

# Organic Coconut cultivation

● **Pramod P Kurian**, Assistant Director, CDB, Kochi-11

## **Organic Coconut**

Many people have the perception that chemicals are not used in growing coconuts. Hence they think that all coconuts available in the market are organic or natural coconuts. There is a wrong belief that coconuts are mostly obtained from the wild in tropical countries, which is not true in case of organic coconut farming. Across the world, inorganic chemicals are used for coconut cultivation. Hence not all coconuts are organic coconuts or natural coconuts. Inorganic fertilizers, pesticides, herbicides and fungicides are used in growing coconuts as well. Rhinoceros beetle is one of the most common coconut pest in India. This can be controlled using chemicals such as sevidol (a mixture of sevin and BHC), naphthalene balls, and carbaryl. But in organic coconuts, chemicals such as inorganic fertilizers, pesticides, etc. are not used. An organic coconut farmer uses organic means in growing the palms. A coconut farmer cultivating organic coconut has to ensure that coconuts are cultivated organically in nature.

## **Production of Organic Coconut**

Being a small holder's plantation crop grown in 1.89 million ha area in the tropical belt of the country extending throughout the peninsular India comprising of Kerala, Karnataka, Tamil Nadu, Andhra Pradesh, Goa,

parts of Maharashtra and north eastern regions. The major socio-economic features in which this crop is cultivated include predominance of small and marginal holdings, medium to resource poor farm environment and less marketable surplus. The national average productivity of coconut in India is comparatively low. The declining productivity is attributed to the exhaustion of nutrients from soil due to continuous mining of nutrients by the palm without sufficient nutrient inputs. Hence in order to have a sustainable coconut production, practicing of organic farming is very much essential. Application of organic manures such as vermicompost, crop biomass, raising and incorporation of green manure legumes in coconut basins, green leaf manures such as neem, pungam, glyricidia, bio fertilizers, cultural practices like mulching, half moon bunding, catch pit preparation etc., are some of the effective low cost organic practices which are effective in utilization of natural resources for enhancing coconut production in a sustainable manner.

## **Importance of organic coconut production**

Higher demand in global markets for organic coconut products like tender coconut, coconut oil.

Improving country's average nut yield/tree/year.

Minimum water requirement.

Balanced insects and diseases attack that lowers its



management practices.

Higher copra weight than in the conventional farming which provides high returns to farmers.

Sustainable production by increase in soil fertility and nuts yield gradually per year.

### Benefits of organic coconut cultivation

*Long term corrections:* Changes observed in the environment are long term, occurring slowly over time. It aims to produce coconut while establishing an ecological balance to prevent soil fertility or pest problems. Organic production of coconut takes a proactive approach as opposed to treating problems after they emerge.

*Soil:* Soil building practices such as inter-cropping, symbiotic associations, cover crops, organic fertilizers and minimum tillage are central to organic practices. These encourage soil fauna and flora, improving soil formation and structure creating more stable systems. In turn, nutrient and energy cycling is increased and the retentive abilities of the soil for nutrients and water are enhanced, compensating for the non-use of mineral fertilizers. Such management techniques also play an important role in soil erosion control. The length of time that the soil is exposed to erosive forces is decreased, soil biodiversity is increased and nutrient losses are reduced, helping to maintain and enhance soil productivity.

*Air and climate change:* Organic cultivation of coconut reduces non-renewable energy use by decreasing agrochemical needs. Organic cultivation of coconut contributes to mitigating the greenhouse effect and global warming through its ability to sequester carbon in the soil. Many management practices used by organic agriculture (e.g. minimum tillage, returning crop residues to the soil, the use of cover crops and rotations, and the greater integration of nitrogen-fixing legumes), increase the return of carbon to the soil, raising productivity and favouring carbon storage. A number of studies revealed that soil organic carbon contents under organic farming are considerably higher. The more organic carbon is retained in the soil, the mitigation potential of agriculture against climate change is higher. However, more research need to be conducted in this field.

*Ecological services:* The impact of organic coconut cultivation on natural resources favours interactions within the agro-ecosystem that are vital for both coconut production and nature conservation. Ecological services derived include soil forming and conditioning, soil stabilization, waste recycling, carbon sequestration, nutrients cycling, predation, pollination and habitats. A critical review of the relationship between organic cultivation of coconut and the environment as well as other aspects needs to be researched.

### Constraints of Organic Coconut Farming

Marketing facility is not available exclusively for



organic products. Conversion period is longer for obtaining organic certification. Higher risks are involved in obtaining European Standard of Certification for exporting organic products. Supply of sustainable quantity and quality product should be intensified for exporting more organic products.

### Conclusion

Organic fertilization is indeed a versatile component in a coconut-based farming system. It does not only influence the soil and coconut, but also the farmer as an important element in the system. However, at present there is still dearth of research-based information on organic fertilization of coconut.

While the government is helping to alleviate the plight of the farmers, technologies remain aloof to them. Organic fertilization, for instance, as a cheaper source of nutrients, has just gained concerns lately. If this is realized by the coconut farmers, the use of coconut fertilizer may reduce the cost of their farm inputs, helping to increase net profits and conserve the dollar reserve of the country.

Coconut productivity remains low because of the dependence of farmers on the natural fertility of the soil. As a perennial crop, coconut takes a long life cycle and calls for abundance of nutrients to sustain growth and yield. Since the demand is continuous, the supply will eventually be depleted. Some researches in coconut-growing countries revealed that organic fertilizers alone or combined with chemical fertilizers (as KCl or NaCl) promote early flowering and increase yield. Organic fertilizers can be obtained by recycling coconut by-products or other sources like animal manures or industrial wastes. However, farmers should be educated on the proper management of these materials as they may pose danger to human, coconut and the environment.

There are many constraints that make organic materials less acceptable, particularly the offensive odour, bulkiness, low nutrient content, labor requirement, and the non-immediate effect on the plant. However, a sustained research and development effort can make organic farming in coconut a success. ■