



FORAGE FACTS

Publication Series

SERICA LESPEDEZA

HISTORY

Sericea lespedeza (*Lespedeza cuneata*) is an introduced perennial legume that was first recognized as a potential weed problem in southeast Kansas in the early 1980s. Since that time, sericea has spread profusely throughout southeast Kansas and beyond. Southeast Kansas counties began declaring it a “county option” noxious weed in the late 1980s; and by July 1, 2000, it will be a statewide noxious weed in Kansas. This is the first time that a federally listed crop has been declared noxious.

Sericea lespedeza was introduced into the United States by the USDA in 1900 for erosion control. In the 1930s it was planted on strip-mined areas in southeast Kansas, and in the 1940s and '50s was planted around state and federal reservoirs for wildlife habitat. It is recognized for its tolerance of drought, acidity and shallow soils of low fertility. It will tolerate soils ranging from very acidic to slightly alkaline, but prefers a Ph of 6.0 to 6.5. It does best on clay and loamy soils that are deep, fertile and well drained, but will also grow on poor sites. *Sericea* uses water less efficiently than many other warm-season plants and does best when annual precipitation is 30 inches or more.

Most recent large-scale introductions of the plant occurred with establishing native grass on Conservation Reserve Program (CRP) acres, a provision of the 1985 Farm Bill. Numerous CRP fields throughout the eastern part of Kansas have been found infested with *sericea lespedeza*. The native grass seed used in these plantings was contaminated with *sericea lespedeza* seed—not recognized as a noxious or invasive weed at that time.

FORAGE QUALITY

Sericea lespedeza as a legume is recognized for its high levels of crude protein, but this is offset by high concentrations of chemical compounds called tannins. Tannins bind with proteins, leaving them unavailable for digestion. They also reduce the palatability and digestibility of forages. The level of tannins in *sericea* appears to increase with maturity of the plant, high air

temperatures and low rainfall. The tannins also reduce insect feeding.

WILDLIFE CONSERVATION

Sericea lespedeza has been considered valuable for wildlife benefits, both as food and cover. However, this is not supported by research or practical experience. Deer will not utilize *sericea* unless it is kept short by mowing or grazing. Quail will consume the seeds in fall and early winter, but the seeds do not contain enough energy to sustain quail through adverse weather conditions. *Sericea* probably holds its greatest wildlife benefit as a source for cover, but when dormant, cover will be lacking because other plants are excluded by the *sericea*.

COMPETITIVE CHARACTERISTICS

Sericea lespedeza, once established, will reduce or eliminate competing vegetation. However, it is relatively slow to establish, having a rather weak and vulnerable seedling stage. On the other hand, it is opportunistic, and will establish itself in full sun or partial shade. While it tolerates shading quite well, it doesn't seem to establish in dense shade where direct sunlight does not reach during any part of the day.

Sericea perhaps establishes best where competing vegetation is very short, and light is allowed to reach the germinating seedlings. Many legumes need good exposure to sunlight during the seedling stage, which is the situation of a burned pasture. Fire is also

assumed to scarify sericea seed, enhancing germination. However, the fire may result in more sunlight hitting the seed and seedlings, resulting in better germination. Seedlings will also germinate and survive where ground cover and other plant competition is quite dense but at a much lower population. It has established in fence rows, brushy and grassy areas, where fire and grazing have been excluded for years.

Once established, sericea restricts the amount of light reaching other plants because it is tall with multiple branches and dense foliage. It requires more water to produce foliage than other warm season plants, creating a "drought" for competing vegetation. It also produces allelopathic chemicals that inhibit seed germination and growth of other plants. Some of these chemicals are produced by the roots, while others come from plant residue, chiefly leaves.

Although sericea is a legume, it furnishes very little nitrogen to surrounding plants, and that amount is negated by the effects of the allelopathic toxins it produces. Rather than providing nitrogen for other plants, it actually makes it necessary to add nitrogen to maintain production of introduced forages. The shoots of grass exposed to the toxins of sericea residue have lower nitrogen content, consequently, overcoming the loss of production caused by the toxins requires nitrogen fertilization.

CONTROL

As with any weed problem, early detection and treatment is paramount to gaining control of this weed. Investing the time to control scattered plants and isolated patches must be done. Remedy and Escort are the two chemicals of choice at the present time for controlling sericea lespedeza. Once it becomes established over a wide area, an integrated approach to control will be necessary. Conventional management practices such as prescribed grazing and fire have been less than effective in preventing the spread of sericea in rangelands.

Chemical control includes Escort or Ally at .5 ounces per acre applied after bud stage until early October. Remedy is also effective at 1.5 pint per acre applied to actively growing plants in the vegetative stage (June) or in flower (late July to August). If applying from the ground, use a minimum of 20 gallons spray per acre. If sericea plants are not growing or flowering because of heat or drought conditions, herbicide effectiveness is greatly reduced. When Escort or Ally is applied in mid-September or later, seedling control has been observed the following spring because of herbicide carryover in the soil. Earlier applications do not result in this condition.

Some suppression of sericea has been observed after mowing or burning followed by intensive early stocking with stocker cattle. Livestock will consume the seeds and deposit them elsewhere in manure, so it is advisable to not graze sericea-infested range in fall and winter when the plants have produced seeds. Intensive early stocking provides this option. Goats will provide some control as they do eat sericea much more readily than cattle. However, any grazing control program must be closely monitored and continued once begun. Grazing will increase the number of tillers of each individual plant. This means that if grazing is ceased, then a larger, more robust, multi-tillered plant is left than if it had never been grazed, and will result in increased seed production. Current research with goats indicated that they will eat sericea and reduce seed production, but have not reduced plant population.

Mowing will reduce the vigor of sericea plants if it is cut closely multiple times each year. Plants should be mowed each time they reach a height of 12 to 18 inches. The most damaging time to cut sericea is late in the growing season when the plants are trying to build root reserves. However, mowing will not kill sericea, and may damage desirable grasses.

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