



Tuesday, July 13, 2021

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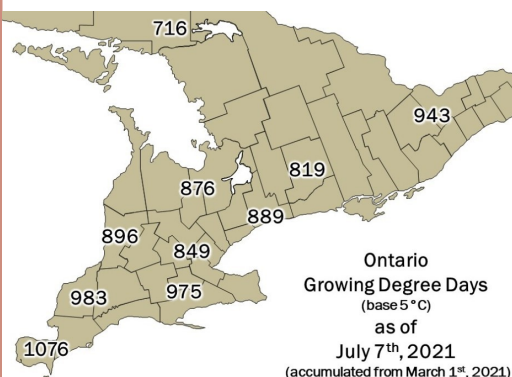
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## VCR – Vegetable Crop Report – July 8th, 2021

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 range from low to high twenties during the day for the next week in most regions.

Nighttime temperatures are forecasted to from low teens to low twenties over the next week depending on region. Most regions continue to follow their growing degree day 10 year averages except for Peterborough and Sudbury which are trending slightly downwards to follow their

10-year averages. Degree Day data for each region is shown below.

**Rainfall** – Most regions are anticipated to have rainfall up Saturday and then more rain on Sunday and into the following week. Simcoe county has almost received enough rain to match its 10-year average and all other counties are close to matching pace of their 10-year averages. Precipitation data for each region is shown below.

### Crop Updates

**Brassica Crops** – Lepidopteran pests continue to be an issue across the province. Refer to the June 17, 2020 VCR (<https://onvegetables.com/2021/06/18/vcr2021-5/>) for management thresholds for diamondback moths, cabbage loopers and imported cabbageworms. With the hot, wet weather be on the look out for Sclerotinia/white mould. The mould tends to start near the ground on plants and as it infects it creates dark, water-soaked areas on the lower leaves near the base at the soil line. As the pathogen progresses you may see white mycelial growth. These water-soaked lesions enlarge and can cause the leaves to wilt. Infected cabbage heads will retain their shape but will be filled with a soft, watery rot. If conditions are favourable for the Sclerotinia, you will see the white mycelial growth followed by small, black spots/spores that look like mouse droppings within the fluffy white growth. These black spores can overwinter in the soil for up to 8 years and the best preventative management strategy is to rotate with non-susceptible crops such as beets, onions, spinach, corn, cereals or grasses. It is also helpful to decrease the plant density of the field to allow for adequate air circulation. Allow the top inch of soil to dry out between irrigation events and incorporate residue from harvested areas as deep as possible. Eggs laid from the second-generation peak of cabbage and seedcorn maggot are causing damage to small transplants in some areas.

### “In This Issue”

- ♦ VCR – Vegetable Crop Report – July 8th, 2021
- ♦ The Vegetable Beet

## VCR – Vegetable Crop Report – July 8th, 2021...con't

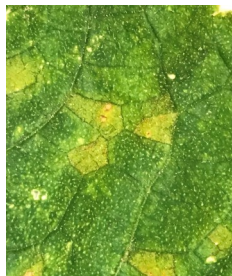
**Carrots** – Carrots are sizing nicely and are enjoying this rain as long as their feet stay dry. As rows fill and canopies close, ensure you're protecting against leaf blights and white mould developing lower in the canopy. We are nearing the degree day threshold for the next generation of carrot rust fly emergence. Monitor for adults using orange sticky cards.

**Celery** – Celery leaf curl has been observed. Be on the lookout for downward cupping of leaves. Tan to brown cracks and streaks develop along stalks. Some stalks become twisted and brittle and brown lesions may develop on leaf margins. Adventitious roots can develop along the stock and crown rot (similar to blackheart) can also develop. Avoid working in the crop when the canopy is wet as spores can spread by equipment and people. Avoid prolonged periods of leaf wetness and allow canopy to dry out during irrigation events. Given the hot, wet weather, be on the lookout for bacterial leaf blight (**Figure 1**), along with other celery leaf blights.



**Figure 1.** Celery bacterial rot, July 2020.

**Cucumbers** – In Kent County, there have been additional reports of cucurbit downy mildew in pickling cucumbers. Levels vary from sporadic to significant. Where fungicide programs have been followed, levels are low and sporulation is minimal, even when leaf symptoms are observed. Downy mildew is the most significant disease of field cucumber crops, and based on weather conditions and the presence of existing infections in Kent County, regular applications of downy mildew targeted fungicides are required to maintain crop health. To date, no infections have been reported in Elgin, Norfolk. Risk of infection in these areas is still considered to be moderate to high. It is interesting to see the range in symptoms within the cucumber crop. While the lesions always take on a definitive angular shape, the colour can range from yellow, to tan, to brown (**Figure 2**). CDM Spores were identified in all of these samples, with a dissecting microscope.



**Figure 2.** Cucurbits Downy Mildew

**Garlic** – Harvest is quickly approaching and there are a few things to consider. Depending on how quickly your soil dries out, avoid irrigating too close to harvest as soil stuck to the bulb will make it more difficult to achieve a clean wrapper. If black plastic has been used for weed control, cutting it open to allow the soil to dry before harvest can also help with wrapper cleaning. If leek moth counts were high last week, consider targeting the larvae that are now feeding on the crop. While you may not have seen a lot of damage while scaping this year, by targeting these larvae on the crop now you are reducing the amount of overwintering moths and the potential damage to future crops. Products such as Matador, Delegate, Entrust, Success, XenTari and Bioprotec are most effective when they make contact with the larvae. As leaves dry down, pull plants that dry out well before the majority of the crop and look for an intact basal plate and healthy white roots. Fusarium basal rot and bulb and stem nematode both will cause pre-mature senescence.

**Onions** – The high humidity, heavy dews and colder mornings means that the conditions have been favourable for onion downy mildew in several areas across the province (**Figure 3**). The 2017 Muck Crops Research Station Greenbook report summarizes downy mildew product efficacy on page 66: Click here to visit page 66 of the 2017 Greenbook(<https://bradford-crops.uoguelph.ca/#page=68&zoom=auto,-73,776>). Past research at the Muck Station has shown that Orondis Ultra (groups 40/49), Zampro (groups 45/40) and Ridomil Gold MZ (groups 4/M3) are the most effective for controlling this disease and are most effective when they are applied as a protective application, before infection. This warm weather has also created favourable conditions for purple blotch, Botrytis, onion smut, pink root and Stemphylium leaf blight. Refer to last week's vegetable crop report(<https://onvegetables.com/2021/06/30/vcr2021-7/>) or the article published June 28<sup>th</sup> on Stemphylium leaf blight(<https://onvegetables.com/2021/06/28/stemphylium/>) for management strategies.



**Figure 3.** Onion downy mildew will start as a tan lesion with purple-grey, velvety growth. Diseased leaves turn pale-green, yellow, and then collapse. Usually starts as a small patch then quickly spreads throughout the field – August 2019



## VCR – Vegetable Crop Report – July 8th, 2021...con't

**Peppers** – Many pepper growers in Chatham-Kent were affected by the 8-11 inches of rain received just over a week ago. Large patches in some fields are completely dead due to soil borne diseases like Pythium. The rest of the crop is progressing well and flowering. The pepper weevil survey has once again started. Please make sure to check the ONVegetables(<https://onvegetables.com/>) blog for any updates on pepper weevil captures and location.

**Potatoes** – We went from high insect pressure right into disease weather with these recent rains and storms. Late blight should be top priority and growers should be diligent in their spray programs. Canopies are full and lush and weather conditions are conducive (**Figure 4**). Ensure you are choosing late blight specific fungicides in addition to a protectant like Bravo/Echo or mancozeb. We're seeing some early blight showing up on older leaves at the bottom of early planted fields. Insect activity is still there although knocked back by the rains, keep on the lookout for leafhoppers as we have still seen some flushes.



**Figure 4.** Flowering Potato Field

Is there anything more satisfying to a potato grower than seeing a dead Colorado potato beetle? Check out these pictures of a stinkbug killing CPB larvae in a potato field. Pictures courtesy of D. Bianchi (**Figures 5 – 6**).



**Figure 5.** Stinkbug holding dead Colorado Potato Beetle larvae – D. Bianchi

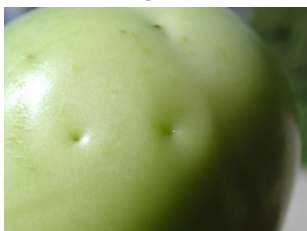


**Figure 6.** Stinkbug holding dead Colorado Potato Beetle larvae – D. Bianchi

**Pumpkins and squash** – powdery mildew is the primary pathogen in these crops. Keep in mind that many of the fungicides recommended for downy mildew in cucumber and cantaloupe will not control powdery mildew. Powdery mildew has not yet been reported in Ontario, however applying a broad spectrum fungicide before the canopy closes allows for good coverage of the older growth. Products with chlorothalonil or mancozeb offer a good range of protection against powdery mildew and other diseases like septoria and scab. Targeted powdery mildew products can be used as the risk of infection increases in late-July to early-August.

**Sweet Corn and Beans** (European Corn Borer) – According to the growing degree day model (base 10) corn borers will be approaching 2<sup>nd</sup> generation emergence in the bivoltine areas within the next week to 10 days. In the univoltine areas, the first generations will not have reached peak flight yet. Scout corn regularly after it reaches the mid-whorl stage. Beans are most susceptible to infection from the pin stage of pod development onwards.

**Tomatoes** – The 8-11 inches of rain that some fields got just over a week ago in Chatham-Kent has really taken its toll on the plants. Some fields are seeing large patches completely succumbing to soil borne diseases like Pythium. The rest of the crop is progressing well and early planted fields have small green fruit forming. For fresh market and whole pack growers, it is important to keep an eye out for stink bugs (**Figures 7 – 8**) right now. They tend to come in as the wheat is harvested and can cause significant damage to fruit (**Figures 9 – 10**).



**Figure 7.** Stink Bug damage on Tomato Fruit



**Figure 8.** Stink bug damage on tomato fruit



**Figure 9.** Adult stink bug on tomato fruit



**Figure 10.** Adult stink bugs on tomato leaves

# VCR – Vegetable Crop Report – July 8th, 2021...con't

## Pest Degree Day Forecasting

\*NOTE: Data as of July 7th, 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*	1322	1212	898	724	511	997	1212	648
Chatham-Kent*	1187	1081	795	632	404	884	1081	560
Norfolk**	1177	1073	787	625	400	878	1073	551
Huron***	1088	989	724	573	356	806	989	505
Wellington**	1046	944	678	525	318	760	944	457
Simcoe County***	1079	976	700	547	340	785	976	479
Durham***	1088	986	703	556	344	789	986	490
Peterborough	995	891	615	468	270	700	891	402
Kemptville***	1146	1041	744	576	351	839	1041	503
Sudbury***	884	796	566	443	258	636	796	386

\*- 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/2021/07/08/vcr2021-8/#essex>)

Chatham-Kent County(<https://onvegetables.com/2021/07/08/vcr2021-8/#chatham-kent>)

Norfolk County(<https://onvegetables.com/2021/07/08/vcr2021-8/#norfolk>)

Huron County(<https://onvegetables.com/2021/07/08/vcr2021-8/#Huron>)

Wellington County(<https://onvegetables.com/2021/07/08/vcr2021-8/#wellington>)

Simcoe County(<https://onvegetables.com/2021/07/08/vcr2021-8/#simcoe>)

Durham County(<https://onvegetables.com/2021/07/08/vcr2021-8/#durham>)

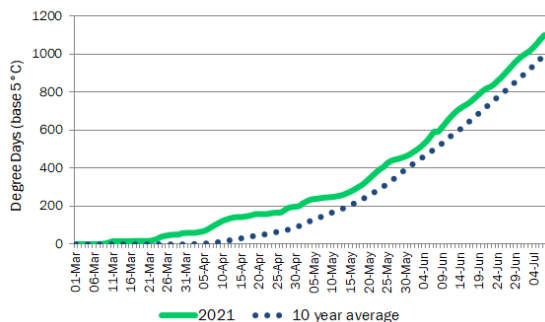
Peterborough(<https://onvegetables.com/2021/07/08/vcr2021-8/#peterborough>)

Kemptville(<https://onvegetables.com/2021/07/08/vcr2021-8/#kemptville>)

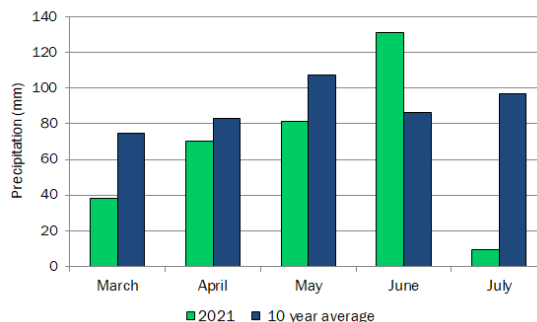
Sudbury(<https://onvegetables.com/2021/07/08/vcr2021-8/#sudbury>)

## Essex County

Essex Growing Degree Days

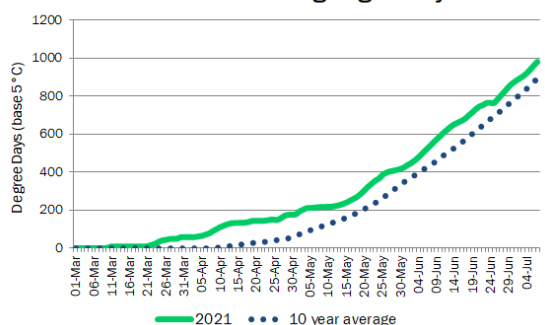


Essex Total Precipitation per Month

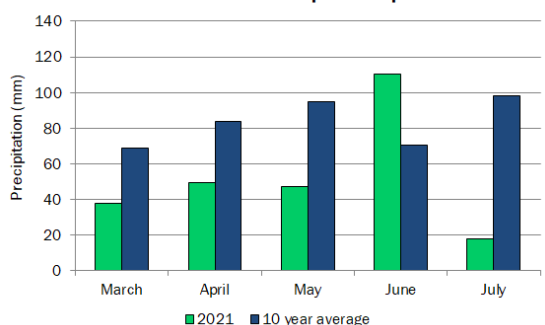


## Chatham-Kent County

Chatham-Kent Growing Degree Days



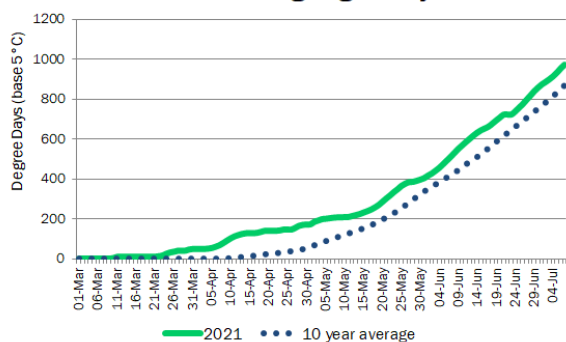
Chatham-Kent Total Precipitation per Month



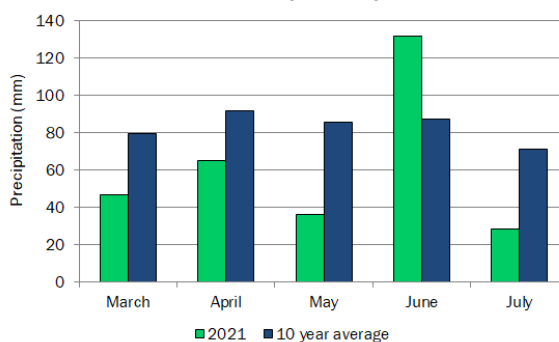
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## Norfolk County

Norfolk Growing Degree Days

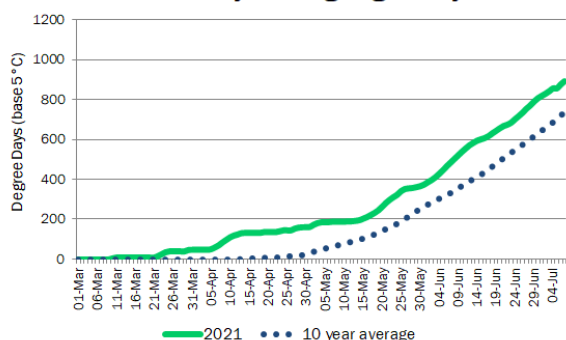


Norfolk Total Precipitation per Month

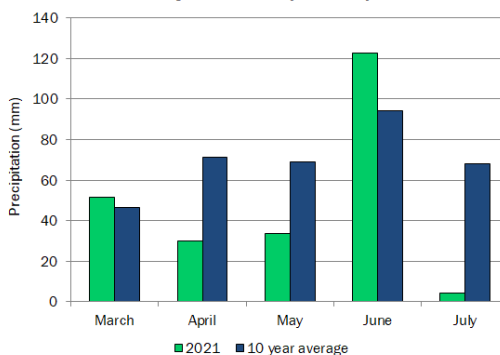


## Huron County

Huron County Growing Degree Days

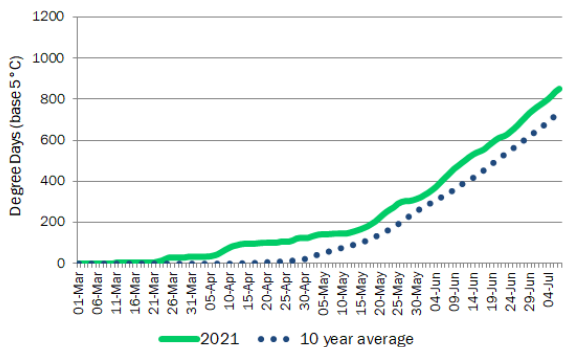


Huron County Total Precipitation per Month

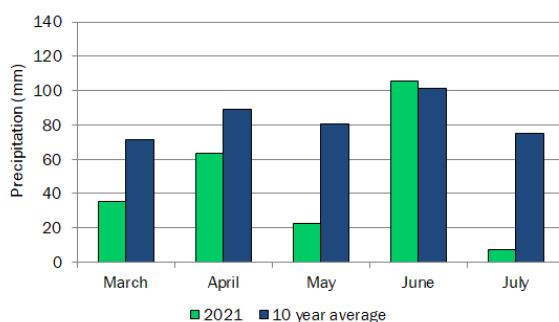


## Wellington County

Wellington County Growing Degree Days

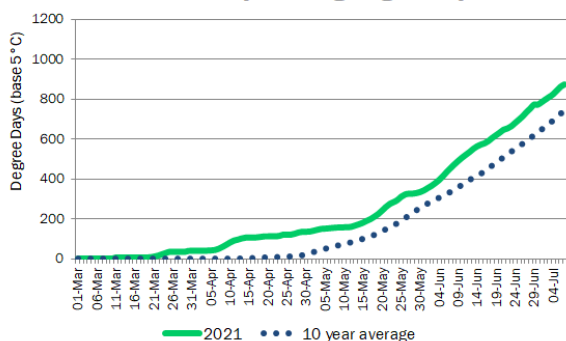


Wellington County Total Precipitation per Month

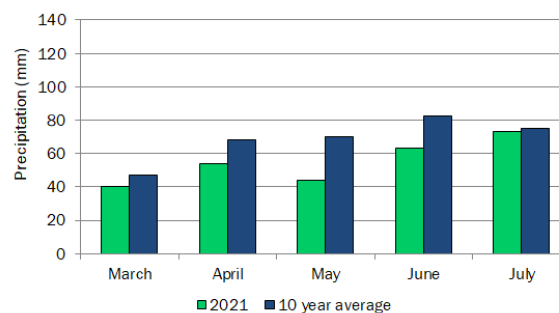


## Simcoe County

Simcoe County Growing Degree days



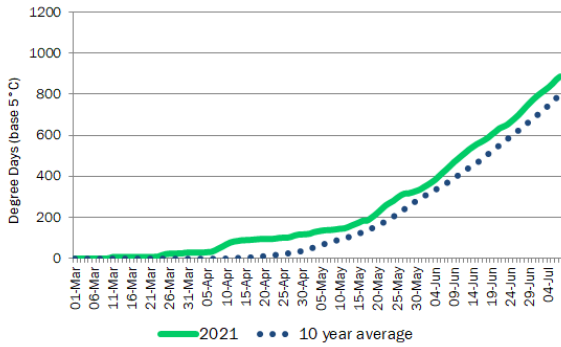
Simcoe County Total Precipitation per Month



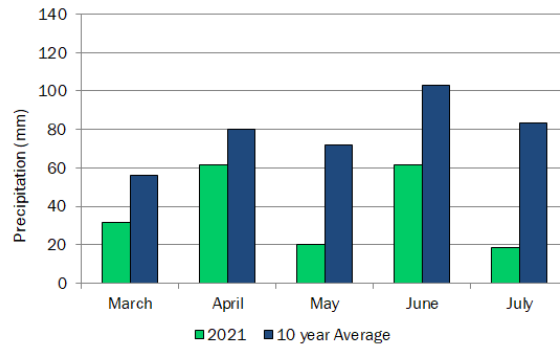
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## Durham County

**Durham Growing Degree Days**

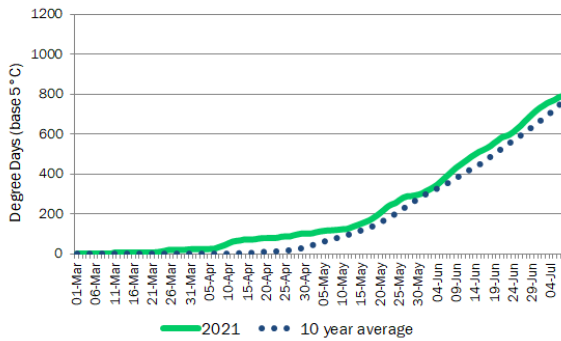


**Durham Total Precipitation per Month**

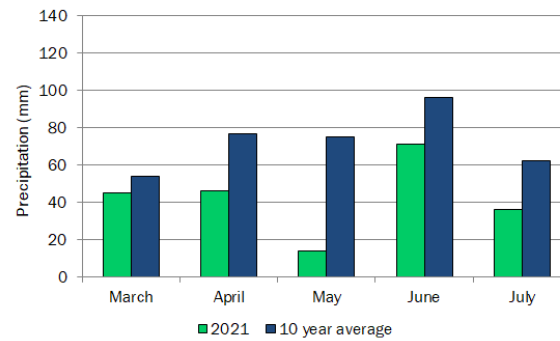


## Peterborough

**Peterborough Growing Degree Days**

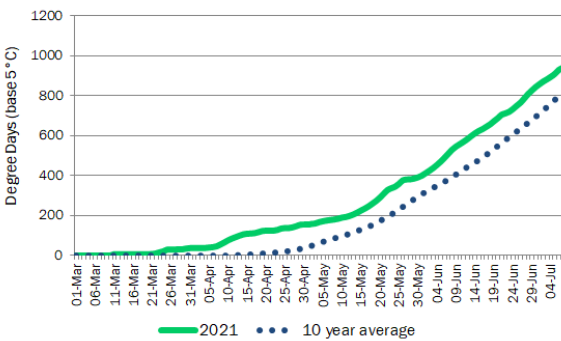


**Peterborough Total Precipitation per Month**

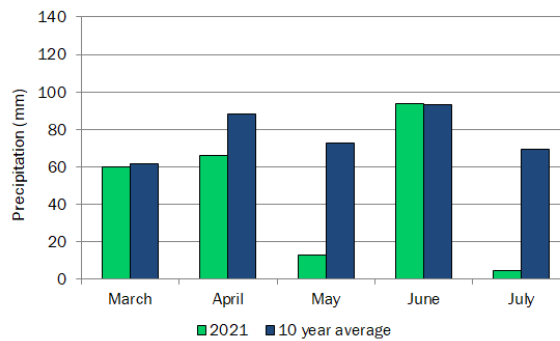


## Kemptville

**Kemptville Growing Degree Days**

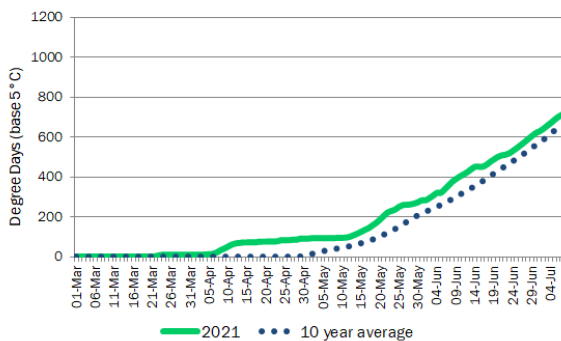


**Kemptville Total Precipitation per Month**

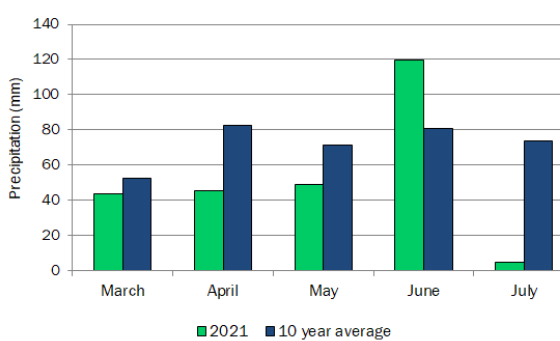


## Sudbury

**Sudbury Growing Degree Days**



**Sudbury Total Precipitation per Month**



# The Vegetable Beet

Join us tomorrow (Wednesday) as Dennis interviews the Garlic Guru, Travis Cranmer and we discuss everything garlic. Be sure to tune in if you have any questions or you can catch the recorded podcast afterwards.

The Vegetable Beet is a live weekly interview and discussion focused on vegetable production challenges. It's hosted live on Zoom and Facebook every Wednesday at 12:30 Eastern and available afterwards wherever you get your podcasts.

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