

Coastal Gardener Column

Franklin Laemmlen, Ph.D.

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Q: Please provide codling moth control information, so I can prevent (at least reduce) the number of wormy apples I have this year.

A: The first phase of codling moth control I recommend is to thin the apple crop. Apples produce fruit in clusters. When the small apples are from dime to quarter size, thin the fruit to one per cluster. If the crop is very light, leave two apples per cluster. In the thinning process select the best looking apples. Remove small, deformed and/or damaged apples. The thinning process often helps remove the first generation of codling moth that may have already attacked some apples.

Research has shown that the female codling moth likes to lay her eggs near where two apples touch, therefore, thinning apples to one per cluster is useful in reducing the number of eggs laid. You should realize that thinning apples to one per cluster will remove 80 to 85% of the fruit from the tree. Don't worry, the 15 to 20% of the crop that is left will still give you plenty of apples, and they will be larger than if left unthinned. The apples that are thinned off the tree should be discarded into the green waste, especially if you find some infested (worm inside) apples.

Usually adult codling moth activity begins on the Central Coast when apples reach dime to nickel size. Adult moths emerge from overwintering pupa, mate, and soon begin to lay eggs. Each adult female can lay seventy to one hundred eggs, and they are laid one to two per apple as the female flies about through your apple tree. Once the apples are large enough to be recognized as an acceptable site by the female moth to provide for her young, there are successive generations (two to three on the Central Coast) of moths, and the apples can be attacked until harvest. Therefore, moth and larva control must continue for the entire growing season.

Four options are available. You can spray your apple tree with insecticide every fourteen to twenty-one days throughout the growing season. Carbaryl (Sevin), Summer oil, or *Bacillus thuringiensis* (Bt products) should be used. Second, use pheromone traps. One

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per tree is sufficient. Pheromone traps attract both female and male moths, which then get stuck in the trap. Traps can be purchased at Farm Supply Company and at some other nursery and garden stores. Call ahead to make sure the store has a supply on hand. Third, brown bag your apples. After thinning, place a small (two-by-three-by-six inches) brown bag over each apple. Cut a slit into the bottom of the bag, large enough to fit over the apples, so the stem is in the slit and the little apple is in the bag. Then fold and staple the opening of the bag shut. At about ten to fourteen days before harvest, remove the bag and allow the apple to ripen exposed to the light. Finally, you can make a homemade "brew" to trap moths. Make the trap out of a plastic milk carton. Cut two-by-two inch windows into opposite sides of the carton about two inches from the bottom. Next make the brew using one cup cider vinegar, a third cup dark molasses, one-eighth teaspoon ammonia and enough water to make one-and-a-half quarts of liquid. Mix. Then pour about one-and-a-half inches of "brew" into the milk carton and hang the carton in your apple tree. The rest of the brew should be stored in the refrigerator. Check the trap every seven to ten days and clean it out and renew the brew to keep the trap attractive to moths. If you only catch one or two moths, do not be discouraged! Remember, one female can lay seventy to one hundred eggs, so one or two females may be all you need to catch to have worm-free apples.

The Coastal Gardener has detailed information about codling moths. Contact my office if you wish to receive this information.

Send your landscape and garden questions to: **The Coastal Gardener, 624-A West Foster Road, Santa Maria, CA 93455.**