

Insects Infesting Clover-seed Crop.

Early in September word was received at the Indiana Experiment Station, from the north-eastern part of the State, concerning certain insects which were said to be doing considerable injury to the clover-seed crop. Reports are still coming, showing very conclusively that the greater portion of the clover-growing sections of the State have been visited.

The trouble was found to be due to the presence of one and perhaps two species of insects which are often found infesting the seed of the red, white, alsike and crimson clovers, and one of them at least also works on alfalfa. As the same trouble is likely to occur again next year, a brief description of the habits, and some suggestions concerning preventive measures which may be employed, are here given.

THE CLOVER-FLOWER MIDGE, AND THE CLOVER-SEED CHALCIS.

The two species indicated above are the Clover-flower midge (*Dasyneura leguminicola*, Lint.) and the Clover-seed chalcis (*Bruchophagus funebris*, How.). Both are very small flies. The first is a near relative to the wheat midge, and resembles it quite closely, both in form and color. The other belongs to the family Chalcididae, a parasitic family, the members of which usually feed upon and destroy other insects. The species mentioned here, however, is an exception to the rule.

These two species, although belonging to different families, are often found together, and as their habits and time of working are so nearly identical, they may be treated together. They may be found working together in the same head, but not in the same flower, as the midge appears a few days earlier than the chalcis, and its larvæ feed upon and destroy the young ovules, thus precluding the presence of the other, which feeds only upon the growing seeds. In either case, however, the eggs are deposited in the head of the clover, but the midge places hers upon the forming florets and the young larvæ make their own way into the ovaries, while the chalcis places her eggs directly into the already forming seeds, which the young larvæ, as soon as hatched, proceed to "hollow out" by feeding upon the inside. (This has been the condition of most of the seed sent to us this fall.)

In this section there are two broods of each species in a season; the first brood of the midge appearing the latter part of May, and the second the last of July. The first brood of the chalcis fly appears the fore part of June and the second the last of July and first of August. In both cases the first brood attack the first bloom, or hay crop, and the second the seed crop.

PREVENTIVE MEASURES.

Practically the same remedies will apply to both species, so far as we now know. Early cutting of the clover-hay crop as soon as it is in full bloom will destroy most of the larvæ. This can be done where clover is grown alone for seed, and not mixed with timothy. Early cutting will also tend to hasten the blooming period of the seed crop so that the blossoms will be too far advanced to receive much injury from the second brood, especially of the midge. Then, too, all volunteer clover should be clipped in the early stages of its blossoming period.

Fall plowing the clover field for corn the next spring, is also a good practice.

NATURAL ENEMIES.

These two species, like the most of our insect enemies, have parasitic enemies which feed upon them, and which contribute very largely towards holding them in check. However, it is not well to depend upon these entirely, as it sometimes requires a couple of years for the parasites to develop in sufficient numbers to be able to make themselves felt. In the meantime these species will, in all probability, continue to increase, so that, for another year at least, it will be well to practice early cutting.

WINTER TREATMENT OF SEED.

The clover-seed chalcis winters as a larva or pupa inside the seed, and will emerge from the seed stored in the barn, according to Professor Folsom, of Urbana, Ill. The larva will continue to work, therefore, in stored seed, until it has reached its pupa stage. The proper treatment of the seed which has been

stored for the winter, would be to place the sacks in a tight box or bin (it should be air-tight, if possible), and then treat it with carbon bisulphide, by placing open dishes, filled with the material, on the sacks and then closing the bin and leaving it for a couple of days. A half pound would be sufficient for ten or fifteen bushels.

J. TROOP,
Horticulturist and Entomologist,
Purdue Agricultural Exp. Station.

GOSSIP.

Messrs. John Dryden & Son, Brooklin, Ont., in ordering a change in their advertisement of Shropshire sheep, write: "We just want to say that nothing on our farm has done better, or held their own during the dry fall better than our sheep. Our ewes have done remarkably well, and without any grain have improved in condition on very short grass. We have some excellent young ewes left for sale yet that are bred to one of our best rams, and should any of your readers wish to add new blood to their flocks, or start new ones, we believe we have material to suit them, and have confidence that next spring will show by the crop of lambs that we have made no mistake in mating."

Messrs. A. Mansell & Co., of Shrewsbury, England, have selected and shipped a very valuable consignment of Aberdeen-Angus cattle from the Maisemore herd of Mr. Cridlan for their client, Mr. J. D. Larkin, Niagara-on-the-Lake, Ont., the selection consisting of ten females and one male. They comprise three Trojan and one Kildonan Erica, three Pride of Aberdeen, one Jilt, one Rose of Advie, and one Queen Mother; also the promising bull calf Rosard, whose dam, Opening Rose (Rose of Westerton tribe), has been a frequent prizewinner, and the grandam, Blooming Rose, was twice champion cow at the Highland and Agricultural Shows. The sire of Rosard is that fine stock-getter, Wizard of Maisemore 21465, winner of two champion gold medals, two silver champion medals, and many first prizes. The fine champion cow, Mabel 8th of Knapperna, is included in the purchase.

It has been said that the enormous prices which from time to time Argentine buyers give for specially selected bulls, make it impossible for such prices to be remunerative. Following sale of five non-pedigree bulls, which were sold in Buenos Ayres at the recent Palermo Show, is enlightening on this point. These bulls were sired by Chewton Victor and out of cows by Celt. The top price was £354 7s. 6d., and two bottom £166 5s., giving an average of £286 2s. 6d. for five unregistered bulls, a notable instance of the value of the produce of sires of the highest value. Mr. G. Kennedy, of Buenos Ayres, has in former years had many successful sales, but few, if any, more so than that of nine bulls, the prices of which come to hand. A noted Irish prizewinning pedigree Shorthorn bull made the top price, namely, £1,746. (\$8,730), paid by Mr. J. L. Ocampo. Messrs. Jorge Andant & Co. gave £612 10s. for Dean Sceptre, and Mr. A. G. Gutierrez £437 10s. for Scottish Primate. The average was £477 10s. Messrs. J. & J. Raws had also a good sale. These importers sold thirteen at prices from £315 to £78 15s., giving an average of £165 7s. 6d.

TEST OF JACOBA IRENE.

The Jersey cow Jacoba Irene (property of Anten Farm, Jerseyville, Ill.), whose photograph appears on another page in this issue, is now under authenticated test, and promising to make a new world's record. Her best day's yield of milk is 69.8 lbs. Best seven days, 467.5 lbs. milk. Best seven days' butter estimate, 29.3 lbs., 85 per cent. fat. First eight months' of present year, 13,349.3 lbs. milk, 833.889 lbs. estimated butter. In the ninth month of her year's test her milk yield was 1,122 lbs., average test 6.46 per cent. For her full nine months she has a total of 14,471.3 lbs. milk, 781.23379 lbs. fat, equal to 919.161 lbs. estimated butter, giving her an average of 52.81 lbs. milk per day an average of 52.81 lbs. milk per day for 274 days, and a fraction over 102 lbs. butter per month. Her last year's record was 931.6 lbs. estimated butter, from 14,254 lbs. milk.

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I am now offering a lot of large, well-covered rams. They weigh from 160 to 200 lbs. each. Also shearing ewes, ram lambs and ewe lambs, of both breeds, fitted for showing.

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IMPORTED HORNED DORSETS

My importation for 1908 will arrive in a few days. Look me up at Toronto Exhibition. I have for sale a few of both sexes, the get of last year's champion all round the circuit, Imp. Romulus 2nd. Canada's banner flock of Dorsets. **JAS. ROBERTSON & SONS, MILTON P.O. and Stn., C.P.R. and G.T.R.**

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Yearling rams and yearling ewes. All bred from imp. sire and dams. Price reasonable.

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For sale. A choice lot of yearling rams and ram lambs. Also two choice Yorkshire boars fit for service at close prices for quick buyers.

W. A. BRYANT, CAIRNGORM, ONT.

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OXFORD DOWN SHEEP

AT FARNHAM FARM.
We have 50 yearling ewes, all bred to our imported ram, champion at Toronto Exhibition, 1908, which we will sell at especially reduced prices for the next thirty days, in lots to suit purchaser. Also a few yearling rams and ram lambs by imported sires. Terms reasonable.

HENRY ARKELL & SON, ARKELL, ONTARIO.
Arkell, C. P. R. Guelph, G. T. R.

Maple Villa For sale: Sunset, imp., 2 yrs. old—a grand ram and a grand, good sire; 15 shearing ewes; 4 shearing rams; this year's lambs of both sexes.

A high-class lot. Yorkshires of both sexes and all ages. Satisfaction guaranteed. **J. A. CARSWELL, Bond Head P. O., Ont.** Beeton or Bradford Sta.

Leicesters Two-shear ram, 2 shearings, ram lambs, ewe lambs and shearing ewes. They are all well covered. Bred from imported stock, and in good field condition. Satisfaction guaranteed. Prices reasonable. **Dunnet Bros., Clambrassil, Ont.**

Oxford Down Sheep, Shorthorn Cattle, Yorkshire Hogs.—Present offering: Lambs of either sex. For prices, etc., write to **John Cousins & Sons, Harrison, Ont.** Buena Vista Farm.

Springbank Oxford Down Sheep

10 superior yearling rams, 1 two-shear ram, 1 imp. shearing. Good flock headers. 13 choice ram lambs by noted imp. sire. Prices reasonable.

Wm. Barnett & Son, Living Springs P. O., Ont.
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FAIRVIEW SHROPSHIRE EWES

For sale at very moderate prices. They were sired by a champion ram. And are being bred to another champion. Are of first-class type and quality. Write for circular and prices.

J. & D. J. CAMPBELL, WOODVILLE, ONTARIO.

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A large number of extra good Shropshire and Cotswold ewes, twelve months old. And a few very high-class Shorthorn bulls and heifers. Any of which will be sold at moderate prices.

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CLAYFIELD Buy now of the **Champion Cotswock Flock** of America, 1906. Flock headers, ranch rams, ewes of different ages. All of first-class quality, and prices reasonable. Write, or call on **J. C. ROSS, Box 61, Jarvis, Ont.**

YOUNG SHROPSHIRE EWES

FOR SALE. Bred to one of our best rams. Glad to receive communications.

MAPLE SHADE FARM, LONG-DISTANCE PHONE. **John Dryden & Son, Brooklin, Ont.**

POPULAR LODGE SOUTHDOWNS AND BERKSHIRES.—At right prices, 2 aged, 3 shearing rams, 2 ram lambs. Flock headers. Berkshires all ages, both sexes. Ideal type. Correct description guaranteed. **S. Leman, Kettleby, Ont., P. O. and Stn., also Aurora Sta.** Long-distance phone.

Newcastle Tamworths, Shorthorns and Cotswolds. I can furnish right now a large number of extra choice boars fit for service, some sows in pig, and any quantity about 2 months old, of such noted sires as imported Cholderton Golden Secret, Colwill's Choice, and Newcastle Warrior—champion boars at Toronto National several years in succession, and out of great big show sows. A few choice heifers; some safe in call. Bulls ready for service. Will be sold very reasonable for the next 30 days. Also ten ram lambs and two shearing rams.

A. A. COLWILL, NEWCASTLE, ONT.

Willowdale Berkshires! Won the leading honors at Toronto this fall. For sale are both sexes and all ages, from imp. stock on both sides. Show things a specialty. Everything guaranteed as represented. **J. J. WILSON, MILTON, ONT., P. O. AND STATION, C. P. R. AND G. T. R.**

SUNNYMOUNT BERKSHIRES

Highest standard of type and quality. For sale: Sows of all ages, and 4 yearling boars. A grand, good lot. Also younger ones. Pairs not skin. **JOHN MCLEOD, C.P.R. & G.T.R. Milton P.O., Ont.**

MONKLAND YORKSHIRES

are the easily-fed, quick-maturing kind. The sort the farmers want. All ages for sale. 100 sows bred now.

JAMES WILSON & SONS, FERGUS, ONTARIO.

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ewes, 3 shearing rams, and this year's crop of ram lambs. Also sows in pig, and sows ready to breed; boars fit for service, and pigs ready to wean. **Mac Campbell & Sons, Harwich, Ont.**

OHIO IMPROVED CHESTER WHITES.—Largest strains. Oldest-established registered herd in Canada. Young sows in farrow. Choice pigs 6 weeks to 6 months old. Pairs furnished not skin. Express charges prepaid. Pedigrees and safe delivery guaranteed. **E. D. GEORGE Putnam, Ont.**

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