

Exotic lespedezas - *Lespedeza cuneata* and *L. bicolor*

Identification

Two species of lespedeza are serious invaders in the Southeast; Chinese or sericea lespedeza (*L. cuneata*) and shrubby or bicolor lespedeza (*L. bicolor*). Chinese lespedeza is an upright semi-woody forb, 3 to 6 feet in height with one to many slender stems. Shrubby lespedeza is very similar but usually displays more branching and is 3 to 10 feet in height. Both species have alternate, abundant, three-parted leaves. Chinese lespedeza leaflets are slender and 0.4 to 0.8 inches long whereas shrubby lespedeza leaflets are more elliptical to oval and 1-2 inches long (Figures 73 & 74 respectively). Flowers are small and whitish-yellow (Chinese) or purple (shrubby). Fruits are single-seeded, round (Chinese) or flattened (shrubby) legume pods.

Habitat and Distribution

Native to Asia and introduced into the United States in the late 1800s, lespedeza has been widely planted for wildlife habitat, erosion control, and mine reclamation. It grows well in meadows, prairies, pastures, old fields, roadsides, mine spoils, savannas, open forests, fence rows, ditches, highway embankments, orchards, and other disturbed habitats (Figure 75). It is resistant to drought and can tolerate moderate flooding. Because of its ability to fix nitrogen, lespedeza thrives on disturbed or nutrient poor sites. Sandy or sandy-loam soils are preferred but it can grow in a variety of soil types ranging from sandy to clayey. It can invade areas with strongly acidic to neutral pH. It currently is found throughout the eastern United States and in the South, is primarily a problem in the upper coastal plain and areas north.

Impact

Lespedeza is an extremely aggressive invader of open areas. Dense monocultural thickets are formed due to its ability to sprout from root crowns. It displaces native vegetation and, once established, is very difficult to remove due to the seed bank, which can remain viable for decades. Open areas can be quickly dominated by lespedeza, altering species diversity, wildlife suitability, and management plans. Lespedeza is fire promoted, potentially forcing managers to alter planned fire regimes in fire-adapted environments such as prairies and pine savannas (Figure 76). Tannins and other alleopathic chemicals are produced, which can inhibit growth of other plant species. On a strip mine reclamation site, lespedeza completely dominated a disturbed area and compromised 100% aerial cover in three years.



Figure 73



Figure 74

Response to Disturbance

Promoted by high light environments
 Promoted by soil disturbance
 Fire encouraged
 Re-sprouts vigorously after being cut
 Does not fair well in absence of disturbance
 Mowing promotes growth
 Responds well to disturbance
 Difficult to remove once established

Reproduction

Primary means – Seed and root crowns
 Seed production – 300 million seeds/acre
 Long seed bank (20+ years)
 Can self-pollinate
 Seeds usually do not remain on plant through winter
 Fire scarification of seeds, increases germination rates
 Insect pollinated

Seed Dispersal

Animal and human dispersed seeds

Growth Habits

Semi-woody shrub
 Perennial
 Somewhat shade tolerant
 Full sun tolerant
 Flood intolerant
 Drought tolerant
 Prefers open woods/grasslands
 Cold tolerant
 Above ground portions dieback in winter

Response to Prescribed Fire

Not a control option
 Not a fire hazard
 Fire scarification of seeds, increases germination rates



Figure 75



Figure 76

Control Recommendations

Thoroughly wet all leaves with one of the following herbicides in water with a surfactant (July to September): Garlon 4 as a 2-percent solution (8 ounces per 3-gallon mix), Escort XP at three-fourths of an ounce per acre (0.2 dry ounces per 3-gallon mix), Transline as a 0.2-percent solution (1 ounce per 3-gallon mix), a glyphosate herbicide as a 2-percent solution (8 ounces per 3-gallon mix), or Velpar L as a 2-percent solution (8 ounces per 3-gallon mix).

Mowing 1 to 3 months before herbicide applications can assist control.

(See **Herbicide Quick Reference page 40-42**)