PIGEON PEA
Gandules, Congo pea, Angola pea, Puerto Rico pea

*Cajanus cajan*

**Fabaceae – Pea family**

ECHO PLANT INFORMATION SHEET

**ORIGIN** – The Pigeon pea has long been in cultivation in parts of Asia (perhaps 3,000 years), but plant geographers have placed its origin in tropical Africa. It is now widely grown in both the old-world and new-world tropics; probably its seeds followed slave trade routes from Africa to the New World.

**USES** – The Pigeon pea is cultivated either as a food crop (dried pea or vegetable pea) or as a cover/forage crop species depending upon the region. In some regions of Africa and in Puerto Rico, Pigeon pea is grown as a canned seed cash crop. In Hawaii it is used primarily as a forage, pasture, shade, or cover crop. Pigeon peas are a nutritious, high-protein pulse crop that is drought-tolerant and tolerates poor soil conditions. Pigeon pea plants are perennial for up to 5 years. The woody parts of the plant can be used for firewood. The leaves can be used for animal feeds while the fast-growing plants make good shade for other vegetable crops, herbs, and vanilla. Water and nutrients from deep within the soil can be caught by its deep taproot and brought to the surface. Plants can be used along contour barriers for erosion control. It is not uncommon to see pigeon pea plants with blooms as well as green and mature pods at the same time when it is so dry that most other vegetables are dead. Homestead varieties produce a small harvest each day; commercial varieties ripen at once for ease of mechanical harvest.

**CULTIVATION** – This shrubby legume species, capable of nitrogen fixation, produces upright, somewhat ribbed, spreading branches from a woody base with a taproot. Although common in the low dry and humid tropics, this frost-sensitive species has been reported cultivated up to elevations of 2,000 m (6,000 ft) in the Himalayas and to 3,000 m (9,000 ft) in Venezuela. Plant dried seeds 2-5 cm (1-2 in) deep at the beginning of the rainy season, 2-4 seeds per hole, the holes spaced 1 m (3 ft) apart, in rows approximately 1 m (3 ft) apart. Thin seedlings to 1 per hole. Cover crop use will profit from closer spacing. Commonly, one row of interplanted pigeon peas is used for 3-5 rows of primary crops. Remove competing weeds while pigeon peas are small; later, the pigeon peas provide their own weed control by shading out competitors.

**HARVESTING AND SEED PRODUCTION** – Prune forage plants regularly over a 3- to 4-year period for animal fodder. Seed production is best in the first two years, then falls off significantly in later years. The first harvest can be expected 4-6 months after sowing. To obtain the nutritious vegetable peas, harvest the pods for shelling just before the seeds begin to lose their bright green color. Because pod color at this stage will be different with different varieties, you will need to sample pods to find the best time to harvest. As a dried seed (pulse) source, the pods should be harvested at maturity. Sun-dry harvested pods 4-6 days, turn pods frequently, protecting them from rain and dew to prevent mold spoilage. Oven-drying at 40-50C (105-120F) takes 2-3 days. To thresh, beat dried pods in cloth sacks. Open unbroken pods by hand.

**PESTS AND DISEASES** – Pigeon pea generally is resistant to rootknot nematodes. Caterpillars of bollworm, tobacco bud worm, corn earworm, red gram plume moth, pyramid moth, and gram pod fly all inflict pod and seed damage. Podborers (*Helicoverpa*) can be controlled by shaking the larvae off the plants. The larvae are collected in a sheet that is dragged along the ground, the larvae can be fed to chickens. Young plants may suffer damage from the red hairy caterpillar, grasshoppers, and aphids. A serious Fusarium soil fungus causes plant wilt in India. In the West Indies, collar and stem cankers occur. In humid weather situations, leaf spot fungi and downy mildews may lead to leaf shedding.

**COOKING AND NUTRITION** – The vegetable pea (seed harvested while green) is more nutritious than the dry seed because it has more protein, sugar, and fat, and its protein is more digestible. The vegetable pigeon pea also has more protein, carbohydrates, fiber, fat and has more minerals and much more of vitamins A, B, and C than green peas (*Pisum sativum*). Thorough cooking requires 1.25 to 2 hours. Mature, dried seeds should be soaked overnight, then cooked 2-3 hours. In India, dried seeds are dehulled by several passes through handmills prior to cooking. In the West Indies, a popular dish is made by lightly frying a mixture of chopped onions, green pepper, and garlic in oil; water, salt, and tomato sauce are added and the ingredients are brought to a boil; dried peas that have been soaked overnight are added and the whole mixture is boiled for 1 hour; add rice, lower heat, and continue cooking for 3/4 to 1 hour.

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ECHO, 17391 Durrance Rd., North Fort Myers, FL 33917-2239 USA
tel: (239) 543-3246; fax: (239) 543-5317; e-mail: echo@echonet.org; website: www.echonet.org

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