# Apple Pest Monitoring Calendar

## Stages of Development

<table>
<thead>
<tr>
<th>Stage</th>
<th>Dormant</th>
<th>Green Tip</th>
<th>Half-inch Green</th>
<th>Tight Cluster</th>
<th>Pink</th>
<th>Full Bloom</th>
<th>Post Bloom</th>
<th>Fruit Present</th>
<th>Post-Harvest</th>
</tr>
</thead>
</table>

## Pests (Listed in order of management activity)

### Crown Gall
- **Prevent at time of planting**
- Infects only through injuries to roots, especially at transplanting

### Phytophthora Root & Collar Rot
- Spread by zoospores, which may form when soil is saturated longer than 12-24 hours
- **Foliar testing**
- Inspect trees for overall health
- Inspect trees

### Iron Chlorosis
- Early spring soil treatments most effective
- Repeat foliar applications on new growth

### Fire Blight
- Prune out dormant cankers
- Overwinters in cankers
- Multiple sprays during bloom may be necessary when weather is favorable
- Watch for browning foliage & prune out

### European Red Mite (minor pest)
- Eggs on limbs
- Immatures/adults/eggs on leaves
- Eggs on limbs
- Monitor

### San Jose Scale
- Immatures on limbs
- Adults/crawlers/immatures on limbs, leaves & fruit
- Immatures on limbs
- Monitor

### Green or Rosy Apple Aphids
- Eggs on limbs
- Nymphs and adults on new growth
- Eggs on limbs
- Monitor

### Powdery Mildew
- Fungus overwinters in buds
- New infections on emerging leaves
- Infections spread during summer
- Monitor

### Western Flower Thrips
- Adults on ground
- Adults & eggs in blooms & on leaves
- Larvae and adults on fruit and leaves
- Adults
- Monitor

### Campylomma Bug
- Eggs in wood
- Nymphs on blooms & fruit
- Nymphs/adults (predators)/eggs on leaves
- Eggs in wood
- Monitor

### White Apple Leafhopper
- Eggs in wood
- Nymphs on leaves
- Nymphs/adults/eggs on leaves
- Eggs in wood
- Monitor

### Codling Moth
- Overwintering larvae under bark
- Pupae
- Adults/eggs/larvae in fruit
- Larvae under bark
- Monitor

### Woolly Apple Aphid
- Adults in bark crevices and on roots
- Adults/nymps multiply to cottony colonies
- Monitor

### Bitter Pit
- Fruit calcium sprays
- Calcium dip
- Mineral imbalance in apple flesh develops with low calcium

### Western Tentiform Leafminer (minor)
- Pupae in dropped leaves
- Adults/eggs on leaves
- Larvae in leaf mines/eggs on leaves
- Pupae
- Monitor

### Spider Mites
- Adults at base of tree
- Eggs/immatures/adults on ground cover and tree leaves
- Adults
- Miticides not recommended unless treatment thresholds exceeded; monitor lowest leaves/branches first

Arrows (→←) indicate intervals during which recommended management activities occur, if pest is present.

**Note:** The indicated monitoring times should serve as guidelines for when to monitor and manage pests, if the pest has been a problem in the past. Monitoring helps to identify whether the targeted pest is present in the orchard at damaging levels before a pesticide is used.

---

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions. USU employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities. This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Kenneth L. White, Vice President for Extension and Agriculture, USU.

UPPDL, 5305 Old Main Hill, Logan UT 84322, utahpests.usu.edu