tons of fruit he had great difficulty in selling it; when he had two cars, it was easier; when he had twenty cars, it sold readily; and when he had thirty-five cars, he could not supply the demand; so there was no danger of over-production of British Columbia fruit.

# Poultry.

#### Good Layers.

In the egg-laying contest now in progress in Australia, the American hen, although handicapped by the effects of an ocean voyage, made just prior to the opening of the contest, is coming out victorious. In regard to the selection of birds for this contest, Mrs. A. Mansell says:

My pen of birds that were entered in the Australian egg contest which commenced April 1st, 1903, were Rose-comb Brown Leghorns. In choosing these hens, only those that I knew were exceptionally fine layers, and whose pedigree as layers reached back many generations, were selected. In establishing this strain, I have each year selected the heaviest layers, endeavoring to keep near the standard in regard to shape, color and so forth, and bred them to cocks from hens that were extra good egg-producers, sometimes inbreeding for one year and then introducing new blood, being careful always to look out for the egg-producing capacities of the cocks' I am not trying to raise show birds, but hens that will fill the egg basket. Although my birds are all standard-bred, I would not sacrifice an extra fine layer for a show bird. What we Western bréeders want is poultry for practical purposes. I say keep them all pure bred, and don't try to breed them so fine that the general utility of the flock is destroyed. My hens are all farm-raised, and have range. They are very strong, vigorous, and were all hatched in incubators. In these days it does not pay the farmer to raise common fowls, when pure-breeds will pay three times the profit. The breeding alone will not always produce fine layers. They must have care from the time they leave the shell. A chick well raised is half the battle. A great deal also depends on the feed. There is nothing like a variety for laying hens. I use wheat, cane and millet-seed. These are excellent to scatter in litter for them to scratch while yarded, thereby providing the exercise necessary to insure good strong, fertile eggs. Free range is best of all, if possible to give To be successful with poultry your breeders. you must look after them yourself; be with them and know from personal observation which are the hens that are the workers, and cut out the drones. Know them, and let them know you, and you will soon have mastered half the difficulties that are ever in the poultryman's path. It is the bright, active hen with a red comb and watchful eye that is the layer. Select only eggs for hatching from the best hous, mated to a cock that is standard bred, and one you know comes from good egg-producers, and soon you will be surprised to see the improvement of your flock and the increase in the number

FOUNDED 1866

#### Poultry Fences.

During the last year we have completed permanent fences around our main poultry building, and from our experience offer a few suggestions Some permanent form of fencing is desirable and necessary about all poultry buildings, and essential where pure-bred stock is kept and pens are kept separate during the breeding season. Poultry-netting, well galvanized and 72 inches wide, is the only satisfactory fencing material, and in order to stretch it properly a scantling should be mortised on edge in the top of the posts for a top rail. Posts are best set eight feet apart, using 2x4s sixteen feet long for tops. In order to make the fence as lasting as possible we charred the butts of the posts, and filled in the holes with rock and cinders, also put about six inches of rock under each post. The posts should be sawed off five feet and a half from the ground, and the netting buried six inches. This prevents fowls scratching and getting under the fence, and also does away with a bottom rail or base board. In putting on the netting one end should be made fast with a double row of staples, and the other end clamped between the 2x4s with bolts, and with a small wire stretcher attached to the middle, stretched up tight. The top wire should be then stapled on securely, and then by pressing down the bottom wire at each post and stapling to the post, the netting is deeply and In making gates, time tightly secured. labor can be saved by stretching the wire on the fence and then setting the frame for the gate against the netting, when it can be stapled to the gate without further stretching.-[Montana Experiment Station.

#### Shipping Eggs for Setting.

W. P. Gray, in American Poultry Advocate, says: "From my observations among breeders, I have found it is the general opinion that selling eggs for setting, to be shipped away, is in the majority of cases unsatisfactory both for the shipper and the receiver. The shipper may send the very best eggs he can possibly produce, and have their hatching possibilities ruined by carelessness during transportation or the inexperience of the receiver. While the buyer finds that the breeder very often takes advantage of him and does not send eggs that produce what he represents his stock to be.

"You may ask, if there are so many disadvantages in shipping eggs for incubation, why do so many preeders advertise them? Simply because there is a demand for them. The beginner thinks he sees a possibility of raising forty or fifty chicks from one hundred eggs, instead of getting but a half-dozen or so of matured stock at the same price of the one hundred eggs, while, in fact, the breeding stock is in the majority of cases of more actual value. But as long as buyers are willing to pay for 'possibilities' at five times their actual market value, of course they will find plenty of breeders willing to sell to them."

#### Picking a Good Layer.

An Old Country poultryman makes the following suggestions as a help in selecting good layers: There are certain individual characteristics, one of which is the shape of the bird. If a

#### AUGUST

Que.

1st.-Que er's A dvocat 2nd.-Ou fore, we rese terest, or wh Crd.-Que on one side o full name a faith, though kth.-In a be fully and not be given.

## NA

Of late enquiry wh name of th address wa must refus have no d publication in good fa dress of en

I have scouring in March she not proper we dried I barley, but well and Can you p Ans.-P

dition is for condition of would ther the cow su she reacts carcass; b morning a scouring ce Opii pulv. half drams

My thre normal end enlarged to been growi The enlarg healthy in Would cast Brandon.

Ans.—W nature of for there a that would of the test the testicle hernia). be the bes practitione

Will you cure veterin shall feel an answer Hartney,

Ans.—Th tion can b Winnipeg, o druggist. Capsules. about thirt

#### **Vegetable Experiments.**

An interesting experiment is being conducted this year in the Horticultural Department of the Central Experimental Farm, Ottawa, with vegetables grown in an enclosure, the top, sides and ends of which are made of cheese cloth. The temperature is at times several degrees higher in the enclosure, the greatest difference being at night, which is very favorable to plants that succeed only in hot weather. During heavy storms the rain comes through the cloth as a thick mist, and the soil is hence not compacted as much as outside.

Radishes were ready for use three days earlier inside, and were perfectly free from maggots, while those outside were rendered almost worthless on account of them. Cauliflowers inside were also free from maggots, while those outside were badly affected. Tomatoes ripened earlier inside, but it is doubtful if the crop of fruit will set as well as outside. Cucumbers, melons, beans and eggplants are more advanced inside than out.

Even if it does not prove profitable to grow many kinds of vegetables under cheese cloth, there is no doubt but that in the home-garden this method would give good satisfaction for most vegetables.

An enclosure has many advantages. The cats, dogs, chickens, birds, and even children, can be kept out, while all injurious insects except those

straight line be drawn from the back of the head to the toes, the hen which is likely to be a good layer will usually have the hinder half of her body largest, whilst a hen which may be suspected of being a poor layer will show more in the front; the reason being that a poor layer makes a better table bird, and has a larger, longer breast, whilst a good layer makes a poor table bird, and has a comparatively small breast, whilst the egg organs are more fully developed. Birds which are good layers are usually very active, They always look healthy, and in most cases their combs are usually fully developed, particularly if they belong to the long-combed varieties, which are reputed to be the best layers. A hen with a long comb may usually be regarded as a good layer, and if she is not there must be some special reason for the contrary.

Have "Farmer's Advocate" poultry readers some better hints to offer on choosing a good layer?

#### Is This a Fake?

Mr. V. E. Boyes, a young North London (Eng.) chemist, claims to have discovered a substitute ("hen oil") for the natural oil which hens exude from their bodies while hatching is going on. He claims that by putting a little of this "hen oil" into the moisture tray under the incubator, it will be automatically evaporated and diffused by the internal heat, and facilitate the process of hatching. He also claims that he has invented a tablet which, when placed in the moisture tray, will as it dissolves give rise to a nonvarying current. This will provide the incubator with "animal magnetism," and aid in bringing out more healthy chicks than are at present obtainable. A lump six-year-old lump 1s ha ago, and i did not sup nothing car to have a grow any.

Ans.—The the beards through the lodging clo consequent the bony entongue, and you may be operated. the external dilute muriwater, one iodine external

Can the inexperience him to do a instruments Winnipeg. Ans.—T) be conducte

and sufficie

clinical the