

BAMBARA GROUNDNUT

Bambara bean, Earth pea

Vigna subterranea

Fabaceae

ECHO® PLANT INFORMATION SHEET

Description

Vigna subterranea is an annual, herbaceous, nitrogen-fixing legume of particular importance throughout semi-arid Africa. Leaves are trifoliate and are borne along creeping stems that extend along the ground surface. Flowers are yellow and butterfly-shaped, similar to other legumes. Upon fertilization, pods bearing 2-3 seeds each develop beneath the soil surface.

Uses

The third most important grain legume of semi-arid Africa, *V. subterranea* produces edible seeds high in carbohydrates and protein. Seeds can be dried and treated like other pulses: reconstituted in boiled dishes, milled into flour, or prepared as a paste. Seeds as well as leafy biomass also serve as livestock fodder. As a nitrogen-fixing legume, incorporation of above ground biomass introduces nitrogen and other nutrients to the soil for subsequent crops.

Common Names

- Spanish
 - guisante de tierra
 - Guandsú
 - maní congo

Cultivation

- Elevation – 200-1400 m
- Rainfall – 300-3000 mm
- Soil Types – Well-drained, loose, medium textured; pH 4.3-7
- Temperature Range – 16-38°C
- Day Length Sensitivity – none
- Light – prefers full sun

V. subterranea can be broadcast at seeding rates between 25-160 kg/ha or planted in rows. Spacing should be 20-100 cm within row and 20-100 cm between rows. Seedbeds should be prepared flat or with a wide ridge to accommodate flower tunneling. Sowing is best done after the first rains of the season.

Harvesting and Seed Production

V. subterranea can be harvested continuously, if fresh seeds are desired. For mature seed, harvest generally occurs 90-180 days after planting. Yellowing leaves and leaf drop are indicators of mature seed. After harvest, mature pods should be further dried until a moisture content of 10-12% is reached and seeds rattle when shaken. When shelled, the fibrous husks can be integrated into livestock feed.

Pests and Diseases

V. subterranea is relatively resilient against pest and disease. Cercospora leaf spot, powdery mildew, and Fusarium wilt are common fungal infections. Several viruses, such as cowpea mottle virus, cowpea aphid-borne mosaic virus, and peanut mottle virus, as well as root-knot nematodes can also inflict *V. subterranea*.

Cooking and Nutrition

The high protein, high carbohydrate seeds can be eaten fresh, reconstituted in boiled dishes, milled into flour, or prepared as a paste. *V. subterranea* seeds are also frequently used to produce vegetable milks or fermented products. They are also common extenders, incorporated into maize, plantain, or other dishes to provide bulk to the dish.

References

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