

2021-2022 Nova Scotia Invasive Species Survey

Dr. Debra Moreau and Jessica MacDonald, AAFC
debra.moreau@agr.gc.ca or 902-402-5397

July 2021

As part of the Canadian Grape and Wine Cluster, we are researching the distribution and impact of emergent and invasive insect pest species in the context of viticultural expansion in Nova Scotia.

I am particularly interested in determining the presence of Grape Berry Moth and the spread in distribution of Japanese beetle. If you notice damage (descriptions of what to look for are provided below) and/or see either of these insects, please feel free to contact me. I will make every effort to visit your vineyard to collect any samples that you may have set aside. Please feel free to send me your photos of vineyard pests and insects of interest, just stick your thumb or some other known object in the frame so that I have a sense of scale.

Japanese Beetle (*Popillia japonica*)

What to look for:

- Adult beetles average 15 mm in length
- Metallic green head and thorax with coppery brown back
- There are small white tufts along the sides and at the back
- The antennae are clubbed at the end
- Where you find one, there are often more (they tend to cluster)
- When disturbed, they will drop to the ground.

Damage

- Adults will feed on the upper surfaces of leaves in the top portion of the canopy
- Extent of damage will vary but can be severe in some vines and varieties
- In NS, we typically start seeing the adults feeding by mid-late July



Grape Berry Moth (*Paralobesia viteana* Clemens)

What to look for:

- Infestations can vary greatly from year to year and are often very uneven in a vineyard (if established, then scout in vineyard areas closet to woody borders).
- Look for maturing larvae (caterpillars) in developing clusters. Mature larvae can reach 10mm in length larvae are a dark purple colour

Damage:

- Webbing may be seen in cluster
- Often a reddish spot surrounds the point of larval entry. The discoloration can extend over half of the surface of an otherwise green berry.
- Larvae feed inside the fruit
 - Risk when fruit is 6-8mm dia.



Photo credits: NS Growers for top image of ‘suspected’ GBM larvae, webbing and Jacques Lasnier (Co-Lab R&D, Granby, QC) for feeding damage shown in bottom image.

References:

Lasnier, J., McFadden-Smith, W., Moreau, D., Bouchard, P., and Vincent, C. Guide to the key arthropods of vineyards of Eastern Canada. Agriculture and Agri-Food Canada, 2019.

<http://publications.gc.ca/pub?id=9.868732&sl=0>

<HTTP://WWW.OMAFRA.GOV.ON.CA/IPM/ENGLISH/GRAPES/INSECTS/GBM.HTML#ADVANCED>

<HTTP://WWW.OMAFRA.GOV.ON.CA/IPM/ENGLISH/GRAPES/INSECTS/JAPANESE-BEETLES.HTML#ADVANCED>

Saunders, M., Isaacs, R., and Loeb, G. 2013. Focus on females provides new insights for grape berry moth management. Research Focus 2013-2: Cornell Viticulture and Enology.

<https://ecommons.cornell.edu/bitstream/handle/1813/103671/Research-Focus-2013-2-gbm-management.pdf?sequence=1&isAllowed=y>