

## *Leucaena leucocephala*

### a) Species and Family:

Species:	<i>Leucaena leucocephala</i> (Lam) de Wit.
Synonyms:	<i>Leucaena glauca</i> (Wild) Benth (1842) <i>Leucaena latisiliaqua</i> (L)Gillis(1974).
Khmer name:	Kratumthet
English name:	Leucaenan
French name:	Popinac blanc
Family:	Leguminosae-Mimosoideae

**b) General information:** A type of shrub originating in Mexico and northern parts of Central America, this species was taken to the Philippines by Spaniards during the colonial period (early 1600s) and after that pan tropically distributed in the 19<sup>th</sup> century. Leucaenas are of multi purpose: leaves for animal fodder; young shoots as a fresh vegetable; wood for light construction; posts; and fuel wood. Its flowers are yellowish-white, and a group of heads is about 2 cm in diameter. The fruit is a pod of 10-20cm length and 1.5 cm width, flat and dark brown when ripe.

**c) Collection and seed extraction:** Small branches bearing mature fruit were cut from the mother tree, and the mature fruit dried under sunlight for 2 days. Seed was extracted manually by tearing the fruit along its side. Following this process, the seed was transported to the seed lab, where it was dried for a further 2 days under sunlight before testing and storage.

**d) Testing:** After drying, pretreatment tests were applied to the seed.

#### 1- Background:

-Collection Date:	20 November 2004
-Collection Site:	Ksach Kandal district, Kandal province.
-Amount of seed:	5 kg

#### 2-Initial test

-Test Site:	CTSP Seed Lab
-Test Date:	30 November 2004
-Initial moisture content:	6.35 %
-Seed weight:	39g/1,000 seeds or 25,641 seeds/kg
-Cutting test:	93 %

**3- Pretreatment test:** Seed was soaked in water at four different temperatures:

**Table 1 – Results of Pretreatment Test**

No	Moisture content	Pretreatments	Test start date	Completed germination	
				Date	Germination
1	6.35%	Soak in normal water over night	30-11-2004	3-02-2005	21%
2		Soak in 50°C water and leave to cool over night			20%
3		Soak in 70°C water and leave to cool over night			35%
4		Soak in boiling water and leave to cool over night			20%

**Conclusion:** According to the results above, *Leucaena* seed can be germinated following soaking in a wide range of temperatures.

**4- Storage trial:** Following pretreatment, seed was divided into 2 groups, stored under different conditions: in an ambient room, and in a room at 10 °C. At specified periods, seed was tested to determine its physiological criteria. The results of the storage trials are shown below.

**Table 2 – Results of Storage Trials**

Period of storage	Condition of storage	Moisture content (%)	Germination rate (%)	Remarks
1 month	10°C	6.30	41	
	Ambient	6.33	40	
3 months	10°C	6.44	18	
	Ambient	6.58	12	
6 months	10°C	4.75	29	
	Ambient	4.14	30	
9 months	10°C			
	Ambient			
12 months	10°C			
	Ambient			

**Conclusion:** The results appear to be abnormal, as after 6 months of storage the germination rate is higher than at 3 months. Despite this, it can be concluded that one month's storage results in a higher germination rate than the initial test so, *Leucaenas* seed after collection and extraction content embryo dormancy. Seed storage does not appear to be affected the temperature of the storeroom

**e) Comment for seed procurement:** small branches bearing mature fruit should be cut, or mature fruit can be picked directly from the mother tree. After collection, fruit should be dried under sunlight for 2-3 days to dry the fruit wall so that it can be torn easily to extract seed. Seed should then be dried for a further 2-3 days under sunlight before sowing or storing. Prior to sowing seed should be soaked in water. In the case of storage, seed should be dried and kept in a closed container in the shade.