



Out And About In Southwestern Ontario

Tomatoes:

- **Tomato pinworm** was not a particularly significant pest of 2009. There were infestations in 2008 though. It is a toss-up if it will show up again in 2010. As a preventative measure, monitoring for overwintering moths for the first 2 months of the crop is cost-effective piece of mind. The method is very simple:
 - o Monitor with one trap + TPW pheromone cap per acre at start of crop. Stagger throughout range. Use one trap per range if individual ranges are less than 1 acre in size. Hang at the top of the canopy. Check weekly for moths and change cap monthly. Change trap only as needed.
 - o If nothing is caught in traps after 8-10 weeks, it's fairly safe to assume there was no pinworm from the previous year.



Tomato Pinworm

- o Once the vents are open on a regular basis, for example, end of April, put out new pheromone caps into traps and monitor for the remainder of the season.

- **Whitefly** was the pest to end the season. After a below average year for whitefly infestations, it went out with a bang. Several sprays were needed to prevent the late season influx from messing up the great bio programs that ran all year.
- **Botrytis** that was present in September also went out with a bang in October. Quite a few farms had high infection rates during the cloudy October; **Scala**® will be a welcome tool for the disease management toolbox for 2010. Stay tuned for further information on *Botrytis* and it's controls.



Honeydew From Whiteflies

- **Spider mites** will be back in 2010. Any crop that produced into the fall probably had diapausing mites present. Hiding places include sheltered areas under plastic, around hoses and posts and the notorious weeds are problem areas that need special attention during cleanup. And sorry, freezing the greenhouse is not going to cut it...that's what diapause is for...a mechanism for hanging on until the new crop shows up.
- **Broad mites** are not very common at all in tomatoes. There were several farms with a few plants late in the summer. The damage was very sporadic but not subtle.



Diapausing Phase Of Two-Spotted Spider Mite



Broad Mite On Tomato Fruit



Broad Mite In Tomato



Broad Mite Damage On Tomato

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50 Hazelton St., Leamington, ON, N8H 3W1 519-326-9037

- **Powdery mildew** was well taken care of with fungicides like Nova®. Environment played a significant role in the spread and intensity of infections.

Cucumbers:

- **Thrips** were well taken care of in cucumber crops during the fall. With more confidence in bio programs, growers are more comfortable putting in sufficient controls early in the crop. This usually means a front-loaded cost, but predators hang on to the very end. One of the nice things about having a general predator like *Swirskii* is its ability to find enough food to continue to breed and flourish if by chance there was limited thrips. With short crop cycles and regular pest pressure, we have not encountered problems with *Swirskii* interfering with other predators.



Thrips Larvae In Cucumbers



Thrips Damage In Cucumbers



Californicus Adult

- **Mites** were definitely present and they will be back next crop. You can concentrate your *Californicus* applications on plants near posts and end walls where mites will more likely first appear. The use of *Californicus* has been a great asset; it can handle lower humidity and lower amounts of food than *Persimilis*; this is very important during winter months when the heat is on constantly and the humidity is very low along walls.
- **Whiteflies** were so low during the spring and summer of 2009 that they took many growers by surprise in the fall. Very little spraying was needed most of the year. Distance® and Intercept® were good tools to have once September rolled around. With little affect on the existing bio programs they were easy to add to the total pest management program.

- **Downy mildew**, although present at most farms, overall it appeared to be well controlled and minimal damage was seen. Heat was a definite factor in quantity of infection and production loss.

Peppers:

- **Powdery mildew** was present at all farms this year. Compared to 2008, though, the control was quite a bit better at most farms. The use of Actinovate® as a preventative treatment and quick response when colonies were detected helped a great deal. Until the fall, when environment was tough to keep under control, the pressure increased a great deal and additional spraying was needed. Some varieties of peppers were definitely more susceptible to yellowing and some leaf drop with high mildew infections.
- **Spider mites** were average to below average. Excellent conditions for biological establishment (not too hot, not too cold, good humidity) helped with *Persimilis*, *Californicus* and *Feltiella* populations. It should be said that farm workers and individual employees responsible for bio introductions are improving in their techniques for distribution as well. This can go a long way to efficiency and cost savings. Nice job everyone!

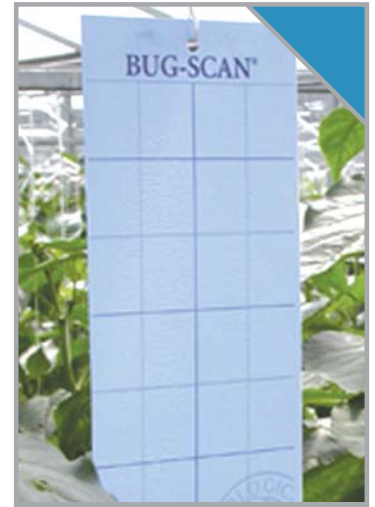


Being First-Rate At Distributing Biologicals Is A Process Of Practice;
All workers can be involved with different products in some way.



Fusarium Internal Fruit Rot

- **Fusarium** internal fruit rot was prevalent in the early season. Prestop® will prove to be an excellent tool for 2010 as a preventative measure onto the blossoms.
- **Thrips** were certainly variable. Some farms had very little infestation and this carried on throughout the season. Others had a battle from day 1. The cleanup process is one of the most important as it can set the stage for the season. Don't be afraid to use sticky traps, pheromones and monitoring to keep an unexpected problem in check. Thrips are still one of the toughest bugs to manage and we need to be diligent to keep it low.



Large Blue Sticky Traps Are Very Attractive To Thrips



Leafminer In Peppers

- **Leafminers** are not a very common pest in peppers. There were quite a few mines at the end of the 2009 season. Careful monitoring will determine if it will be a pest in 2010. Most good cleanup programs will take care of this occasional pest.

- **Aphids** are often the first pest detected in new pepper crops. The adults are good fliers and the nymphs are active at low temperatures. Any green plant material is a good waiting area until propagation or planting begins. Commonly found on underside of leaves, though they can also be found along stems and in growing tips.



Aphids On Growing Tip Of Plant



For more information on integrated pest management programs and how they can work at your operation, please contact one of the following members of the MGS Pest Management Team:

Joanna Dawson
Sheila Goodfellow
Cameron Lyons

Tom MacDonald
Theresa Wildman