GROOTFONTEIN

Private Bag X529, Middelburg EC, 5900.
Tel 049 802 6600. Fax 049 842 4352.
http://gadi.agric.za

Info-pack

Sericea lespedeza (Poor man's lucerne/Armmanslusern)

SCOPE: This Info-pack provides a brief summary of available information on the forage crop *Sericea lespedeza* (Poor man's lucerne/Armanslusern)

Keywords: Poor man's lucerne, drought fodder, forage quality

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Plant description

Sericea lespedeza is a shrubby, deciduous perennial plant about 0.5 – 1.5 m tall. The densely-leaved, coarse stems are single or clustered with numerous branches, and new growth each year originates from buds located on the stem bases or crown about 0.2 – 0.7 cm below ground level. Leaves are trifoliate and attached by short petioles. Leaves are club or wedge-shaped, with a round to flat top and a conspicuous point at the tip. The lower leaf surface has silky hairs. Flowers are yellowish-white with purple to pink markings and appear from mid-July to early October. The flowers occur in clusters of one to three in the upper leaf axils, and are fused at the base. Seeds are hard, and tan or greenish in color.

Leaves of *Sericea lespedeza* (Photo: James Miller)

General description

Sericea lespedeza is a drought tolerant, perennial, non-bloating legume, and a prolific seed producer. Individual stems may produce in excess of 1 000 seeds, with 340 – 960 kg of seed produced per hectare. Germination rates are low, ranging from 10 – 20%. Forage of this species (either as pasture or hay) might help control gastrointestinal parasites in small ruminants, such as goats and sheep (Joshi et al., 2011).

Environmental requirements

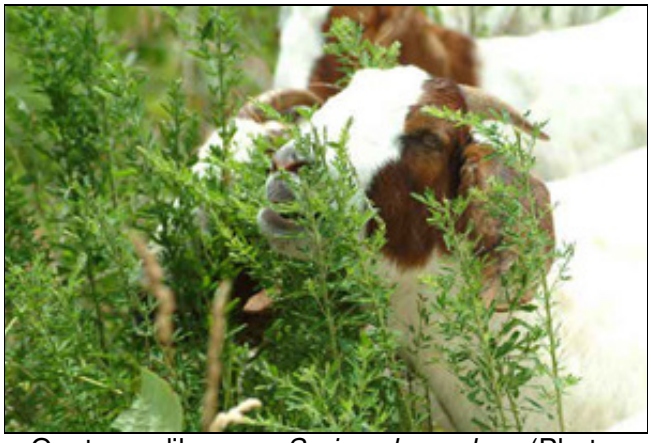
The species grows best where annual precipitation is 700 mm or more. Frost kills all above-ground growth and consequently it is of very little use as a winter foggage. It will tolerate soils ranging from very acidic to slightly alkaline, but is best adapted to a pH of 6 to 6.5. It does best on sandy, clay and loamy soils that are deep, fertile and well drained, but will tolerate poor soils. It has few insect and disease problems.

It is a legume but has a low nitrogen fixation rate and has little effect on the status of soil nitrogen. It has been shown to increase the nitrogen content of associated grass.

Forage quality

It has been recognised as quality forage due to its high levels of crude protein. High tannin concentrations, which appear to increase with plant maturity, high temperatures, and low rainfall, significantly reduce consumption by beef cattle

grazing *S. lespedeza*. Livestock often show preference for grasses when first exposed to *S. lespedeza*, but will eat it readily after a day or two. Sheep and goats appear more tolerant of it than cattle. Pastures should be grazed on a rotational basis when plants are 150 – 200 mm tall. It is important not to cut or graze below 120 mm for optimum regrowth and subsequent yield.



Goats readily graze *Sericea lespedeza* (Photo: eXtension.org)

Livestock readily consume *S. lespedeza* when in the form of hay. It should be cut for hay when the plants are 0.3 – 0.5 m tall, and two or three hay cuttings can normally be made per year, depending on moisture availability. A unique trait of the species as a hay crop is the high rate with which the forage dries. It can be baled within 24 hours after being cut and, under excellent drying conditions, perhaps in late afternoon after having been cut in early morning.

Varieties

Eleven varieties are found in the world: Arlington, Serala, Gasyn, Interstate, Cericea, Appalow, Serala 76, Interstate 76, AU Lotan, AU Donnelly and AU Grazer.

Establishment

Seeds are nearly impervious to water, and must be scarified to enhance germination. It is relatively slow to establish, having a rather weak, vulnerable seedling stage, and should therefore preferably be planted as pure stands to avoid competition by other plants. Germination and seedling growth are regulated by day length and temperature, and growth is best when day-length exceeds 11 hours. It should normally be planted in spring after the risk of damage from frost, with optimum temperatures for germination and growth ranging from 20 - 30°C.

It is imperative to inoculate seed, since the bacterial culture enables the plants to make their own nitrogen. Experience from South Africa has shown that de-hulling improves germination and seedling viability.

The seeds should be planted into a level, firm seedbed that has been prepared well ahead of planting. Seed should be sown at a rate of 15 kg/ha if weeds are controlled and 20 kg/ha if herbicides are not used. The seed should be planted to a depth of 5 mm. At 10 mm the germination is considerably less. Do not plant above the soil. During establishment it uses most of its energy to produce a root system, which develops a deep woody taproot producing numerous branches that spread laterally and downward to a depth of 1 – 1.2 m. It responds well to fertilisation, but can be grown in areas too acidic and infertile to support other forage legumes.

Weed control is very important and will shorten the period from planting to utilisation.

References

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