WINGED BEAN

Psophocarpus tetragonolobus Fabaceae

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The Winged Bean's historical origin is uncertain. Many authors place the origin in the Papua New Guinea and Indonesian island regions where many genetic strains of Winged Bean exist. Winged Bean, also known as Asparagus Pea, is intensively cultivated in Burma and India, and it has been successfully introduced into other southeast Asian regions like Malaysia, Thailand, and Bangladesh and into West Africa and the West Indies.

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This climbing legume vine produces edible nutritious leaves, flowers, pods, green seeds, dried seeds, and (in some varieties) edible tuberous roots. Dried seeds have been used in Indonesia to prepare a fermented meat substitute food product called “tempeh” or, if processed, “tofu.” Protein-rich milk and flour, derived from Winged Bean seeds, have become useful dietary treatments for protein-deprived children. In Bangladesh, Winged Bean stems and leaves are used as cattle forage. Winged Bean is a good nitrogen-fixer species, and it is used for intercropping with bananas, sugarcane, taro, and other species.

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  - Winged Bean
  - Asparagus Pea
  - Goa Bean
  - Four Angled Bean
  - Manila Bean
  - Kok Tau
  - Haricot Dragon
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  - pois carré
  - haricot ailé
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  - Frijol Alado Winged Bean
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  - segidilla
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  - kachang belimbing

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Widely distributed through the tropics and subtropics, winged bean thrives in hot, wet climates, although a dry period is favorable to fertilization and the production of mature pods. It can, however, be grown in the tropics at elevations up to 2100 m (6,890ft). Winged bean is drought sensitive; mulching helps to retain soil moisture in drier seasons and enhances tuber development in both wet and dry seasons.

Short-day varieties will begin flower and fruit production when day length decreases (normally a daylength of 12 hours or less is required for flower initiation). With adequate moisture, day-neutral varieties can be produced year round.

Winged Bean thrives in hot humid tropics; however, it can be grown with success as an annual in temperate regions if day-neutral strains are chosen.

Scarify the seeds (nick or scratch the seed coat or rub seeds on a rough surface) and soak overnight prior to planting. Plant seeds 2-2.5 cm (1 in) deep, 7-8 cm (3 in) apart in rows 30-40 cm (12-15 in) apart, in a sunny location, after danger of frost is past.

Winged Bean is a vigorous vine; use a trellis support for improved leaf and pod yields. Plants allowed to trellis and those with plucked flowers have enhanced tuber production.

Winged Bean does well in a variety of soils except in sand or high salinity environments. Manuring or fertilizing every 2-3 weeks is recommended to sustain pod development. Wood ash or other potash fertilizer enrichment often improves yields.

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Winged Bean sprouts and shoots may be eaten raw or cooked as green vegetables. The top three sets of leaflets are the tender ones; they taste slightly sweet. Pick young stems and leaves for additives to soups and curries or for separate servings. First green pods often are ready for consumption 6-10 weeks after sowing. Young flexible pods (3-10 cm/1-4 in long, depending upon the variety grown) are best for eating.

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The half-ripe seeds can be removed from the pod and cooked. Save some pods for ripened dry seeds that provide a nutritious pulse. Flowers may be eaten raw; fried or steamed they have the color and consistency of mushrooms. Dig tubers after pod ripening. Allow to air dry for a few days for easier peeling prior to cooking.

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Winged Bean is relatively free of insect pests. It is susceptible to attack, however, by a number of fungi including leaf spot and powdery mildew that may spread rapidly. In some regions nematodes cause heavy yield losses.

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Winged beans have high reported protein content: green pods-2%, raw leaves-5%, dried seeds-30%, dried roots-25% (about 10 times the content of potato tubers), stems and leaves as forage-6%. Seed protein digestibility and composition rivals that found in soybeans. Winged bean seeds are noted as a rich source of the antioxidant, tocopherol, a substance important in Vitamin A utilization. As noted, several parts of the plant may be eaten raw: sprouts, leaves, flowers, and young pods. Avoid heavy consumption of raw leaves, however, as excessive consumption of raw leaves leads to dizziness, nausea and flatulence. Cooked leaves are safe in large quantities. Dried seeds can be steamed, boiled, fried, roasted, fermented, or made into milk, tofu (bean curd), or tempeh. Tubers can be boiled, steamed, or baked.

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