PLANT HEALTH CARE REPORT

Apple

The domestic apple (*Malus domestica*) has dual value in the landscape because it produces attractive flowers and edible fruit. Apple begins bearing fruit 3 to 5 years after planting, but many will bloom the first spring. If flowers are the only reason for planting an apple, crabapples are a better choice because they require less maintenance and are more prolific bloomers.

Semi-dwarf apple

Apple trees are available in a range of sizes and in hundreds of varieties. The size of the mature apple depends on the rootstock onto which it is grafted. There are four basic sizes:

1. Miniature: grows only 6–8 feet tall; often used in large pots for patios and decks.
2. Dwarf: grows 8–10 feet tall—size makes pruning, picking and spraying easier. Produce fruit at a younger age than standard trees but are less drought tolerant and may fall over without staking.
3. Semi-dwarf: grows 12–15 feet tall; best choice for most homeowners.
4. Standard: grows 18–25 feet tall; produces the most long-lived, hardiest trees for properties with ample space.

Espalier pruning system for apple

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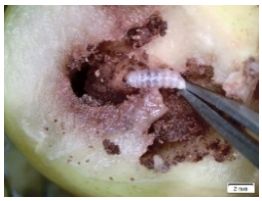
Apple grows in most soil types and generally requires annual fertilization. It performs best in full sun but will produce fruit with only six hours of sun a day. Miniature and dwarf varieties will need to be watered during dry weather. Add mulch to a depth of 4 inches. Apple should be pruned every year, particularly when it is young. Specialized pruning techniques are necessary to optimize fruit production and reduce disease.

Multiple diseases and pests afflict all parts of apple. These are the most common problems in landscape apple:

1. Scab (*Venturia inaequalis*): fungal disease of foliage and fruit. Unless resistant varieties ('Liberty', 'Freedom', 'MacFree', etc) are planted, at least three fungicidal treatments are needed in areas with rainy springs.


2. Plum curculio (*Conotrachelus nenuphar*): small beetle attacking the fruit.



3. Codling moth (*Cydia pomonella*): insect that attacks the fruit; difficult to control because moths are active from spring until fall.

Monitoring and Treatment Considerations for Apple

Early to mid-winter

Inspect plants for deer browse; apply repellent treatment as needed. Reduce or remove branches to promote appropriate structure, and remove last year's dead fruit (mummies). Sample soil for nutrient and pH levels, especially if nutrient deficiency symptoms are evident. If decline is evident, submit root or root crown samples for Phytophthora root rot testing.

Late winter

Apply bactericide treatment to trees with a history of fireblight. Apply dormant treatment to suppress scales, mites, aphids and other pests. Inspect plants for deer browse; apply repellent treatment as needed. Fertilize, adjust pH, and amend soil according to soil analysis.

Early spring

Apply fungicide treatment to suppress foliar disease as leaf expansion begins. Monitor for tent caterpillars, mites, aphids and borers; treat as needed. Release biological control predators for aphids and mites if needed.

Mid-spring

Apply bactericide treatment to trees with a history of fireblight. Apply fungicide treatment to suppress foliar disease. Monitor for tent caterpillars, mites, aphids and borers; treat as needed. Place one codling moth trap on each property. Once adults appear in traps attach one codling moth pheromone tie per tree to disrupt mating behavior. Attach two apple maggot traps per tree.

Late spring

Apply fungicide treatment to suppress foliar disease.

4. Apple maggot (*Rhagoletis pomonella*): fly that attacks the fruit. Red, sticky traps hung in the trees help reduce damage.

5. Fireblight (*Erwinia amylovora*): bacterial disease that kills young branches resulting in a "shepherd's crook" and dark, burnt appearance.

6. Cedar apple rust (*Gymnosporangium juniperi virginianae*): fungus disease of foliage and fruit.

7. Phytophthora root and crown rot (*Phytophthora*): disease of roots and lower stem; most common in wet soils and deeply planted trees and potentially lethal over time.

Monitor for mites, aphids, scale and borers; treat as needed. Release biological control predators for aphids and mites if needed. Begin to thin fruit to decrease fruit density as needed.

Early summer

Apply treatments for foliar disease if weather conditions continue to favor infection. Monitor for mites, borers and scale; treat as needed. Inspect irrigation and soil moisture levels to reduce moisture stress and prevent root disease. Thin fruit to decrease fruit density as needed.

Mid to late summer

Monitor for mites, borers and scale; treat as needed. Inspect irrigation and soil moisture levels to reduce moisture stress and prevent root disease. Remove fallen fruit.

Early fall

Inspect plants for deer browse; apply repellent treatment as needed. Inspect irrigation and soil moisture levels to reduce moisture stress and prevent root disease. Remove any fallen fruit.

Late fall

Inspect plants for deer browse; apply repellent treatment as needed. Ensure adequate soil moisture levels to minimize winter injury. Remove mulch from stem to reduce risk of disease and rodent injury. Remove branches damaged by fireblight or the weight of fruit.