

# Decline of coconut fruiting in Nepal

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The coconut (*Cocos nucifera* L.) tree is not indigenous to Nepal. It has been introduced from India in known time period. The coconut plantation is rich in eastern sector than western sector. Till now no studies have been done on the decline in fruiting of coconut trees in Nepal. With a view to know the causal factors for the decline in fruiting of coconut trees, the study was carried out in the vicinity of Biratnagar Municipality. The investigation showed that they are bacteria, fungi, insects and nematodes. The decline may be also due to mineral deficiency, natural calamities, pollination behaviour, and introduction of infected seedlings or seeds from India and genetic causes. These latter causes need extensive studies and works.

Various literature were consulted to find out the causes and control of the prevailing problem (Adhikari 1990 and 1996, Pawsey 1989, Ploetz *et al.* 1999 and Rajapakse *et al.* 1987). Some interviews were taken about the causes in decline of fruiting. The information received was due to Potassium and Sodium deficiency. The trees of different ages were observed. The fronds with infection or attack showed yellowing and or brownish effects, the blackening of the leaf stalk, fall of fronds and the oozing of saps. The fronds had algal spots and anthracnose diseases also. The inflorescence was found heavily damaged. The floral buds, flowers and even fruits were found brown to dark brown and dropped down. Either the perianth of the flowers was left or flowers and or fruits with perianth were seen dropped down. The flowers showed blackening due to fungal attacks. The flower or fruit stalks turned dark brown.

The number of fruit bodies (0<2 = heavily infected; 2<7 = moderately infected; 7<10 = good; >10 = very good) in each plant was noted. Some had many fruit bodies arranged compactly. In heavily infected trees the fruits were found to be small, shriveled and dried in immature condition. The trunks of coconut trees were found to be smooth while some had holes in it. The holes have direct effect on the production of the fruit bodies. The owners have started cutting down of the trees. The cut down trees (the transverse section of the trunk above and below in the rhizosphere region) showed heavy infection of fungi (*Fusarium spp*) and bacteria. The conducting vessels were decayed and walls were disintegrated. Some cut down trees were found to imitate the rotting odour due to bacterial infection.

Many insects (Bugs) and larvae were found to inhabit the stem and inflorescence. The presence of nematodes and larvae were found to be the causative agent for immature fall of coconut fruit bodies. The insects attack the flowers then the nuts drop leaving the perianth on the flower stalk.

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