Ontario Ministry of Agriculture, Food & Rural Affa

# Aphids

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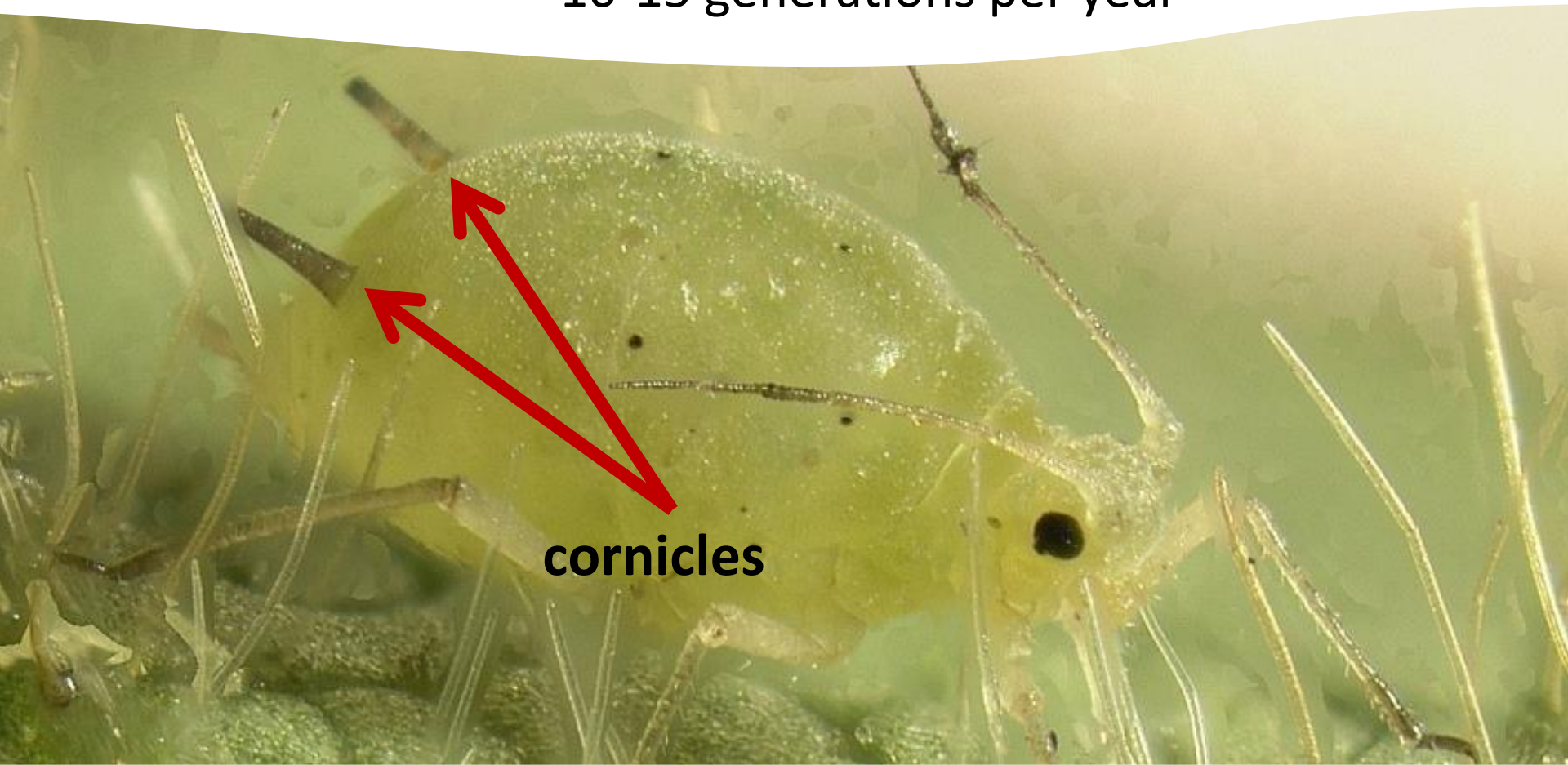
# Aphids

- Aphids feed in colonies
- 2 cornicles, or “exhaust pipes”
- Prefer young leaves and succulent shoots
- Cool, wet springs favour development
- 10-15 generations per year




Rosy apple aphid
Green apple aphid
Woolly apple aphid

# Green Apple Aphid,
*Aphis pomi*

- Generally close to major veins on underside of leaf
- Green, oval-shaped with black cornicles
- Adults may be winged or wingless

Leaf curling and reduced vigour

Sooty fungus growth on aphid honeydew

- Active **late May through summer**
- Suck sap from leaves on suckers, terminal growth
- OW as eggs at base of buds on terminal shoots
- Females are parthenogenetic, multiple generations

- Monitor petal fall to terminal set (late July - Aug)
  - Examine **10 terminals** from **10 trees**
- Threshold: **400 to 600 aphids per terminal on 10% or more of the terminals**
  - If more than 20% of aphid colonies have natural enemies, delay or eliminate spray

# Rosy Apple Aphid,
## *Dysaphis plantaginea*

- Most economically significant due to feeding damage
- Pale pink - rosy brown with long cornicles
- Adults may be winged or wingless


**Malformed / pygmy fruit**

**Curled leaves, reduced vigour**

**Susceptible cultivars: Cortland, Idared, Golden Delicious**

Aphids


Toxins in saliva serve as a “stop drop”, preventing abscission at harvest
Reduce growth of roots and other woody tissue
Aphids

Rosy apple aphid – downward curl

Leafcurling midge – upward curl, brittle

# Telling the difference…

- Active **tight cluster to mid July** before moving to summer hosts (e.g., narrow-lead and broadleaf plaintain or dock)
- Largely associated with fruit clusters; rarely attack rapidly growing shoots
- Return to orchard in fall, OW as eggs at base of buds
- Females are parthenogenic
- 3 generations per year

- Monitor inner and upper parts of canopy
- **Check 5 clusters from 20 trees**
- A cluster is infested if >20 aphids are present

- Threshold: **>5% infested clusters and few predators identified**

# Woolly Apple Aphid,

*Eriosoma lanigerum*

- Pruning cuts around the limbs, trunk and base of young shoots
- Aphid colonies resemble balls of wool
- Adults may have wings or be wingless


Form knots or galls on twigs or roots; more sensitive to frost / winter injury

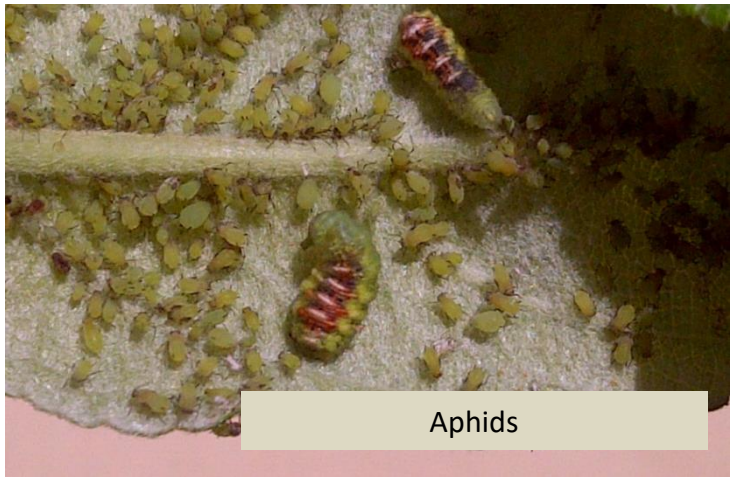

Produce honeydew, allows sooty fungi to grow and may cause russetting

Aphids

- Can be active **end of tight cluster to harvest**
- Look for cotton, waxy coverings on pruning cuts, trunk, base of young shoots and water sprouts
- High soil temperature, weed cover and large tree spacing inhibit movement between trees
- **No threshold**

Aphids

# A number of beneficial insects are effective for aphid control in apple orchards



Aphids

# Management strategies for aphids

## Cultural controls

- Manage nitrogen levels to prevent excessive, lush terminal growth
- Avoid summer pruning until terminal buds have set to prevent regrowth of shoots
- Remove suckers and water sprouts to avoid unnecessary vegetative growth
- Paint large pruning cuts
- Resistant rootstock include MM.106 and MM.111; resistance does not pass to scion

## Chemical controls

- A delayed dormant oil (from tight cluster through pink) may have some efficacy on OW aphid eggs
- Use a selective pesticide program to preserve aphid predators
- Avoid late season applications when little chance of contacting colonies curled in leaves or under waxy covering

# Thank You!

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