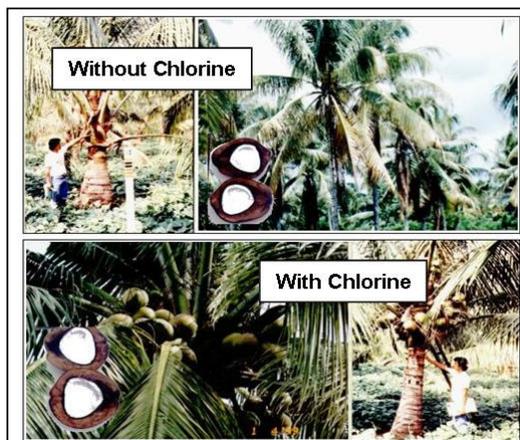


## ECONOMIC RETURNS

Net profits from coconut farming depend much on the fertilizer cost, yield, and copra price.



The use of salt as fertilizer at a rate of 1-2 kg salt/tree is estimated to give the added benefits of P10,000 – P19,000 (Table 3) per ha per year at P12/kg copra.

The importance of this technology should not be overlooked, much less ignored. To maximize output and obtain optimum returns, the coconut tree must be cared for, freed from diseases and fertilized.

**Table 3. Summary of partial budget for determining profitability of 0 kg NaCl vs 1-2 kg per tree per year**

NaCl Rate Comparison	Added Gross Income	Total Losses (Expenses)	Additional Profit/Net Income (P)
0 vs 1.0	13,800	2,844	10,956
0 vs 1.5	19,800	3,157	16,643
0 vs 2.0	22,800	3,515	19,285

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# SALT

(Sodium Chloride)



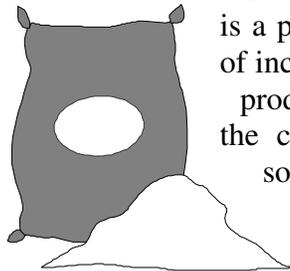
**An Effective and Cheap  
Fertilizer for High  
Coconut  
Productivity**



**PHILIPPINE COCONUT AUTHORITY**  
Research Development and Extension Branch

## SALT (Sodium Chloride)

The use of sodium chloride (NaCl) or common salt as a fertilizer means coconut production is the cheapest source to increase copra yield (Table 1).



Chlorine deficiency in coconut is widespread in inland areas. A PCA survey conducted nationwide showed that at least 40 coconut-producing provinces are severely chlorine deficient.

### Advantages

- Accelerates crop growth and development
- Increases copra weight and number of nuts
- Minimizes leaf spot damage
- Environment-friendly under judicious practice

From 1991 to 1997 farmers in the Philippines had fertilized more than 170,000 ha of coconut (approximately 18 M trees) with salt. This had resulted in an average relative yield increase of 125% over unfertilized coconuts. Recently, it was considered in Indonesia to be a general and ideal fertilizer for coconut (applied in about 2 M ha).

**Table 1. Annual yield and production cost of NaCl fertilization on coconut**

NaCl Rate (kg/tree)	Ave. Copra Yield (kg/ha)	Gross Income (P)	Fert Cost (P)	Labor Cost (P)	Interest On Capital*	Total Cost (P)
0	850	10,000	0	1,590	191	1781
1.0	2,000	24,000	319	2,220	305	2844
1.5	2,500	30,000	479	2,340	338	3157
2.0	2,750	33,000	638	2,500	377	3515

\*Assumed that capital is borrowed to defray expenses for fertilizer and labor in applying the fertilizer at 12% interest rates.

### Application

Salt may be applied in three ways:

- Broadcast (in flat to slightly sloping areas)
- Broadcast followed by fork-in at 2-3 inches depth of soil (preferably when salt is combined with nitrogenous fertilizers)
- Holing (for hilly-sloping areas distributed in 8-10 inches with 3-5 inches depth around the base of the tree).

In broadcast application, the fertilizer is placed uniformly over a weeded area around the base of the palm (1 m radius depending on the age of the palm).

At nursery stage (6-8 months), seedlings are applied with 60-70 g NaCl per seedling (the first half at the start of the rainy season and the rest, 6 months after or before the end of the rainy

season; split application). This increases the plant's girth and fresh weight, indicating that chlorine nutrition is a positive factor in improving normal conditions of the seedlings in the nursery.

Generally, bearing palms are fertilized annually in areas with almost uniform rainfall distribution (Table 2). In areas with distinct wet and dry seasons with uneven rainfall distribution, and those with sandy soils, fertilizers are best applied every six months. In a long-term study of salt application, 1.5 kg NaCl/tree/year is considered to be most effective and economical to increase copra weight/nut and copra yield (per tree or per hectare). Split application is done at the pre-bearing stage (one to four years) of palms. This practice helps reduce loss of fertilizer nutrients through leaching and run-off and make fertilizer use more effective.

**Table 2. Recommended maintenance NaCl rates for different ages/stages of growth of coconut palms.**

Age/Stage of palms	Rate of NaCl/ Tree/ year
Nursery	50 g
Field planting	100 g
Six months after planting	150 g
One year after planting	500 g
Two years after planting	750 g
Three years after planting	1.10 kg
Four years after planting	1.30 kg
Five years and above	1.50 kg