LIFE HISTORY AND CONTROL OF THE COTONEASTER WEBWORM
(Cremona cotoneastri Busck)

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by

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HISTORY:

Records on hand indicate that the cotoneaster webworm has been present in Oregon at least since 1929. Since then it has gradually enlarged its range. Its present distribution is known to be from Portland to Winchester in the Willamette Valley and from Portland to Astoria along the Columbia River.

This insect was first described in 1934. Since Cotoneaster horizontalis is the preferred host of this webworm, it is assumed that the insect was introduced from Asia, as this is the native home of Cotoneaster horizontalis.

HOSTS:

The known hosts of this webworm are: Cotoneaster horizontalis, Cotoneaster microphylla, Cotoneaster simonsii, Japanese quince, and a species of plum. Other species of Cotoneaster will no doubt be found to act as hosts of this insect.

INJURY:

Injury consists of profuse webbing over the plants and skeletonizing of the leaves. The most objectionable and noticeable injury is the spider-like webs which are spun in dense mats, generally along the branches. Detritus of various sorts, such as dead leaves, often catch in these webs and add to unsightliness of the plants.

LIFE HISTORY:

The winter is spent as small larvae (third instar) in closely woven, white, silken tubes about one-fourth inch in length. These tubes are placed on the branches, generally in the axils of other branches. Early in March, the first of these larvae begin to feed and, as a rule, all are out feeding by the last of April.

Throughout April and the first half of May, the larvae are feeding, growing, and spinning their unsightly webs It is at this time that the presence of the insect is most noticeable. Some seasons a few begin to change to the quiescent stage (pupa) during the first part of May, but the greater number do not begin changing to this stage until about the middle of May and by the last of June they have generally all changed.

Emergence of the moths begins about or a little after the first of June and continues until the third or fourth week in July. The eggs are laid from the middle of June to the last of July. They seem not to be laid in any definite place but are indiscriminately placed on the leaves, branches, and webs, generally in small groups.

From about the first week in August till the third week, the young larvae are all out feeding. Beginning at the latter date, the larvae start to build their hibernaculae or overwintering silken tubes and by the middle of September all activity is over for the season.

Description of Stages:

A. Adult: The moth is of a grayish-black color and has a wing spread of about one-half inch. They fly at night and are frequently attracted to lights.

B. Eggs: These are light yellow in color, oval in shape, and a bit less than one-twenty-fifth of an inch long.

C. Larvae: The youngest caterpillars are yellow in color and the later stages are a dark chocolate brown, sometimes nearly black. The last stage caterpillars are about one-half inch in length.

D. Pupae: The "resting stage" is concealed in a silken web, is dark brown in color, and about one-half inch in length.

CONTROL:

There are three definite periods in the life-history of this insect when control can be obtained satisfactorily, viz;

1. From October 1 in the fall until March 1 in the spring. Between these two dates satisfactory control can be obtained, as far as available data indicate, by spraying with 6 gallons of liquid lime sulfur (32° Baume) to 94 gallons of water.

2. From April 1 to May 15. The most satisfactory date of this period would be near April 15.

3. From August 1 to August 20. Near August 10 the most satisfactory date for spraying in the summer.

Emphasis should be placed on thorough spraying as this is the secret of success in controlling this pest. With lead arsenate, an even distribution of the poison should be obtained, while with the other sprays (contact insecticides) in table 1, spraying should continue until the webs are thoroughly soaked. Spraying should be done when the weather is at least moderately warm as fly spray, pyrocide, and nicotine sulfate need fairly high temperatures to give the best control.

Suggested sprays deducting from the data in table 1 are:

1. Fly spray, 1 to 2 gallons, plus 1/2 pound spreader to 100 gallons of water. (There are many good spreaders, such as Vatsol OS, Grasselli, 181P, and Aresket, on the market which can be obtained from insecticide or feed and seed companies). Slight discoloration of foliage may result but this will soon disappear.

2. Pyrocide "20" 1 quart; spreader 1/2 pound to 100 gallons of water.

Good control may be obtained by other materials as indicated in table 1 and may be substituted with fair success for the suggested controls. Nicotine sulfate, one pint and soap, 5 pounds to 100 gallons, have given good indications of control but no definite figures are as yet available.

TABLE I

Spray Data for Control of Cotoneaster Webworm -- 1940
(Sprays for use April 1 to May 15 and August 1 to August 20)

	TREATMENT (Based on 100 gal. spray)	Dilution for 1 gal. of spray	No. Live	No. Dead	% Live	% Dead
1.	Check -- no treatment		665	36	94.9	5.1
2.	Lead Arsenate 3 lbs. Aresket "300" 2 oz.	Lead arsenate 1/2 oz. Aresket a small pinch	101	329	23.5	76.5
3.	Pyrocide "20" 1 qt; Aresket "300" 8 oz.	Pyrocide "20" 1/3 oz.; Aresket 1 teaspoonful	0	493	0.0	100.0
4.	*Fly Spray 4.17 gal; Aresket "300" 8 oz.	Fly Spray 1/3 pint; Aresket 1 teaspoonful	1	305	0.3	99.7
5.	*Fly Spray 2.08 gal; Aresket "300" 8 oz.	Fly Spray 1/6 pint or 2-2/3 oz; Aresket 1 teaspoonful	1	299	0.3	99.7
6.	*Fly Spray 1.04 gal; Aresket "300" 8 oz.	Fly Spray 1-1/4 oz; Aresket 1 teaspoonful	6	294	2.0	98.0
7.	**Pyrocide "20" 1 qt.; Lead arsenate. 3 lbs; Aresket "300" 2 oz.	Pyrocide "20" 1/3 oz; lead arsenate 1/2 oz; Aresket a small pinch	3	90	3.2	96.8
8.	Nicotine Sulphate 1 pt., Ammonia 2 oz; Aresket "300" 8 oz.	Nicotine sulfate 1 teaspoonful, ammonia 3 or 4 drops, Aresket 1 teaspoonful	56	347	13.9	86.1
9.	Nicotine Sulphate 1 pt.; Mollases 8.33 gal.	Nicotine sulfate 1 tablespoonful, molasses 2/3 pint	11	289	3.7	96.3
10.	Lime sulfur, 32° Baume 2 gal.	Lime sulfur 1/6 pts., or 2-2/3 oz.	133	67	66.5	33.5
11.	Lime sulfur 32° Baume 2 gal.; Nicotine sulfate 1 pt.	Lime sulfur 1/6 pts. or 2-2/3 oz; nicotine sulfate 1 tablespoonful	0	100	0.0	100.0
12.	Derris Root (5.6%) 1-1/2 lbs; Aresket "300" 8 oz.	Derris root 1/4 oz; Aresket 1 teaspoonful	25	75	25.0	75.0

* -- "Bif" -- Union Oil Company and probably any of the other commercial pyrethrum fly sprays would be equally as good.

** -- Forms gummy mass if not properly mixed -- would not advise the use of this combination.

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