

A Leguminous Thornless Quick Growing Hedge Plant *Leucaena glauca* Benth.*

by

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Synopsis: The usefulness of the leguminous plant, *Leucaena glauca* Benth. for raising as a hedge, for green leaf manure, for fodder, for fuel and pole purposes is indicated in this paper.

Leucaena glauca Benth., popularly known as wild tamarind, is a perennial shrub belonging to the family Leguminosae and it was introduced in the Agricultural Research Stations of the State by the then Director of Agriculture, Shri M. S. Sivaraman, I. C. S., in the year 1952-53 for observing its performance as a green leaf manure plant. In the Agricultural Research Station, Kovilpatti, it was raised as a hedge plant both under completely rainfed black soil conditions and in the irrigated red soil. A few plants had been raised with a wide spacing of 6' to 8' to observe the nature of full grown trees. The information collected during all these years is furnished below in the order of its multifarious uses.



PLATE I.

An evergreen thornless border plant - *Leucaena glauca*
raised in the Agricultural Research Station, Kovilpatti.

As a hedge plant: In the Agricultural Research Station, Kovilpatti, the plant has been raised as a hedge both under rainfed and irrigated conditions around the office and residential buildings. It has been found to

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come up well even under the completely rainfed conditions and under irrigation its growth is more luxurious with profuse branching. It can be maintained at a height of 4' - 5' and it is enough if pruned once in 40 to 60 days. Three rows have to be sown in a trench 6" deep and 12" wide to get a thick hedge and succulent growth. As it is a thornless hedge with an evergreen shoot system and at the same time hardy and adaptable to regular pruning, it is excellent for hedging around homes and office buildings. The residents who maintain cattle can use the prunings obtained for feeding the cattle. Once the hedge is established, the aftercare required is very little (Fig. 1).

For Green leaf Manure: Being a nitrogenous legume, it can be raised as a border crop along the field borders; because it is periodically pruned and kept at a low height of 3' - 4', there is no pronounced root effect on field crops. About 6 to 9 prunings could be obtained in a year depending on the quantum of rainfall or irrigation. The quantity of green leaf matter obtained per pruning for each running foot length is 1 lb. under rainfed conditions at 50 days interval and 2.2 lbs. under irrigated conditions at intervals of 35 to 40 days. As the shoot portion is extremely tender and succulent it completely decomposes within 120 days giving a well rotten compost. The stem to leaf ratio is 1: 2.3 and this enhances its value as a green manure. Around the orchards, it can be raised as a border crop so that enough compost could be prepared out of it for manuring the orchard.

For fodder: In one of the American University farms, it has been calculated that 55 lb. of green *Leucaena* a day per cow could completely substitute the Soya bean meal required by giving an equal quantity of digestible protein (Savur 1953). It was also stated, that when grown like any other perennial row crops, it gives 25 tons of leafy matter or 2,700 K. U. of protein per acre. In the Agricultural Research Station, Kovilpatti feeding trials conducted with *Leucaena* fodder on Sindhi cows revealed that it is very much relished by the cattle and the milk yields continued to be steady though there was not any significant rise in milk production. In addition to the fact that green fodder supplies vitamins, *Leucaena* is more valuable because it is a proteinaceous legume. A proportion of 10 lb. of green *Leucaena* plus 20 lb. of dry cholam straw was found to be the optimum per day per cow to be consumed without much rejections.

The milk yields recorded in the above trials are furnished in the following table. Two cows were selected and for the first five days the regular cholam straw (25 lb.) alone was fed and in the succeeding five days each cow was fed with 10 lb. of green *Leucaena* plus 20 lb. of cholam straw recording the morning and evening milk yields in both cases.

TABLE.

Dates	Green <i>Leucaena</i> 10 lb. and cholam straw (20 lb.)				Dates	Cholam straw alone (25 lb.)			
	Cow No. 82		Cow No. 70			Cow No. 82		Cow No. 70	
	Milk Yield		Milk Yield			Milk Yield		Milk Yield	
	Mor- ning	Eve- ning	Mor- ning	Eve- ning		Mor- ning	Eve- ning	Mor- ning	Eve- ning
	Kg.	Kg.	Kg.	Kg.		Kg.	Kg.	Kg.	Kg.
12-8-1961	4.500	3.250	2.500	2.000	7-8-1961	4.500	3.500	2.250	2.000
13-8-1961	4.500	3.500	2.500	2.000	8-8-1961	4.500	3.500	2.250	2.000
14-8-1961	4.500	3.750	2.500	2.750	9-8-1961	4.250	3.500	2.000	2.000
15-8-1961	4.500	3.750	2.500	2.500	10-8-1961	4.250	2.750	2.250	2.000
16-8-1961	4.500	3.750	2.500	2.500	11-8-1961	4.250	3.000	2.000	2.000
Mean:	4.500	3.600	2.500	2.350		4.350	3.250	2.150	2.000

For Fuel and Pole: Being a hardy perennial, it grows straight to a height of 15' - 16' with a uniform stem girth of 8" to 10" when grown into a full tree in wide spaced (6' to 8') conditions for fuel purpose. Full grown trees may be cut and the poles used for erecting pandals for lab-lab etc. and being hardy they can be kept for 2-3 seasons. The cut stem and branches make fine fuel and the burning was found to be steady and effective. In the Philippines it is said to be grown as a pole cum fuel crop.

Summary: *Leucaena glauca* Benth. is a succulent plant forming an evergreen hedge around buildings. The green matter is easily decomposable and it is also an excellent leguminous fodder for cattle. It can also be grown as a fuel cum pole crop. The plant is propagated by seeds and the seeds being hard are to be soaked in water for 24 hours before sowing to get a quick germination. It is thornless and evergreen. As such it is a multipurpose plant deserving popularisation.

REFERENCE

Savur, R. M.

1953 'Tale of Misfire' — *Madras agric. J.* 40: 357-60.