

# SERALA — A NEW SERICEA VARIETY

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**S**ERICEA IS A PERENNIAL, summer legume that is used as a hay, grazing, and seed crop. In addition, sericea is an important soil-conserving and soil-improving crop (1). It protects sloping land, waterways, gullies, and roadbanks and is used in field borders and long-time rotations. An undesirable characteristic of ordinary sericea as a forage crop is its coarse, woody stems that become more rigid as the plant matures.

## RESULTS of PREVIOUS WORK

Sericea varies in stem types from fine to coarse. Steers prefer plants with fine, pliable or soft stems, as shown in a cafeteria type grazing experiment (2). Likewise, rabbits consumed more fine-stemmed than coarse-stemmed ground sericea hay (6). Higher intake and digestibility of fine-stemmed sericea was found to be associated with higher total carbohydrate content.

In addition to variation in stem types, sericea plants and inbred lines varied in lignin content (5). It has been suggested that high lignin content and low apparent digestibility of crude protein ac-

count for the relatively low digestibility of sericea dry matter (7). Another study showed the xylem of fine-stemmed plants to have less lignin than that of medium- and coarse-stemmed sericea plants (4).

## DEVELOPMENT of VARIETY

In 1950 a breeding program was begun at the Auburn University Agricultural Experiment Station to improve sericea. An increase in forage and seed production was obtained from outcrossing sericea (3). A synthetic variety composed of the following Alabama lines was developed: 63, 780, 1373, 1397, 1893, and 2215. Lines 63 and 1893 were selected from commercial sericea and the remainder from Arlington. These lines were chosen on the basis of stem fineness and pliability, tillering, and forage yield.

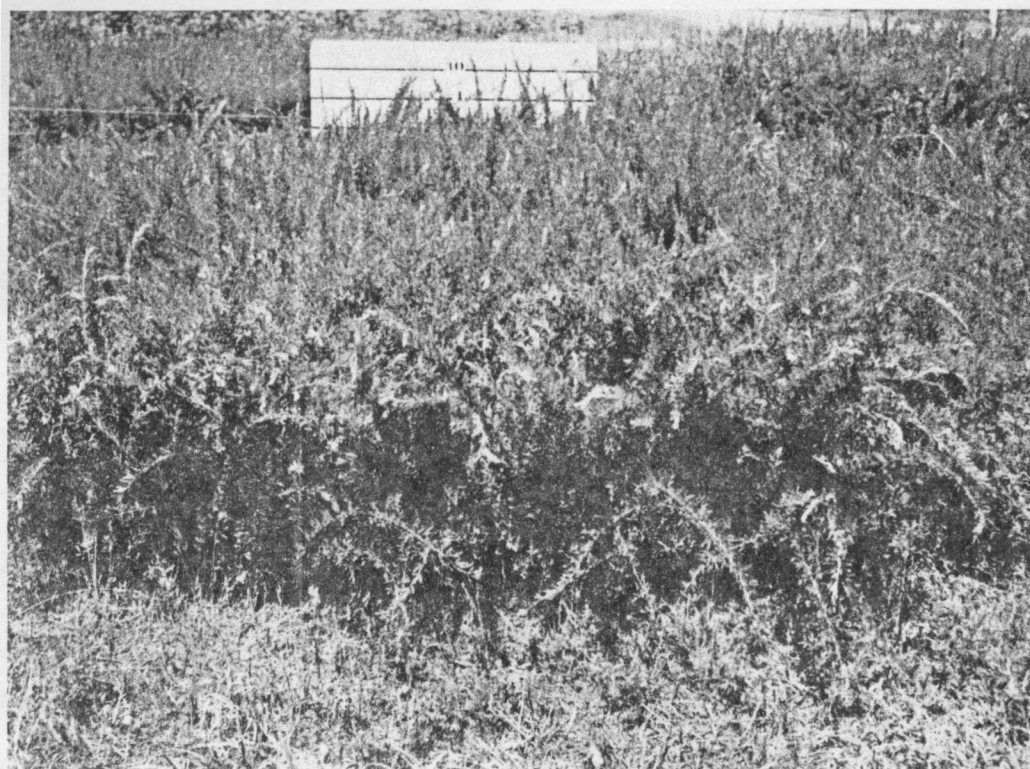
The lines were evaluated as inbreds at a number of locations in the State and on the performance of polycross progeny. Three lines produced higher forage yields when outcrossed than when selfed. Three produced as much forage when selfed as when outcrossed. The latter three lines were highly productive whether selfed

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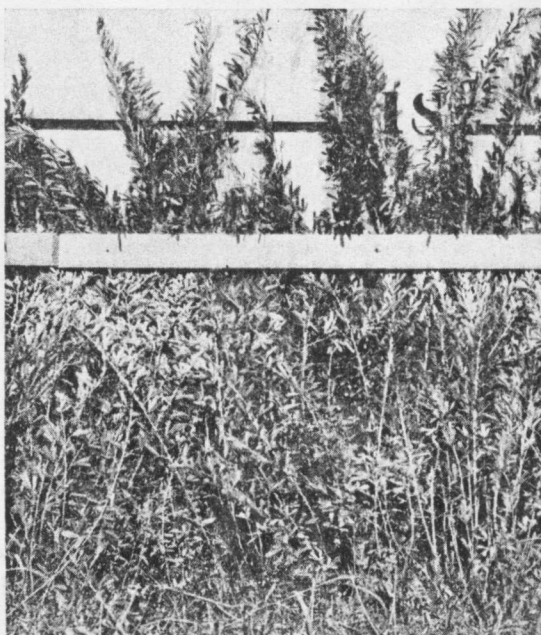
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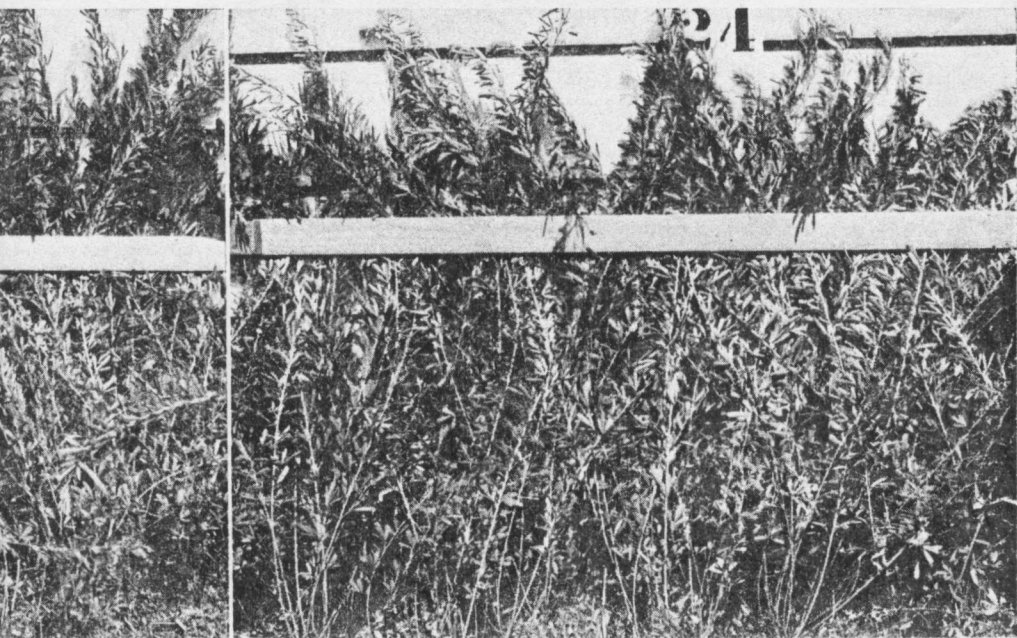
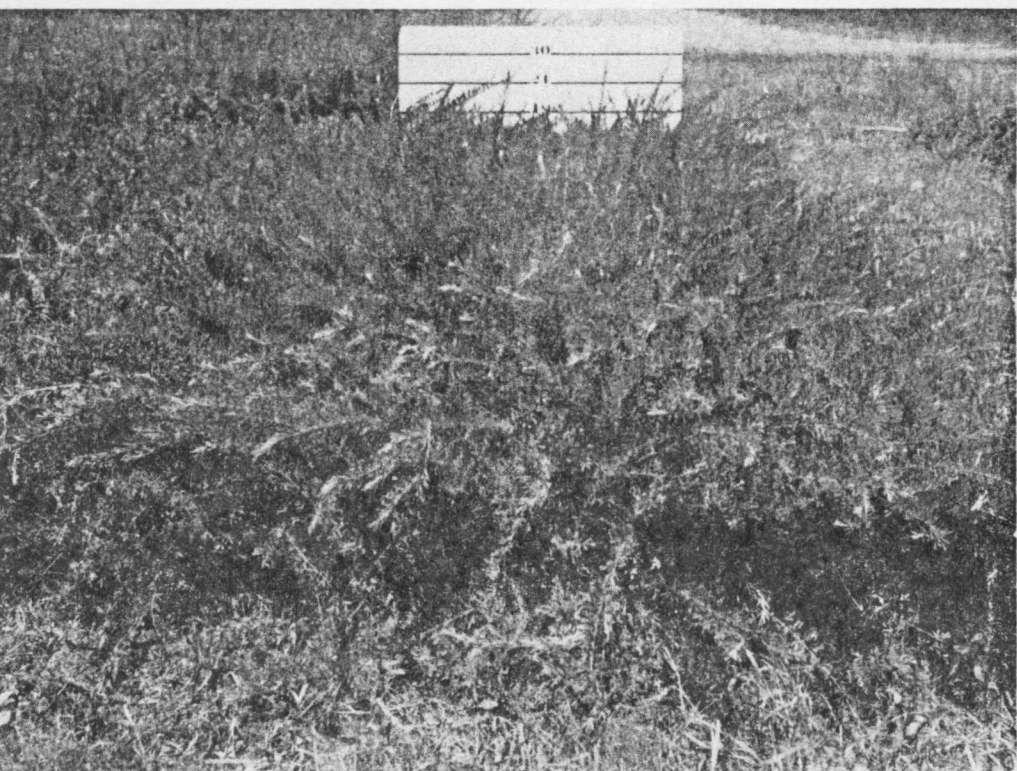
AUBURN UNIVERSITY

Auburn, Alabama



These photos illustrate differences between commercial and Serala varieties of sericea. In both comparisons, commercial is at left and Serala is at right. In the top photographs, Serala appears shorter than commercial sericea. This appearance is caused by bending over of the softer stems of the more desirable Serala, whereas the stiff stems of commercial stand erect. The close-up pictures at bottom, with stems held erect, show that Serala grows as tall as commercial. Photos of both varieties were made July 17, 1962, at Auburn, just before the second cutting.





YIELD OF DRY HERBAGE PER ACRE PRODUCED BY SERICEA VARIETIES  
AT SEVEN LOCATIONS, 1958-62<sup>1</sup>

Locations	Dry forage yields by varieties <sup>2</sup>				
	Arlington	Commercial	Okinawa	Serala	Tupelo
	Lb.	Lb.	Lb.	Lb.	Lb.
Alexandria ..... (Northern Ala.)	4,746(4)	4,943(3) 4,585(4)	3,542(4)	4,877(3)	4,111(4)
Auburn ..... (Central Ala.)	7,217(2)	7,958(2)	5,616(2)	7,778(2)	---
Brewton ..... (Southern Ala.)	6,087(4)	6,919(3) 5,161(4)	4,672(4)	7,727(3)	5,540(4)
Prattville ..... (Central Ala.)	6,920(3)	7,218(3)	5,143(3)	7,184(3)	5,686(3)
Tuskegee ..... (Central Ala.)	4,656(2)	4,791(2)	3,068(2)	4,922(2)	4,034(2)
Americus ..... (Central Ga.)	7,724(3)	---	6,213(3)	9,996(3)	8,599(3)
Experiment ..... (Central Ga.)	5,396(2)	---	---	6,143(2)	---

<sup>1</sup> Data from Americus and Experiment, Ga. furnished by John D. Powell (in cooperation with Soil Conservation Service) and Julius M. Elrod, respectively, Georgia Agricultural Experiment Station.

<sup>2</sup> Numbers in parenthesis indicate number of years tested. Three- and four-year averages from a given location are reported since two tests were established in different years.

or outcrossed. All six lines combined well for small, pliable stems when outcrossed to similar material. The primary objective was to develop a variety with fine pliable stems.

#### VARIETY DESCRIPTION

A product of the breeding program is the new sericea variety, named Serala, which was released by the Experiment Station in 1962. It has finer, more pliable or softer stems, more stems per plant, and does not become as coarse or woody as commonly grown strains or varieties of sericea (see photos on pages 2-3). As shown in the table, Serala yields as well or better than other varieties tested.

Only certified Serala seed should be planted to maintain characteristics of the variety. The variety is being increased under the certification program of the Alabama Crop Improvement Association. Foundation seed should be available for planting in 1964 and limited quantities of certified seed in 1965.

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