

# Forage Research in Texas

Departmental Technical Report No. 81-12

Department of Soil and Crop Sciences

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Location: Stephenville

#### USE OF WILD PEANUTS FOR FORAGE

##### OBJECTIVE:

To determine the potential of wild peanut species as forage plants.

##### PROCEDURE:

Twelve species, three varieties, and one breeding line of Arachis were obtained in February 1976 (Table 1). Rhizomes of varieties designated Arb, Arblick, Arbrook and GS-1 were obtained from Dr. Gordon Prine (University of Florida) through Dr. Ethan C. Holt. All other species were obtained from the wild peanut collection of Dr. Charles Simpson at Stephenville.

Seeding and transplanting were done on June 23, 1976 after incorporation of three quarts of Balan per acre, 160 lb  $P_2O_5$ /acre, and 120 lb  $K_2O$ /acre. Plants of vegetatively reproduced species were started from cuttings beginning about April 15. Seed were planted directly into field plots. The rhizomatous species from Florida were held in soil in greenhouse benches until June 23. Many rhizomes had developed plants, so that plants as well as rhizomes were planted.

The test was located on Windthorst fine sandy loam and was irrigated by solid set sprinklers throughout the summer to maintain adequate moisture. A randomized complete-block design was used with plots measuring 6 x 12 feet.

##### RESULTS AND DISCUSSION:

No harvests were made in 1976 because of the limited number of plants in each plot. Effort was made to increase the stand so that yields could be determined in 1977.

All species in this test were apparently killed by cold temperatures in the winter of 1976-77. Plants were growing and healthy in the late fall. The specific period during which winterkilling occurred was not noted. Weather records indicate that there were nine days during the above winter on which minimum temperatures of 7-15°F were recorded.

It is possible that many of these peanut species might survive winters in this area if planted earlier than June 23 in order to form

rhizomes or set seed before frost. Dr. Simpson has noted growth in some species as early as mid-April. Further work is still warranted.

Table 1. Identification and method of propagation of wild peanuts grown for forage.

<u>Scientific Name</u>	<u>P. I. No.</u> <sup>1</sup>	<u>Propagation</u>
<i>Arachis batizocae</i>	338212	Seed
<i>Arachis correntina</i>	262808	Seed
	262809	
<i>Arachis rigonni</i>	262142	Seed
<i>Arachis villosa</i>	?	Seed
<i>Arachis species</i>	338453	Seed
<i>Arachis species</i>	338280	Seed
<i>Arachis repens</i>	276199	Vegetative
<i>Arachis species</i>	338304	Vegetative
<i>Arachis species</i>	338261	Vegetative
<i>Arachis species</i>	262812	Vegetative
<i>Arachis species</i>	338277	Vegetative
<i>Arachis glabrata</i>	118457 <sup>2</sup>	Vegetative
<i>Arachis glabrata</i>	262839 <sup>3</sup>	Vegetative
<i>Arachis glabrata</i>	262817 <sup>4</sup>	Vegetative
<i>Arachis glabrata</i>	? <sup>5</sup>	Vegetative
<i>Arachis glabrata</i>	262817	Vegetative

<sup>1</sup>Plant introduction number

<sup>2</sup>Florida variety Arb

<sup>3</sup>Florida variety Arblick

<sup>4</sup>Florida variety Arbrook

<sup>5</sup>Florida breeding line GS-1