Tuesday, July 06, 2021

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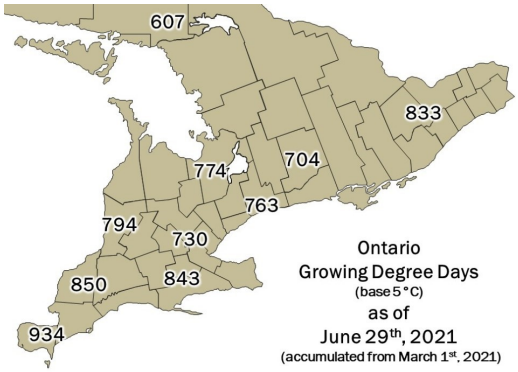
- Tomato and Cucurbit Disease Spore Trap Network Update: July 5, 2021

VCR – Vegetable Crop Report – June 30th, 2021

The VCR (vegetable crop report) is a weekly update which includes crop updates, weather and growing degree summaries for various vegetable growing regions across Ontario.



Temperature – Daytime temperatures are forecasted to be in low-mid twenties for all regions until Monday next week, where higher temperatures will be seen based on region.

Nighttime temperatures are forecasted to range from low teens to low twenties based on region. Onion Maggot and Seedcorn Maggot are at threshold in Essex and Sudbury. Cabbage Maggot is at threshold in Essex. Degree Day data for each region is shown below.

Rainfall – There is chance of rain and scattered thunderstorms for many different regions over the holiday and into the following week. Essex, Chatham-Kent, Norfolk, Huron, and Sudbury have well surpassed their respective 10 year precipitation averages for the month of June. Also, all other regions with the exception of Durham are fairly close to their averages for the month of June. Precipitation data for each region is shown below.

Crop Updates

Asparagus – continue scouting all plantings as the canopy develops. Watch for signs of rust (**Figure 1**) and Stemphylium / purple spot (**Figure 2**).

Figure 1. Rust aeciospores on stem of asparagus

Figure 2. Stemphylium (purple spot) on asparagus stem

Brassica Crops – Cabbage and broccoli harvest are underway. Be mindful of soil surface temperatures while if you are transplanting later plantings this week. High amounts of rainfall the past week will mean that conditions are more favourable for Alternaria (**Figure 3.**) and downy mildew. Rapid growth due to heat and excess moisture may lead to nutrient deficiencies, tip burn and hollow stem in broccoli over the next couple of weeks. Early detection and management of Alternaria will reduce potential inoculum later in the season. Incorporate all left over plant tissue immediately after harvest to lower the amount of inoculum available to infect later plantings.

Figure 3. Older cauliflower leaf with an Alternaria lesion. Alternaria often develops circular rings within the lesion

Celery – Continue to scout for carrot weevil, tarnished plant bugs and leafminers. Leaf blights (**Figure 4.**) such as Cercospora (early blight), Septoria (late blight) and celery leaf curl are more likely to be seen if there was rainfall over the past week.

Figure 4. Celery leaf with both Cercospora (early blight) and Septoria (late blight) lesions. Cercospora lesions are tan to yellow spots while Septoria lesions are the grey to black spots.

Cucurbits – Pre-emergence weed control was spotty in areas due to the dry soil conditions. Post emergence applications of Sandea must be made prior to the onset of flowering. Stripped cucumber beetles have been observed in many fields. Where insecticidal seed treatments were used, they appear to be doing a good job of controlling these emerging adults. If seed treatments were not used, scout regularly and use a threshold of 0.5-1 beetle per plant. With the extended wet periods, accompanied by high winds, cucumber and cantaloupe growers should expect to have a high risk of downy mildew. Risk of downy mildew in pumpkins and squash is low at this time.

Garlic – Leek moth peaks have been observed over the past two weeks across southwestern Ontario. Managing leek moth populations now will reduce the overwintering population for next year's crop. A single insecticide application is most effective when it is applied 10 days after the date that corresponds to the peak moth capture. If you plan on two applications, make the first application 3 to 7 days after the date of peak moth capture and the second treatment 14 days later. Products such as Matador, Delegate, Entrust, Success, Dipel, XenTari and Bioprotec are most effective when they make contact with the larvae. Products with *Bacillus thuringiensis* (Bt) as the active should be applied in the evening or when there is overcast as UV light can reduce the efficacy. As harvest approaches, monitor the number of leaves that senesce. The ideal time to harvest porcelain cultivars (such as the cv 'Music') is when 50% of the leaves have senesced / turned yellow. Since it takes several days to harvest, many growers start at 40% and by the time the crop is fully harvested it may have reached 70%.

Legume vegetables – Watch for late emerging broadleaf weeds, especially where pre-emergence herbicides may have been limited by dry soils during emergence. White mold is a concern in any fields during bloom if extended periods of leaf wetness occur due to overcast, wet weather or a lush, dense crop canopy. If these conditions exist, fungicides are most effective when applied at 10-20% bloom with a second application 7-days later (if the conditions persist).

Onions – Stemphylium has been observed in multiple fields across the province (**Figure 5**.). If Penflufen was part of the seed treatment, do not start a Stemphylium fungicide program with a foliar group 7 fungicide. For the first application, a product containing mancozeb (group M3) may provide protection. Mancozeb products such as Manzate Pro-Stick, Dithane Rainshield, and Penncozeb 75 DF Raincoat are registered for Botrytis and Manzate Pro-Stick is registered for Botrytis and Alternaria/Purple Blotch. Avoid applying products from the same chemical group one after the other. For the second foliar product, products containing group 7 show the best efficacy, such as Sercadis, Aprovia, or Miravis Duo (group 7/3). Research has shown that there is very high resistance in Stemphylium to one of the fungicides in Quadris Top (group 11/3) and in Luna Tranquility (group 7/9). Follow a group 7 fungicide with a broad-spectrum fungicide such as T-77 or Bravo. Purple blotch, onion smut and pink root has been observed in some fields. Be on the lookout for onion downy mildew as some areas may have received conducive weather for sporulation and infection.

Figure 5. Stemphylium lesions developing on a seeded onion – June 2021

Peppers and Sweet Corn – Keep an eye out for European corn borer. Univoltine areas have reached first emergence, with an expected peak flight within the next few weeks. Bivoltine areas have passed the peak emergence of the first generation. Scout all corn after it reaches early tassel emergence for egg masses and signs of feeding damage.

Pest Degree Day Forecasting

*NOTE: Data as of June 3rd, 2021

Pest	Carrot Rust Fly	Onion Maggot	Carrot Weevil	Aster Leafhopper	Tarnished Plant Bug	Cabbage Maggot	Seedcorn Maggot	European Corn Borer
THRESHOLD	329-395, 1399-1711	210-700, 1025-1515	138-156, 455+	128+	40+	314-398, 847-960, 1446-1604	200-350, 600-750, 1000-1150	See legend below
Essex*	1163	**1061**	**771**	**613**	**424**	**862**	**1061**	545
Chatham-Kent*	1039	941	**678**	**532**	**331**	760	941	467
Norfolk**	1028	932	**670**	**524**	**326**	753	932	458
Huron***	973	881	**637**	**499**	**306**	712	881	438
Wellington**	912	818	**575**	**439**	**259**	650	818	379
Simcoe County***	963	867	**613**	**474**	**291**	690	867	412
Durham***	945	851	**592**	**461**	**277**	671	851	403
Peterborough	887	792	**539**	**408**	**236**	616	792	351
Kemptville***	1019	922	**649**	**497**	**299**	735	922	432
Sudbury***	761	**681**	**475**	**369**	**210**	537	**681**	319

*- Bivoltine region for ECB. First Peak Catch: 300-350 DD, Second Peak Catch 1050-1100 DD
**- Overlap region for ECB. First Peak Catch : 300-350 DD Second Peak Catch 650-700 DD, Third Peak Catch 1050-1100 DD
***-Univoltine region for ECB. Peak Catch 650-700 DD

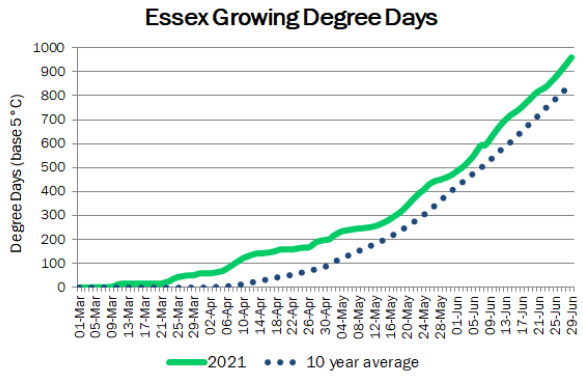
Use these thresholds as a guide, always confirm insect activity with actual field scouting and trap counts.

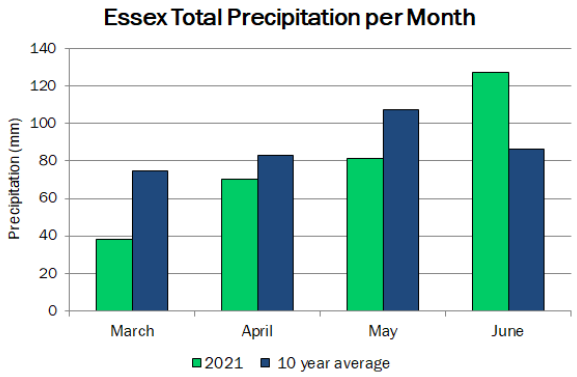
Select a region below for the latest weather, crop and pest degree day information:

Essex County(https://onvegetables.com/2021/06/30/vcr2021-7/#essex)
Chatham-Kent County(https://onvegetables.com/2021/06/30/vcr2021-7/#chatham-kent)
Norfolk County(https://onvegetables.com/2021/06/30/vcr2021-7/#norfolk)
Huron County(https://onvegetables.com/2021/06/30/vcr2021-7/#Huron)
Wellington County(https://onvegetables.com/2021/06/30/vcr2021-7/#wellington)
Simcoe County(https://onvegetables.com/2021/06/30/vcr2021-7/#simcoe)
Durham County(https://onvegetables.com/2021/06/30/vcr2021-7/#durham)
Peterborough(https://onvegetables.com/2021/06/30/vcr2021-7/#peterborough)
Kemptville(https://onvegetables.com/2021/06/30/vcr2021-7/#kemptville)
Sudbury(https://onvegetables.com/2021/06/30/vcr2021-7/#sudbury)

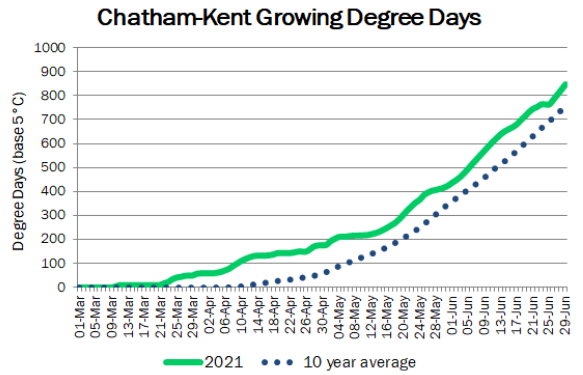
VCR – Vegetable Crop Report – June 30th, 2021…con't

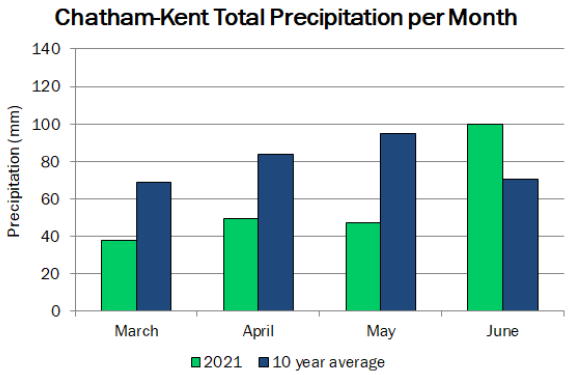
Essex County



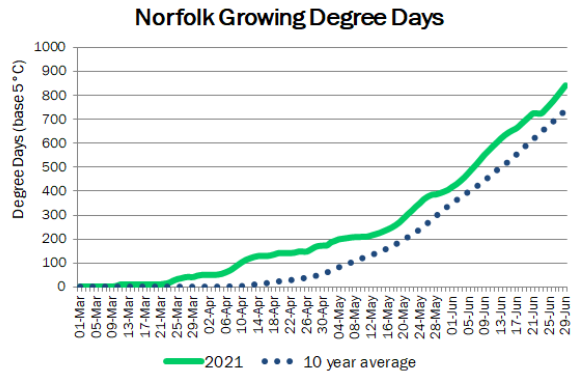


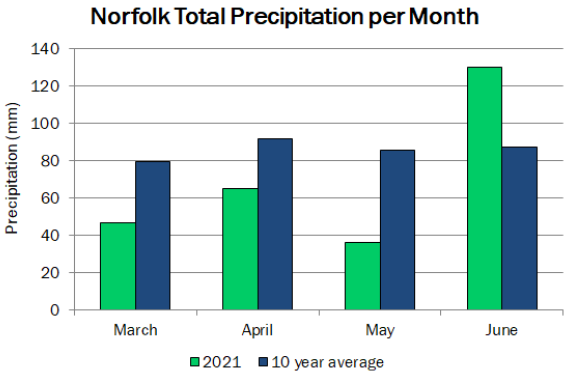
Chatham-Kent County



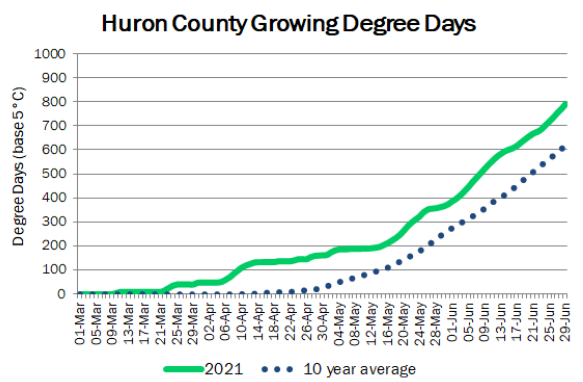


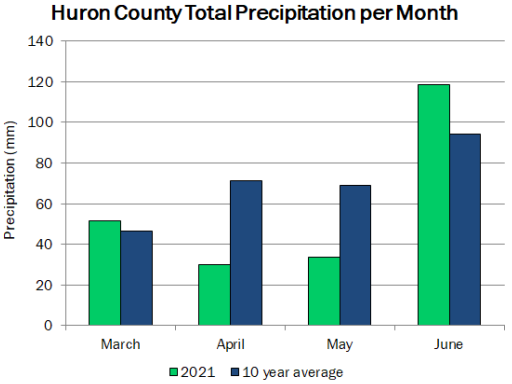
Norfolk County



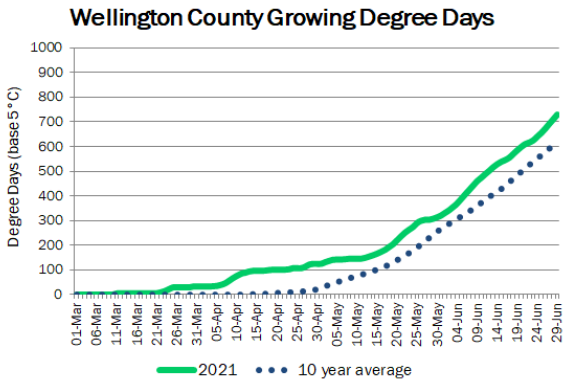


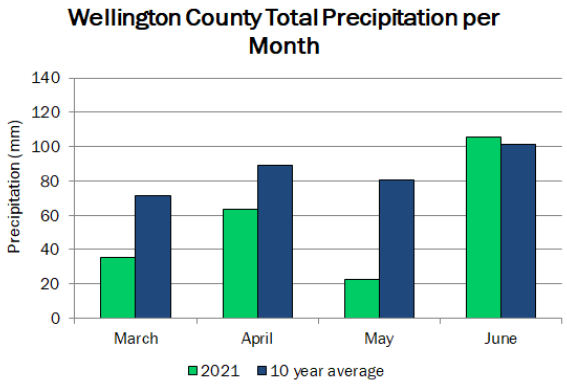
Huron County



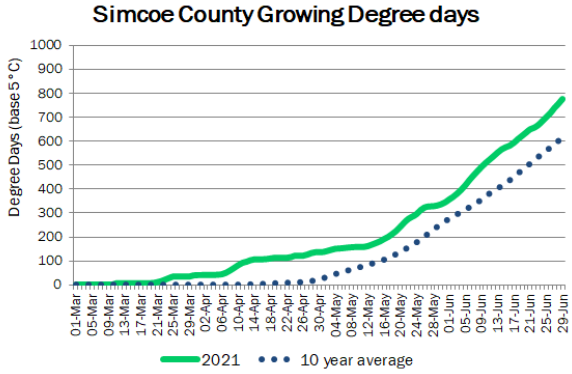


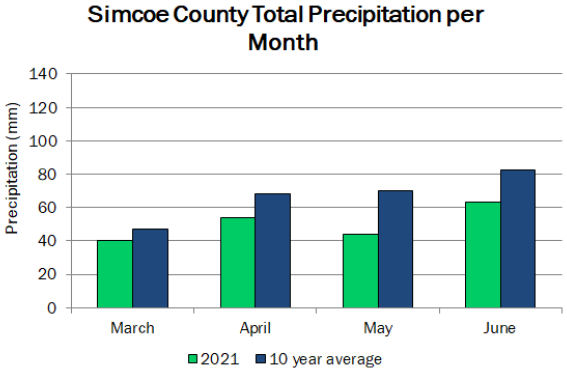
Wellington County



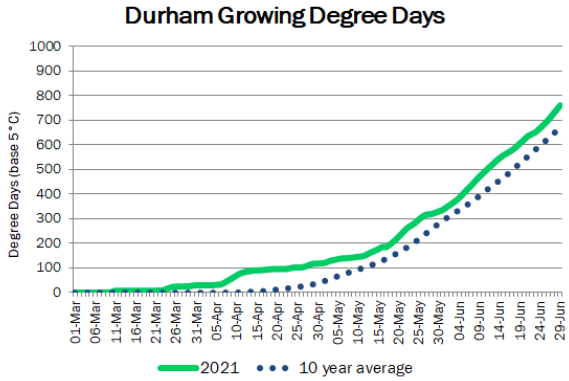


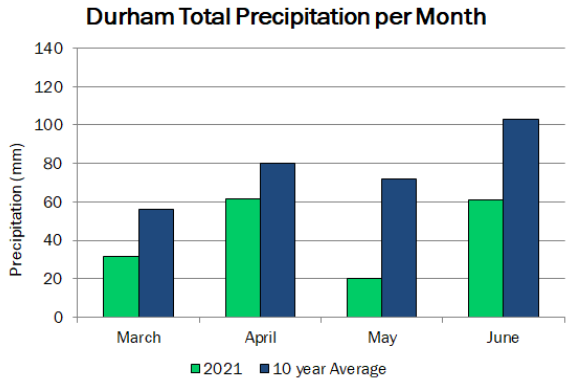
Simcoe County



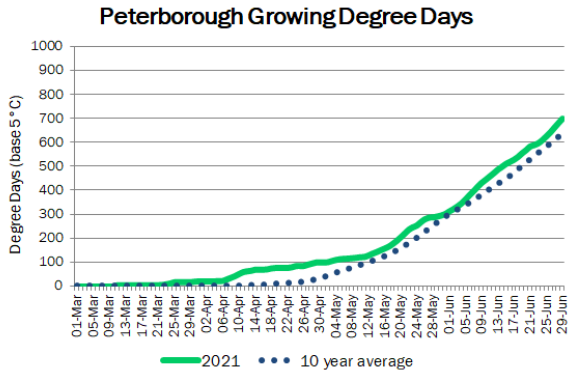


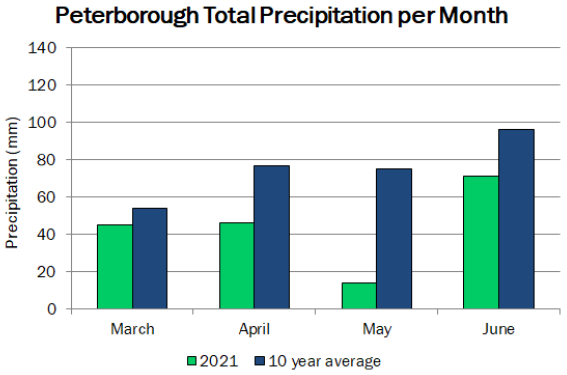
Durham County



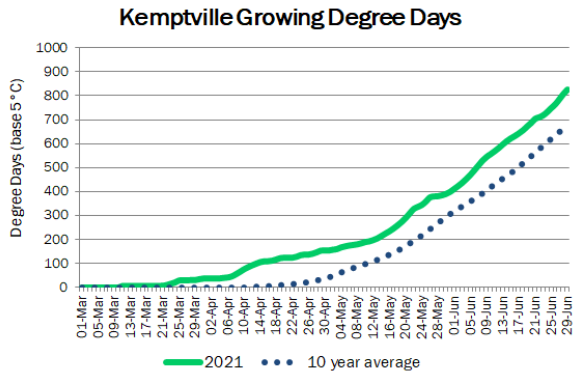


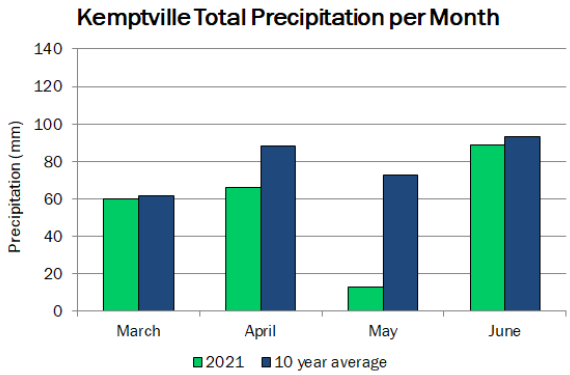
Peterborough



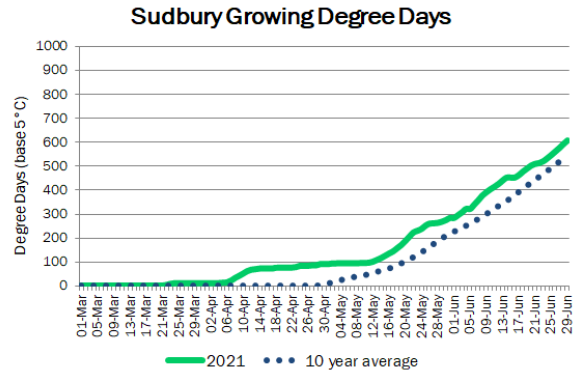


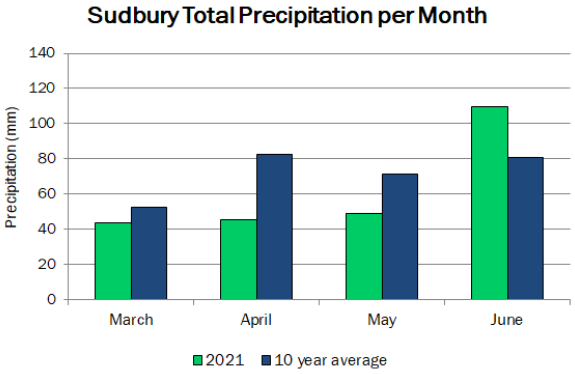
Kemptville





Sudbury





Tomato and Cucurbit Disease Spore Trap Network Update: July 5, 2021

Joseph Tomecek (Tomecek Agronomic Services/M.Sc. candidate, Dept. of Plant Agriculture, Univ. of Guelph); Elaine Roddy (OMAFRA), Amanda Tracey (OMAFRA), Dr. Cheryl Trueman (Ridgetown Campus, Univ. of Guelph)

We continue to monitor for the presence of *Phytophthora infestans* (late blight) and *Pseudoperonospora cubensis* (cucurbit downy mildew) in Kent and Norfolk counties using spore traps. Spore traps monitoring for causal agents of tomato late blight and cucurbit downy mildew in Kent, Elgin and Norfolk Counties – ONvegetables (https://onvegetables.com/2021/06/28/spore-traps-monitoring-for-causal-agents-of-tomato-late-blight-and-cucurbit-downy-mildew-in-kent-elgin-and-norfolk-counties/)

Spore traps were installed the week of June 7, 2021. No DNA of *P. infestans* or *P. cubensis* was detected by Spornado traps or rotorod traps between June 7th and June 28.

***Phytophthora infestans* DNA (late blight)**

2021 Testing Period (Trap)	Kent County (Positive Detections/# sites)	Elgin/Norfolk (Positive Detections/# sites)
June 21-24 (Spornado)	0/8	0/6
June 21-24 (Rotorod)	0/8	Not Applicable
June 24-28 (Spornado)	0/8	0/6
June 24-28 (Rotorod)	0/8	Not Applicable

A summary of fungicides for late blight management on tomatoes is available(https://onvegetables.com/2017/07/26/late-blight-alert-july-28th-2017/). If you suspect late blight in your tomato crop, please reach out to Amanda Tracey (Amanda.tracey@ontario.ca, 519-350-7134) or Dr. Cheryl Trueman (ctrueman@uoguelph.ca, 519-674-1500 ext. 63646) to confirm the diagnosis.

Tomato and Cucurbit Disease Spore Trap Network Update: July 5, 2021…con't

Pseudoperonospora cubensis DNA (cucurbit downy mildew)

2021 Testing Period (Trap)	Kent County (Positive Detections/# sites	Elgin/Norfolk (Positive Detections/# sites)
June 21-24 (Spornado)	0/8	0/6
June 24-28 (Spornado)	0/8	0/6

A summary of fungicides for downy mildew management on cucumbers is available(https://onvegetables.com/2021/06/10/cucurbit-downy-mildew-get-out-and-scout/). If you suspect downy mildew in your cucumber crop, please reach out to Elaine Roddy (elaine.roddy@ontario.ca, 519-401-5890) or Dr. Cheryl Trueman (ctrueman@uoguelph.ca, 519-674-1500 ext. 63646) to confirm the diagnosis.

Project collaborators: Yaima Arocha Rosete (Sporometrics), Hervé van der Heyden (Phytodata), Rene van Acker & Rachel Riddle & John O'Sullivan (University of Guelph), and Genevieve Marchand (AAFC).

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