

Invasion of the Green Fruitworm!

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The old adage that no two years are the same was once again evident this year with the rare occurrence of significant damage by green fruitworms. In many text books and extension publications, the green fruitworm, which is not a single insect but refers to a complex of at least three different species whose larvae feed on apples early in the season, is referenced as a sporadic early season pest that rarely causes economic damage. While it is debatable if the level of damage to this year's crop is of economic importance, there is certainly more damage present than I have observed in 25 years of looking at insects on apples.

Description and Life History:

There are at least three species of noctuid moths that are commonly referred to as green fruitworm on apple, with the speckled green fruitworm, the widestriped green fruitworm, and the humped green fruitworm being the most commonly encountered. While these three species are the most common cause of damage, there are additional species that qualify as green fruitworm. These insects generally have a wide host range that includes deciduous shade, forest and fruit trees and shrubs. Some species, such as the humped green fruitworm, lay eggs in the late fall and larvae hatch near bloom. Other species emerge as adults in the early spring near green tip and lay eggs on twigs and leaves up to early bloom. Larvae feed on both foliage and fruit, with the damage to fruit occurring any time between early fruit set to first cover.

Several other species of insects also cause early season damage similar to that of green fruitworms, most notably the obliquebanded leafroller. The OBLR is key pest of apple in northern production regions (NY, MI, and WA), but it is rarely encountered in NC. We routinely monitor for OBLR with pheromone traps in several commercial orchards, but captures in Henderson County rarely exceed 2 or 3 moths. Higher numbers do occur in Polk and Cleveland Counties, where peak weekly captures of 25 to 30 moths/trap are common.

Damage:

Many, but not all apples damaged by green fruitworms abort. Some will remain through harvest and exhibit deep corky scars and indentations. Shown below is some fresh feeding on apple, some older scars on small fruit, and a file photo of damaged fruit at harvest.



Control:

The relatively high amount of green fruitworm damage experienced this year is difficult to explain, but it is likely due to higher than normal populations of one or two fruitworm species, and weather conditions that made it difficult to spray this spring. Unfortunately we do not have a representative sample of larvae from affected orchards, so the species responsible for the majority of damage is not known.

We do know that windy and wet weather conditions this spring made it challenging to apply pesticides in a timely manner. I am aware of some orchards that did not receive an insecticide before bloom, and then a somewhat later than normal petal fall spray, conditions that clearly would contribute to damage by fruitworms. Most insecticides recommended for pre-bloom or petal fall applications are effective against fruitworms, as is Sevin applied for thinning. So the timing of applications is generally more important than the material applied, although the insecticide needs to have activity against lepidopteran insects. The optimum application timing to control green fruitworms is pre-pink to pink, but delayed dormant application of Lorsban is also recognized as a good preventive treatment for fruitworms. It is therefore perplexing that several orchards sprayed with Lorsban at green tip also experienced significant damage. The lesson learned this year's experience is that if an insecticide cannot be applied at pink, a petal fall spray should be made as soon as possible without jeopardizing the safety of bee populations.