Kansas Rural Center
SUSTAINABLE AGRICULTURE MANAGEMENT GUIDES

LESPEDEZA

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In the early 1950's lespedeza acreage peaked in Missouri. Since World War II it has declined due to more prosperous conditions and the emphasis on higher yields through heavy fertilization. With good seed production, annual lespedeza will persist for years without reseeding (McGraw et al. 1989).

Annual lespedeza will germinate in early spring but usually will grow little until June. Most of the forage production will occur in July or August. Lespedeza is a good quality forage during mid-summer (McGraw et al. 1989). Clipping the tops will force lespedeza to spread along the ground. Seed, if harvested, occurs in October. The plant will be killed with the first hard frost.

Lespedeza pasture is especially valuable for sheep and backgrounding cattle operations. It is a good pasture for growing dairy heifers, but when mature, it can cause problems with lactating dairy cows. Dairy farmers note that grazing lespedeza after it is in bloom decreases milk production ("Annual Lespedeza," 1989). Over the years lespedeza has been used as a part of a high quality finishing ration to give an improved carcass grade. Weaning calves pulled off lespedeza tended to retain weights better than with other forages (Long).

Crude protein in hay ranges from 12-14% and total digestible nutrients range from 55-60% (Ball and Mosjidis, 1990). Lespedeza hay is only slightly less valuable than alfalfa for wintering calves or dairy heifers. However, lespedeza hay is inferior to alfalfa when fed to lactating dairy cows ("Annual Lespedeza," 1989).

Economics

"Lespedeza has probably lifted more mortgages than any other crop grown in the state (Missouri)," says Bob Hill, executive secretary of the Missouri Bankers Association in the 1950's. In a five-year grazing trial in Arkansas, yearling cattle gained 1.8 pounds per day on lespedeza with 80 days of normal grazing time resulting in a stocking rate of 1.1 to 1.5 animal units per acre. In Missouri, wheat/lespedeza pasture rotations averaged 285 pounds of beef per acre, and steers gained 1.7 pounds per day. Production costs are lower than those for alfalfa or clover ("Annual Lespedeza," 1989).

Soil Requirements

Lespedeza is especially valuable on depleted soils. It tolerates moist soils and has good seedling vigor ("Cover Crops Management for No-till Grain Crop Production," 1986). Lespedeza is more tolerant of low fertility than most other forages or legumes. It does respond to phosphorus and potassium. It can be grown on well-drained soils in eastern U.S. and does best with a pH of 5.8-6.5 (Ball and Mosjidis, 1990). Lespedeza is tolerant to acid soils.

Other legumes demand a higher level of inputs and management. When planting lespedeza with small grains, keep the nitrogen application to no more than 20-30 pounds per acre. Grazing the small grain nurse crop in the spring will help the lespedeza survive applications of nitrogen (Mammen, 1991).

Nitrogen Credits

Lespedeza provides for its own nitrogen needs, however, it does not provide much nitrogen for other species growing alongside it (Ball and Mosjidis, 1990).

An on-farm replicated legume demonstration on the John Covey farm near Moran found that supplementing a lespedeza green manure crop with more than 30 pounds of lespedeza did not result in significant higher corn yields under drought stressed conditions. Red clover, sweetclover, and hairy vetch were actively growing with less winter ground cover than lespedeza. Since lespedeza carried significantly higher winter residue than the other cover crops, soil conditions were moist during early spring tillage. These living cover crops used more of the spring soil moisture than lespedeza, permitting easier spring tillage. Corn emerged unevenly in the lespedeza trials due to wet soil and tillage conditions. The lower corn populations following lespedeza during the drought stressed summer of 1991 ironically appeared to improve yields in this trial

compared to the other cover crops (On-farm LISA Demonstration, 1991).

Yield

Lespedeza will produce one to two tons of hay per acre ("Cover Crops Management for No-till Grain Crop Production," 1986). Stocking rates are slightly lower than for tall fescue, bahiagrass or orchardgrass (Ball and Mosjidis, 1990). Lespedeza is a non-bloating legume. Lespedeza will produce less forage per acre than properly managed alfalfa or clover ("Annual Lespedeza," 1989). Seed yields range from 200-400 pounds per acre ("Annual Lespedeza," 1989).

Varieties

Korean is known best for its potential as a seed crop and ability to reseed ("Cover Crops Management for No-till Grain Crop Production," 1986). Korean is more susceptible to bacterial wilt and tar spot. Summit produces good yields, matures one week later, and is more disease resistant than Korean. Kobe has some disease resistance but matures later and may not produce seed before a killing frost. Marion, a more recent release, is resistant to bacterial wilt and tar spot. It is fine stemmed and high producing. Marion is better suited for pastures since it is not an upright type. It matures early enough to produce seed and retains its leaves later into the season ("Annual Lespedeza," 1989). Marion matures three weeks earlier than Kobe and one week later than Summit. Marion can successfully be grown as far north as the Missouri-Iowa border before killing frosts will inhibit seed production. Marion has a deep purple flower. Marion is slower growing than Summit but total production is similar due to its resistance to foliar diseases. Marion has a high level of resistance to bacterial wilt, tar spot, and southern blight. The leaves of Marion are slightly lower in protein, acid detergent fiber, and neutral detergent fiber than Summit. However, Marion has a higher ratio of leaves-to-stem than Summit making it a good late summer, high quality forage crop ("Registration of Marion Annual Lespedeza," 1990).

Diseases

Lespedeza is susceptible to bacterial wilt and tar spot ("Annual Lespedeza," 1989).

Stand Life

Lespedeza requires more close hay and grazing management. Ideally, it should not be cut or clipped closer than 4 inches off the ground (Ball and Mosjidis, 1990). Lespedeza can compete with most cool season grasses if nitrogen applications are kept less than 30 pounds per acre ("Annual Lespedeza," 1989).

Rotation

Lespedeza can be seeded into small grain in late winter or early spring. The small grain can be harvested for grain and the lespedeza can be hayed or grazed later in the summer or fall. About the time lespedeza sets seed in the fall, the ground can be worked and sown back to a small grain ("Annual Lespedeza," 1989). Lespedeza is not expected to be a long term pest in heavy wheat rotations since its main growth is in summer, and historically it was a favored legume to plant with wheat before the use of purchased nitrogen in Missouri and southeast Kansas. Also lespedeza is susceptible to many broadleaf herbicides and is more easily cultivated out than a legume like sweetclover (Long). Lespedeza is helpful in reducing the negative effects of fescue endophyte fungus (Mammen, 1991). Soybean cyst nematode is harbored by lespedeza ("Cover Crops Management for No-till Grain Crop Production," 1986).

Establishment

Lespedeza can be broadcast, but anything that helps soil to seed contact will improve germination. Broadcast lespedeza on top of wheat in February or March to allow thawing and freezing to incorporate seed into the ground. Broadcast 20 pounds per acre of lespedeza into established cool season grasses. Seed at a rate of 20-25 pounds per acre in small grains (Kilgore). Rates can be lowered to 15 pounds per acre the second year the field has had lespedeza (Long). It performs best with orchardgrass ("Annual Lespedeza," 1989). Drill at a depth of 1/4-1/2 inches.

Drought Tolerance

It is dependable during dry years ("Cover Crops Management for No-till Grain Crop Production," 1986). Lespedeza is more drought tolerant in the seedling stage than alfalfa or clover. Growth will be severely reduced during dry periods but will quickly recover following rains ("Annual Lespedeza," 1989). Lespedeza had better stand establishment, persistence, and yield under the dry conditions of 1991 than did alfalfa, sweetclover, red clover, hairy vetch, and black medic (On-farm LISA Demonstration).

Wildlife

Lespedeza seed provides excellent quail food ("Annual Lespedeza," 1989).

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CREDITS

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