Two Spotted Spider Mite

Defining features:
- Very small
- Two black spots on back
- Webbing on underside of leaf

When do they appear?
- Prefer hot, dry conditions

Damage:
- Leaf stippling
- Feeding on cones
  - Dry, brittle, and browning cones
  - Quality and yield reduction

Management:
- Sufficient irrigation to reduce dust

Regular scouting is key to monitoring hop pests!
**Potato Leafhopper**

*Defining features:*
- Bright green
- Bullet shaped
- Side-to-side scuttling

*When do they appear?*
- Variable - they arrive on wind currents from southern US as temperatures rise

*Hopperburn:*
- V-shaped leaf chlorosis and browning
- Decreases photosynthetic abilities

*Management:*
- Give them something tastier (trap cropping)
  - Red clover and alfalfa
- Varietal selection
  - Susceptible varieties: Liberty, Mt. Hood, Fuggle, Tettnang, Santium, Newport
- Increase natural enemy habitat
  - Minute pirate bugs, damsel bugs, big-eyed bugs, lacewings, lady beetles, spiders, parasitoid wasps

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**Hop Aphid**

*Defining features:*
- Light green
- Pear shaped
- Cornicles (butt tubes)

*When do they appear?*
- Migrate to hop plants in May
- Thrive in cool, wet conditions

*Sooty mold:*
- Sugary secretions from hop aphid can lead to fungal growth

*Feeding damage:*
- Feeding can remove water and vascular tissue
  - Leaf wilt and curl (reduced photosynthesis)
  - Unmarketable cones (limp and brown)

*Management:*
- Increase natural enemy habitat
  - Lady beetles, lacewings, parasitoid wasps
- Use of pesticides if populations remain high after flowering
- Populations tend to decrease in hot, dry weather