

VICARP R & D INFORMATION SHEETS

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT COCONUT FARMING

Introduction

Of the three Samar Provinces, Northern Samar has the widest area planted to coconut. However, the average production is only 0.9 metric ton of copra per hectare. This can be raised to two tons per hectare if recommendations contained in this technoguide are followed.

Selection of Planting Materials

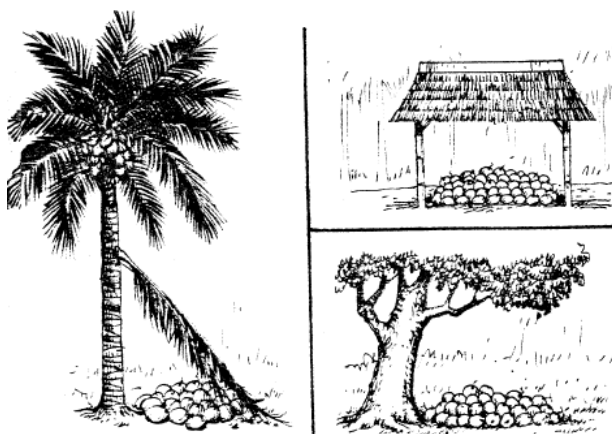
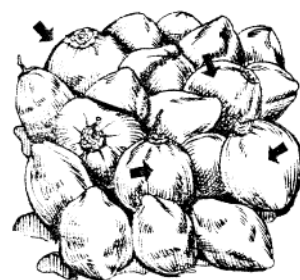
1. *Selecting Mother Palms*

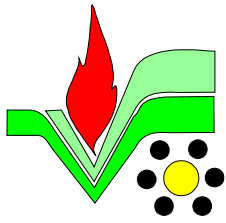
Good mother palms should have at least 40 to 50 full-sized nuts anytime of the year. The palms must be healthy with well-spread crown containing 36 to 40 opened leaves. The trunk must be straight with leaf scars close to each other.



2. *Selecting and Storing Seednuts*

Collect seednuts which are round and medium-sized. They must be partly or completely brown when harvested from the palms. They must also be free from damage and must have water in the cavity. Seednuts with partly brown husks should be stored for a month before they are sown in the germination bed. Store the nuts in a shed with good air circulation.



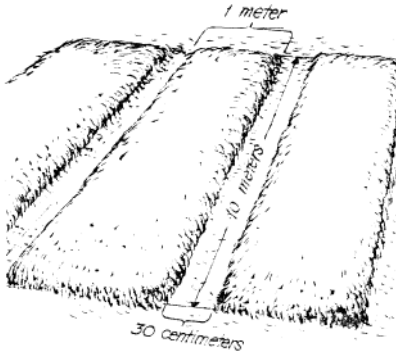


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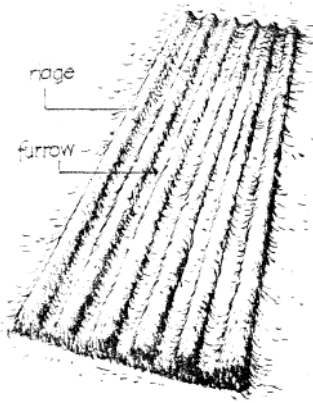
Nursery Practices

1. *Germinating the Seednuts*

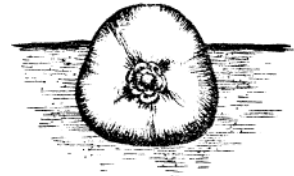
Prepare raised and long beds with enough walking space between them. The bed should be wide enough to accommodate 4 to 5 rows of seednuts.

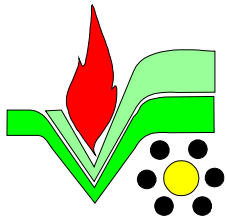


Prepare 4 to 5 furrows on each bed at a depth of about two-thirds of the nut to be planted. The furrows should follow the length of the bed.

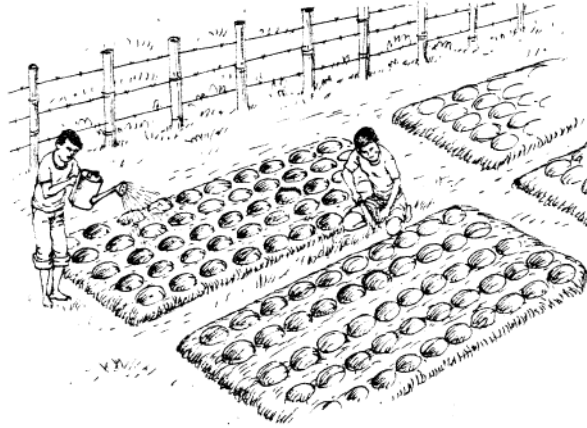


Then place the seednuts with its widest part downward. Two-thirds of the nut should be buried.





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Protect the nuts from destruction. Keep the beds free from weeds. Water the nuts when necessary.

2. *Transferring Germinated Nuts to the Nursery*

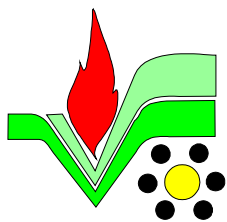
Germinated seednuts should be transferred to a field nursery. The following should be observed before transferring the seednuts:

- The nursery site must be near or within the plantation site.
- Transfer of germinated nuts should be done twice a month for a period of three months from the time of planting.
- Transfer nuts that have germinated early and normally.

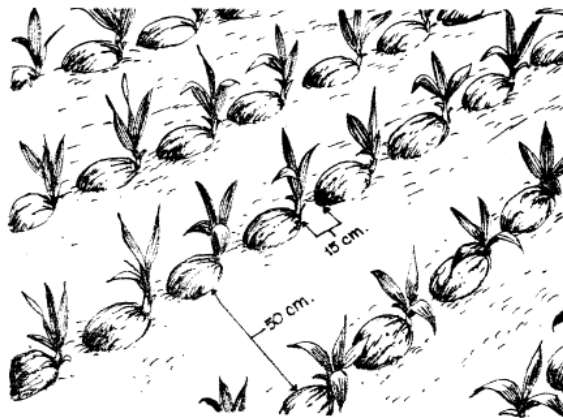


- Do not transfer nuts with white leaves, more than one shoot or those with deformed shoots.





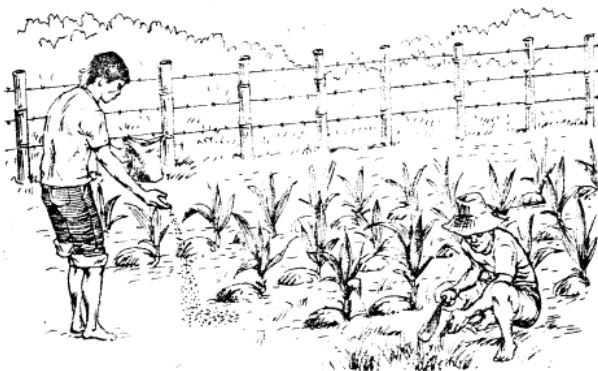
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Prepare furrows 50 centimeters apart and place the germinated nuts 15 centimeters apart in the furrows. Two-thirds of the nut should be covered with soil.

3. *Care of the Seedlings*

- a. Keep the seedlings free from weeds.

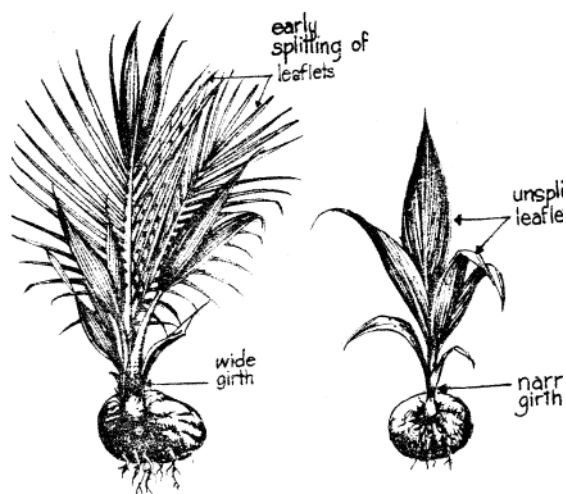


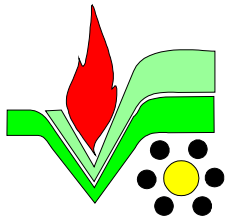
- b. Apply two tablespoonfuls of complete fertilizer (14-14-14) per seedling after the 3rd month of germination and during the fifth and seventh month.
- c. Water the seedlings during dry weather.

4. *Selection of Seedlings for Planting*

Select seedlings which are 6 to 9 months old. Only seedlings that are healthy, have big girths and leaves that split early into leaflets should be selected. Unwanted seedlings should be destroyed.

Land Preparation





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1. *Clearing*

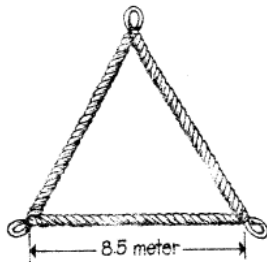
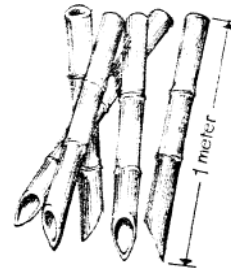
Weeds, shrubs and trees should be cut down at the end of the rainy season.

Flat areas should be plowed and harrowed until they are freed of weeds.

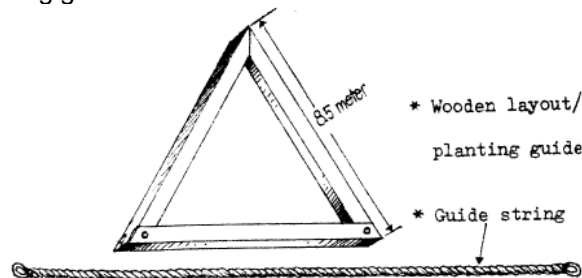
2. *Staking and Layouting*

a. Prepare the following before staking and layouting the field:

*Stakes made of bamboo, talahib, etc. One end should be pointed.



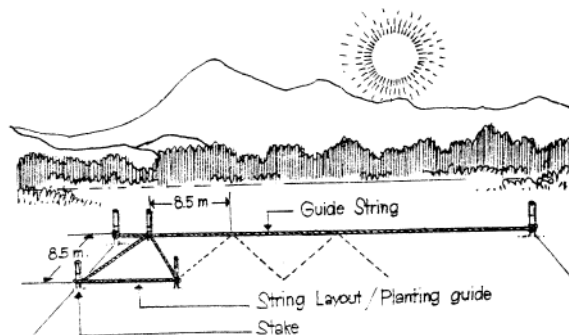
*Triangular string layout/planting guide

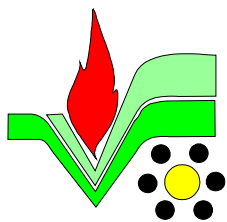


Either of the two layout/planting guides is used during layouting in the field.

b. Steps in layouting

With the use of the triangular layout/ planting guide, some stakes and guide string, stake the area at one side. See to it that one point of the layout guide is towards the direction where the sun rises.

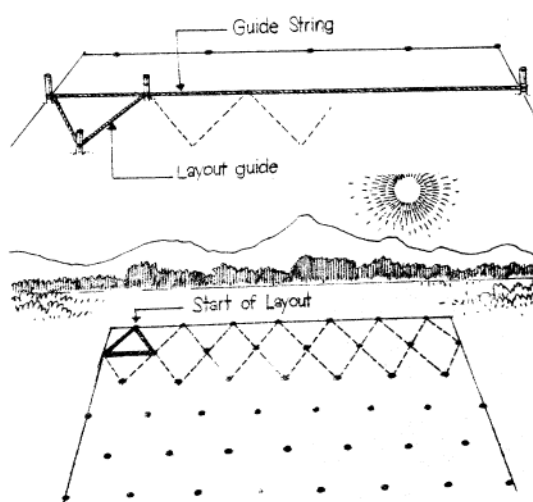




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After driving the first three stakes on the three points of the layout guide, move the guide along the guide string and stake every two points thereafter.

Move the guide string to the second row after staking the first two rows. Follow the same procedure in staking the other rows.



Holes should be dug at planting time according to the sized of the seedling.

Transplanting

The seedlings are ready for transplanting 6 to 9 months from germination. The open leaves and protruding roots of seedlings raised in the field should be cut before planting. In planting, the nuts should be covered by packing the hole with top soil around the nut and pressing the soil in order to hold the nut securely. Transplanting should be done during the rainy season.

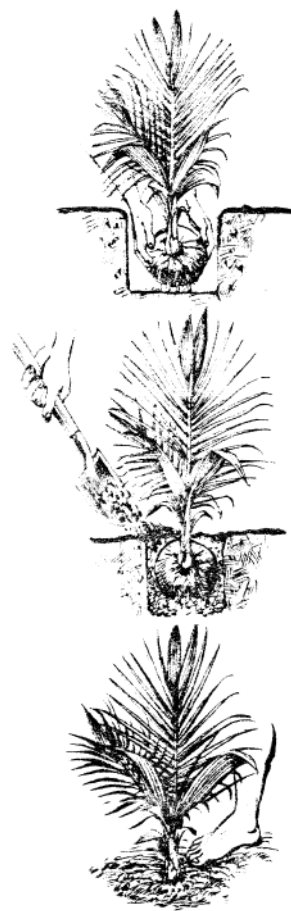
Recommended Cultivars/Hybrids

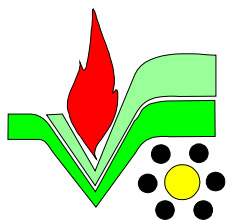
1. *Laguna*

Under good management, this cultivar flowers in 4 to 5 years, produces 8 to 12 nuts per bunch, 14 to 17 bunches per year and requires 4 to 5 nuts to make a kilo of copra.

2. *San Ramon*

This flowers in 4 to 5 years, produces 5 to 7 nuts per bunch, 14 to 17 bunches per year and requires 3.5 to 4.5 nuts to produce a kilo of copra.





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3. *Mawa Hybrid (YMD x WAT)*

With improved management and culture, this hybrid flowers in 2 to 3 years, produces 150 to 200 nuts per tree per year and requires 4.5 to 5.5 nuts to make a kilo of copra.

For details and procurement of these cultivars and hybrid contact your local PCA personnel.

Care of the Plants

1. *Fertilization*

The amount of fertilizers to be applied varies with the type of soil. Farmers should have their soil analyzed by the Soils Division of the Department of Agriculture. They should seek the assistance of the Farm Management Technician assigned to their area. However, a standard recommendation may be followed:

Age of Coconut in the Field (Year)	Amount of Fertilizer (Grams)	
	Ammonium Sulfate	Muriate of Potash
1	110	220
2	220	440
3	250	660
4	300	800
5	300	1000
6 and above	300	1000

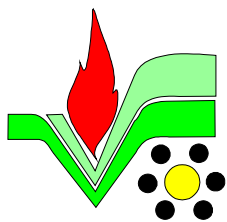
Apply the fertilizer two meters from the base of the plant in a furrow made around the plant. Cover the fertilizer with topsoil after application.

2. *Weeding and Underbrushing*

Coconuts less than three years old should be ring weeded to about a meter away from the base.



Underbrushing in established coconut trees should be done regularly to prevent the weed from using soil water and plant food. Cattle, goats and carabao may be allowed to graze under coconuts but grasses, shrubs and trees which are left untouched should be cut down.



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3. *Selective Thinning*

Trees which are close to each other and which are non-bearing should be cut down.



Control of Major Pests

1. *Coconut Beetle*

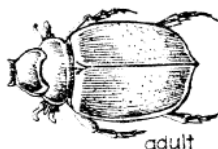
Control: Plantation sanitation and hand-picking of larvae from rotten coconut trunks and other similar materials.



larva



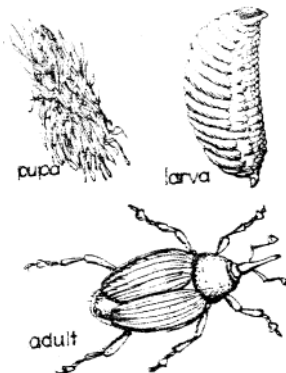
pupa



adult

2. *Asiatic Palm Weevil*

Control: All weevils observed in the field must be destroyed. Unnecessary wounding of the coconut trunks must be avoided. Plantation sanitation must be observed.



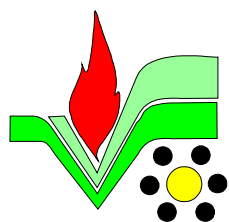
pupa

larva

adult

3. *Coconut Bud Rot and Cadang-cadang*

Bud rot is characterized by the foul odor of the rotting bud.



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In Cadang-cadang, two thirds (2/3) of the crown attains a yellow coloration. The center leaves are short and upright.

Control: Infected trees must be cut down and the trunks used either as firewood or building materials.

Harvesting

Harvest only partly or completely brown nuts. These will yield more copra. Cutting green nuts results in a rubbery copra. The table below shows the copra content of coconuts at different ages.

Age (Months)	Percent Copra Produced
8	32.1
9	55.7
10	77.7
11	94.1
12	100.0

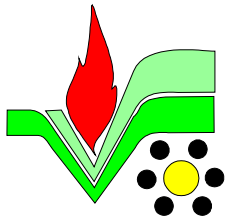
For higher copra yield, harvest fully mature nuts every forty five days.

Copra-making

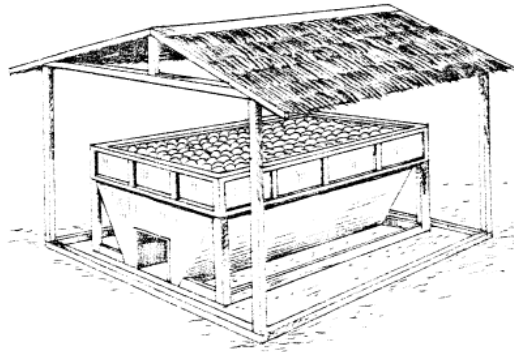
Copra should be dried to 70% moisture content. There are various methods of doing this. Three are mentioned here.

1. *The UPLB copra drier*

This dries the copra by using either shell or husk charcoal. The copra produced is clean, well dried and free from molds. It takes 18-24 hours to dry the nuts. This does not include the time spent for turning the nuts and refilling the charcoal burners every 7-8 hours. One unit costs P-1,500.00. Twenty three units of this drier will be distributed by the Samar Integrated Rural Development Project (SIRDP) to the different municipalities in Northern Samar. For details, contact the PCA Development Officer assigned in your area.



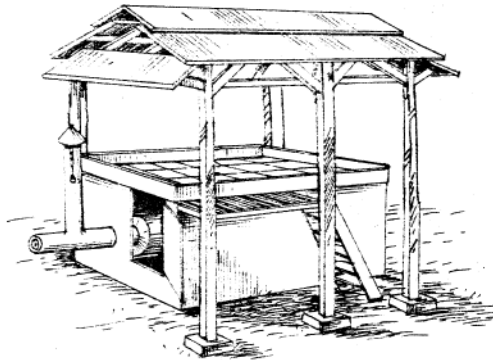
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UPLB COPRA DRIER

2. *Kukum copra drier*

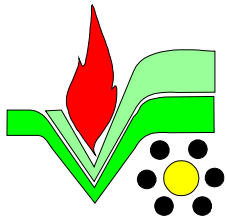
This drier produce white copra with a moisture content of 5-6% and requires 48 heating hours to produce good quality copra. This drier uses wood and husks for fuel but requires continuous feeding of the furnace. One unit costs ₱ 4,000.00. For details, see your local PCA personnel.



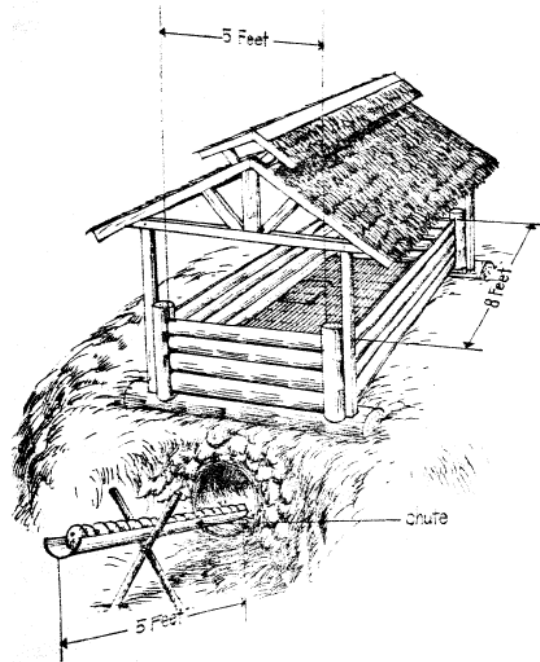
KUKUM DRIER

3. *ViSCA copra drier*

This drier uses locally available materials. It takes in from 600 to 700 dehusked nuts at a time, controls the correct drying temperature by itself, saves labor in cooking because it uses by itself one chute of shells in 3 hours, uses only 50 percent of the shells from one batch to cook the meat, and produces good copra. See your local PCA personnel for more details.



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VISCA COPRA DRIER

To obtain a better price for copra, coconut farmers must improve the quality of the copra they produce by using improved drying methods. Good quality copra means more income.

Source: Northern Samar Technoguide for Coconut No.1
TECHNOPAK