



Tuesday, May 28, 2019

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## Resistant Weed Testing Is Available for Horticulture Growers

By: Kristen Obeid, Weed Management Specialist, OMAFRA



Herbicide resistant weeds are not unique anymore, they are the norm. When I ask growers how many believe they have herbicide resistant weeds on their farm, more than 70 per cent of the hands in the room go up. Then I ask – how many people have tested their suspected populations? And not a single hand goes up. I always

wonder why? In the past testing a weed for herbicide resistance could take up to a year, now we can do it in under 2 weeks and the service will be free, at least for the foreseeable future. So, there is absolutely no excuse not to get your weeds tested.

Why is it so important to get your weeds tested? It's simple, the number and distribution of herbicide resistant weeds in Canada is increasing rapidly in all crops and the cases of multiple resistances (weed biotypes resistant to more than one group of herbicides) are becoming more common. Currently, there are 12 genetic quick tests that can be used to determine target site resistance in specific weeds to specific groups of herbicides and more are in development. These tests can be completed in under 2 weeks. Having diagnostic tests available to quickly confirm the presence of herbicide resistant weeds will improve the timeliness of management and prevent the spread, which will increase the life time of current herbicides for as long as possible.

Our only defense against herbicide resistant weed species is to scout for and test suspected populations, as soon as, possible.

If you would like to get you suspected herbicide resistant weeds tested. Please contact me. **Kristen Obeid, OMAFRA Weed Management Specialist for Horticulture Crops** on twitter [@WeedProfesh](https://twitter.com/WeedProfesh), by email: [kristen.obeid@ontario.ca](mailto:kristen.obeid@ontario.ca) or text or cell 519-965-0107

This work is being completed by a large team that includes AAFC weed scientists: Dr. Martin Laforest, Dr. Robert Nurse, Dr. Eric Page, Dr. Marie-Josée Simard, AAFC technicians: Brahim Soufiane, Kerry Bosveld, Sydney Meloche, MAPAQ Pest Diagnostic Lab, Antoine Dionne and Kristen Obeid, OMAFRA

## PMRA Factsheets on REI and PHI

### How is an REI different from a PHI?

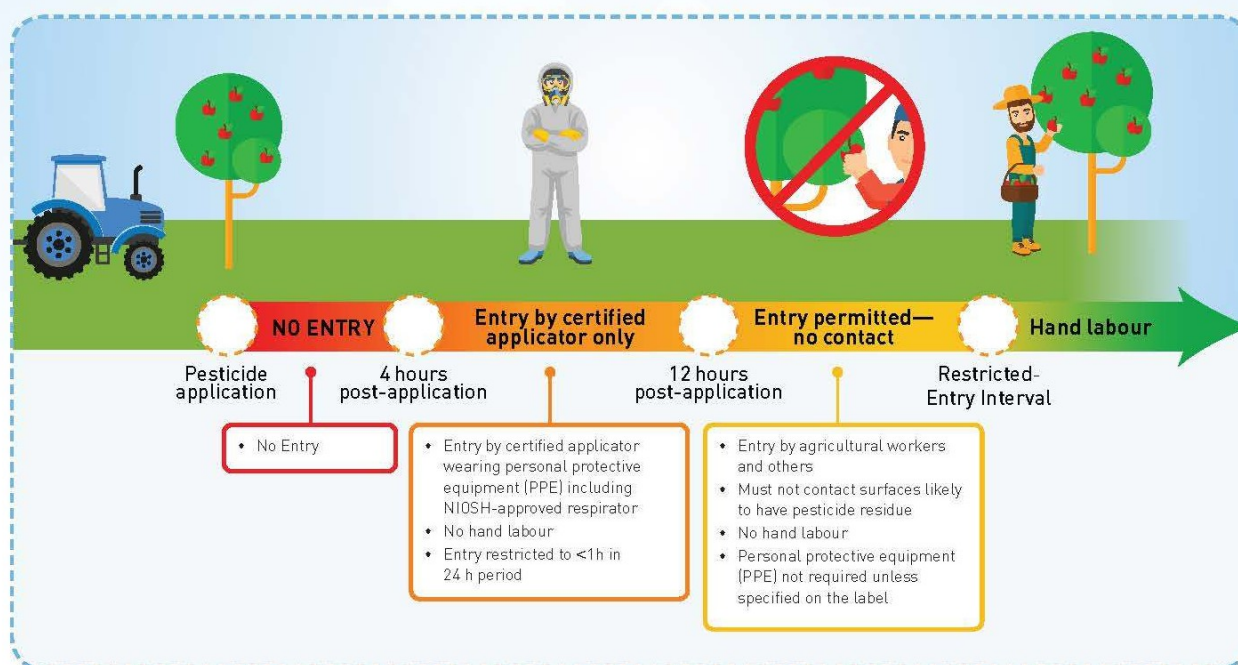
The main difference between an **REI** (Restricted-Entry Interval) and a **PHI** (Preharvest Interval) is:

**The REI is** the amount of time between the **application** of the pesticide and when workers can enter to do **hand labour** tasks on the crops.

**The PHI is** the minimum amount of time between the **last application** of a pesticide and when the crop can be **harvested**.

Be sure to read and follow the pesticide label in order to always respect both the REI and the PHI.

### Entry Practices



### More questions?

Contact us at the Pest Management Information Service

**1-800-267-6315** or **hc.pmra.info-arla.sc@canada.ca**

Need a refresher on restricted-entry intervals (REI) and preharvest intervals (PHI)? The PMRA has published a couple of short factsheets that do a good job of explaining exactly what is required by growers.

The REI factsheet provides some clarity around what can and cannot be done during the REI and is a must-read for anyone who has their fields scouted or performs any hand labour (harvesting, weeding, scouting etc.).

Understanding Restricted-Entry Intervals (REI) for Pesticides(<https://www.canada.ca/en/health-canada/services/consumer-product-safety/reports-publications/pesticides-pest-management/fact-sheets-other-resources/restricted-entry-intervals.html>)





## UNDERSTANDING Restricted-Entry Intervals for Pesticides

A **restricted-entry interval (REI)** is the period of time that agricultural workers, or anyone else, must not do hand labour in treated areas after a pesticide has been applied. This is to allow residues and vapours to dissipate to safe levels for work to be performed. An REI can range from 12 hours to several days. The pesticide label may specify a number of REIs depending on crop or worker activity. Complying with REI directions is a **legal requirement** and part of pesticide safety.

**Hand labour** tasks involve worker contact with treated surfaces such as plants, plant parts, or soil. Activities can include harvesting, detasseling, thinning, weeding, scouting, planting, etc. **Agricultural employers** have a responsibility to ensure that agricultural workers and others on site are aware of any REIs in effect, and that everyone remains outside treated areas until the interval period ends.

Schedule pesticide applications and worker tasks to respect restricted-entry intervals.



### Entry practices for REI time periods

Table 1

TIME AFTER PESTICIDE APPLICATION	4-12 HOURS AFTER APPLICATION	12 HOURS AFTER APPLICATION UNTIL REI
Who can enter?	Certified pesticide applicator only	Agricultural workers and others (inspectors, agronomists, etc)
Need personal protective equipment?	Yes	No unless specified on the label
Time allowed in treated area	Maximum 1 hour in a 24-hour REI period	No time limit
Hand labour allowed?	No hand labour	No hand labour until REI period ends

#### Between 4-12 hours after pesticide application:

A certified applicator may enter a treated area during the REI period to perform short-term tasks provided

- No entry until after 4 hours and no hand labour activity is performed
- The certified applicator must wear PPE as specified on the pesticide label for mixers/loaders and wear a NIOSH-approved respirator. The agricultural employer must ensure protective equipment is worn and used correctly
- The time in the treated area must not exceed 1 hour in any 24-hour period

#### 12 hours after pesticide application:

- Workers and others must not enter the affected area for 12 hours after application
- For REIs longer than 12 hours, people may enter after 12 hours, but must not contact surfaces likely to have residue
- No hand labour can be performed until the REI period ends
- PPE not required unless specified on the label



Canada

Understanding Preharvest Intervals (PHI) for Pesticides(<https://www.canada.ca/en/health-canada/services/consumer-product-safety/reports-publications/pesticides-pest-management/fact-sheets-other-resources/preharvest-intervals.html>)



Health  
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Your health and  
safety... our priority.

Votre santé et votre  
sécurité... notre priorité.

## UNDERSTANDING Preharvest Intervals for Pesticides

### Preharvest Interval

The **preharvest interval (PHI)** is the minimum amount of time between the last application of a pesticide and when the crop can be harvested. Harvest is the cutting of the crop or removal of the produce from the plant.

The PHI is found on the pesticide label. Complying with a PHI is a **legal requirement**. A PHI provides growers with the information required to ensure that residues in the treated produce will not exceed the **maximum residue limit (MRL)**.

An MRL represents the maximum amount of pesticide residues that are expected to remain on a food product when the pesticide is used according to label directions. The MRL is legally established, and regulated under the *Pest Control Products Act (PCPA)*, once Health Canada's scientific assessment determines that the consumption of the treated food products will not be a concern to human health.

### The Importance of PHI

It is important to respect the PHI so the MRL for a given crop is not exceeded. Residues found in excess of the MRL on food would constitute a violation of the *Food and Drug Act* and could also pose a risk to consumer health. In such situations, the harvested crop could be seized, destroyed, or forbidden for export. Use pesticides only for the crops and pests listed on the product's label and make sure to follow the application rates, number of applications and PHI stated on the label.

The PHI can typically be found under the "directions for use" section of the pesticide label. Always read the label to verify PHI instructions.

### How a PHI is different from an REI



The main difference between an **REI** (Restricted Entry Interval) and a **PHI** (Preharvest Interval) is:

The **REI** is the amount of time between the **application** of the pesticide and when workers can enter to do **hand labour** tasks on the crops.

The **PHI** is the minimum amount of time between the **last application** of a pesticide and when the crop can be **harvested**.

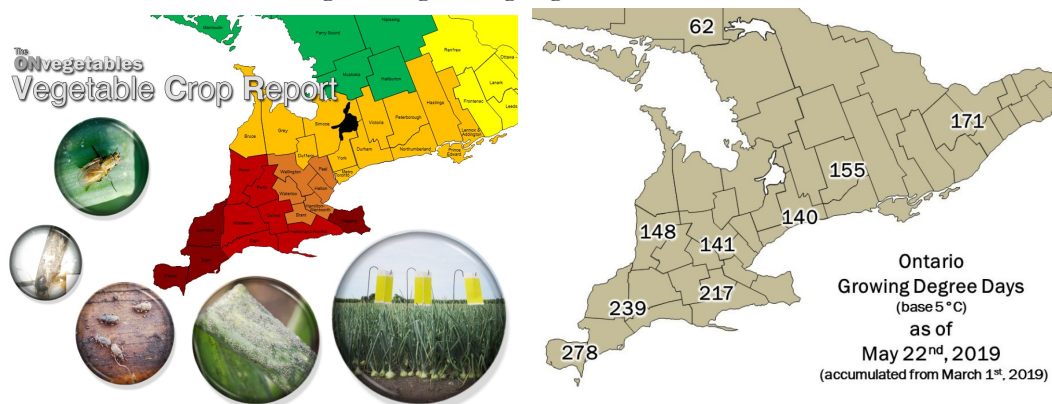
Be sure to read and follow the pesticide label in order to always respect both the REI and the PHI.

Canada

Maybe print off a copy and throw it up in your barn or shop but definitely check them out before the spraying season really picks up.

## VCR – Vegetable Crop Report – May 23, 2019

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** – Many regions are at or below the 10-year average accumulated degree day average so far this year. Sudbury has had just over half the growing degree days compared to its 10-year average while Huron, Wellington, and Simcoe County are marginally ahead. While some regions are now receiving average temperatures resulting in average growing degree days, the lack of sun has likely slowed the growth of many crops in most planted areas.

**Rainfall** – Most regions have had above average rainfall in March and April and many are on track to also exceed the average rainfall in May. Precipitation levels shown in the charts below for 2019 show the precipitation up to May 22nd compared to the total monthly average of the previous 10 years. The recent pause in rainfall this week has allowed some growers entry into the field to begin planting, however seeding is still delayed in many regions.

### Crop Updates

**Brassica Crops** – Cool night temperatures have resulted in some plantings with tip dieback. The degree day threshold for cabbage maggot emergence has not been reached in all areas of the province.

**Carrots** – We are just getting into the bulk of seeding this week. Carrots are not too far behind schedule but some early carrots fields went in a little later than usual. Carrot fields that have emerged look great.

**Celery** – Transplanting is underway in many areas and insect pressure is low.

**Garlic** – Overwintering leek moth adults have been detected in traps across Southwestern Ontario. Use pheromone traps to monitor populations on a weekly basis to accurately time management strategies. Dig up any wilted plants you find and check for maggots, lack of basal plate or feeding damage.

**Onions** – The last week has allowed many acres of direct seeded onions and transplants to be planted. Early seeded onions are at the loop to flag leaf stage. Agricornp extended the direct seeded onion planting date onion to yesterday, May 22nd, and the Spanish onion planting date of May 20th is extended to May 27th. The first generation of onion and seedcorn maggot flies are active in Essex, Chatham-Kent and Norfolk. Check for insect pressure by digging up wilted/stunted plants and scout for maggots or feeding damage.

**Potatoes** – Potato planting is behind schedule due to the precipitation, but is now ramping up in most regions. Be wary of emergence issues and seed rots when planting into cold and wet ground. If you're using cut seed, allow it to suberize/heal before planting, especially if you're also using a liquid seed treatment.

**Tomatoes** – Tomato planting started on May 15th and only about 20% of the crop is in the ground, compared to 60% seen in past years. For those that have planted, moist soil conditions are ideal for black cutworm and wireworm. Growers should keep an eye out for damaged transplants, especially along field edges and in areas where there was significant weed cover before tillage.



# VCR – Vegetable Crop Report – May 23, 2019...con't

## Pest Degree Day Forecasting

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

Essex County(<https://onvegetables.com/2019/05/23/vcr-2/#essex>)

Chatham-Kent County(<https://onvegetables.com/2019/05/23/vcr-2/#chatham-kent>)

Norfolk County(<https://onvegetables.com/2019/05/23/vcr-2/#norfolk>)

Huron County(<https://onvegetables.com/2019/05/23/vcr-2/#huron>)

Wellington County(<https://onvegetables.com/2019/05/23/vcr-2/#wellington>)

Simcoe County(<https://onvegetables.com/2019/05/23/vcr-2/#simcoe>)

Durham County(<https://onvegetables.com/2019/05/23/vcr-2/#durham>)

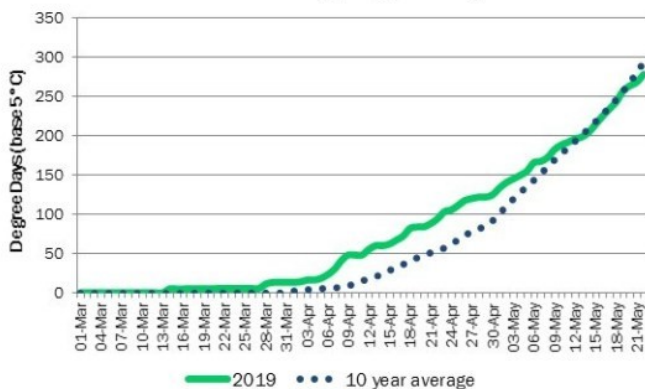
Peterborough(<https://onvegetables.com/2019/05/23/vcr-2/#peterborough>)

Kemptville(<https://onvegetables.com/2019/05/23/vcr-2/#kemptville>)

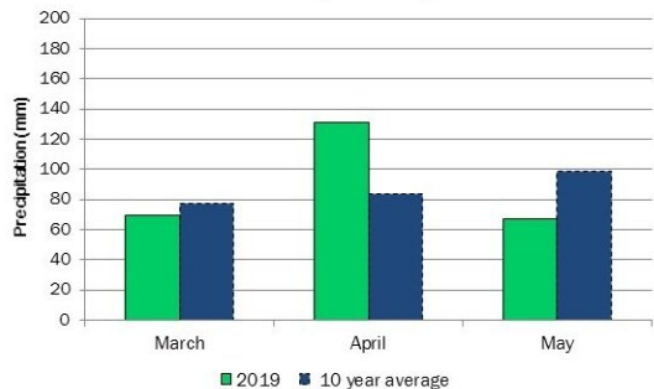
Sudbury(<https://onvegetables.com/2019/05/23/vcr-2/#sudbury>)

## Essex County

Essex Growing Degree Days



Essex Total Precipitation per Month

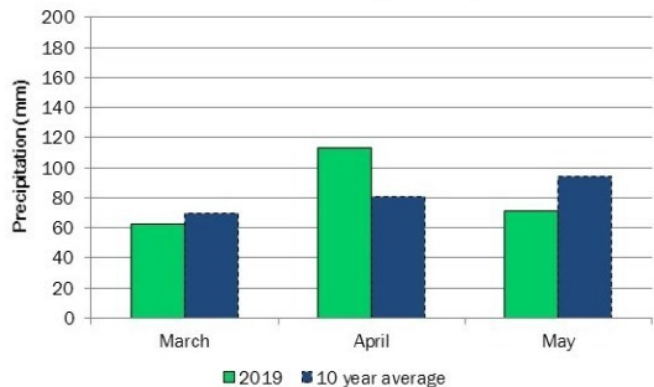


## Chatham-Kent County

Chatham-Kent Growing Degree Days

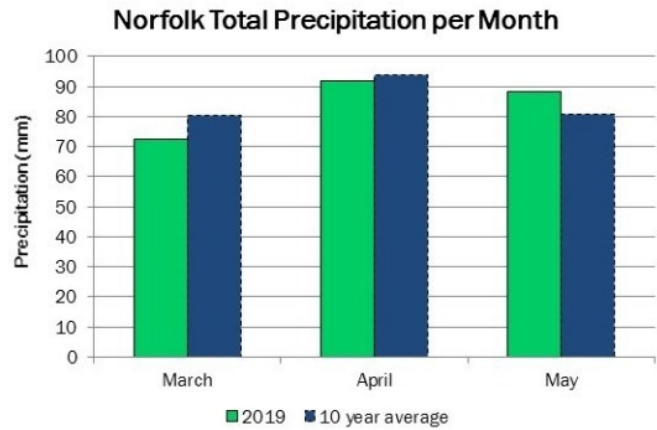
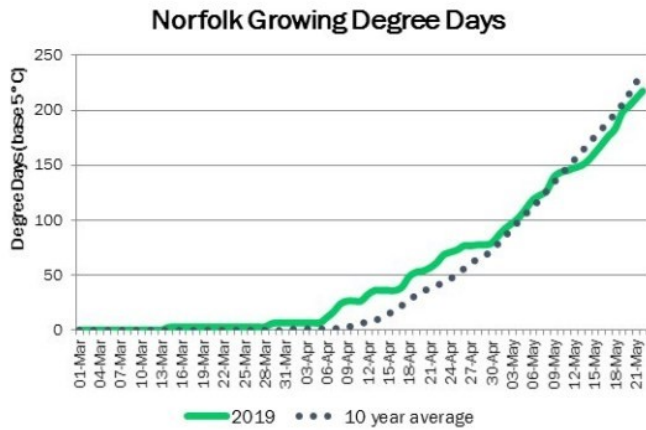


Chatham-Kent Total Precipitation per Month

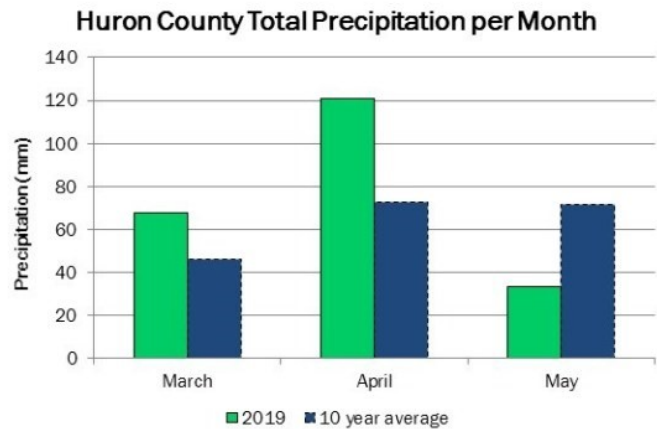
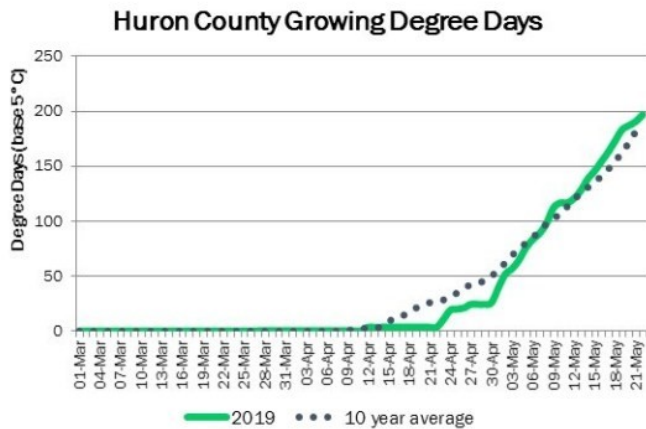


# VCR – Vegetable Crop Report – May 23, 2019...con't

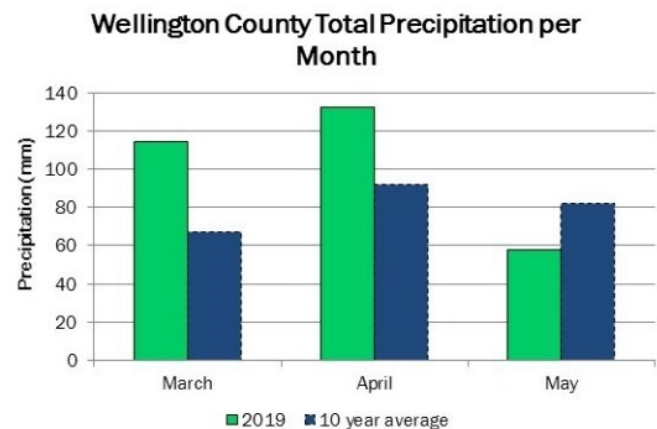
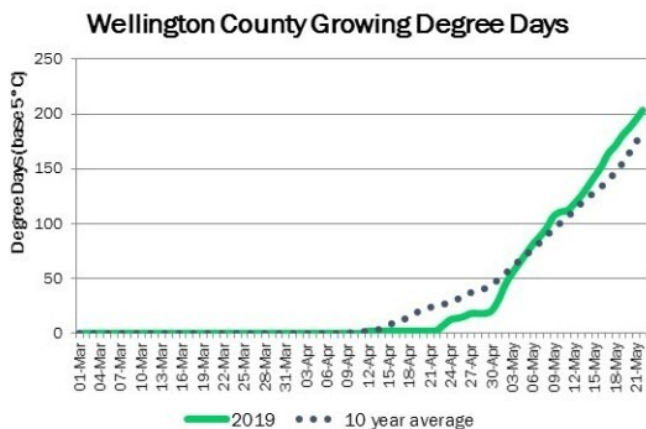
## Norfolk County



## Huron County

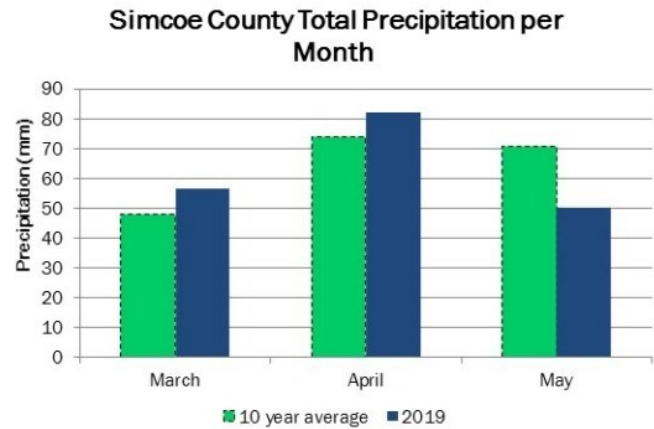
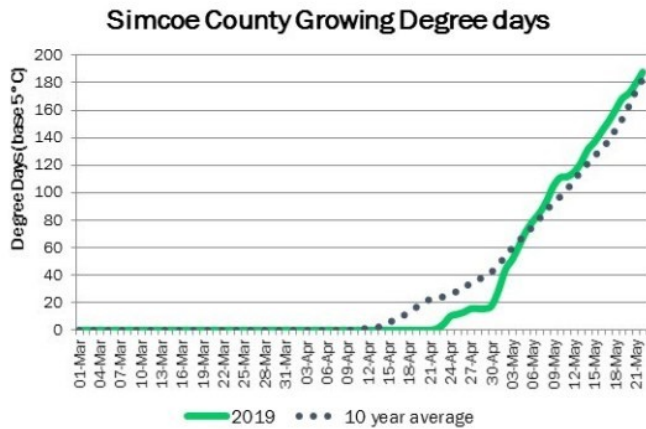


## Wellington County

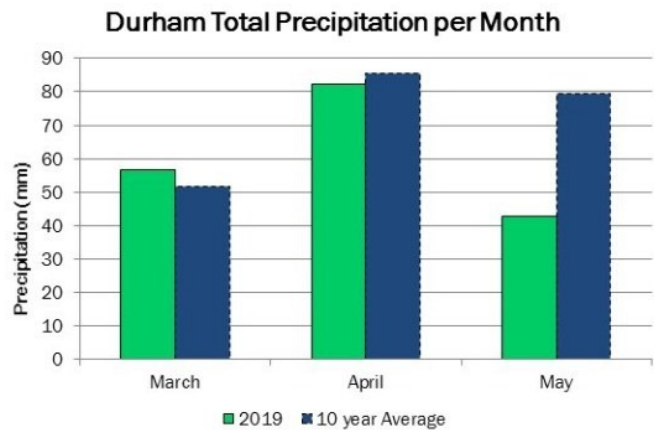
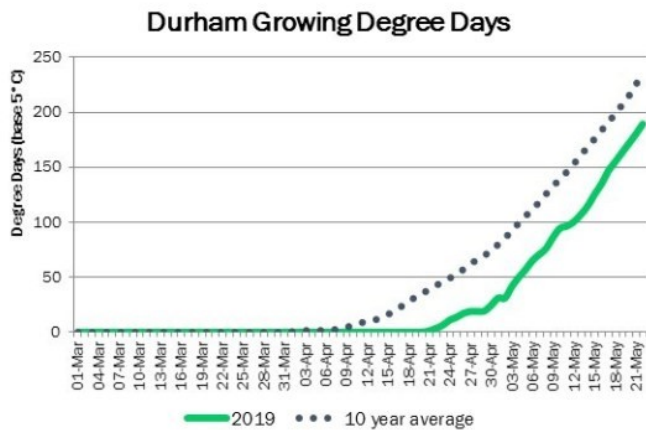


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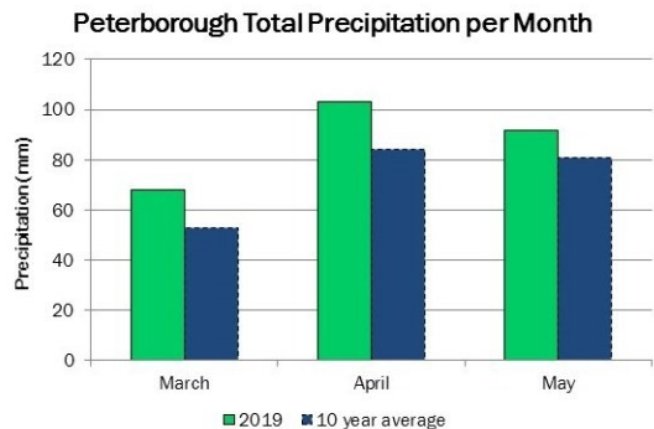
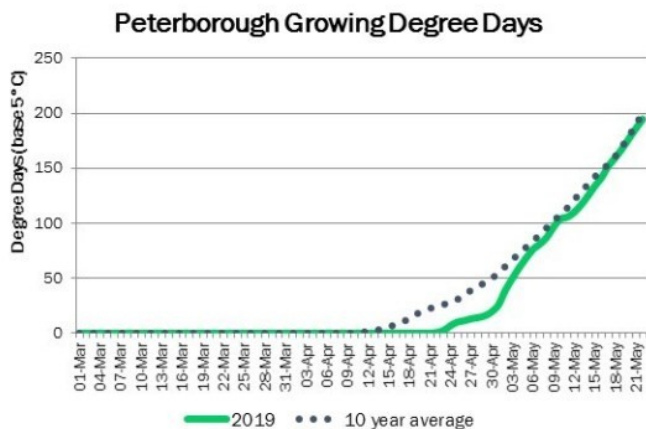
## Simcoe County



## Durham County



## Peterborough

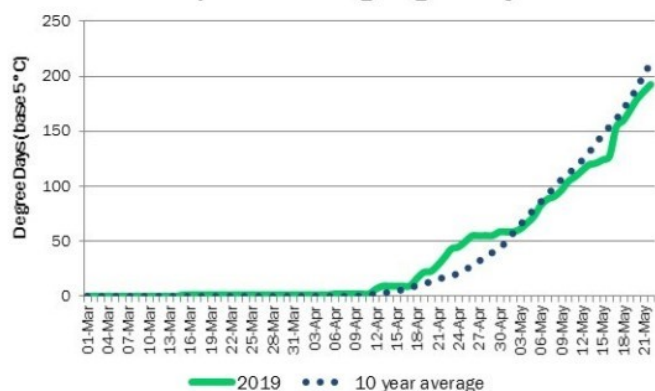




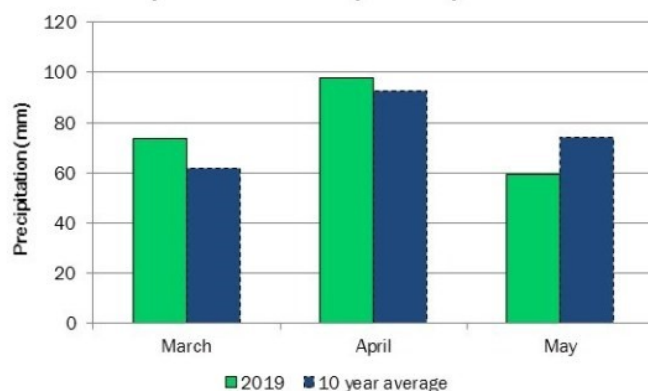
# VCR – Vegetable Crop Report – May 23, 2019...con't

## Kemptville

Kemptville Growing Degree Days



Kemptville Total Precipitation per Month

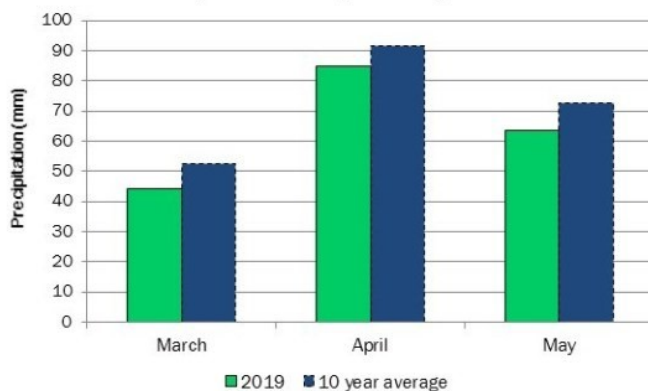


## Sudbury

Sudbury Growing Degree Days



Sudbury Total Precipitation per Month



Pest	Carrot Rust Fly	Onion Maggot	Carrot Weevil	Aster Leafhopper	Tarnished Plant Bug	Cabbage Maggot	Seedcorn Maggot
THRESHOLD	329-395	210	138-156	128	40	314	200
Essex	394	334	184	110	38	230	263
Chatham-Kent	348	290	153	85	24	194	230
Norfolk	317	264	135	72	15	174	201
Huron	233	188	86	41	10	113	139
Wellington	220	178	74	32	5	103	131
Simcoe County	217	173	73	32	7	100	128
Durham	223	180	79	39	8	107	125
Peterborough	238	194	90	40	7	119	138
Kemptville	255	211	106	55	8	136	157
Sudbury	118	88	27	8	0	42	64

## Thresholds

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