

## THE COCONUT

### BIO-PHYSICAL BASIS FOR INTERCROPPING

In monocrop coconut, much area is left unproductive throughout its life span. The effective root area per coconut palm is only 12.5 sq m and the functional roots are concentrated between 30 and 130 cm depth, which give an ample space for intercrop.

In intercropping with banana, fertilization of coconut should be separate from banana according to the following:

Field planting	150 g AS + 160 g NaCl or 200 g KCl
6 mos	200 g AS + 200 g NaCl or 250 g KCl
1 yr	500 g AS + 480 g NaCl or 600 g KCl
2 yrs	750 g AS + 720 g NaCl or 900 g KCl
3 yrs	1,000 g AS + 1,250g NaCl or 1,500 g KCl
4 yrs	1,250 g AS + 1,350g NaCl or 1,700 g KCl
5 yrs - up	1,500 g AS + 1,700g NaCl or 2,000 g KCl

AS – ammonium sulfate

NaCl – sodium chloride (common table salt)

KCl – muriate of potash, for areas deficient in K

### WHY BANANA?

- Banana can be intercropped in 1 to 3 years old coconut and/or 25 years and above
- Their basic climatic requirements are almost the same.
- Banana needs less water than coconut
- Banana is fast-growing plant that bears fruit in less than one year.

- There is a high demand for dessert and cooking banana locally and abroad.
- Banana is a very profitable intercrop.
- It has many uses.
- Banana is high in nutritive value (i.e. carbohydrates, potassium, calcium, vitamin C and B6)

### LAND PREPARATION

After clearing the interspaces of coconut, mark the required distance: 3 x 3 m for Lakatan and Latundan; 5 x 5 m for Cardaba/Saba.

### PREPARATION OF PLANTING MATERIALS

- Bole out corms with 1-3 live buds/sword suckers/maiden suckers and cut all roots leaving 1-2 cm long from the head
- For corms, treat with 50 gm Dithane M45 + 30 ml/Basudin 60 EC + 1.5 ml sticker + 20 liters water or soak in 130<sup>0</sup>F hot water for 10 minutes.
- For suckers, retain 2 youngest leaves.

### PLANTING

- Dig hole depending on size of planting materials
- Plant corms in slanting position with growing point on top.
- For suckers, plant in upright position and cover with soil up to the collar and press gently.

### MAINTENANCE

- Fertilize banana with the following fertilizers and rates under two options: 100% inorganic fertilizer (IF) or 75% inorganic + 25% organic fertilizer (OF)

#### Option 1. 100%IF

Age/ Stage	Urea (g/plt)	Solophos (g/plt)	KCl (g/plt)	14-14-14 (g/plt)
a. Planting	70	50	80	-
b. 3 months	104	65	106	-
c. 6 months	114	79	129	-
d. 9 months	114	79	129	-
e. bearing (2x)	-	-	-	500

#### Option 2. 75%IF + 25% OF

Age/ Stage	Urea (g/plt)	Solophos (g/plt)	KCl (g/plt)	14-14-14 (g/plt)	chicken dung (g/plt)
a. planting	52	38	60	-	322
b. 3 months	78	49	80	-	478
c. 6 months	86	59	97	-	524
d. 9 months	86	59	97	-	524
e. bearing (2x)	-	-	-	375	700

- Ring-weed banana at one meter radius
- Remove dry leaves regularly
- Allow only one sucker per hill at a time
- Do either bud injection or pre-emergence bud spray/ bunch spray.
- Debud and wrap developed fruits of Lakatan with plastic bag. Wrap fruit bud with sack and remove when bunch are fully developed and the bud to be cut off.

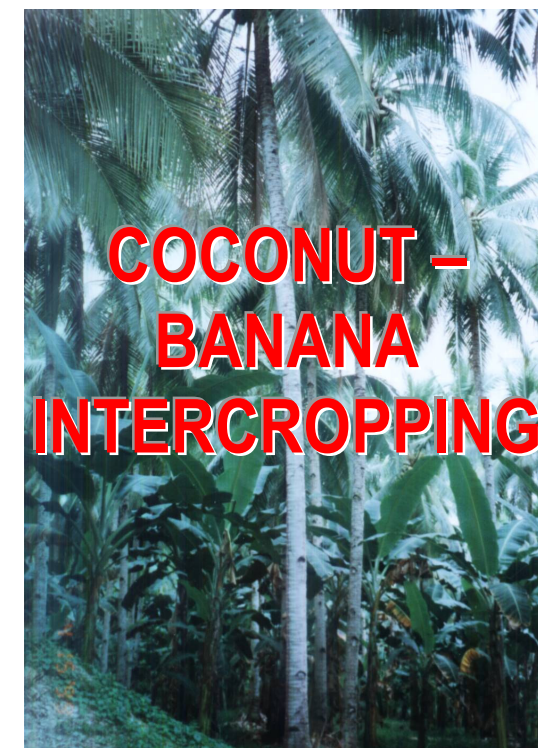
### HARVESTING

Harvest 10 to 15 months after planting or when the following are observed:

- Fruits are full, plum, round and light green
- Angles of the fingers are rounded
- Leaves turn yellow

**Table 1. Simple Cost and Returns Analysis of Lakatan Under Coconut Using Two Fertilizer Options (PCA-DRC, Bago Oshiro, Davao City, 1995-1998).**

Item	Option 1	Option 2
	100% inorganic	75% Inorganic +25% organic
Copra yield (t/ha)	9.71	11.94
Lacatan yield (t/ha)	17.39	15.08
Combined gross return(PhP)	218,830.00	224,960.00
Combined total cost (PhP)	133,800.00	134,950.00
Combined net return (PhP)	85,030.00	90,010.00
<b>BCR (for 3 years)</b>	1.70	1.60



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### Basic Assumptions

- Labor cost = P90/md (man-day)
- Urea cost = P7.87/kg
- Solophos = P4/kg
- KCl = P5.93/kg
- 14-14-14 =P8.47/kg
- Chicken manure = P1.00/kg
- Farm gate price:
  - Copra = P10/kg
  - Lakatan = P7/kg
- Density of planting
  - Lakatan = 1,128 hill/ha

### References:

- Maravilla, J.N. and G.D. Padrones. 2001. Integrated Soil Fertility Management in Coconut-based Farming Systems II. Perennial Crop-Banana. Annual Report PCA-Davao Research Center, Bago Oshiro, Davao City
- Lakatan-Durian Intercropping Technoguide Series 2003 (No. 02-03). Davao National Crop Research and Development Center, Bago Oshiro, Davao City
- The Coconut Committee. 1992. The Philippine Recommends for Coconut. PCARRD, Los Baños, Laguna