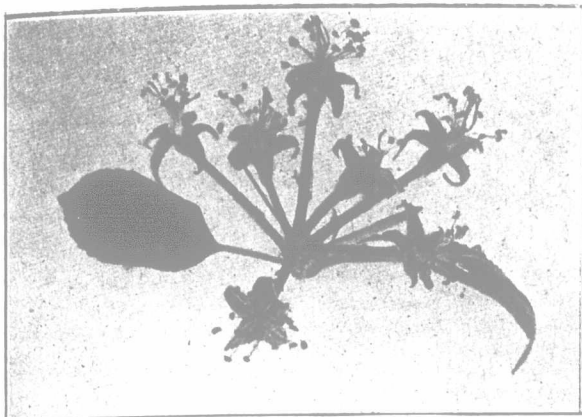


the fruit by August 1st, and the second brood begin to enter about a week or ten days later, and continue to do so up into September, so that the larvae of this brood will be found in the fruit until the end of the season. About 50 per cent. of the second brood enters by the calyx end.

The codling moth can be successfully controlled in any part of Ontario by spraying. One thorough application immediately after the blossoms fall is quite sufficient for any part of the Province, except Niagara and other districts of about the same temperature. In these districts, a second application three weeks after the blossoms fall should be given.



Blossoms Off. Calyxes Open and Ready to Spray.

The only successful way to combat the second brood is to destroy such a large percentage of the first that not enough will be left to produce more than a very small second brood. This can be done whether the neighboring orchard is sprayed or not.

In spraying, use as good an outfit as you can afford; build a tower on the wagon for tall trees, place an elbow of 45 degrees angle between the nozzle and the spray rod, use rather coarse disk nozzles of the Friend type, hold the nozzles about two feet from the calyx and spray directly into it with as high pressure as your machine will give up to 150 or 200 pounds, and never less than 100 pounds. Do not leave the tree till every calyx is thoroughly drenched.

Trees with no fruit may be neglected until the others are done, and then may be given a light spray.

Large trees with much fruit will require from 8 to 15 gallons of mixture each; smaller trees, 20 to 30 years old, require from 4 to 8 gallons.

This application immediately after the blossoms fall is far the most important one. It must be completed before the calyxes close, which usually takes place in about a week after the blossoms drop. Do not wait for every blossom to fall, but start to spray when about 90 per cent. of the bloom is off. If the calyx is well sprayed while it is open, when it closes the poison will remain inside all summer and kill any worms entering there.

The best spray mixture to use is 2 pounds of arsenate of lead to 40 gallons of Bordeaux mixture, or dilute commercial lime-sulphur. The Bordeaux or lime-sulphur is added to control the scab fungus, as this is the most important time to spray for this disease. The Bordeaux need not be stronger than the 3-3-40 formula, and the lime-sulphur may be diluted 1 gallon to 40 gallons.

Paris green or arsenite of lime may be used with Bordeaux mixture, instead of arsenate of lead; but, with lime-sulphur, arsenate of lead is the only arsenical poison that is safe.

Do not be too economical with the mixture. Look after the spraying yourself, or trust it only to very reliable helpers. Spray thoroughly as directed, and you will get from 75 to 95 per cent. of clean apples the first year, and a higher percentage the next.

Spraying alone will give clean fruit, and much more of it, but it will not make the fruit large. To secure this, the trees must be pruned, the soil well cultivated in the early part of the season, a liberal amount of fertilizer used, and sometimes heavily-laden trees thinned.

Many larvae are destroyed by the grub of a small black beetle (*Tenebroides* sp.), by diseases, and by birds, the most useful of which are the Downy Woodpecker and the Chickadee, which should be encouraged to haunt the orchards, by hanging pieces of bone or meat about the trees.

There are other insects whose work may be mistaken for that of the codling moth, such as the Lesser Apple Worm, the larvae of which looks almost exactly like half-grown larvae of the former, but of a rather deeper flesh color, and tapers more toward each end. The worm, however, feeds on the surface of the apple, making an ugly blotch. The plum curculio also injures apples after the middle of August.

In neglected orchards the curculio sometimes does as much damage as the codling moth.

Methods of Control.—Remove all rubbish.

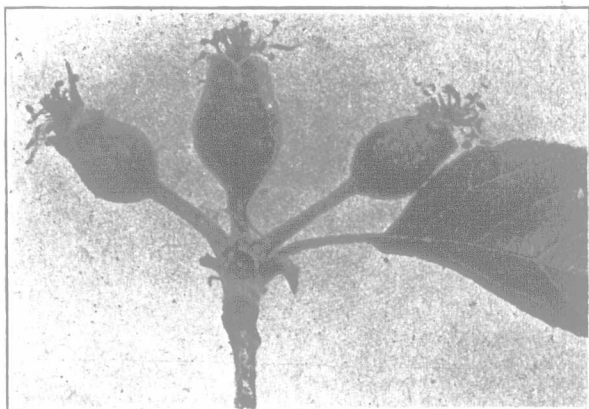
brush and thickets about the orchard, in which the insects winter. Cultivate carefully from early spring.

Scions for grafting should be taken early in spring, before growth starts. In selecting scions, care should be taken to have them only from trees of the very best type, as regards quality, productiveness, etc., of the variety chosen. Wood of the last year's growth is all that is used, but, in cutting off scions, it is well to cut a little into second-year wood. When scions are being whittled for grafts, the two-year-old wood is cut off.

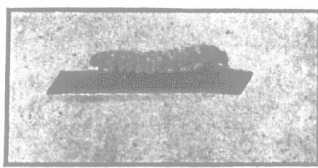
THE FARM BULLETIN.

Freight Rate Increases Blocked.

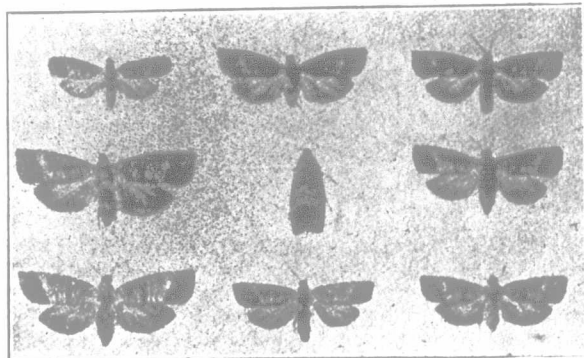
The United States Interstate Commerce Commission has unanimously decided against the railroads in the important increased freight-rate cases pending for several months. The decision of the Commission is sweeping beyond anticipation, even by the shippers. It declines to allow a single increase by the six hundred or more railroads in the East and Middle West. It throws aside as unsubstantiated the contention of the railroads that they must have increased revenues to meet the increased cost of the equipment and operation, and by its decision cuts off between \$50,000,000 and \$60,000,000 a year in revenue, which the railroads had expected to realize from the proposed increases. The Commission orders the



Calyxes Nearly Closed (Rather Too Late to Spray).



The Worm in the Apple (Larva of Codling Moth).



Adult Codling Moths (Natural Size).

carriers to cancel the proposed increases by March 10th, and notifies them that, in event of failure, an order will be entered continuing the present rate for two years, thus preventing the carriers from making any changes in that period. The railroads may now appeal to the newly-created Commerce Court, and it is the opinion of many of their lawyers that this step will be taken. In substance, the Commission holds that the carriers are prosperous under present rates, are making reasonable returns upon capital; that their business is increasing, and that the increased revenue has more than overcome the advanced wages granted by the carriers in the last year, as well as the increased operating expenses.

Travellers who have had their feelings and their trunks damaged while on a railway journey will be pleased to know that those who handle trunks are likely to be looked after more strictly. "An Act Respecting Baggage-smashing" has been introduced into Parliament by E. N. Lewis, and the Minister of Railways approved the first reading of the bill.

[Protect the Maple-syrup Maker.]

Knowing the popularity of maple products, unscrupulous manufacturers have not been slow to place upon the market in vast quantities imitation products or compounds bearing deceptive labels or brands leading consumers to believe that they are securing the real article, when it is only "doctored" molasses, etc. It has been suggested that the first thing to be done is to have the responsibility of the protection of the maple growers placed in the Dominion Department of Agriculture at Ottawa, and in the next place to secure legislation making it illegal to use the word "maple" or any of its derivatives in labelling maple or alleged maple compounds. Petitions are now being circulated, and largely signed, to the Minister of Agriculture, Hon. Sydney Fisher, at Ottawa, asking for such an enactment. Copies of this petition in blank can be obtained from John H. Grimm, of Montreal, Que., for signature, by persons interested in different districts, or a letter to the Minister asking for such legislation will accomplish the same end. As Parliament is now in session, no time should be lost in taking this action.

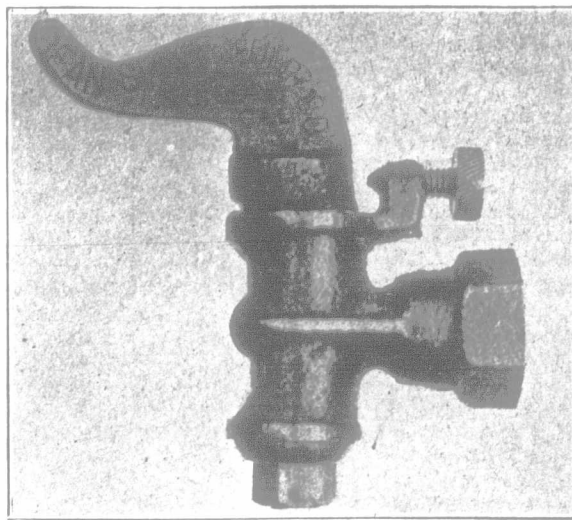
While the Canadian Pork-packers, the Canadian Manufacturers' Association, and other organizations, have been putting forth as their chief reason for opposing the present proposed reciprocity agreement, that it will certainly lead to annexation, the Montreal Witness has continued to inform its readers that annexation sentiment which was rife in Montreal previous to 1854 was completely allayed by the beneficial results of the old reciprocity treaty which came into force that year.

A chart published in the New York Independent shows graphically the comparative amounts of wine, spirits and beer used in the United States and the principal countries of Europe. Belgium, England, Germany and the United States are beer-drinking nations, and consume but little wine. Wine is the principal intoxicant in France, Italy and Switzerland, and the consumption of beer is light, in Italy especially almost nil; while Hungary shows the largest amount of spirits used per capita of any, with wine and beer in small quantities, only about equal in measure to the spirits.

Reciprocity is the talk in England, as well as in Canada. The Chairman of the Grand Trunk Railway Board in England, A. W. Smithers, presiding at a meeting of the English Association of American Bond Shareholders, referring to the reciprocity agreement, thought the effect on Canada, on the whole, must be good. The effect of free commercial intercourse between eight millions and ninety-four millions of people could not yet be estimated. He predicted, as a result, a great demand for capital from Canada, which would offer some of the finest investments in the world.

A somewhat drastic bill in regard to automobilists is before the Legislature of Ontario. Should this bill become law, every person licensed to drive a motor vehicle for hire, would, while so employed, have to carry with him the license under which he acts; and every other person driving a motor vehicle shall carry with him the permit for his machine. If charged before a police magistrate or justice of the peace for a breach of the Motor Vehicles Act, he must produce the license or permit, and, if convicted, a statement to that effect, with date of conviction, is inscribed thereon by the magistrate. For second conviction within twelve months, the license or permit is cancelled.

The Senate of Canada is being appealed to by the Niagara Peninsula Fruit-growers' Association to refuse to ratify the reciprocity agreement, should it pass the House of Commons.



New Type of Bordeaux Nozzle.