MISSISSIPPI STATE UNIVERSITY EXTENSION

# Lespedeza Control in Maintained Turfgrass

Common lespedeza (*Kummerowia striata*, sometimes referred to as *Lespedeza striata*) and Korean clover (*Kummerowia stipulacea*) are troublesome turfgrass weeds throughout most of the southeastern United States. Both are warm-season annual legumes that emerge as seedlings in late spring and early summer (March through June) in Mississippi.

Common lespedeza and Korean clover have trifoliate leaves (oblong leaflets of three) originating from brownish-red, woody stems clasped by stipules at the base of each leaf stalk. Common lespedeza is capable of withstanding very low mowing heights (less than 1 inch), but it may rise to more than a foot in height if left unmown. The taller Korean clover is less prevalent in maintained turfgrass due to lower mowing heights. Both are present in areas with higher mowing heights, such as roadsides and golf course roughs.

Common lespedeza and Korean clover are similar in distribution and appearance; however, they can be distinguished through close examination of differences in growth habit. Korean clover is often taller, produces coarser foliage with broader leaflets, and has upward-pointing stem hairs. Common lespedeza has downward-pointing stem hairs. Other lespedezas in the Southeast are perennial in nature but otherwise share common traits.

Common lespedeza and Korean clover produce shallow taproot systems, enabling them to tolerate dry or compacted soils. Like other legumes, such as white clover, lespedeza and Korean clover form symbiotic relationships with soilborne bacteria to produce root nodules where atmospheric nitrogen is fixed and incorporated into the plant as proteins. Nitrogen is subsequently shared with associated grasses through the decomposition of roots and foliage. For this reason, legumes are sometimes considered beneficial additions to low-maintenance turfgrass. The presence of lespedeza and clovers is considered by some to indicate that nitrogen is limited for turf growth.

**Common lespedeza and Korean clover have leaves of three. The base of each leaf has a brownish-red stipule (like little wings). The prominent veins on the lower leaf surface are helpful in identifying this plant.**

**Both common lespedeza and Korean clover form symbiotic relationships with soil-borne bacteria to produce root nodules. Within those nodules, the bacteria fix atmospheric nitrogen and share it with the host plant and associated grasses.**

## Cultural Prevention

Common lespedeza is a weed in all types of turfgrasses, but it is especially prevalent in poor soils or turf that receives limited supplemental nitrogen. Legume persistence is partly due to its ability to biologically fix atmospheric

nitrogen. With the exception of centipedegrass lawns, supplemental nitrogen is necessary to help turfgrass to compete with the nitrogen-fixing legume. Follow nitrogen fertilization recommendations found in MSU Extension Publication 1322 *Establish and Manage Your Home Lawn* at extension.mestate.edu.

Alleviating soil compaction is also key to controlling common lespedeza. Reducing foot and mower traffic may increase turfgrass competitiveness with this and many other weeds. In some instances, aerification may be required to reduce soil compaction. To optimize the effort and expense of aerification, cores should be removed and composted rather than returned to holes. Ideally, sand, organic matter, or compost should be top-dressed into holes to reduce soil density and increase soil moisture and nutrient-holding capacity.

Infrequent and deep irrigation can be applied during drought situations to alleviate turf stress in problem areas.

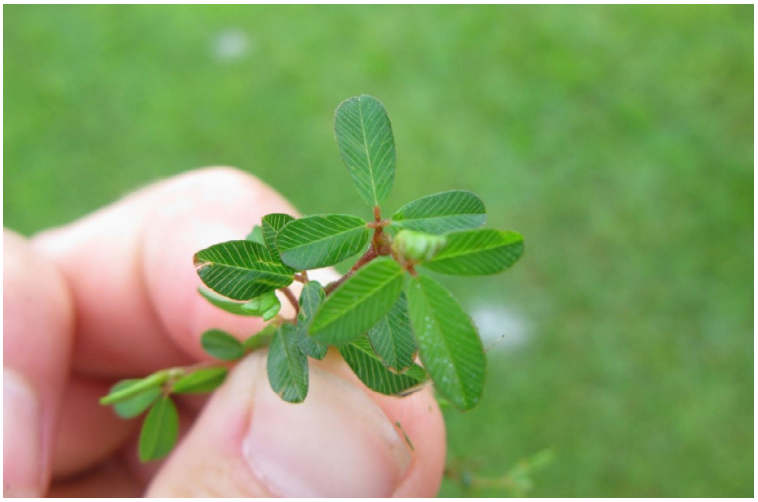
Avoid spreading seed and plant material by thoroughly washing mowers and other equipment after use in weed-infested areas.

## Chemical Control

**Preemergence herbicides** (those applied before seedlings emerge), including atrazine (AAtrex, Bonus S with atrazine, and others), dithiopyr (Dimension and others), pendimethalin (Pendulum and others), prodiamine (Barricade), and simazine (Princep and others), provide varying degrees of lespedeza control, depending on application rates and timing. Preemergence applications in mid- to late spring provide better control than applications made in late winter.

**Postemergence control** (herbicides applied after seedlings emerge) also depends on adequate application timing. Lespedeza and Korean clover plants become "hardened off" and difficult to control as summer progresses. Their woody stems and drought-avoidance capabilities mean early detection and treatment are required to control them successfully. Scouting for lespedeza should begin in spring (roughly March on the coast and April in northern Mississippi).

Multiple applications of premixed liquid products containing auxin-like herbicides, such as 2,4-D, MCPA, mecoprop, and dicamba (Trimec, Weed B Gon, etc.), are effective when applied early. For homeowners, these "broadleaf-specific" herbicides are typically available at local lawn and garden stores.



**Common lespedeza and Korean clover have trifoliate leaves, meaning that leaflets occur in patterns of three.**

**Common lespedeza has downward-pointing stem pubescence (pictured), while Korean clover has upward-pointing pubescence.**

**Common lespedeza and Korean clover have purple to white leguminous flowers that look similar to those of a pea plant.**

Metsulfuron-containing compounds (Topshot, MSM Turf, Manor, Blindside) provide good to excellent control of common lespedeza. Early applications of atrazine-containing compounds (Bonus S with atrazine, AAtrex, and others) may also provide acceptable control of common lespedeza.

Commercial applicators may find that pyridine herbicides (fluroxypyr, triclopyr, clopyralid, etc.) are more effective in late-season applications than the other auxin-like herbicides mentioned previously. Escalade 2 (2,4-D, fluroxypyr, and dicamba) and similar products that contain a pyridine herbicide with dicamba provide good to excellent control. However, many are not labeled for sensitive turfgrasses, such as centipedegrass and St. Augustinegrass.

Care should be taken to properly calibrate application equipment and to apply herbicides accurately to prevent turf and landscape injury. Read product labels carefully and completely, as not all herbicides can be applied to warm-season turf species. More information on controlling weeds in turfgrass can be found at extension.msustate.edu.

**Table 1. Postemergence herbicides for common lespedeza and Korean clover control.**

| Herbicide | Bermuda | Centipede | St. Augustine | Zoysia | Tall Fescue | Common lespedeza and Korean clover control |
|---|---|---|---|---|---|---|
| 2,4-D | Yes | Yes | Yes | Yes | Yes | Poor |
| atrazine (Bonus S, AAtrex) | | Yes | Yes | Yes | No | Good |
| Avenue South | Yes | Yes | Yes | Yes | Yes | Good |
| Blindside | Yes | Yes | Yes | Yes | Yes | Excellent |
| Celsius | Yes | Yes | Yes | Yes | No | Good |
| Change-up | Yes | Yes | Yes | Yes | Yes | Excellent |
| dicamba | Yes | Yes | No | Yes | Yes | Fair |
| Escalade 2 | Yes | No | No | Yes | Yes | Excellent |
| metsulfuron-methyl (Topshot, MSM-Turf or Manor) | Yes | Yes | Yes | Yes | No | Excellent |
| Speedzone Southern | Yes | Yes | Yes | Yes | Yes | Fair |
| Turflon Ester (triclopyr) | | | | | Yes | Good |
| Confront (triclopyr + clopyralid) | Yes | Yes (but not on sod) | No | Yes | Yes | Excellent |
| Trimec Southern | Yes | Yes | Yes | Yes | Yes | Fair |
| Vista XRT | Yes | Yes | Yes | Yes | Yes | Excellent |

Blank cells = unknown or unlabeled

**Publication 2910** (POD-02-25)

By **Jay McCurdy**, PhD, Associate Professor, Plant and Soil Sciences.



Produced by Agricultural Communications.



Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. ANGUS L. CATCHOT JR., Director