COCONUT
(*Cocosnucifera* L.)

India is the third largest coconut producing country in the world. The four Southern states; Kerala, Karnataka, Tamil Nadu and Andhra Pradesh are the main growing areas in the country. In the North East, it is mostly grown in Assam and Tripura.

Cultivars

The dwarf type commences to yield 3-4 year after planting while ordinary tall commences to yield 6-7 year after planting. The important dwarf varieties cultivated are Chowaghat Orange Dwarf, Chowaghat Green Dwarf, Malayan Green Dwarf, Malayan Orange Dwarf, Malayan Yellow Dwarf and Ganga Bondam. Laccadive Ordinary, Laccadive Micro, TipturTall, Kappadam, Komadam and Andaman Ordinary are some of the tall varieties grown in the country.

Some of the important hybrids are; Chandra Shankara (COD x WCT), Chandra Laksha (LO x COD), Laksha Ganga (LO x GB), Ananda Ganga (AO x GB) etc.

Soil and Climate

Coconut can thrive well in a wide range of soil such as laterite, coastal sandy, alluvial, red soils and reclaimed soils.

Coconut is a tropical crop. It requires warm climate with high humidity. The ideal mean annual temperature is 27 QC with 5 QC diurnal variation. A well-distributed rainfall of 1000 mm to 3000 mm per annum is ideal for the crop growth.

Planting

Planting System	Spacing
Triangular	7.6m
Square	7.6-9.0 m
Single Hedge	6 m in rows &9 m between rows
Double Hedge	5 m x 5 m in rows &9 m between pairs of rows

Planting season

Proper time of planting is monsoon. However, under assured irrigation, planting can be taken up at any time.

Preparation of pits

The pit size is 1rn x lm x lm. In sandy soils and in areas where long spell of drought prevail, it is advantageous to bury two layers of husk at the bottom of the pits before putting top soil mixture. The husk is to be buried with the concave surface facing upwards. It will absorb moisture during the rainy season and will release it to the young plants during the dry period.

Planting techniques

9-12 months old seedlings having 4 to 6 leaves and a collar girth of 10 to 12 cm are to be planted in small holes dug at the center of each pit. At the time of planting care should be taken so that the collar of the seedlings and the leaf axil are not covered by soil. After planting, soil around the seedlings should be firmly pressed without causing any damage to the attachment of seedlings and the nuts.

Manure and Fertilizer

Manu ring should be done in such a way that each tree should annually receive 500: 320: 1200g NPK. In the case of young trees, the nutrient dose should be given at the rate of 1/4th of the adult dose during the third month after planting, 1/2 dose during the second year, 3/4th dose during the third year and full dose from fourth year onwards.

Insect/Pests

Rhinoceros beetle: The adult beetle of this pest causes damage to the palms. The beetle bore into the soft tissues of the bud. The pest can be effectively controlled by an integrated approach which includes hooking out the beetle from the crown of the affected palms, treatment of bleeding sites with Carbaryl 50 % WP at 0.01 % and prophylactic filling of the inner most 2-3 leaf axils with suitable insecticides like Sevidol8 G at the rate of 25 g per palm mixed with 200g of fine sand.

Red palm weevil: The grubs, on hatching out, bore into the soft tissues of the stem or crown for feeding and finally cause the death of the affected palm. A reddish brown liquid can also be found oozing out of these holes. At this stage of attack, if the grubs are destroyed completely, the affected palm can be saved. The affected palms at the early stage of infestation can be saved by injecting 0.1 % Endosulfan/ Dichlorvos.When the infestation is on the crown, clean the crown and slowly pour the insecticide suspension. When pest entry is through the trunk, all the holes on the stem may be plugged with mud.

Diseases

Leaf rot: Visible symptoms are rotting of the distal ends of the leaflets in some of the inner whorls of leaves. The affected parts on drying turn black and are blown off in bits by the wind. Sequential spraying with 1 % Bordeaux mixture, 0.3 % Dithane M-45 and 0.5 o/c Fytolanin this order at quarterly interval after removing and destroying all severely affected leaves is recommended as a control measure.

Bud rot: As in arecanut.

Thanjavur wiltl/Ganoderma: The disease is lethal, affecting palms between 10-30 years. Eradication of the diseased palms is the practical solution for managing the disease. To prevent the spread of the inoculums avoid flood irrigation, ploughing and close planting. The chemical methods involve root feeding with 5ml/tree at quarterly interval of Tridermorph (Calixin) dissolved in 100ml of water or Aureofungin sol. 2g+lg Copper Sulphate dissolved in 100 ml of water. Ganoderma resistant crops like banana can be raised as intercrops.

Stem bleeding: The disease is associated with a fungus. The symptom of the disease is the exudation of a rusty brown liquid from cranks and cuts found on the outer tissue of the

trunk. The exuded material turns black in color as it dries up on the bark. The affected discoloredtissue should be cleaned and the wound is dressed with coal tar or Bordeaux paste. Root feeding of Calixin 5ml in 100rnl water per tree is also an effective remedial measure.

Harvesting and Processing

Coconut ripens in 12-13 months from the opening of inflorescence. To get maximum yield of copra and oil only fully mature nuts should be harvested. Immature nuts provide 6-33 and 5-33% less copra and oil, respectively. The harvested nuts are stored in heaps under shade for few days since the stored nuts are easy to husk. Storage of harvested nuts is beneficial if fully matured nuts are harvested.