PLANT HEALTH CARE REPORT

Linden

Lindens are notable shade trees, widely used as street trees and ornamentals. They are renowned for highly fragrant, white flowers and a dense crown of heart-shaped leaves. Lindens are grouped in the genus *Tilia* with the following species commonly used in the landscape:

American linden or basswood (*Tilia americana*)

: tall (60–100 feet), stately tree best used in parks, golf courses and large properties. It is native to North America.

Littleleaf linden (*Tilia cordata*)

: medium-sized, depending on cultivar. 'Greenspire', the most commonly planted linden, reaches a height of 40 feet. Considered tolerant of harsh conditions, littleleaf lindens are native to Europe where they have been planted since ancient times.

Silver linden (*Tilia tomentosa*)

: medium to large-sized tree, depending on cultivar. Maximum height is 60 feet. Considered an excellent shade tree, tolerating heat and drought better than other lindens. It is native to southeastern Europe and western Asia.

Littleleaf linden

Silver lindens

Silver linden foliage

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Lindens are best planted in climate zones 4 to 7. They should be planted in full sun, although they are tolerant of light shade. When transplanting lindens, ensure they are not planted too deeply. Lindens prefer deep, moist, fertile soils but will grow on drier, heavier soils. Lindens are pH-adaptable growing in soils ranging in pH from 4.5 to 7.5.

Lindens respond well to fertilization, which promotes dark green leaf color and reduces stress. American linden is classified as a nitrogen-demanding species and grows poorly on sites deficient in nitrogen. Linden leaves have high contents of nitrogen, calcium, magnesium, and potassium. They contribute most of these nutrients back to the soil if the leaves are not removed in the fall. The root collar must be kept free of soil and mulch.

A wide range of pests attack lindens. These are the most serious pests in the landscape:

1. Japanese beetle: adults of this introduced pest feed on the leaves of lindens. Branch dieback and decline result from repeated defoliation. Silver linden is somewhat resistant.

2. Aphids: small insects which suck sap from the trees. Aphids form colonies on the underside of the leaves and excrete honeydew that damages cars, picnic tables and other objects beneath lindens.

Monitoring and Treatment Considerations for Linden

Winter

Remove dead, dying, diseased, and broken branches. Remove mulch from stem to reduce risk of disease and rodent injury.

Early spring

Apply dormant treatment to suppress overwintering mites and aphids. Expose and inspect root collar for problems; add mulch as needed. Sample soil for nutrient and pH levels. Fertilize, adjust pH, and amend soil according to soil analysis. If decline is evident, submit root samples for Phytophthora root rot testing.

Mid-spring

Monitor for foliage diseases such as anthracnose and leaf spot; treat as needed. Monitor for aphids, mites, caterpillars, scale, and borers; treat as needed. Biological control agents should be considered for treating spider mites and aphids when present.

Late spring

Monitor for foliage diseases such as anthracnose and leaf spot; treat as needed. Monitor for aphids, mites, caterpillars, scale, and borers; treat as needed. Monitor irrigation and soil moisture to minimize water stress and prevent root disease.

Early to midsummer

Monitor for foliage diseases such as anthracnose and leaf spot; treat as needed. Monitor for aphids, mites, caterpillars, scale, and borers; treat as needed. Monitor for Japanese beetle; treat at the first indication of damage. Monitor irrigation and soil

Multiple generations can be found throughout the growing season.

3. Mites: tiny, leaf-damaging pests which reproduce very rapidly. Both spider mites and rust mites may be present on lindens. Spider mites pierce through leaf tissue and suck out nutrients. Rust mites can cause leaf gall formations. Several species are common on lindens and may cause severe discoloration.

4. Caterpillars: Many species, including spongy moth, cankerworms, linden looper, and tussock moths feed on linden foliage. Repeated defoliation can cause branch dieback and decline.

5. Cankers: several fungi including *Phytophthora*, *Nectria*, and others attack lindens. Stressed trees, new transplants, and trees planted too deeply are most susceptible.

moisture to minimize water stress and prevent root disease. Inspect mulch levels and adjust as needed.

Late summer

Monitor for foliage diseases such as anthracnose and leaf spot; treat as needed. Monitor for aphids, mites, caterpillars, scale, and borers; treat as needed. Biological control agents should be considered for treating spider mites and aphids when present.

Fall

Monitor for foliage diseases such as anthracnose and leaf spot; treat as needed. Monitor for aphids, mites, caterpillars, scale, and borers; treat as needed. If sucking insects were problematic this past growing season, consider treating with an appropriately timed systemic product. Inspect plants for deer browse; apply repellent treatment as needed. Monitor irrigation and soil moisture to minimize winter injury.