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● **Agricultural Research and Extension on Tree Fruits, Grape and Vegetables** ●



Images of more recent injury from the stink bug complex (left image) and earlier seasonal feeding injury (right image) to Golden Delicious apple. September 26, 2012

Increasing signs of feeding injury from the stink bug complex observed on late season varieties including Red Delicious, Gala, Fuji and Golden Delicious in the Mid- Hudson Valley

Over the past two weeks we have been seeing an increase in feeding injury from the complex of both the native species (predominately green stink bug) and the invasive brown marmorated stink bug on red and yellow colored varieties. As injury does not express itself immediately on the fruit, apple recently fed upon by the SB complex will likely be harvested and stored without blemish, only to find the same fruit with very high levels of fruit damage after its removal from cold storage. Efforts should be made to manage this insect complex prior to harvest.

Trapping efforts throughout the Hudson Valley have documented the presence of brown marmorated stink bug since late April. However, its presence in border trees or even in traps has not, up until late August, been a sign of BMSB presence in orchards causing feeding damage. The BMSB has recently begun movement into orchards to intensively feed, stocking up on reserves needed to successfully overwinter. In one orchard in Orange County we captured 84 BMSB in pheromone trap captures over the course of this past week (20-27th of September) which had been sprayed the week prior with an effective insecticide.

Indications of stink bug presence can be observed in the presence of live SB in harvested bins and fruit injury of varieties remaining on the trees as is shown in the photos below. Control measures should be taken if this type of fruit injury is being observed. **Very few insecticides are effective against this insect complex.** Those listed here are the best of university and USDA bioassay tested insecticides that will help to reduce the injury and increase mortality of the population. Consider using a non-ionic surfactant to increase penetration of the active ingredients. However, a

tight schedule of no less than 7 days should be made if new fruit damage and stink bug adults continue to be seen in un-harvested trees.

Material	Rates	PHI
Lannate LV	2.25 pts./A	14d PHI Pome Fruit
Danitol	10 2/3 - 21 1/3 fl.oz./A	14d PHI Pome Fruit
Imidacloprid + Cyfluthrin (Leverage 360)	2.4-2.8 fl. oz./A	7d PHI Pome Fruit

Read the label: The pesticide label is your guide to using pesticides safely and effectively. It contains pertinent information that you should read and understand before you use a pesticide product.

Leverage 360 (Class 3A & 4A) include the pre-mix insecticide active ingredients Imidacloprid (Class 4A) and Beta-Cyfluthrin (Class 3A) that act as both contact and feeding toxicants against the SB complex. Lannate (Class1) contains Methomyl, a carbamate and Danitol (Class 3A) Fenpropathrin, act as direct contact insecticides. These materials have very short residual.

Examples of four distinct types of damage we are seeing in Ulster & Orange, NY (26th Sept. 2012). Injury along orchard edges in these blocks exceeding 4% with >1% injury in the center of blocks noted.



Red skin expression



Very recent feeding beginning to appear



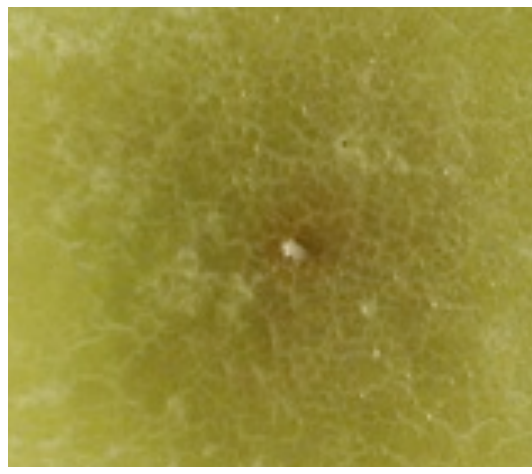
Large dark green skin SB feeding expression with sunken lesions; caused by earlier feeding



Small dark green skin SB feeding expression



Dark green skin SB feeding expression close-up



Magnified image of feeding site.

Feeding site expression typical of stink bug as classified by Mark Brown¹: Feeding 'tubes', white crystalline sugar residue, very small hole in center of discolored sites and feeding sites with discoloration and depressions.



Brown marmorated stink bug, *Halyomorpha halys*



Green Stink bug, *Acrosternum hilare*

Reference:

1. Factors Affecting Appearance of Stink Bug (Hemiptera: Pentatomidae) Injury on Apple.
[Brown MW](#), [Short BD](#). [Environ Entomol](#). 2010 Feb;39(1):134-9.

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