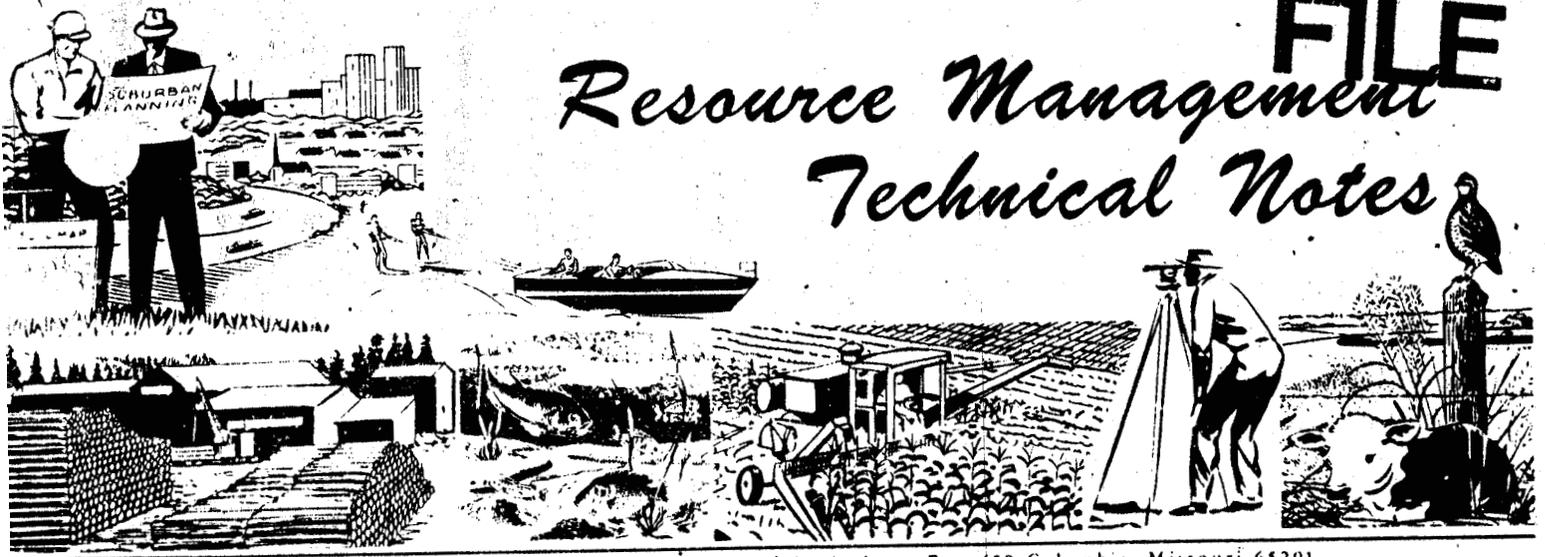


Glycine

FILE

Resource Management Technical Notes



Soil Conservation Service, U.S. Department of Agriculture Box 459 Columbia, Missouri 65201

BIOLOGY #14

Date: July 28, 1975

Subject: Information on Wild Trailing Soybeans (Bobwhite variety)
for Use in Wildlife Food Plots and for Seed Production

The bobwhite variety of wild trailing soybeans, *Glycine* sp., has recently been released to the Missouri Seed Improvement Association to produce seed for sale by Spring of 1976. This plant release is the result of many years of interagency cooperation between the Missouri Department of Conservation, the University of Missouri, and the Soil Conservation Service. Harold Terrill, Staff Specialist, MDC; Dr. L. F. Williams, Agronomist, UMC; William Billings, Don Smith, and Billy Rountree of SCS were outstanding in the work towards development of this variety. There is great hope among biologists that this new soybean will fill a void and strengthen the management techniques used in the development of wildlife habitat. The following information is assembled to aid conservationists in explaining the characteristics of this new plant to interested landowners within their districts.

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Attachment

Prepared By: E. A. Gaskins, Biologist



DESCRIPTION

Bobwhite soybean is a strong, tenacious plant which should prove to be ideal for-use in food plots. It is competitive with tall weeds and can also be planted with many domestic plants, such as milo, pearl millet, sudax, sudan, sesbania, or other similar plants. The small bean is utilized by most wildlife, including the seed eating song birds. It is especially attractive to quail, turkey, pheasant, and prairie chickens. Deer, rabbits, and groundhogs feed heavily on the green plant. Unlike regular soybeans, in which all of the beans mature at the same time, this plant will not only scatter some seed in the fall (October), but up to one-fourth of the total production of beans are often found still in the pod in March of the following spring. The seed is hard and moisture resistant and remains in good condition through the winter period. These characteristics provide wildlife with a high protein food source at the beginning of the breeding season. Though listed as an annual, the plant will voluntarily reseed itself for some years (8 in one case) in competition with weed species. The less grass competition, the longer the life span of the plant.

The wild trailing soybean is an aggressive plant with vines up to twenty feet in length. It will climb on whatever is available or vine on the ground. It can be controlled by cultivation, or by pasturing, as it is relished by most livestock species. For this reason, wildlife food plots must be protected by fencing to prevent livestock damage. Concentrated grazing by heavy populations of deer, rabbits, or groundhogs can prevent small food plots from reaching maturity and setting seed. Larger plots (1-3 acres) should insure winter seed for game birds in these situations. It requires a long growing season (120 days) to fully mature. A cool wet spring or fall can reduce maximum seed production, although some seed should be produced under most circumstances.

The beans are quite small and are slightly elongated, usually about 1/8 by 3/16 of an inch in size. Colors are solid, and range from buff to brown, green, and black, with variances from light to dark. Seed size makes it attractive even to small birds. The plant will tolerate extended droughts, because of its deep root system and will grow on poor soils, but responds well to fertilizer application. Lime is recommended when this legume is to be grown on acid soils. It is more water tolerant than domestic soybeans, and in some cases, has withstood certain light floodings of short duration.

ESTABLISHMENT TECHNIQUES

A. WILDLIFE FOOD PLOTS

Plot Size and Location: From 1/2 to 1 acre strips or patches located next to cover used by target species.

Time to Plant: When ground warms in early spring.

Seedbed: Seedbed preparation depends on the expected severity of the plant competition. In certain situations, a light disking will suffice. In others, having an abundance of weeds (especially the grasses), plowing and disking to prepare a good firm bed will be necessary.

Note: Herbicide treatment should be considered on sites showing a heavy grass composition. Herbicides must be applied according to manufacturer's instructions as shown on container labels.

Fertilizer: To assure a good start, a light application of a complete fertilizer should be applied. On poor sites, apply according to a soil test, or use a balanced starter fertilizer. The life span of this plant can be significantly lengthened by the addition of nutrients at time of seeding.

<u>Seeding Ute Per Acre:</u>	<u>Solid Stand</u>	<u>Mixtures</u>	<u>Thin Stand To Encourage Weeds</u>
	5-6 lb.	3-4 lb. beans 2-3 lb. other	3 lb.

Seed Application: Broadcast by hand, corn planter with bean plates, or Brillion seeder. A wheat drill (with adaptations) may also be used.

Seed Depth: One inch maximum.

Management: Must be protected from livestock grazing.

Time to Reseed: When beans fail to volunteer.

B. MAXIMUM SEED PRODUCTION

Time to Plant: As soon as ground can be worked in early spring.

Seedbed: Well prepared firm bed is essential.

- Fertilizer: Apply fertilizer, according to soil test, either at planting-time or earlier and plow it under to encourage deeper rooting.
- Seeding Rate: Eight pounds per acre.
- Seed Application: Corn planter (bean plates) set for 38-inch rows. Because bloom requires sunshine to mature, a multiple hole drill is not recommended.
- Seed Depth: Maximum is one inch.
- Management: Herbicide treatment to control plant competition. Clean cultivation is necessary for maximum seed production.
- Harvest Date: As soon as possible after seed ripens. Late October or early November are the usual harvesting months.