

# DISEASES OF ARECANUT PALM

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**A**RECANUT is affected by a number of diseases causing crop losses to varying degrees. Some of them are seasonal while others are prevalent throughout the year. A sound knowledge of the symptoms produced by different diseases and their control measures is a must for the successful cultivation of the crop.

*Koleroga (Phytophthora arecae)*. *Koleroga* or 'Mahali' or 'Fruit-rot' of arecanut causes direct loss of the crop (fruits). The disease is prevalent during the south-west monsoon season in areas where high humidity with alternate sunshine and rains prevail. The affected nuts show water soaked areas on the surface near the calyx region in the beginning. These patches enlarge giving a dark appearance to the fruits. The affected fruits lose their natural colour and drop down. A felt of white mycelial mass develops on the fallen nuts. Once the fungus has gained entry into the fruit it is not possible to eradicate it. The disease can best be prevented by spraying one per cent neutral Bordeaux mixture. Two sprayings are normally necessary, one just before the onset of the south-west monsoon and the second 40 days later. If the monsoon is prolonged, a third spray may be required. Spraying of the bunches has to be taken up on clear days. The fallen nuts should be removed and burnt lest they act as foci of infection for further spread of disease.

*Bud-rot*. The fungus which causes fruit-rot also causes bud-rot. The tender base of the spindle is first affected. The colour of the spindle changes to yellow, then to brown and the spindle slumps. With a slight pull the spindle can be drawn out of the crown. The infection spreads to the successive whorls of leaves leading to their rotting emitting a foul smell. The leaves become yellow, droop and finally drop off leaving the stem bare. The affected spindle and leaves are to be removed and destroyed. The rotten tissues are scooped off by making a longitudinal side split and the remaining healthy tissues, treated with Bordeaux paste, or the crown drenched with one per cent Bordeaux mixture.

*Anabe (Ganoderma lucidum)*. *Anabe* or 'Foot-rot' is another dreaded disease in the *maidan* and semi-*malnad* areas of Mysore and in some parts of Tamilnadu, Kerala and Assam. The infection is through roots and the fungus gradually passes on to the stem portion. The

size of the crown gets reduced, leaves droop down and the palm presents a sickly appearance. At times, gummy exudation, light brown in colour, oozes out from the bottom of the trunk. The crown gradually dries up and leaves fall off one by one leaving the stem bare. Later, fructifications (fungal brackets) develop at the bottom of the trunk. Since the disease is severe in crowded and ill-drained gardens, improving the drainage reduces the incidence of the disease. The diseased palms should be isolated from the rest by digging trenches all around the tree. The stumps of dead trees should be dug out and destroyed by burning. Raising trees like Gold Mohur (*Delonix regia*), *Honge (Pongamia glabra)*, etc., in the vicinity of the garden should be discouraged as these serve as collateral hosts of the fungus.

*Yellow leaf disease*. This is a very serious malady taking a slow but heavy toll of the palms in south Kerala and some parts of Mysore State. Palms of all ages are affected. The leaves turn yellow. The yellowing progresses along the margin of the leaflet and is interspersed with green stripes. In advanced stages necrosis of lamina takes place. The tissues at the necrotic zones later fall off. The kernel is unsuitable for chewing being brown in colour. In advanced stages the trees die. Though the exact cause of the malady is not known, the general observation is that the disease occurs mostly in ill-managed gardens. The palms are to be adequately manured with NPK and lime. The drainage conditions of the garden should be improved. Care should also be taken to keep pests and other diseases under control by adopting suitable control measures.

*Band*. *Band* or *Hidimundige* disease is prevalent in almost all the arecanut growing areas. The disease is characterised by the production of small, crinkled, thick and dark green leaves. The internodal length is also shortened and the stem tapers. In advanced stages the crown presents the appearance of a rosette. Palms of all ages are affected. Any impediment to the normal growth of the roots seems to be the main factor responsible for the development of symptoms of the disease. In a majority of the cases the malady can be overcome by providing good drainage to the garden. The soil conditions must be improved by loosening the hard soil strata if

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present. Adequate plant protection measures against spindle bug, mealy bugs and scales should also be taken up. Where the palms continue to be refractory to the above treatments, application to the soil of powdered mixture of 112 gm each of copper sulphate and lime per tree applied twice a year has been found to improve the condition of palms.

*Sunscorch.* Sunscorching and stembreaking might become severe if adequate preventive measures are not taken up. The surface of stem exposed to the south-west sun shows scorching, as a result of which the stem loses its turgidity and gets partially flattened. Later fissures develop resulting in ultimate breaking of the stem in strong wind. The palms can be protected from south-west sun by tying areca sheath or opaque plastic film. Palms showing fissures may be reinforced by tying split

pieces of areca stem over such affected patches. Quick and tall growing trees may be grown on the south-western side of the garden to provide adequate protection from the scorching sun. A proper alignment of rows adopted at the time of planting will help to minimise the incidence of the phenomenon.

*Collar rot of seedlings.* This is an important disease occurring in nurseries and newly planted gardens wherever waterlogging and poor drainage conditions prevail. These conditions permit the entry of soft rot bacteria which cause this disease. The base of the stem at the collar region rots and finally the seedling topples down. Sometimes, soil-borne fungi like *Fusarium* and *Rhizoctonia* are also associated with the disease. Since the disease occurs in ill-drained nurseries and fields, improving drainage is a pre-requisite in preventing the disease. In an affected nursery or garden the spindle and base of the seedlings should be drenched with 0.1 per cent ceresan wet.