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## Spotted tentiform leafminer - *Phyllonorycter blancardella* (Fabr.)

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Spotted tentiform leafminer (STLM) has three generations a year in Michigan. First generation adults emerge around bud break (tight cluster in northwest MI) to lay eggs on the undersides of leaves. First egg hatch occurs 2 to 3 weeks later.

Pheromone traps can be used to determine first moth emergence. Second generation adults emerge mid-June; third generation adults in August.

Larvae feed on foliage with each larval mine disrupting 4 to 5 percent of leaf area. Fruit quality, size, retention, and set can be affected if enough area is lost to mining.



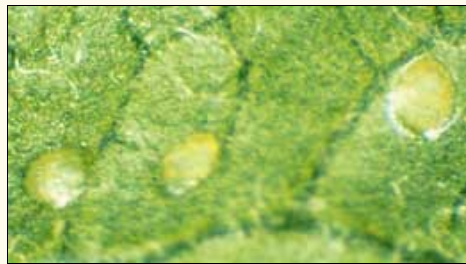
The first 3 larval instars are sap feeders, and are white to pale green, legless, wedge-shaped, and deeply segmented (about 1.5 mm).



The fourth and fifth larval instars are tissue feeders, and are more cylindrical, have legs and a typical caterpillar head capsule (about 5 mm; white to pale green).



Adult moths are small (3 mm long) with distinctive gold, black and white wing patterns



STLM eggs are attached to the underside of a leaf with a flattened surface. The exposed surface is a yellowish oval dome.



Leafminer mines in apple.

## Spotted tentiform leafminer monitoring and thresholds

	Monitoring	Threshold**
<b>End of 1<sup>st</sup> generation</b>	To assist in 2 <sup>nd</sup> generation decisions, check 50 tented mines from 25 trees to determine % parasitism.	
<b>Early 2<sup>nd</sup> generation</b>	Sample 50 or 100 leaves per block, count # mines per leaf.	2-3 per leaf, higher if 30-35 % parasitism was found in first sample.

<b>Late 2<sup>nd</sup> generation</b>	Sample 50 or 100 mines and determine % parasitism.
<b>Early 3<sup>rd</sup> generation</b>	Sample 50 or 100 leaves per block, count # mines per leaf. 5-8 mines per leaf, higher if 35% parasitism.
** Note that thresholds will vary based on tree structure and variety.	

### Additional information

- For more monitoring information and evaluation of available pesticides:
  - [Michigan Fruit Management Guide](#)
  - [A Practical Guide to Scouting Apple Orchards](#) – a DVD showing how to scout apple orchards.
  - [MSU Diagnostic Services](#) for assistance in pest identification.
  - [MSU Fruit Crop Advisory Team Alert](#) newsletters for current pest/crop conditions.

This information was developed from [A Pocket Guide for IPM Scouting in Michigan Apples](#) by David Epstein, Larry J. Gut and George W. Sundin. Purchase this in a pocket-sized guide for reference in the orchard from [MSU Extension](#) (publication E-2720).

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