

Stink Bugs in vegetable crops

Hi this is Teresa Rusinek with the ENYCHP

For the past two weeks, stink bugs and damage has been observed in tomato plantings. Check your fields; you don't want to be surprised by the damage when you go to pick fruit. Around this time in the growing season, we start seeing an increase in Stink bug activity on tomato fruits, beans and peppers (especially Jalapeno) and tomatillo. Stink bug populations and damage is often higher in weedy fields and field edges where they happily feed on weeds until the weeds get old and dry, then stink bugs tend to move into cultivated crops that are irrigated and a better food source for them. On tomato, I've seen feeding damage on both ripe and green fruit. The damage appears as a pin prick surrounded by a cloudy irregularly shaped spot. These spots may coalesce when feeding is heavy. Spots tend to be yellowish to green on ripe fruit and whitish on green fruit. Below the surface, the flesh of the tomato will turn whitish and have a spongy texture. The stink bug damages the fruit when it inserts its needlelike proboscis into the fruit to feed on the sap. The feeding may also introduce pathogens into the fruit that can cause decay. We see several types of stink bugs in New York. The Brown Marmorated Stink Bug has gotten a lot of press in the past few years because it is an invasive, originally from Asia, that is now established in the mid-Atlantic states and the Hudson Valley. There are other species of stink bugs in North America that are native such as the green and brown stink bugs, they too can cause damage to crops but others such as the spined soldier bug are actually predatory. A number of pyrethroid insecticides such as Mustang Maxx, Hero, Baythroid XL are labeled for control of certain stink bugs, but be aware of toxicity to bees and read the label to make sure the crop you are spraying is on there. Organic controls for stink bugs are limited. Pyganic has not shown to be very effective for most growers. Venerate GC is an OMRI approved biopesticide that has an antil-feeding mode of action on stinkbugs as well as other labeled pests. Under humid conditions applications of the entomopathogenic fungus *Beauveria Bassiana* strain BHA can decrease populations. Bote -BHA by Certis is currently OMRI approved. With this product you are putting out live spores so you have to take extra care storing the material so you don't kill the spores in the jug. Make sure to read that label extra carefully for application directions and compatibility issues. Lastly, keeping weeds around fields mowed will help discourage stink bugs. Scout along field edges and wooded edges for first signs of damage. Gold Fleck on Tomatoes

Another problem we are seeing is gold flecking on mature tomato fruit. . This disorder may look somewhat similar to stink bug damage but is likely an abiotic issue.

It's actually a deposit of calcium oxalate under the skin of mature tomato fruit. Though this disorder has been reported for some time, southern production areas have noticed a sharp increase of gold fleck since the late 90's and growers in our region have noticed more of it as well.

So what causes it? it appears that there are several situations that may result in gold fleck. Often the cause is a combination of environmental conditions where day temperatures are over 88 F and night temps over 68 F with high humidity. Studies conducted in University of Florida in the early 70's found that cultivar genetics play a role in the expression of gold fleck. Nutrient balance may also play a role as excessive levels of calcium and phosphorous have induced symptoms. Thrips and/ or mite feeding damage, which is common in high tunnel production, can also result in a gold flecking as well as a rough skin.

Because gold fleck weakens the fruit peel, the quality and shelf life of fruit may be affected, especially if there is a lot of flecking. To minimize the occurrence of this disorder, providing a balanced nutritional program, especially between **potassium** and **calcium**, keep high tunnels well vented, avoid direct sunlight on fruit which will encourage flecking and watch for cultivars that are less susceptible to flecking.

If you want to see some images of stink bug damage or gold fleck, go to our website and click on the link for this week's podcast.

Thanks for listening and I'll see you out in the field.



Gold Fleck on skin of mature tomato fruit: Photo Teresa Rusinek



Yellow cloudy spots on tomato caused by Stink bug feeding. Photo T. Rusinek



Brown Marmorated Stink Bug Nymphs (immatures) Feeding on Jalapeno. Feeding damage on Tomatillo Photos. T. Rusinek

