LESPEDEZA SERICEA

(Perennial Lespedeza)

ITS PLACE AND USE

NORTH CAROLINA
SERICEA GROWERS COUNCIL

SALISBURY, - - - NORTH CAROLINA

Foreword

A perennial legume forage crop that will produce a hay crop that compares favorably with alfalfa in quality and quantity on all types of soil has been one of the needs of a century in Southern Agriculture and Sericea Lespedeza gives promise of supplying this need.

In the preparation of this bulletin it has been the aim of the writer to present the facts as are supported by Agricultural Science and practical farm experience.

W. G. YEAGER.

SERICEA LESPEDEZA

A perennial leguminous plant introduced into the United States from Asia by the Bureau of Plant Industry of the United States Department of Agriculture in 1924 and after three years observation in the trial grounds of the Department of Agriculture at Arlington farm, near Washington, D. C., small samples of seed were distributed in 1927 and 1928 to Experiment Stations and a few interested farmers for further observation and study, but not for long, for farmers and Agronomists alike, at once agreed that here was a plant of peculiar merit and worthy of rapid distribution. By 1931 the few scattered plantings of Sericea became the center of interest and discussion at all farm gatherings where Sericea was growing which led to a scramble for seed as the 1932 season approached and many farmers were unable to secure seed of this new legume plant.

The plant is of upright growth with one main stem, rather heavily branched the first year, followed the second and later years with several to many stems arising from the crown annually and each stem rather

heavily branched, producing an intensely dense growth that takes complete possession of the land after the first year.

The stems are heavily foliaged almost to the ground, producing a leaf area of over fifty percent in weight of the entire plant. The major plantings up to this time have been in rows where a growth of two to three feet in height the first year is not uncommon. The second and later years produce a growth of three to five feet in height.

Root system of Sericea lespedeza plants

The Sericea plant develops a heavy root system that enables it to keep up a vigorous, green growth when other vegetation about it is parched brown from insufficient moisture. This character of the plant is well illustrated in Circular number 42 of the Tenn. Experiment Station, reporting that at Knoxville in 1930, the driest year on record at that Station that Sericea on rather thin land produced the following yields, compared to other legume crops.

Alfalfa, three cuttings, total hay	1.98 tons per acre
Red Clover, two cuttings	2.00 tons per acre
Sericea, Plot No. 1, two cuttings	3.17 tons per acre
Sericea, Plot No. 2, two cuttings	2.90 tons per acre
Lespedeza, 76, one cutting	1.44 tons per acre

The ability of Sericea Lespedeza to produce luxuriant growth on strongly acid soil of poor to medium fertility is almost a contradiction to accepted plant physiology, however, the plant has answered this question in practically every location where tried and this is one of the big factors that is appealing to thousands of farmers throughout the Southland that are operating on this type of land.

Dr. Moores, Director of the Tenn. Experiment Station, very aptly sums up this characteristic in the following words: "It looks to me, like this crop is going to effect a complete revolution in Southern Agriculture."

The Sericea seed in their natural state are known as hard coated seeds, as are alfalfa and sweet clover and require scarafication for best germination. In small lots, Sericea lespedeza seed can be scarafied by

Farm group in first year Sericea planting

hand by placing small quantity on flat table or board and rubbing with sand paper to remove all hulls. Larger lots are scarafied on a regular scarafying machine. The leading authorities advise the seeding of hulled and scarafied seed only, and this is borne out by the practical experience of hundreds of farmers this year.

The rate of seeding recommended is from two to three pounds of scarafied seed per acre when seeding in rows and from 20 to 25 pounds per acre for broadcast seeding. In row seeding the recommendation is to seed on a well prepared and firm seed bed, on rows two and one half to three feet wide, using a garden seed drill, covering the seed very slightly to not over one quarter of an inch deep, on land preferably free of weeds and crab grass.

Planting can be safely made any time after last killing frost in spring and up thru the summer months. The Sericea seedlings start growth rather slowly and should be kept free of weeds and grass for the first few months in row culture by shallow cultivation to secure the maximum growth the first year. No cultivation will be necessary the second and later years as the growth is so dense that weeds and grass cannot compete with the Sericea.

First year Sericea in row planting

In broadcast seeding, 20 to 25 lbs. per acre, seeded with hand seeder over small grains after danger of frost will give full stand. The number of plants per acre from different rates of seeding on a trial seeding in North Carolina under supervision of the Bureau of Plant Industry of the United States Dept. of Agriculture gave the following results:

Pounds of seed per acre	No. of plants per acre
5	246,240
10	574,560
15	752,400
20	1,032,840
25	1,495,280

Innoculation has not shown to be necessary in field trials up to the present time.

SEED CROP

The Sericea lespedeza is a very prolific seeder, yielding from 200 to 400 lbs. of seed per acre the first year from row plantings and more heavily the following years. Seed yields up to 900 lbs. per acre are reported by the Tenn. Experiment Station and up to 1680 lbs. per acre by the United

States Dept. of Agriculture from irrigated plots at Arlington Farm. The seed matures late in October and apparently is not injured by early frosts before seed is harvested.

The Tenn. Experiment Station reports in Cir. No. 42 that at Jackson, Tenn. Station in 1931, 2.48 tons of hay per acre was obtained in early June, followed by a seed yield in late October of 540 lbs. of unhulled seed per acre.

HARVESTING

The seed crop is cut with a scythe or mowing machine when plants are damp to prevent excessive shattering and after drying is raked or forked into small piles or windrows and threshed on grain thresher or clover huller. Small lots may be cut by hand with sharp sickle and threshed by hand over a box or on floor with a flail. The seed in the hulls weigh 31 lbs. per bushel and will average 274,000 seeds per pound. The hulled and scarified seed weigh slightly over sixty pounds per bushel and will average 335,000 seeds per pound.

HAY CROP

Sericea lespedeza will come into its greatest use as a perennial, legume hay crop and sufficient data is already available to practically assure it a permanent place in our Southern cropping system, supplying a long felt need in this particular field. Sericea lespedeza differs from most other legume plants, in that it produces its best quality of hay when cut before blooming, or at height of 15 to 18 inches, in early June, which will permit of a second hay crop or seed crop. Reference has already been made to Tenn. Experiment Station results with a hay and seed crop. The same Circular from Tenn. also reports a hay yield of 3.90 tons per acre from two cuttings made at the Jackson Station in 1931.

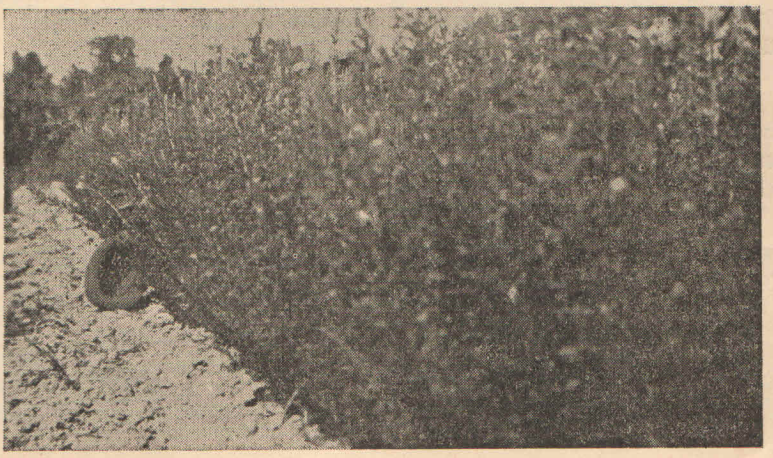
FERTILIZERS

While Sericea is an acid tolerant legume and is making marvelous growth on strongly acid land of low fertility it should respond to any fertilizer treatment that is beneficial to other crops on the same land.

Feed Value of Sericea as Compared to Other Legume Plants

Sericea data taken from Cir. No. 42, Tenn. Experiment Station. Other data taken from Morrison's "Feeds and Feeding."

	Moisture	Crude Protein	Ether Extract	Nitrogen Free Extract	Crude Fibre	Ash
1st year plants cut Oct. 1	9.62	11.96	4.11	46.84	23.35	4.12
2nd year plants cut in early bloom	9.59	8.64	2.74	39.21	36.76	3.06
Leaves and fine stems, 52% of plant	9.64	12.22	4.38	47.30	22.41	4.05
Alfalfa	8.6	14.3	2.2	42.7	25.0	7.6
Red Clover	15.3	12.3	3.3	38.1	24.8	6.2



Second year growth of Sericea in row planting

PASTURE

The pasture data up to this time is somewhat limited in extent, however, the several tests made have all been very satisfactory and as the crop is seeded broadcast in the future it is certain to make a real addition to our already valuable list of pasture plants.

SUMMARY

Sericea lespedeza is not a competitor of other legumes, in that it will not displace red clover, sweet clover or alfalfa on soils that grow these crops successfully, but on that great expanse of worn and eroded soils unsuited to these legumes the Sericea will come in and furnish the hay crop and grazing of all three over a long period of years, how long no one knows. Chinese Agricultural Agents report that areas there fifty years old are still going strong for hay and pasture. The oldest plots in this country, now, nine or ten years old are increasing in vigor with each year so far.

The Sericea is not particular about soil type, growing successfully on the range from light sands to the heavy clays with the probable exception of blow sand and wet marsh.

The heavy leaf area gives the plant a high feed value. The enormous root growth makes the plant highly drouth resistant. The perennial type makes for permanency, a crop, year after year with but one planting and a few pounds of seed will furnish sufficient seed in year or two to seed all the open land on average farm. The most economical crop that the farmer can start of equal merit.

The plant will not become a pest and the land can be returned to cultivation with about the same preparation as that given to an alfalfa sod.

Most of the questions that might be asked about Sericea have been answered by the favorable behavior of the plant itself where ever it has been seeded.

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THE CITIZEN PUBLISHING CO.
RED SPRINGS, N. C.