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CODLING MOTH SPRAY INFORMATION

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Codling moth infestation varies in intensity in different sections and even in different portions of the same orchard. The severity of the infestation also varies from year to year depending on temperatures, length of growing season, degree of infestation previous season, presence of parasites and predators and other factors.

Because of these variable conditions, specific spray recommendations cannot be given for an entire district. The spray program, while based on general principles, must be worked out in detail by each grower for his own orchard. This is especially true of the second brood moths.

Lead Arsenate

Lead arsenate is the most important single insecticide for codling moth. In orchards where the codling moth is not a serious problem, two pounds of powdered lead arsenate per 100 gallons of water is sufficient to give commercial control. In all other cases 3 pounds per 100 gallons are recommended. Increasing the strength beyond 3# per 100 gallons may complicate spray residue removal.

Oil Sprays

Although a summer oil (sulfonation test 85, viscosity 55 to 65) added to the lead arsenate spray has given better control than lead arsenate alone, the evidence at hand is not such as to warrant recommending it for general use. The oil is unsafe to use on Newtowns and other yellow varieties, and will complicate residue removal if combined with lead arsenate in the second brood codling moth spray. In experimental tests at the central Experiment Station, the combination of summer oil and nicotine was slightly less effective than lead arsenate.

The following is the spray schedule for codling moth in the Willamette valley:

Calyx spray - After the petals begin to fall and before the calyx cup closes.

First cover spray - When the 8 p.m. temperature is 60° or above. (If adults are present in the orchard.)

Second cover spray - When bait traps indicate a peak of activity.

Third cover spray - Peak of egg laying of second brood.

Fourth cover spray - This spray may be necessary if the egg deposition of the second brood is drawn out into early September.

Temperature

Codling moths do not lay eggs when the 8 p.m. temperature is below 60° F. The temperature should be recorded every evening at 8 o'clock, beginning about the first week in May in the Willamette Valley. This information is especially valuable in timing the first cover spray. The first brood moths usually begin to emerge about the middle of May, and by the first of June are present in considerable numbers. When the 8 p.m. temperature is 60° or above for two consecutive evenings after the adults are out, it will be necessary to apply the first cover spray within 8 days.

Timing the Cover Sprays

Unless the cover sprays are properly timed, little or no control will be obtained. These sprays must be timed to catch the peaks of egg deposition. The only way these peaks can be determined is by carefully observing the seasonal habits of the moth. This is best done by the use of bait traps.

Bait Traps

These consist of a glass jar, bucket, tin pan or other container, which is partially filled with some liquid to attract the adult moths. The moths alight in the liquid from which they are unable to escape. If these are examined each day during the period moths are present in the orchard (May to October), the peaks of moth activity can be determined.

Directions for Handling the Bait Traps

1. Keep the traps about 2/3 full of the liquid. This will mean refilling the traps at intervals of 2 days to 2 weeks, depending on weather conditions.
2. Examine traps and record number of codling moths per trap every day. Be sure you can determine the codling moth. There are many small moths present in the orchard which closely resemble the codling moth.
3. Place the traps in the upper third of the tree at least 10 feet from the ground.
4. At least 10 traps should be used and should be well distributed throughout the orchard. A decided increase in the number of codling moths taken indicates a "peak" of activity and a cover spray should be applied.

Preparation of the Bait

Apple cider, one gallon, diluted with two gallons of water, to which 1 pound of sugar and 1 yeast cake are added, has proven satisfactory as a bait for the codling moth.

A cheap grade of molasses mixed at the rate of 1 quart of molasses to 12 quarts of water, to which had been added 1 yeast cake, was used in some of our traps last year and gave just as good results as the cider and was much cheaper.

Growers who want additional information relating to their individual problems are advised to consult their county agent or nearest experiment station.