ONvegetables

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"In This Issue"

CUCURBIT DOWNY MILDEW ALERT – JUNE 27, 2017

ALERT

Cucurbit downy mildew has been reported on pickling cucumbers and cantaloupe in Essex County. *Additional reports have been confirmed in Norfolk, Oxford and Kent Counties.* This is the first field report for this disease in 2017.

All Ontario cucumber growers should now switch from a broadspectrum program to a 3-product rotation using targeted downy mildew fungicides.

The following products have shown the most consistent results in fungicides trials at the University of Guelph, Ridgetown and Simcoe campuses. Under high downy mildew pressure, follow a spray interval that is no longer than 7-days.

- Orondis Ultra A (mandipropamid) + Orondis Ultra B (oxathiapiprolin) + Bravo (chlorothalonil)
- Torrent (cyazofamid)
- Zampro (ametoctradin/dimethomorph)

For more information about the most effective spray rotations, see: 2016 University of Guelph Cucumber Downy Mildew Results(https://onvegetables.com/2017/05/01/2017-downy-mildew-control-strategy-for-cucumber-crops/).

LATE BLIGHT ALERT – JUNE 28 and JULY 4, 2017

Late blight has been **confirmed** on tomatoes in both Essex County and Chatham-Kent.

Recent weather has been conducive to the development and spread of late blight. Commercial growers should scout often and ensure they are using fungicides with good late blight activity in their fungicide program. When late blight is in the area, spray intervals should be shortened.

Remember that conventional tomato growers using a recommended fungicide program for early blight, septoria leaf spot, and anthracnose, are also protecting the crop from late blight infection. Cloudy and high humidity or wet conditions are favourable for late blight. The pathogen prefers cool temperatures. The disease is suppressed by hot, dry weather, but it can continue developing and spreading when suitable conditions return.

If late blight is found in the area, tomato growers should:

- Tighten up spray intervals – During wet cool periods, a fungicide should be applied every 5 – 7 days to protect against late blight. If the weather conditions become dry, the spray intervals may be extended.
- Scout fields often. Know the symptoms. Refer to the Tomato Late Blight Photo Gallery(https://onvegetables.com/2013/08/27/late-blight-photo-gallery/) and Late Blight Look-Alikes(https://onvegetables.com/2010/07/13/late-blight-look-alikes/) for photos of late blight and possible look-alikes on tomato.

Fungicide registrations for tomato:

Ratings are shown for late blight activity based on information from Dr. Tom Zitter, Dept. of Plant Pathology and Plant-Microbe Biology, Cornell University, Ithaca, NY or information from other sources listed at the end of the article (*).

Ratings:	**Activity** (capitalized indicating stronger activity)
0 = no effect or not labelled	**P, p** = protectant
+ = poor	**C, c** = curative
++ = OK to good	**A, a** = antisporulant
+++ = very good	

Bravo, Echo (chlorothalonil – group M5)– contact fungicides – have been very effective protectants in tomato	**P++**
Penncozeb, Manzate, Dithane, Polyram (mancozeb, metiram – group M3)– contact fungicides – have been very effective protectants in tomato	**P++**
Forum (dimethomorph – group 40)– translaminar – has some ability to move into the plant – must be tank-mixed with another late blight fungicide from a different chemical family – rotate chemistries	**P, c, A** use as preventative **++**
Cabrio EG (pyraclostrobin – group 11)– translaminar – has some ability to move into the plant – strobilurins generally rated lower than the other targetted late blight materials by researchers – preventative only – tank mix with stronger late blight product	**P, a+**
Orondis Ultra (mandipropamid/oxathiapiprolin – group 40/U15)– systemic	***P, c, A+++**
Presidio (fluopicolide – group 43)– translaminar, some "kickback" activity – must tank mix with Bravo	**P, C, A+++**
Reason 500 SC (fenamidone – group 11)– locally systemic and translaminar – has some ability to move into the plant – must be tank-mixed with mancozeb or Bravo 500	***P, a**not rated
Revus (mandipropamid – group 40)– translaminar, some "kickback" activity – has some ability to move into the plant – rotate chemistries and use in combination with protectants for resistance management	**P, c, a++**
Tanos 50 DF (famoxadone/cymoxanil – group 11/27)– translaminar, some "kickback" activity – has some ability to move into the plant – rotate chemistries and use in combination with protectants for resistance management	**P, C, a** use as preventative **++**
Torrent 400SC (cyazofamid – group 21)– protectant, contact (limited locally systemic) – should be tank-mixed with a non-ionic or organosilicone surfactant	**P++**
Zampro (ametoctradin/dimethomorph – group 45/40)– two active ingredients – protectant and systemic, translaminar – can move into the plant	***P, c, A** use as preventative **++**

Past OMAFRA articles on tomato late blight are found under the late blight tag(https://onvegetables.com/tag/late_blight/). Please report any occurrences so that we can keep the tomato community informed about its development and spread and so that we can collect samples to learn about the strains, fungicide sensitivity, and the biology of this evolving disease.

Contact OMAFRA at 519-674-1690 or janice.leboeuf@ontario.ca if you suspect you have found late blight in Ontario. Those in the US can contact their state cooperative extension service or report online at http://www.usablight.org/. This helps us alert others of late blight in the region and if possible, we will try to collect samples for late blight researchers studying the disease.

Note: Organic producers may be interested in an article by Meg McGrath (Cornell University) on managing late blight in organically-produced tomato(http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Tom_LB_OrganicMgt10.html). Note that crop protection products mentioned in her article relate to US registrations. Consult the Canadian labels and your organic certifier for registered products that can be used in organic production.

Tomato Late Blight Photo Gallery(https://onvegetables.com/2013/08/27/late-blight-photo-gallery/)

*Other references:

- Late blight fungicide table: http://euroblight.net/control-strategies/late-blight-fungicide-table/
- Late blight fungicides 2016: http://www.potatoreview.com/potato-review-fungicides/
- Fungicides for late blight control in potatoes: http://msue.anr.msu.edu/news/fungicides_for_late_blight_control_in_potatoes

UPDATE ON THE CLUBROOT OF BRASSICA SURVEY

TRAVIS CRANMER, VEGETABLE CROP SPECIALIST, OMAFRA

We are currently conducting a clubroot survey for Brassica vegetables in Southwestern Ontario. To date we have identified or collected samples within eight counties and are looking to obtain samples from as many different counties as possible this field season.

Clubroot is often first identified in fields when plants wilt during hot days. Pulling the wilted plant and checking for club-like roots is the easiest way to confirm the presence of the pathogen. Wet and hot weather is favourable for clubroot development and can be seen as early as 6 weeks after transplanting/seeding.

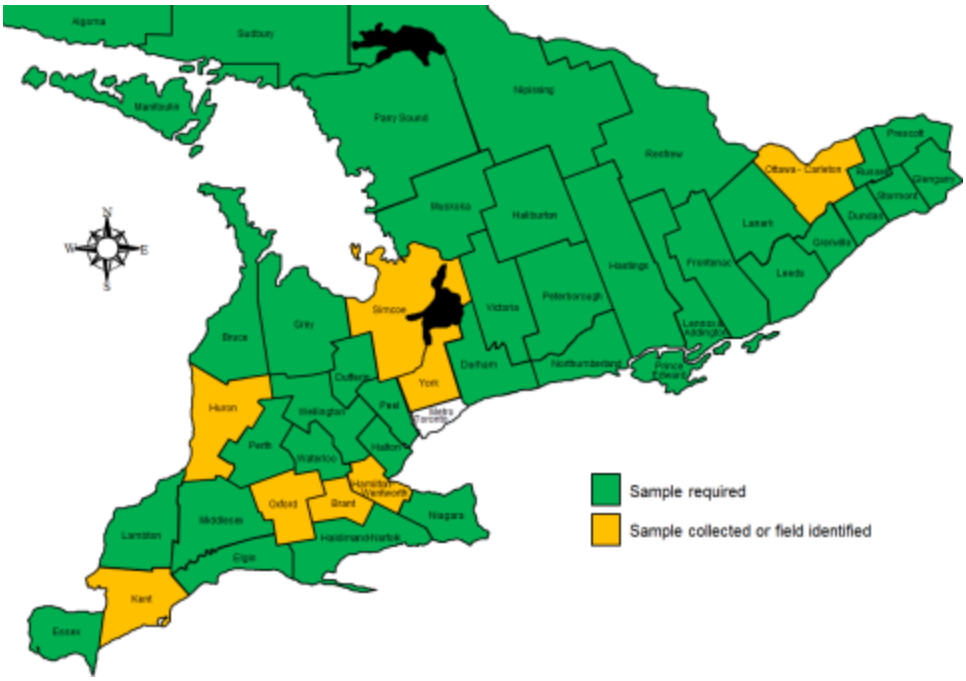

Figure 1. Clubroot of Brassica Vegetables survey – 2017/07/03

If you have a field with clubroot or a field where you have seen clubroot in the past, we would greatly appreciate your help in this study. The results of the study will allow us to make better decisions with regards to cultivar resistance as well as limit the spread of the pathogen to other areas of Ontario. If you are from a county where a sample is still required (Fig. 1 – counties in green), please contact Travis Cranmer at travis.cranmer@ontario.ca or (519) 826-4963 and we can find a way to take a field sample. Thank you for your help with this study!