Monday, August 09, 2021

OMAFRA Vegetable Team:

Travis Cranmer, Guelph
519-835-3382
travis.cranmer@ontario.ca

Dennis Van Dyk, Guelph
519-766-5337
dennis.vandyk@ontario.ca

Elaine Roddy, Ridgetown
519-401-5890
elaine.roddy@ontario.ca

Amanda Tracey, Ridgetown
519-350-7134
amanda.tracey@ontario.ca

"In This Issue"

Tomato and Cucurbit Disease Spore Trap Network Update: August 6, 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	Kent County Spornado Positive Detections (/8 sites)	Kent County Rotorod Positive Detections (/8 sites)	Elgin/Norfolk Spornado Positive Detections (/7sites)
July 12-15	0	0	0
July 15-19	0	0	0
July 19-22	0	0	0
July 22-26	0	1	0
July 26-29	0	0	0
July 29-Aug 2	0	0	0

A summary of fungicides for late blight management on tomatoes is available here (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: August 6, 2021…con't

Pseudoperonospora cubensis DNA (cucurbit downy mildew)

2021 Testing Period	Kent County Spornado Positive Detections (#/8 sites)	Elgin/Norfolk Spornado Positive Detections (#/8 sites)
July 12-15	1	1
July 15-19	0	0
July 19-22	0	0
July 22-26	3	1
July 26-29	0	0
July 29-Aug 2	4	4

A summary of fungicides for downy mildew management on cucumbers is available here(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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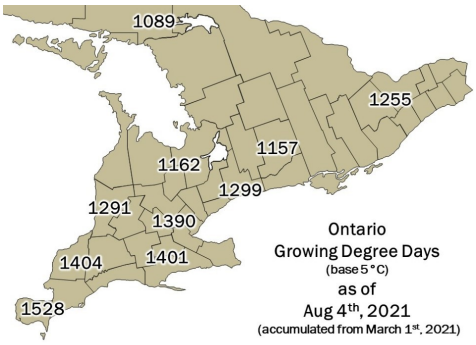
VCR – Vegetable Crop Report – August 4th, 2021

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 rise again moving into the weekend. Most regions remain above their GDD 10 year average.

Carrot rust fly is at threshold in all monitored regions below except for Essex and Sudbury. Onion maggot is at its threshold in Huron, Wellington, Simcoe, Durham, Peterborough, Kemptville, and Sudbury. European Corn Borer is at its threshold in Wellington with Sudbury and Peterborough expected to go through the threshold within the next week. Degree Day data for each region is shown below.

Rainfall – Most regions are forecasted to have some rainfall over the weekend with showers continuing throughout next week. Precipitation data for each region are shown below.

Crop Updates

Brassica Crops – The level of imported cabbageworm and diamondback moths remain elevated in most areas and thrips have been observed in high numbers in some fields. Nutrient disorders are the most common problem in head brassicas, from tip dieback on leaves to uneven head development to leaf edema. The threat of downy mildew and bacterial pathogens remains high given the high humidity and colder nights. We are currently looking for Brassica downy mildew samples. If you are finding downy mildew in your field, please call 519 835-3382 or E-mail travis.cranmer@ontario.ca.

Carrots – Leafhopper counts have been quite high this year and aster yellows symptoms are starting to show up in carrot fields. Look for yellowing or reddish leaves with multiple small sprouts coming from the crown (**Figure 1-2**). When you pull the carrot up you should see lots of roots being produced (**Figure 3**). Carrots that are showing symptoms have already been infected by the leafhoppers a couple of weeks ago so continue to control the leafhopper vectors to stop the spread. Monitor for leafhoppers using orange sticky cards (**Figure 4**) or you can use a sweep net as well to track the peaks. Cercospora, Alternaria and bacterial leaf blights have all been seen in carrot fields now (**Figure 5**). Continue to protect the new leaves so there's enough leaf area left for late-season bulking.

Figure 1. Carrot plant with yellow/red leaves from aster yellows.

Figure 2. Small spouts growing out of the carrot crown due to aster yellows.

Figure 3. Carrot roots being produced as a result of aster yellows.

Figure 4. Aster leafhopper (green insect with folded wings in the middle) on orange sticky trap.

Figure 5. Carrot leaf blight on leaves.

Celery – Early plantings of celery are being harvested. Bacterial leaf spot and blackheart/calcium deficiencies have been observed in low levels and conditions continue to be conducive for celery leaf curl. Continue to dig up stunted plants weekly to examine the roots for nematodes, the hearts for carrot weevil damage or blackheart.

Garlic – Monitor humidity levels while you are curing the harvested crop. In a closed environment, simply increasing the temperature may not pull enough moisture from the crop to cure it successfully. The Garlic Growers Association of Ontario (GGAO) is taking orders from members for clean planting material from the SPUD unit at the New Liskeard Agricultural Research Station, University of Guelph. GGAO members should E-mail garlicgrowersofontario@gmail.com to place an order by August 15th, 2021. Roundels are expected to ship in September. For more information, see the garlic clean seed program here: https://onvegetables.com/2020/08/05/spud/.

Figure 6. Roundels from the GGAO clean seed program planted in October 2020 outside and harvested in July 2021.

Onions – Some fields are starting to lodge. Many onion fields are still green to the tip with Stemphylium and purple blotch moving in. The threat of downy mildew remains high given the high humidity and colder nights. The level of thrips continues to be low in most onion-growing regions. We are currently looking for Botrytis samples. If you are finding Botrytis lesions in your onion field, please call 519 835-3382 or E-mail travis.cranmer@ontario.ca.

Peppers – Many peppers are experiencing a tough year. With the wet July, there are fields with large patches of dead plants and the rest of the field is struggling along. Many growers estimate that their remaining plants are approximately 3 weeks behind, leaving them with a pretty poor first pick. Plants being this far behind during the hottest part of the year causes a problem as there is not enough foliage to cover the fruit, resulting in some significant losses due to sun scald. However, the plants are continuing to set fruit well and many hope for a better second pick near the end of August. Disease issues are also a concern for many pepper growers. Bacterial leaf spot is being observed in many fields and as long as the weather stays on the dryer side, the plants should continue to thrive. Other disease issue like Phythophthora blight is also being observed in large patches of the field, mainly where soils were saturated or standing water was seen. Managing drainage in the field is imperative for controlling soil borne diseases like *Phythophthora capsici.*

Potatoes – Continue being proactive in scouting for and spraying for late blight. In spite of good conditions for disease, growers have been vigilant and no late blight has been found in Ontario. Keep that up as many fields start to collapse and senesce.

Most fields have plenty of moisture and in some cases, a little too much. This stretch of nice sunny weather for most of the province will help dry those fields up a bit. The crop continues to bulk up very nicely.

Tomatoes – Early planted tomatoes are ripening up and harvest should be starting in a week or two. Due to the extremely wet July in some areas of the province tomatoes are struggling against many disease issues this season. Bacterial leaf spot is being observed in many fields along with other diseases that have not had a large impact on tomatoes in the past few years, namely Early Blight, *Pythophthora capsici.* and Pythium. *P. capsici* normally occurs in tomatoes as buck-eye rot affecting the fruit. This season is can be seen causing crown and root rot and foliar lesions as well. Managing drainage as best as possible can help to minimize the effects of soil borne diseases like *P. capsici* and Pythium.

VCR – Vegetable Crop Report – August 4th, 2021…con't

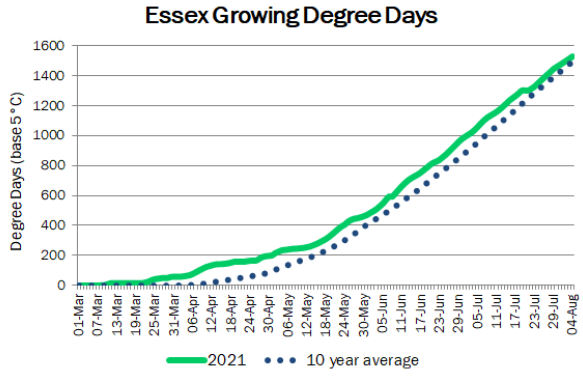
Pest Degree Day Forecasting
*NOTE: Data as of Aug 4th, 2021

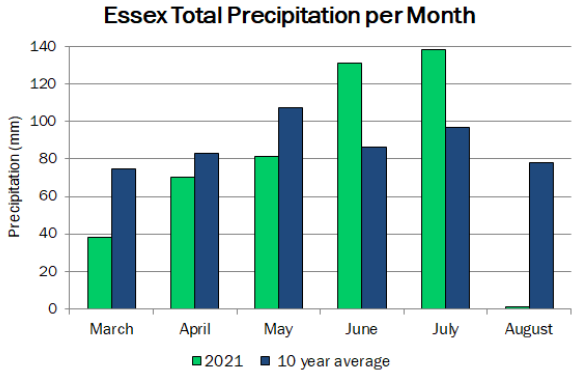
County	Carrot Rust Fly	Onion Maggot	Carrot Wee-vil	Aster Leafhopper	Tarnished Plant Bug	Cabbage Maggot	Seedcorn Maggot	European Corn Borer
THRESHOLD	329-395, 1399-1711	210-700, 1025-1515	138-156, 455+	128+	40+	314-398, 847-960, 1446-1604	200-350, 600-750, 1000-1150	See legend below
Essex*	1800	1664	**1272**	**1046**	**755**	1397	1664	944
Chatham-Kent*	**1664**	1530	**1159**	**941**	**618**	1277	1530	840
Norfolk**	**1650**	1518	**1148**	**930**	**609**	1267	1518	828
Huron***	**1521**	**1394**	**1045**	**838**	**526**	1155	1394	742
Wellington**	**1478**	**1349**	**998**	**790**	**487**	1108	1349	**694**
Simcoe County***	**1515**	**1384**	**1024**	**815**	**513**	1137	1384	719
Durham***	**1557**	**1427**	**1060**	**857**	**551**	1175	1427	763
Peterborough	**1416**	**1284**	**924**	**721**	**432**	1036	1284	627
Kemptville***	**1510**	**1382**	**1016**	**802**	**499**	1133	1382	706
Sudbury***	1316	**1200**	**887**	**708**	**427**	985	1200	622

*- 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/2021/08/05/vcr2021-12/#essex)
Chatham-Kent County(https://onvegetables.com/2021/08/05/vcr2021-12/#chatham-kent)
Norfolk County(https://onvegetables.com/2021/08/05/vcr2021-12/#norfolk)
Huron County(https://onvegetables.com/2021/08/05/vcr2021-12/#Huron)
Wellington County(https://onvegetables.com/2021/08/05/vcr2021-12/#wellington)
Simcoe County(https://onvegetables.com/2021/08/05/vcr2021-12/#simcoe)
Durham County(https://onvegetables.com/2021/08/05/vcr2021-12/#durham)
Peterborough(https://onvegetables.com/2021/08/05/vcr2021-12/#peterborough)
Kemptville(https://onvegetables.com/2021/08/05/vcr2021-12/#kemptville)
Sudbury(https://onvegetables.com/2021/08/05/vcr2021-12/#sudbury)

Essex County





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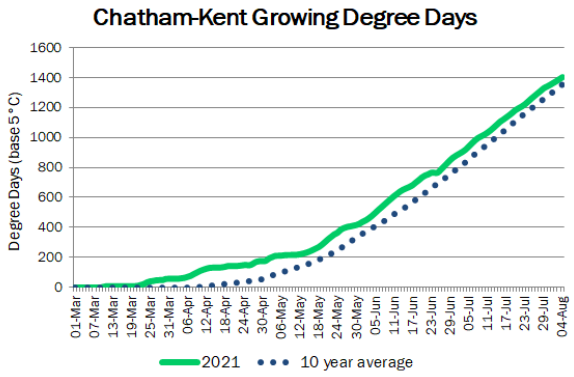
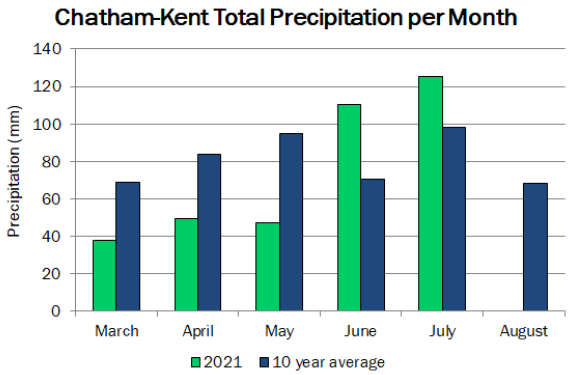
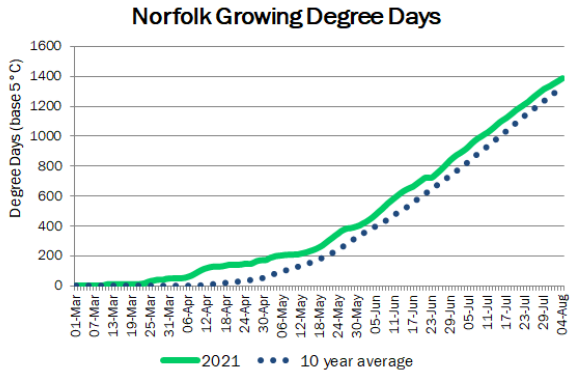
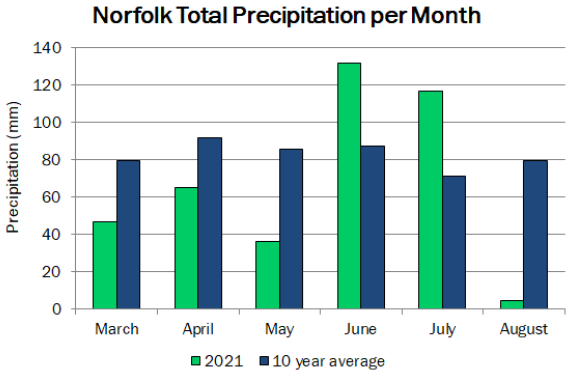
Chatham-Kent County



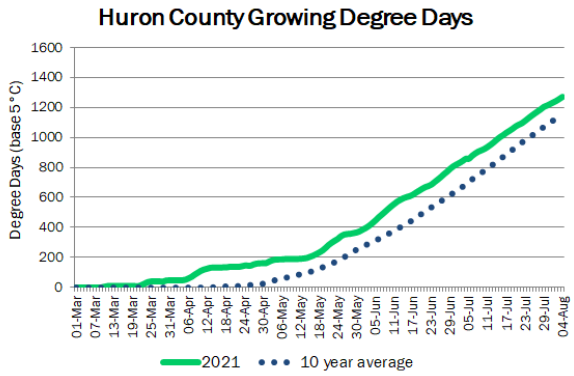


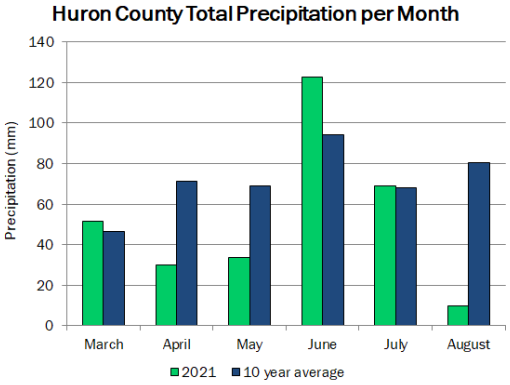
Norfolk County



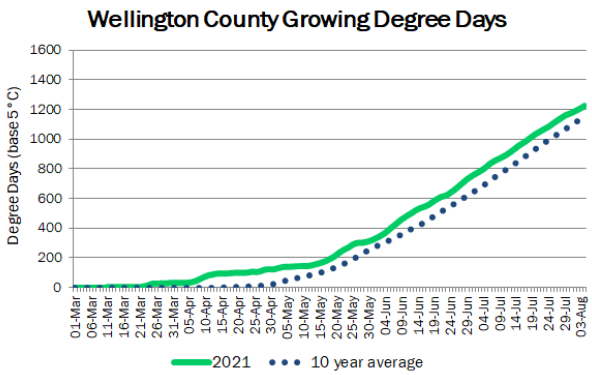


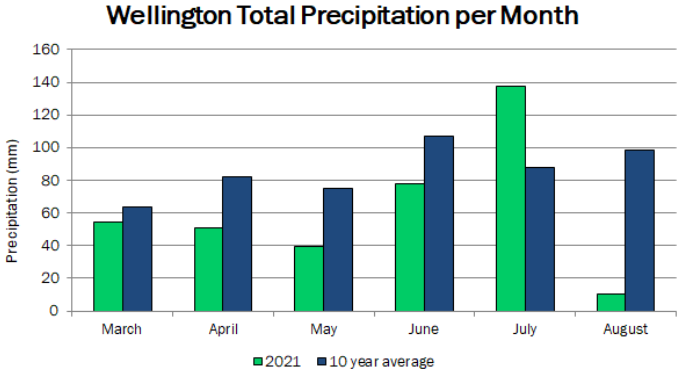
Huron County





Wellington County





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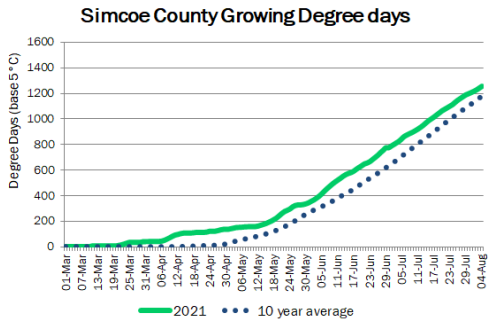
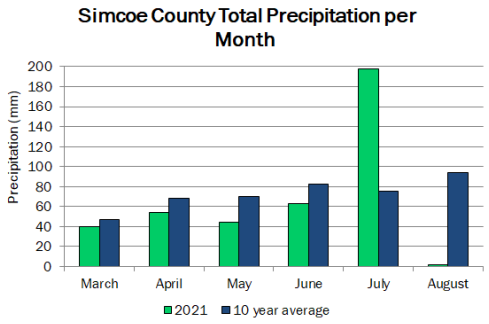
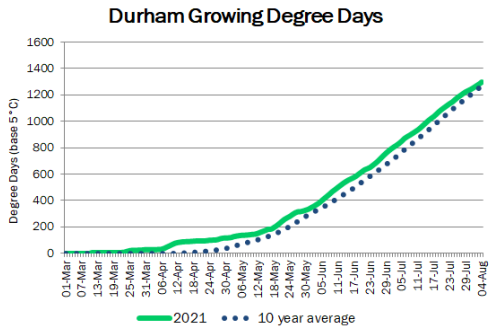
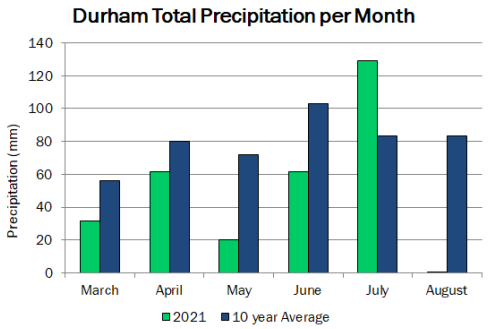
Simcoe County



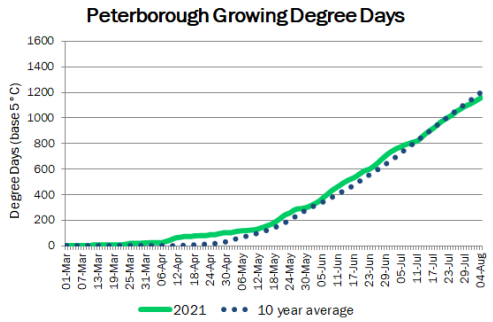


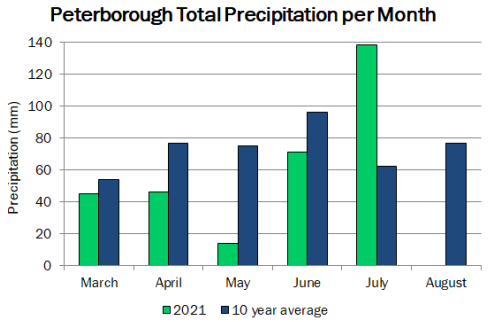
Durham County



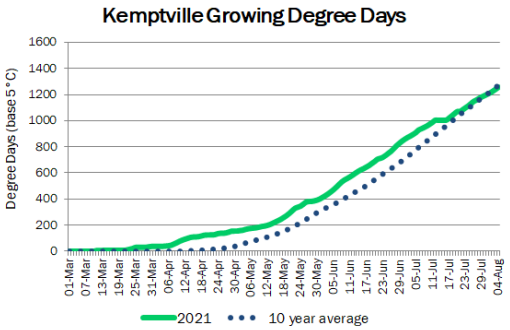


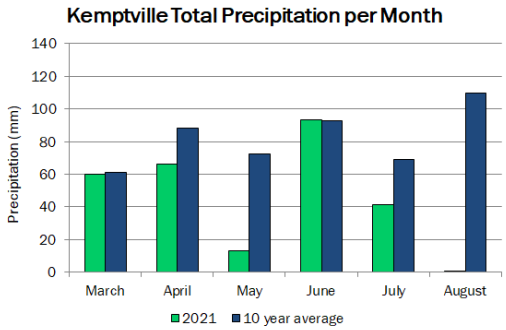
Peterborough





Kemptville





Sudbury