

Season Long Protection Against Apple Pests

Facilitated discussions were held for growers and retailers as the first evaluators of a new combination insecticide/miticide from FMC, Gladiator®. The growers and retailers used Gladiator® on a portion of their apple acres in 2014 and were asked to share their comparisons and experience with other pest control products.

Few things are as important to an apple grower as quality, whether that means a flawless skin for the grocery consumer or consistent sweetness for the processor. And few things are as crucial to achieving that quality as insect and mite control.



Ensuring Apple Quality After A Tough Winter

The winter of 2013-2014 was especially cold with heavy snowfall. Many parts of the country had experienced an excellent 2013 harvest, but as temperatures plunged, growers remembered freezes which had wiped out whole orchards in recent years. "We had two nights where temperatures got down to 18-20 degrees below," said grower David Smeltzer of Westwind Orchards in Bear Lake, Michigan.

The cold temperatures lingered through spring, but failed to hinder the insect population. "Everything was starting slow," Smeltzer said, "but there was still a progression of bugs and insects." Insect and mite control are crucial to protect the appearance, consistency and sweetness of the crop. "If you have mites," Gerritt Herrygers of Wilbur Ellis Company in Hart, Michigan, said, "it interferes with the leaf and makes it bronze, so then photosynthesis doesn't occur, sugars don't get into the fruit and the quality of the apple is not there. You can taste it."

Two Modes Of Action And Easy To Use

With the growing season off to a slow start, growers were looking for ways to ensure they got the most out of an uncertain season which might be shortened. So their retailers encouraged them to try Gladiator®, a new insecticide/miticide from FMC. Herrygers recommended it for reasons of convenience and cost compared to competing single mode products. "Economics for the grower were pretty good when you penciled it out," he said. "And being able to just dump one material in the tank and only have to rinse one jug versus two makes the product easy to use."

Gladiator is applied at petal fall through first cover and contains two modes of action, Zeta Cypermethrin and Avermectin B1. One mode of action delivers excellent knockdown and residual control of insects. The second provides season long mite control. The unique formulation of Gladiator maximizes absorption of the insecticide/miticide into receptive tissues. This combination delivers outstanding coverage, consistency, uniformity and rain fastness. "I needed something that was a much broader spectrum and Gladiator had two components in it," Smeltzer said.

Petal Fall to 1st Cover Insect Control



Green Fruitworms
Tarnished Plant bugs
Plum Curculio
White Apple Leafhopper
Codling Moth
Oriental Fruit Moth
Tufted Apple Bud Moth
Leaf Roller(s)
San Jose Scale
Spotted Tentiform
Leafminers
Rosy Apple Aphids

Season Long Mite Control

European Red Mite
Two Spotted Spider Mite
Rust Mite



- Gladiator's unique formulation maximizes absorption of miticide into receptive tissues when applied at petal fall to provide season long mite control.
- Gladiator contains insecticide for knockdown & residual control of apple insect pests attacking young developing fruit when applied at petal fall.

Growers also needed an insecticide/miticide which would work harmoniously with products they were already applying successfully. Users reported using it in combination with products such as Damoil™, Manzate® and Inspire Super™, and none reported any mixing problems. "No one said anything to me, and they would if they had a problem," Herrygers quipped.

The formulation of Gladiator provided another benefit to growers which allows them greater flexibility in caring for their fruit. "One thing that attracted me to it is that it has a 12 hour reentry," David Smeltzer said. "If we start in the morning, depending on which orchards we might be working in, by tomorrow morning we can go right back in."

Delivering Protection For A Full Season

So how did Gladiator® perform with insects and mites? "It controls all of the particular bugs," Smeltzer said. "It'll even pick up Plum curculio a little bit. But it gets all the greenfruit worm, white apple leaf hopper, tentiform, and rosies."

“European red mites are the one you’re looking for, the one you base your spray program on, the one you’re going to see most of the damage from,” added another grower, Bob Bush, from New Era, Michigan. Bush used Gladiator in 2013 and 2014 and was pleased with its performance. “I’ve had two years now of Gladiator doing a really good job. I think it did exactly what I wanted. We didn’t have to go back and reapply Gladiator, which is the key for me with a miticide.” Smeltzer agreed, “Gladiator took care of European red mites for the entire season. European red mite is the big dog, the toughest to deal with. With Gladiator, it was season long control. I didn’t have to go back for mites at all.”

Tiffany Steimel of Wilbur Ellis in Acme, Michigan found her customers had a similar experience while they were making observations between Gladiator and alternate miticides. “I think it worked to our expectations. I think most of my customers this year who used Gladiator or Agri-Mek® held their mites the whole season,” she said. “So starting in early June they will put it on and it can probably get them to the end of August.” Gerritt Herrygers agreed, saying, “I would say we saw season long control with our Agri-Mek and Gladiator this year in both the cherries and the apples that I ran them in. We didn’t go back and have to make any applications, or the few mites that did show up late didn’t really warrant control.”

“I always try to control mites in the spring, because if you miss that window, you’re just playing catch up. And there’s nothing cheap about trying to play catch up with mites or insects. Gladiator® provided that component—just take care of it once in the spring and away you go. Gladiator fit perfectly.”

—David Smeltzer, apple grower, Bear Lake, Michigan

Looking Forward To 2015

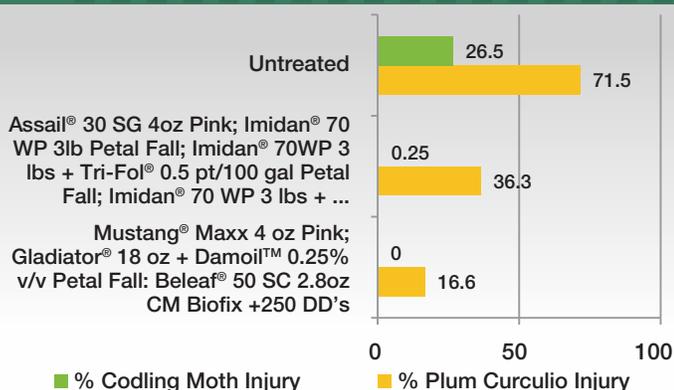
Both growers and retailers were planning to use or recommend Gladiator in 2015. Herrygers will recommend it partly based on his own experience using it in the 2013 and 2014 seasons. “I think the personal experience of using Gladiator on my own operation, and knowing that I feel confident it works, really hits home with a lot of the growers and other service people in my area.”

“I’d say it’s right up there towards the top as far as efficacy,” he added, “I would rate it pretty high up there as far as the value goes for what we are getting out of it.”

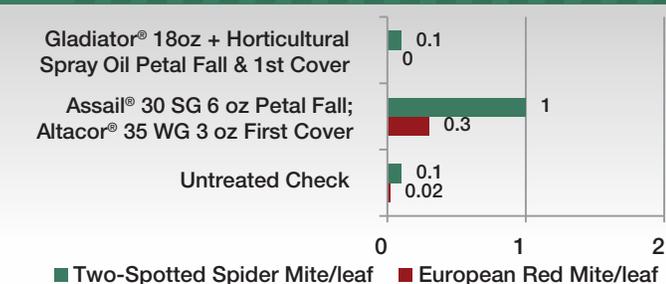
“When we did use Gladiator we saw nice results with it,” said Dave O’Brien of Crop Protection Services in Attica, Ohio. “It worked well for us when we used it on peaches, too. We were really pleased with it.”

Though he’s only used Gladiator for one season, David Smeltzer said it may significantly affect how things are done in his orchard in 2015. “I might change up my pink spray just because of Gladiator,” he added. “I just may rewrite the whole spray program because of this product.”

Selected Treatments Showing Codling Moth and Plum Curculio Percent Injury — 2011, Michigan State University (Data courtesy Dr. John Wise)



Mite Control by Selected Treatments from Seasonal Insecticide Programs — July 25, 2011, Virginia Tech (Data courtesy Dr. Chris Bergh)



100% of growers in discussion said they were **Very Likely** to Use and Recommend Gladiator to their peers in 2015.

100% of growers and retailers in discussion polled that *Gladiator performed the same or better than other products.* (20% same, 80% better)*

Gladiator® and Mustang® Maxx are Restricted Use Pesticides.

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* Responses based on polling of 6 participants during discussions.

