

Special Agronomy Project Newsletter

Tepary Beans

2023

A “how-to” guide brought to you by Nebraska Extension

The focus of the **2023 Special Agronomy Project** is **Tepary Beans**. To participate, enroll in 4-H online under special agronomy project, tell your extension office or ag teacher.

Tepary Beans are among the most drought-tolerant **legume** crops in the world, but at one time, they were almost an endangered species in the United States. Tepary beans (pronounced tep-uh-ree) are an ancient crop native to the northern part of Mexico and the southwestern part of the U.S. Beans can be multiple sizes and colors, like pinto or black beans, but they offer drought tolerance other legumes don't (Texas A&M). Wild tepary beans are viny and can grow 10-feet long but cultivated varieties are bush-types up to 12 inches in height and 20 inches in diameter. Leaves are trifoliate with narrow, pointed leaflets. Flowers are white or light colored. Fruit are small pods, 1.25 to 3 inches long, containing 2 to 7 seeds.

PLANTING & CARE...

For small areas, plant beans 4 inches apart in rows that are 12 to 16 inches apart. Plant at a depth of 1-1.5 inches. Germination is 4-21 days. This has a maturity of 100-110 days and will grow well in most regions of the United States but prefers a long, frost-free growing season.

***Tepary beans can be grown under irrigation.

However, excessive irrigation or rainfall will lead to poor stand establishment and may later cause the plants to produce vegetative growth at the expense of seed yield.

Tepary bean is a native, annual legume. Tepary beans play an important role as a heritage food in the culture of some Tribes in the southwestern U.S. and Mexico.



*Tepary bean (Phaseolus acutifolius).
Photo by M. Wolf, USDA-NRCS Tucson Plant
Materials Center.*

What's Inside

How to grow and exhibit at the fair

Origin, History & Fun Facts about this legume

Complete the evaluation with a chance to win prizes!



More about Tepary Beans...

Origin, History & Other Fun Facts

Domesticated tepary bean is a traditional Native American food crop and a drought-tolerant crop in minor use in dry regions worldwide. The seeds are primarily used as dry shell beans but are sometimes processed into meal. The plants provide forage or hay for livestock and have been used as a drought-tolerant summer cover crop that can be grown on residual soil moisture.

Roughly a hundred years ago, **tepary beans** had found widespread use as a crop and cover crop by Euro-American farmers in the greater Southwest and Midwest. Interspecific crosses between common bean and domesticated tepary bean have been used to develop common bean breeding lines with improved tolerance to disease and abiotic stress (drought, heat, and salinity). Proteins (protease inhibitors) contained in tepary beans have been shown to inhibit the growth of some types of cancer cells.

References & additional information:

<https://www.nrcs.usda.gov/plantmaterials/azpmcpg13354.pdf>

<https://today.tamu.edu/2022/08/01/tepary-beans-offer-producers-a-low-input-climate-resilient-legume-alternative/>

HARVESTING...

First harvest may be between 60-120 days after sowing, depending on environmental conditions. In small plots, beans may be harvested by hand, or mechanically harvested by cutting and then shelling the beans to dry. Pods are ready for harvest when some are dry and the remainder have turned yellow, about 6 weeks after pods were of fresh-eating quality. Cure pods for 1-2 weeks in a warm, dry place. After fully cured, shell seeds carefully.

Domesticated tepary bean seeds are about 1/3 inch long and can be brown, beige, black, mottled, or white, while wild seeds are smaller, dark and mottled.



County/state fair Exhibits:

-Educational exhibit – Explain what was learned from the project. Present information on a poster 14x22” either vertical or horizontal arrangement or in a clear plastic cover (state fair class G750011) Be sure to include **supporting documentation**.

-Special agronomy project – video presentation – 4-H exhibitor designs a multimedia presentation related to the crop. This could include narration of the growing process, presenting facts about the crop or any other innovative multimedia practices. The presentation should be at least 2 minutes in length and no more than 5 minutes, have appropriate graphics, sound and either a video clip, animation, or voice-over and or original video clip. (state fair class G750012)

-Freshly harvested crop – Plant exhibits must be the result of the current year’s project so for 2023, it would be 6 stalks (cut at the ground level & bound together). (state fair class G750013) Be sure to include (1/2 to 1 page) **supporting documentation** that explains what you learned, etc. (More details in the fair book.)



Tepary bean seeds, USDA-NRCS PLANTS Database, <https://plants.usda.gov/core/profile?symbol=PHAC>

Complete the evaluation by Nov. 1st for your name to be entered in a prize drawing.

<https://go.unl.edu/specialagronomyeval>



Wild tepary bean grows in Arizona, New Mexico, and Texas, as well as throughout Mexico. Cultivated tepary bean is grown in dry regions around the world, including North and Central America, Africa, Europe, and South Asia.