

## TECHNOLOGY DESCRIPTION

Coconut Leaf Pruning (CLP) involves the removal or pruning of coconut leaves to allow adequate sunlight for the normal development and high yield of perennial and annual crops. The technology has several implications on cultural and cropping systems as well as additional income from the sale of pruned leaves and their by-products.

## PROCEDURE

1. Prune leaves of coconut trees from Leaf Rank 19, i.e. supporting the tender “buko” nuts down to the oldest leaf at harvest time using a harvesting pole and scythe.  
If minimal reduction in nut yield (by 10-15%) is important, CLP from Leaf Rank Nos. 23 or 24 (fronds supporting harvestable bunch) should be done.
2. Maintain coconut leaf pruning every 45 days with about 18 younger leaves left on the upper crown region.
3. About 0.75 cm of leaf fronds (supporting the developing nut/bunches) should be allowed to remain attached to the trunk.
4. Plant selected intercrops under bearing tall coconut trees with maintained pruned leaves.

## ADVANTAGES OF THE TECHNOLOGY

1. It generates additional income to coconut as well as to the intercrops.
2. There is a wider choice of marketable short season annuals and perennial crops.
3. Higher yields and better growth characters of the intercrops are obtained resulting in cropping system with high efficiency and higher farm productivity.
4. In areas with distinct dry period of 3-6 months with a monthly rainfall of < 100 mm, leaf pruning during nut harvest before the onset of dry season can minimize the adverse effects of drought on the fruit set.
5. In cases where damages of pests occur on lower and older leaves, pruning of these leaves would serve as a mechanical control measure as the operation would likely not affect the physiological activities.

## LIMITATION

1. CLP is not recommended for very tall coconut trees (about 30 years and older, about 12 meters and higher). Sunlight transmission under coconut is adequate and difficulty in pruning usually encountered.
2. With long-term CLP from Leaf Rank No. 19 (3 years or longer), reduction in nut and yields by 25% is usually observed, but nut size or copra per nut tends to increase by 10-15%.

**Table 1. Economics of Intercropping of Various Crops under Coconut with and without Leaf Pruning**

Trial/ Treatment	Copra Yield (kg/ha)	Yield of Intercrops		Gross Income (P)	Total Variable Cost (P)	Net Benefit (P)
		Kg/ha	m <sup>3</sup> /ha			
1. Coffee		Bean Yield				
- Coconut w/o LP	4,052.8	654.8	-	70,825.6	39,795.0	31,030.2
- Coconut w/ LP	3,835.2	436.3	-	77,618.4	40,047.2	37,571.2
2. Annuals		Grain Yield				
A. Corn*						
- Coconut w/o LP	3,346.0	3,590.0	-	62,282.0	29,488.0	32,794.0
- Coconut w/ LP	2,394.0	4,830.0	-	76,682.0	28,095.7	48,586.3
B. Peanut*		Grain Yield				
- Coconut w/o LP	4,488.0	925.7	-	90,884.0	39,788.8	51,095.2
- Coconut w/ LP	3,142.0	1,340.5	-	105,463.0	37,450.9	68,012.1
3. Gmelina**		Pruned	Trunk			
- Coconut w/o LP		Branches	31.8	55,984.5	4,968.0	51,016.5
- Coconut w/ LP		513.6	47.7	63,760.5	5,872.5	57,888.0
		974.7				
4. Ubod **		Ubod Yield				
- Coconut w/o LP		1,202.1	-	58,696.0	24,295.2	34,400.8
- Coconut w/ LP		983.8	-	68,209.6	24,707.1	43,502.2

\* 2 croppings/year  
\*\* harvesting was done 3 years after planting

## BASIC ASSUMPTIONS:

<p><b>PRICES:</b></p> <p>Copra – P12/kg Coffee – P40/kg of green bean Corn – P7/kg of grain Peanut – P40/kg of grain Gmelina trunks – P500/m<sup>3</sup> for sapling Gmelina branches – P2/kg for fuel Ubod – P10/kg Dry frond for fuel – P2/pc Stickbroom – P2/pc LABOR – P90/day Ringweeding (coconut) – P13 min/tree-2x/yr Ringweeding (coffee) – P5 min/tree/yr Fertilization – 13 min/tree/yr Leaf pruning (initial) – 7 min/tree 3.5 min/tree-8x/yr Pruning Coffee – 9 MD/yr</p>	<p><b>FERTILIZERS:</b></p> <p>Potassium chloride – P7.6/kg Ammonium sulfate 0 P4.34/kg Triple 14 – P6.50/kg Urea – P7.6/kg Ammonium phosphate – P4/kg Gypsum – P1.60/kg Sodium chloride – P3.75/kg</p> <p><b>SEEDS:</b></p> <p>Corn – P20/kg Peanut – P35/kg Coconut – P2.50/kg</p> <p><b>LABOR ON INTERCROP:</b></p> <p>Furrowing, Basal application of fertilizers, Sidedressing, Hilling-up, Off-bearing, Spot-weeding, Spraying – 3 MD/yr Coffee processing – P1/kg of green bean Copra Processing – 20% of copra price/kg</p>
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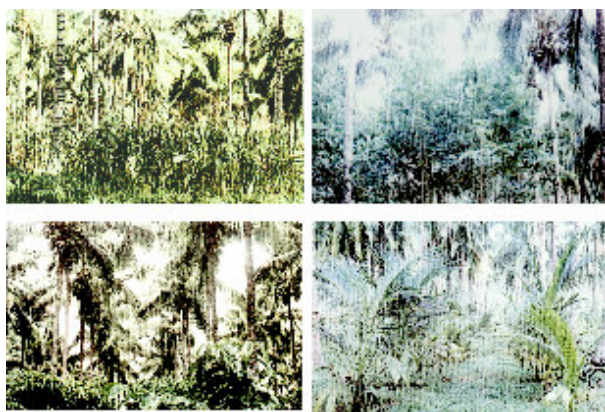
## ECONOMIC RETURNS

Pruning of coconut leaves at leaf 19 and below reduces the productivity of palms to a certain level. However, the increased yield of corn, peanut and Gmelina planted under leaf pruning conditions (Table 1).

Initial cost of pruning coconut at leaf rank 19 and below will require about two man-days or P178.5 for every hectare of coconut. The total costs of following a 45-day cycle or every harvesting time is about P714.00/yr for every hectare of coconut palms planted in a 9x9 meter in a triangular system.

Results of the economic analysis show that an additional income of P1,000 to P6,000 could be derive from selling the pruned fronds for fuel and from the coconut leaves for making stick brooms. In some coconut regions, coconut leaves are used for fruit baskets, mirror frames, plant holders, roofing and walling material produced either in small or medium scale industries.

The practice of coconut leaf pruning will generate additional income for farmers from coconut as well as from the intercrops. It is also a simple, practical and environment-friendly practice that can easily be done by farmers.



**Corn, Coffee, Gmelina and Young Coconut under Coconut Palms with Leaf Pruning**

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### FOR ADDITIONAL INFORMATION:

#### REFER TO:

- Magat, S.S., L.H. Canja and R.Z. Margate. 1994. Response of coconut to increasing levels of leaf pruning and its implications to farm productivity. *CORD-APCC*. 10(2): 16-32.
- Magat, S.S. and J.A. Habana. 1992. Effect of leaf pruning levels on the yield of coconut (A research note). *Philippine Journal of Coconut Studies*. 16(1): 9-11.
- Annual Report. 1993-1997. *Agricultural Research – PCA, Diliman, Quezon City*.

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# Coconut Leaf Pruning



## A Potential Tool for Higher Farm Productivity



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