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# Coconut Risk Management and Mitigation Manual for the Pacific Region

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Compiled by R. Bourdeix, J. M. Sourisseau and J. Lin

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## 15. CERTIFIED ORGANIC PLANTING MATERIAL

*By R. Bourdeix and S. Hazelman*

### Description

The risk is the shortage of good value organic coconut planting material. It may result in the farmer choosing organic planting material with low genetic value, so the yield of their farm will be limited; or the farmer choosing non-organic seedlings with high genetic value, so the farm could not be certified as organic during a certain period – or lose its certification and related markets.

Organic production is a way to get better access to market and to sell farm products at better prices. The delay between un-organic management and certified organic management is 3 years. So, in theory, farmers can plant non-organic coconut seedlings with mineral fertilization and chemicals. Three years later (or 1.5 years later according to the Pacific organic standards) when or before the palms will start to produce, it will be organic if no unwanted products are used during the delay.

Another point is that, if a farm is not organic, all the surroundings farms will have to consider a buffer zone. Size of buffer zones may differ according to standards, the physical configuration of the land, and the risk of contamination. On flat land, the distance is generally 20 m or less.

### Occurrence and severity

In many places, mixed cropping is used. Not all the coconut palms are replanted at the same time. Other crops are often grown while the coconut palms are growing and not yet producing. Even in this case, the use of non-organic coconut seednuts will not remove the organic certification of the whole farm, for the other crops grown, such as banana, cocoa, etc. Thus, having a good source of organic coconut seedlings is not a major priority.

The countries where advanced coconut seednuts and seedlings are produced are Papua New Guinea, Fiji and Vanuatu (Hybrids and Dwarf varieties). All these seedlings are presently produced in an inorganic way, using mineral fertilizers to boost parent palm production. So, organic farmers who want organic seednuts can only plant traditional Tall-type varieties.

In many Pacific countries, seednuts and seedlings are taken mainly from uncertified farmers fields and there is no recording whether these producing farmers use organic cultivation or not.

### Mitigation and adaptation

Convince leading countries, policy makers and heads of research centres that the first government sites to be organic certified should be the places where seednuts are produced.

Local stakeholders (men and women farmers, private enterprises, NGOs and CSOs) should be encouraged to become more involved in supplying organic and good quality planting material. Farmers and other stakeholders should be taught how to autonomously produce organic seedlings of hybrids and other varieties, using the Polymotu concept or any other accepted method.

### **Actions to undertake**

Over the next decade, coconut cloning will develop. By growing little pieces of coconut tissues (from embryo or leaf explants) in glass tubes, scientists can obtain callus from which hundreds of plantlets can be regenerated. These plantlets are grown as seedlings in the nursery. Can such a coconut seedling that grew in a tube be considered organic?

### **References**

Bourdeix, R., Hussein N., and Dore, D. (2018). Technical recommendations from the CIDP meeting on Coconut Production and Seeds Systems in the Pacific Region held from 7 to 20 April 2018 in Nadi, Fiji. In R. Bourdeix, J. P. Labouisse, K. Mapusua, J. Ollivier, & V. Kumar (Eds.), *Coconut planting material for the Pacific Region*. <https://replantcoconut.blogspot.com>.