

## Lespedeza

**T**WO KINDS of lespedeza are grown in Alabama, annual and perennial. Annual lespedeza has been grown and used for pasture and as a hay crop in this State for many years. Perennial lespedeza (*L. sericea*) is a new crop that may prove to be a valuable forage plant.

### ANNUAL LESPEDEZA

**Soils.**—Lespedeza grows on all of the soils of Alabama except the lime soils of the Black Belt. This plant grows best on fertile, loamy, moist bottom lands. On moderately fertile upland soils it produces sufficiently for good grazing, but seldom grows tall enough to be cut for hay. On very poor sandy uplands, lespedeza makes little growth and sometimes dies during dry weather in the late spring or early summer. Moisture is frequently the limiting factor in the growth of this plant.

**Fertilizers.**—Although lespedeza does not grow on the lime soils of the Black Belt, some lime is usually beneficial on the acid soils in other parts of the State. Phosphate is also beneficial to this crop. Probably the best fertilizer for lespedeza is basic slag. At least 600 pounds per acre of this material should be applied broadcast when the soil is prepared. Where lespedeza is to occupy the land for several years an application of 1,000 pounds per acre would probably be profitable.

**Growing for Hay.**—On fertile, moist soils lespedeza makes large yields of excellent hay. Under very favorable conditions it may produce from 2 to 4 tons of hay per acre, but usually makes from 1 to 2 tons. On poor soils under unfavorable conditions, lespedeza does not grow tall enough to be cut for hay. Lespedeza hay has approximately the same feeding value as alfalfa. Due to its leafiness and fine stems, there is less waste in feeding lespedeza than in feeding any other hay. To obtain the best quality of lespedeza hay it should be cut when the plants are blooming but before the plants begin to shed the leaves.

For hay 25 to 50 pounds of seed per acre should be sown on well-prepared soil during February or March. Lespedeza may also be sown on land that was planted the previous fall to one of the small grains. It is always advisable to run a drag harrow over the land after sowing to cover the seeds

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lightly. This will prevent the seed from being washed off by heavy rains and will insure a uniform stand. Kobe or Tennessee 76 are probably the best varieties for hay. If these varieties are cut at the time when they make the best quality of hay, they usually do not reseed and thus should be planted each year. Common lespedeza usually reseeds. As a general practice, annual lespedeza for hay and seed production should not be allowed to occupy the same area for more than two years because weeds become very troublesome.

**Growing for Pasture.**—Lespedeza is the most generally used pasture plant grown in Alabama. It grows best on moist bottom lands. On upland soils the growth is usually small but it produces good grazing during a part of the season. Lespedeza furnishes little grazing before the first of June, but after that date it gives abundant grazing until frost. This plant does not grow during very dry weather.

Sow from 25 to 30 pounds of seed per acre in late February or early March. Pasture land should be disked sufficiently to scarify the surface of the ground. If broom sedge is growing on the area, the land should be double disked or plowed before seeding. Common lespedeza is the best variety for pasture in Alabama.

**Inoculation.**—Alabama soils are naturally inoculated for lespedeza and, therefore, artificial inoculation for this crop is not necessary.

**Value for Soil Improvement.**—Lespedeza is a valuable plant for soil improvement, particularly on the valley soils of north Alabama. On these soils lespedeza is usually cut for hay or seed or used for pasture for a number of years before being turned under. When such land is brought back into cultivation the yields of succeeding crops are usually much improved. On badly eroded Piedmont and mountain soils that have been abandoned for cultivation, lespedeza frequently comes in and if allowed to grow for several years helps to restore the fertility of the soil.

**Value for Quail Feed.**—Seeds of all wild kinds of lespedeza and of all cultivated varieties are valuable sources of quail feed.

**Weed Control.**—Dodder, or love vine, is the worst pest of lespedeza. Prevent dodder, if possible, by sowing clean seed on dodder-free soil. If dodder appears in small patches it may be picked by hand. A simpler method is to cover these small areas with straw and then burn it.

Annual weeds may be controlled by mowing early in the summer, after which lespedeza usually crowds out the weeds.

**Varieties.**—Common, locally known as Japan or pigeon clover, grows wild in nearly all parts of Alabama. The plants

are low and spreading except where there is a very thick stand on moist fertile soils. The stems are fine and bear small three-parted leaves and small purple flowers, which appear from August until frost. This variety is used extensively for pasture, usually appearing on abandoned lands and forming a stand within a few years. Due to its habits of growth and seeding, this plant always matures enough seed to reseed the land. On moist fertile soils Common lespedeza makes large yields of excellent hay.

Kobe is similar to Common lespedeza except it grows more erect, grows taller, and has broader leaves and coarser stems. Experiments at the Experiment Fields and Substations show this variety will make about 25 per cent more hay than the Common.

Tennessee 76 is a selection from Common lespedeza made at the Tennessee Experiment Station. The plants of this variety resemble those of Kobe. It appears to be a better variety than Common and yields about the same as Kobe.

Korean lespedeza belongs to a different species from the varieties mentioned above. It is much earlier, has broader leaflets, and is coarser than the other varieties. It matures seed and frequently dies before frost, making it less valuable as a fall grazing crop than the other varieties. Fall and early winter rains frequently cause the seed to germinate and frost kills the young plants, resulting in very poor or no stands the following year. In north Alabama when it is cut early for hay it may produce a crop of seed before frost and thus reseeds the land. In middle and south Alabama it seldom reseeds. The varieties discussed above are preferable to Korean in Alabama.

#### LESPEDEZA SERICEA

*Lespedeza sericea* is a comparatively new crop in this country. This is an erect perennial legume which sprouts from crowns each spring and may be of value as a hay crop. However, much must be learned about this plant before its value, use, and cultural requirements are understood.

**Soil Adaptation.**—*Lespedeza sericea* seems to have about the same soil adaptation as have the annual varieties of lespedeza. Like the annual varieties, *Lespedeza sericea* grows best on moist fertile soils, but has made some fair yields of hay on sandy uplands.

**Fertilizers.**—The fertilizer needs of this plant on Alabama soils are not known. Experiments at Auburn show that it responds well to phosphate. It will make a good growth on very poor soils without fertilizer at least for a few years.

**Planting.**—The land should be broken in the winter or early spring and harrowed a few times to kill weeds. In April or May is the preferable time to sow. The seed should be scarified and sown broadcast at the rate of 25-30 pounds of seed per acre and not covered or covered very lightly. If they are covered deep a very poor stand will be obtained. The plants of sericea grow slowly and do not compete with weeds the first year. The weeds may be mown the first year, if the cutter bar is set high enough not to cut the young sericea plants. Usually the sericea will smother out the weeds the second year. In the first year the field appears to be all weeds but the plants generally survive and are very vigorous the second year.

Before the plants start growth in the spring of the second year the dead grass and weeds should be removed so that they will not be mixed in the first cutting of hay.

If it is planted for seed it is preferable to plant in narrow rows and cultivate it the first year. Cultivated plantings make a very good yield of seed the first year, but uncultivated plantings seldom produce enough seed to harvest.

**Inoculation.**—Like the annual varieties of lespedeza, *Lespedeza sericea* does not require artificial inoculation in Alabama.

**Uses.**—This crop has made some large yields of hay the second year after planting. Unless cut when the plants are young and succulent, the hay is coarse and of poor quality. If cut before the stems become woody, usually when the plants are about 15 inches high, this plant makes hay of good quality.

This crop is so new in Alabama that very little is known of its value as a pasture plant. Its general habits of growth, however, indicate that it might not stand hard grazing and that it would not be adapted for use in a permanent pasture.

**Harvesting.**—*Lespedeza sericea* should not be cut for hay the first year, but may be cut for seed. After the first year, it may be cut for hay twice each year. Preliminary results of some experiments in Alabama indicate that more than two cuttings per year reduced the yield and thinned the stand and resulted in a large increase in weeds and grass on the area. The first cutting should usually be made in May and the second in July. After these two cuttings have been made the plants should produce a crop of seed which may be harvested when mature.

**Strains.**—There are three strains of *Lespedeza sericea*, Numbers 12087, 17291, and 04730. Strain 04730 is slightly earlier and grows a little taller than the other two. The other two strains have proved to be identical. These three strains are of about equal value.