SERICEA LESPEDEZA: BIOLOGY AND MANAGEMENT OPTIONS. Walter H. Fick, Associate Professor, Department of Agronomy, Kansas State University, Manhattan, KS 66506.

Sericea lespedeza [*Lespedeza cuneata* (Dumont) G. Don] is a federally listed forage crop planted primarily in the southeastern U.S. and often used in mine land reclamation. However, sericea lespedeza has become an invasive species in grasslands throughout portions of the central and southern Great Plains. Sericea lespedeza is often unpalatable to cattle because of high tannin content that increases with plant maturity. Tannins tie up protein and negatively impact digestibility of the forage. Given a choice, cattle typically avoid sericea lespedeza allowing the species to increase over time. Increasing populations of sericea lespedeza can reduce forage production and species diversity. The species was declared as a state-wide noxious weed in Kansas in 2000 and currently infests over 240,000 ha in the state. Sericea lespedeza is a perennial legume native to eastern Asia. Seeds can germinate any time during the growing season under favorable conditions, but seedlings are most frequently noted during the late spring and early summer. The trifoliate leaflets are wedge-shaped. Plants generally do not flower until the second growing season. Mature plants are erect in stature, often with branched stems, and grow to a height of 0.5 to 2 m. Flowering occurs from late July until early October. Sericea lespedeza has both cleistogamous and chasmogamous flowers. The flowers are white to creamed colored with a purple throat. A single plant can produce more than 1,000 seeds. Dense stands of sericea lespedeza are known to have a seed bank in excess of 100 million seeds per ha. Sericea lespedeza produces a deep taproot making it drought tolerant once established. Sericea lespedeza grows best in full sunlight but is shade tolerant. The photosynthetic rate of sericea lespedeza is about half that of alfalfa and it is less water-use efficient than most other warm-season species. Total nonstructural carbohydrates (TNC) stored in the root/crown decline during spring growth and reach a secondary low-point at the flower bud stage. Subsequently, root/crown TNC increases during flowering and seed production. Crown buds are produced in the late summer.

Options to consider for management of sericea lespedeza include biological, grazing, mechanical, prescribed burning, and chemical approaches. Lespedeza webworms and root-knot nematodes can provide some reduction in seeds and stunted plant growth, but do not appear to provide reliable biological control. Sheep and goats will consume sericea lespedeza, but high stocking rates are needed to prevent seed production. Supplementing cattle with polyethylene glycol (PEG) increases consumption of sericea lespedeza but problems with consumption, cost, and labeling reduce the potential use of PEG. Repeated mowing during the summer will decrease stands of sericea lespedeza and may prevent seed production. Prescribed burning in the late spring generally stimulates seed germination and increases stem density. Late summer or fall burns have been shown to suppress sericea lespedeza. A number of herbicides have been screened over the years to determine their efficacy in controlling sericea lespedeza. Herbicides that are commonly used on grasslands including 2,4-D, dicamba, and picloram are not effective in controlling sericea lespedeza. Products containing triclopyr, metsulfuron, and fluroxypyr have proven to be the most effective. Spot treatment of sericea lespedeza with glyphosate is also effective. Long-term grazing with goats or an integrated approach using prescribed burning, grazing, and chemical control seem to be the most effective management strategies for coping with sericea lespedeza at this time.

2009 North Central Weed Science Society Proceedings 64:151.