Fruit Bagging

Effective Alternative Pest Management

Apple bagging is a technique used by homeowners and even some west coast commercial orchards. The bags act as a barrier to protect the fruit against attack by summer insect pests and diseases such as apple maggot. Individual fruits are bagged in the spring (no later than July 1st) when they reach three-quarters inch in diameter and remain bagged until three weeks before harvest. No additional pesticide sprays are needed once the bags are placed on the fruit. When the bags are used on disease resistant cultivars, all but two insecticide sprays used just after bloom can be eliminated.

Preparation

All trees should be pruned normally (see Tree Pruning, page 17). For owners applying a minimal spray program, their trees receive a thorough dormant oil spray during the late winter or early spring. Plum curculio attacks the apples before the fruit are large enough to bag and codling moth can lay eggs on the fruit prior to bagging. Therefore, before bagging, gardeners who choose to spray apply an insecticide, such as Imidan, at the petal fall stage and again two weeks later. Petal fall is when all of the petals have fallen off of the blossoms. Organic growers may select Rotenone to control plum curculio. These would be the last pesticide applications of the year when bagging. The fruit can also be thinned at the same time that the apples are bagged.

Bagging

Bag apples when the apples reach one-half to three-quarters inch in diameter. There are a few different ways to bag apples. One method is to use bags from Japan that are specially designed for fruit bagging. The most common and cheapest method uses small plastic bags (such as sandwich bags) and twist ties or zip bags.

(Sources of Japanese fruit bags include Apple Corps, 509-886-9204; Wilson Irrigation & Orchard Supplies, 800-232-1174, www.wilsonirr.com; and Gardens Alive!, 812-537-8650, www.gardensalive.com.)

Testing

In their research experiment, the University of Minnesota Extension Service used two commercial orchards and five home backyards. All apples were bagged between June 1 and June 18. Five different bag treatments were tested: plastic bags, brown paper bags, commercial (gray) paper bags, Saran wrap, and zipper closure plastic bags. The bags were attached with twist ties or masking tape. In the process, some apples were knocked off the trees.

In the experiment, the most efficient method was stapling the zipper closure plastic bags. In the experiment, the team could apply more than 30 bags per hour. They stapled the bag one-third of the way across the zipper,

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Excerpts from University of Kentucky Entomology and University of Minnesota Extension "Yard and Garden Line News" article by Larry Zilliox (www2.extension.umn.edu/projects/yardandgarden/YGLNews/YGLN-Feb0102.html)

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slipped the plastic bag over the apple, and then zipped it closed. The apple stem, aligned with the staple on the one side, was then secured by another staple on the other side. Results were positive: During a summer where maggot infestation was high and some trees were so damaged that there was not an edible apple on the tree, the bagged apples did not show any signs of apple maggot damage.

The Minnesota Project's Fruits of the City program has also tested a stretch nylon bag. Hospitals commonly use these nylon socks as "footies." Nylon bag advantages include ease of application, aeration of fruit, and stretching as the fruit grows. Problems include penetration of the permeable nylon by fungal and bacterial based diseases.

In our test the nylon bags had a significant positive effect when compared to non-bagged apples. Overall, the fruits were larger and had fewer blemishes. The nylon bag method did not, however, demonstrate the same level of success as the plastic zipper bag method.

In our experiment, the plastic zipper bag method had a success rate close to 100%, while only a rough majority of the nylon bagged apples were unblemished. While the results were much better, we weren't exactly excited about using plastic zipper bags as they have their own "footprint" concerns. This becomes a personal choice for the tree owner.