

# *Inga paterno* Harms

NADIA NAVARRETE-TINDALL and HUGO ARAGÓN

Forestry Sciences Laboratory, USDA Forest Service  
(Department of Biology, New Mexico State University) and  
Dirección de Urbanismo y Arquitectura (DUA), El Salvador

## FABACEAE (BEAN FAMILY)

*No synonyms*

### Paterno

*Inga paterno* is native to southern Mexico and Central America (Zarucchi 1986). *Inga paterno* is a fast-growing tree, reaching 10 m to 20 m in height and 44 cm d.b.h. *Inga paterno* has pinnately compound leaves with four to five elongated and entire leaflets (Guzmán 1980). Leaves are copper-red and soft when young, and dark green and rigid when mature. In El Salvador it grows from sea level to 2000 m in moist and well-drained soils. It is found along streams and in riparian zones.

Both the fresh arils and the cooked seeds of *I. paterno* are popular for human consumption in El Salvador. The seeds are used as vegetables in local dishes and are sold fresh or preserved. *Inga paterno* is commonly used for shade in coffee plantations in Central America as are other *Inga* species such as *I. punctata* Willd., *I. oerstidiana* Benth., *I. edulis* Mart., and *I. vera* Willd. (Quintanilla 1997, Witsberger and others 1982). *Inga paterno* branches are used for firewood. Tea made from the fresh bark is given to women to accelerate slow labor during childbirth, and the fresh aril helps to cure constipation (González Ayala 1994). Small animals feed on the seeds, especially the aril. Flowers of *Inga* spp. are a good source of nectar for honeybees and other insects, birds, and bats (Arroyo 1981, Elias 1966). Its branches support wild bromeliads, orchids, and ferns.

*Inga paterno* flowers are produced during the dry season in El Salvador. The flowers are densely clustered in spikes or heads and have very conspicuous white stamens. Mature fruits are first observed at the end of the dry season in April. Trees first produce fruits at 3 years. Mature fruits are green indehiscent pods, 15 to 30 cm long with 6 to 12 seeds. The soft-green seeds, covered by a sweet and cottony-white aril, are 3 to 5 cm long. The viviparous seeds force the fruits to open at maturity (Allen and Allen 1981). Seeds average 1,200 to 1,400 per kg.

Seeds kept inside the pod under cool and moist conditions may be viable for up to 2 months. Without the protection of the pod, seeds are viable for only 1 to 2 weeks (Croat 1978, Lawrence 1993).

In nursery production, the seeds are planted immediately after extraction from the mature pods. One seed is planted in a polyethylene bag containing soil with high nitrogen content and good drainage. Only the lower part of the seed including the root is inserted in the soil; the upper part with the germinated embryo is left uncovered. One-year-old seedlings, 50 cm or taller, should be outplanted at the beginning of the rainy season in May (Navarette-Tindall, personal observations). Manual weeding around seedlings is required during the first growing season. Chemical herbicides are not recommended.

## ADDITIONAL INFORMATION

*Inga paterno*, like other species of *Inga*, propagate by seed and little is known about other propagation methods. The trees appear to have a lifespan of 20 to 25 years. This short lifespan may be the result of disease or natural aging. Lack of information about genetic diversity for disease resistance has limited the expanded use of *I. paterno* in coffee plantations and agroforestry systems.

Although nodulation has not been documented for *I. paterno* (Halliday 1984, Powell 1997), root nodules were observed in 1-year-old seedlings growing in the plant nursery of the Dirección de Urbanización y Arquitectura in El Salvador. Scanning electron micrographs of the broken nodules of *I. paterno* showed rhizobial bacteria (Navarrete-Tindall and Aragón 1997), similar to those observed in nodules of *Gliricidia sepium* (Navarrete-Tindall 1996). This preliminary infor-

mation suggests that *I. paterno* is a nitrogen-fixing tree like many other *Inga* species (Allen and Allen 1981, Halliday 1984, Roskoski 1981).

Future studies on nutrient content of the seeds, preservation methods, and availability in markets and plantations could improve seed commercialization.

