HOME & GARDEN

Can you afford spraying the apple grove?

By PAT LEUCHTMAN
Recorder Columnist

America's Garden Book by James and Louise Bush-Brown is a respected reference book for gardeners and I use it often. I was surprised to check its recommendations for control of apple maggot to find that its only advice was a general spray program. It recommended at least eight applications of a general purpose spray that would keep the many pests that can plague an apple tree under control, at 10-day intervals throughout the growing season starting with the green tip stage.

None of my other garden books had any different advice, but I had heard of a system called Integrated Pest Management that doesn't rely on routine sprayings. I needed an expert so I called Bill Coli who lives on a hilltip in Charlemont with his wife Norma, and son, Jubal. Bill and Norma run a thrifty and diversified small farm. They have a small maple sugaring operation and they produce their own hay which Norma feeds to her herd of 60 goats. The milk produced by the goats goes to feed the veal they raise. They also grow their own fruits and vegetables.

Besides helping Norma on the farm, Bill works out of the University of Massachusetts where he is in charge of field operations of the Integrated Pest Management project. He supervises a crew of six field scouts who monitor 22 orchards in the state as far east as Ayer and Groton. This is the fourth year of the five-year grant written by Dr. Ron Prokopi, an internationally known plant behaviorist at UMass, as well as Dr. William Manning, Extension plant pathologist, and Dr. William Lord, Extension pomologist. The project has also received support from the Massachusetts Fruit Growers Association who brought it two vehicles, the Massachusetts

BETWEEN THE ROWS

Society for Promoting Agriculture which provided a computer and the individual participating commercial orchardists who contribute to pay the cost of the field scouts. The project has enabled commercial growers to reduce their spraying programs by as much as 30 percent and thus their costs, while still producing attractive, marketable fruit.

Bill Coli says they try to determine "the economic threshold level — that is the level of injury that will justify the cost of spray application as opposed to the preventative or calendar method. For instance, you wouldn't want to do a spraying that would cost $40 if you could determine that that particular pest wi[illegible] mage."

Most crops like potatoes, cotton and soybeans have only two or three major pests, but "apples have the most complex pest pressure with about eight or nine major pests as well as other minor pests. They appear at different times during the season with some overlapping. For instance, there is the apple maggot (which incidentally is a relative of the Mediterranean fruit fly, a bug much in the news lately), plum curculio, leafminer, San Jose scale and coddling moth."

Bill explains that the developers of the IPM tried to find the weak spot in different insect's development or biology and then sought the correct material to use to attack that weak spot. This is part of the trend away from using ever newer and "hotter" chemicals. Harmful insects are very adaptable and they quickly build resistances to the new chemicals, but this is not true of the "beneficials." (A beneficial is another insect or parasite that help to keep harmful insect populations under control.) An indiscriminate spray program can end up killing all the beneficials without harming the target pest at all.

As practiced at UMass, IPM calls for careful observation and monitoring of insect populations, thus the necessity for scouts. One device developed by Dr. Prokopi to monitor the apple maggot which creates wormy fruit that can drop early is the "sticky red ball." These wooden spheres about the size of croquet balls are painted a dark red and then covered with Tanglefoot. Apple maggots in the moth stage see these red balls as super-normal apples, are attracted to them and get caught in the Tanglefoot. The scouts keep track of the apple maggots caught over a certain period of time and when they reach a particular level, spraying is recommended.

The IPM project uses these balls as indicators, but Bill says that homeowners can use the balls as a control. He says about five of the balls per standard tree would usually act as an adequate control catching enough apple maggots to insure higher yields and higher quality fruit. At the end of the season the balls can be cleaned and stored for use the following year when all they will need is another coating of Tanglefoot.

Bill also says that coddling moth can be a problem for homeowners who may be reluctant to spray their backyard orchard. However, bacillus thuringiensis can be sprayed on the trees and while it is not harmful to birds, bees, animals, or humans, it acts on the coddling moth by paralyzing its innards so it cannot eat and will die. This biological control is sold under different trade names like Thuricide and Dipel.

New England Insect Traps in Amherst is a local company that specializes in products like the sticky red balls. Brochures are available upon request.

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