



MUCK CROPS RESEARCH STATION IPM 2011

This is the Muck Crops Research Station Report and IPM Information for Friday July 29, 2011

Temperatures for the weekend and early next week forecasted hot days with relatively cool nights. There is a possibility of thunder showers for Sunday. The rain we had in the last few days and the relatively cool nights could result in extended leaf wetness periods. Taking into account the expected leaf wetness and the canopy size of most crops, the risk of disease development in all the crops will start to increase. The wet conditions also create an ideal condition for soil borne pathogens like *Pythium* which causes root die back (rusty roots) of carrots.

Between July 2 and July 24, 13 days with temperatures exceeding 30°C were recorded at our weather station. The soil temperature at the Research Station at 5 and 10 cm depths is currently 21.7 and 21.1°C respectively. A total of 10.3 mm rain fell between July 26 and July 28.

The onion fly activity around the marsh is moderate. The onion fly count at our station increased to 2.3 flies/trap/day.

The carrot rust fly activity around the marsh is low, but will start to increase as we have reached the threshold for 2nd generation emergence. Spray thresholds are 0.1 flies/trap/day for fresh market and 0.2 for processing carrots.

Purple blotch and stemphylium leaf blight have been observed in many onion fields. Infection occurs when warm temperatures (18-30°C) coincide with prolonged dews or leaf wetness. Weaker plants or those affected by other diseases or physiological disorders such as herbicide, heat and pelting rain damage are at highest risk. Stemphylium leaf blight is similar to purple blotch and both diseases are managed in the same manner. Registered fungicides for onion disease control are listed on page 138 of the 2010/11 edition of OMAFRA publication 363.

Onion thrips counts have increased in most parts of the marsh. The current thrips count in onion plots at our Research Station increased to 1 thrips/leaf. The count at our other site at Jane street is 1.6 thrips/leaf, which is above spray threshold. The threshold for insecticide application is 1 thrips per leaf. Severe thrips damage may cause reduced yield and increase susceptibility to diseases. Thus, monitor your fields for thrips regularly. Good spray coverage is crucial for thrips control.

BOTCAST has a cumulative disease severity index (CDSI) of 38. Risk of developing botrytis on onions at this time is moderate. Lesion counts at this moment are very low. Growers should monitor their fields regularly for botrytis leaf blight and apply fungicide if their field has 3 lesions/leaf. The first spray threshold occurs when the CDSI is more than 30 or when the botrytis lesion count is 3/leaf. Recommendations for fungicide spray are listed on page 138 of the OMAFRA publication 363.

DOWNCAST predicted sporulation infection period in the last 3 days. Taking into account the weather forecast and the crop canopy size, risk of downy mildew on onions is moderate to high.

Onion white rot has been found in few fields within the Holland Marsh. Periodically inspect your fields and check any yellowing, stunted or wilting plants carefully. If you find white fungal growth or black sclerotia, rogue out these plants and make sure they are disposed of carefully. Do not leave infected plants in the fields. Wash all implements used in infested area.

Carrot leaf blight has continued to develop around the Holland Marsh. As canopies close, moisture and humidity levels increase, the risk of blight also increases. The spray threshold for carrot leaf blight is 25% disease incidence (i.e. 25% of the plants scouted show symptoms). Carrot disease control recommendations are listed on





page 96 of the OMAFRA publication 363.

Early blight (caused by *Cercospora apii*) has been found in celery on the marsh. This disease may reduce quality and yield if not properly managed. Spores spread by wind and/or splashing water. No one should walk through an infected field when leaves are wet. Control recommendations are listed on page 102 in pub 363.

Continue to apply magnesium and boron to celery, but be cautious since boron builds to toxic level quickly, harming rotational crops. Use Epson salt or other forms of magnesium and spray every 10-14 days. Foliar application of calcium in the form of calcium chloride or calcium nitrate reduces development of black heart.

In celery and lettuce fields, some damage from Tarnished plant bugs has been seen. Spray thresholds are 0.1 TPB/plant (from transplanting until three weeks before harvest) and 0.2 TBP/plant (during the last 3 weeks before harvest) and/or 6% of the plants showing damage.

Aster leafhopper numbers are low in most parts of the Holland Marsh. The maximum number we found at our station was 5 leafhoppers per trap, which is too low to warrant insecticide spray.

BREMCAST predicted sporulation infection period in the last 3 days. Risk of downy mildew incidence on lettuce is moderate to high.

Lettuce drop caused by *Sclerotinia* and botrytis grey mould continue to show up in lettuce. When spraying fungicides, good coverage of the bottom leaves is essential for good disease control.

ANY QUESTIONS OR COMMENTS? Call Michael Tesfaendrias or Mary Ruth McDonald at 905-775-3783

