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VEGETABLE CROP UPDATE

VINE CROPS EDITION

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Downy Mildew Update:

The rumour mill is working overtime these days; fortunately we have still not had a confirmed case of downy mildew in the field. All growers should be walking their vine crop fields regularly.

The overcast, wet weather front that moved through SW Ontario on Tuesday did increase the risk of downy mildew spore survival, transportation and potential for infection. If you have not already started your preventative fungicide program, start immediately. As storm fronts move through it is a good idea to include one of the targeted downy mildew fungicides in your schedule. At this time we are recommending a 7-10 day spray interval. I have reprinted the list of recommended downy mildew fungicides at the end of this update.

Remember: treat overhead irrigation as you would a wet weather front. Apply a fungicide before any irrigation event. This will ensure that all new growth is protected during the duration of the leaf wetness. While the kick-back activity of products such as Tanos 50 DF is reassuring, do not rely heavily on it. Products applied prior to a leaf wetness event will be more effective than those applied after.

Our summer scouts report that the fields are very clean and looking good. The hot, dry windy weather has brought on a variety of issues including; cucumber beetles, potato leafhoppers, thrips, herbicide injury, wind damage and sand blasting.

Cucumber Beetles:

Both striped and spotted cucumber beetles are present in most fields. Generally speaking, the numbers are higher in Kent County than they are in East Elgin and Norfolk. The best time to spray for beetles is usually 2-3 days after they first appear in the field. This allows for staggered beetle emergence, while still preventing numbers from building above the threshold levels of 0.5-1 beetle per plant.

Potato Leafhoppers:

With the dry weather we are seeing a few unusual insect pests in the vine crops. Potato Leafhoppers are bright yellow-green with a wedge shaped body. They are often found on the lower leaf surface and will quickly move or hop away when disturbed. They feed by sucking on the plant sap. As they feed, they inject a toxin into the veins, causing yellow discoloration. Where feeding is prolonged, the leaf may turn brown and become slightly twisted and puckered. Potato Leafhoppers do not usually cause yield losses in vine crops.

Thrips

Thrips are minute (<2mm) insects that favour hot dry weather conditions. They range in colour from straw brown to reddish brown and are often (but not always) found on the lower leaf surface. This week, we have been finding fairly high numbers in both pickling cucumbers and pumpkins. The feeding damage can appear as small silver or dark brown irregular-shaped spots. We don't usually see thrips as a cucurbit pest in the field, and the plants can tolerate a fairly high amount of feeding without experiencing any yield loss. However, reports from the southern states and Hawaii suggest that an insecticide treatment is warranted if the numbers exceed 9 thrips per leaf (randomly inspect 1 leaf on each of 50 plants to gauge the population.)

Sand Blasting/Wind Damage

The initial signs of physical injury can easily be confused with early disease symptoms. Damage tissue will appear dark and may turn yellowish. Damaged areas often follow a fold in the leaf, or will quickly turn grey-to-white. Damage areas often appear linear, and are not confined by the leaf veins.



Leaf Distortion from PLH Feeding



Yellow Discoloration at PLH feeding Site



Sand Blasting Injury



Herbicide Injury (Command)

South of the Border

The North Carolina website is now reporting wind trajectories for Southwestern Ontario and the North Central/North Eastern States. This week's storms did pass directly over the cucumber growing regions of Ontario, as a result the Downy Mildew disease forecast was considered high during the storm events. The risk drops to low again as the weather returns to hot and dry for the latter part of this week.

Dr. Mary Hausbeck at Michigan State University is running a downy mildew spore trapping program again this year. She reports very low levels of spores in the traps in South East Michigan. Keep in mind that the spore counts found to date in 2007 are a mere fraction of those experienced during 2006.

Fungicides Registered for use on Downy Mildew in Cucurbits

Fungicide	Chemical Family	Rate	PHI	Fungicide Type
<i>mancozeb</i> Dithane DG <u>or</u> Manzate DF <u>or</u> Penncozeb 80 WP	M2	1.3 kg/ac	14	Broad Spectrum
<i>chlorothalonil</i> Bravo 500	M4	1.9 L/ac	1	Broad Spectrum
<i>famoxadone/cymoxanil</i> Tanos 50 DF	11/27	224 g/ac	3	Targeted
<i>propamocarb/chlorothalonil</i> Tattoo C	28/M4	0.72-1.1 L/ac	2	Targeted
<i>pyraclostrobin</i> Cabrio EG	11	336 g/ac	3	Broad Spectrum (single mode of action)

Broad Spectrum Fungicides: mancozeb and chlorothalonil have multiple modes of action and are applied preventatively to protect the crop against a wide variety of leaf diseases. Adequate spray coverage is essential to the performance of these fungicides.

Targeted Fungicides: these products are used to prevent the germination of downy mildew spores on the leaf surface. They must be used preventatively. They are not “curative”. They may provide a small amount of kick-back activity if applied within the first few hours after infection. Do not wait until visual symptoms appear to apply these products. Targeted fungicides have a single mode of action. The risk of developing resistance to these products is quite high if they are not rotated properly, or if they are overused. Growers are encouraged to use targeted fungicides only when there is an increased risk of downy mildew infection in the area.

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