

Development of Strategies to Control Coffee Leaf Rust in Papua New Guinea

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ABSTRACT

Coffee Leaf Rust became established in the main coffee areas of Papua New Guinea in 1986. As a prerequisite to the development of a chemical control strategy, the epidemiology of coffee leaf rust was monitored at seven locations on the Highlands of Papua New Guinea at altitudes ranging from 1,410 m to 1,880 m.

The pattern of the disease development was similar for all sites. The disease incidence was low during the October to February period and thereafter increased to reach a maximum in May/June/July, after which time the disease decreased.

The maximum disease incidence decreased with increasing altitudes. This was particularly apparent at sites higher than 1,600 m above sea level where the level of the disease did not warrant the application of fungicides.

The severity of coffee leaf rust at different altitudes was shown to be correlated with temperature. Monthly mean temperatures of 15°C or below in January or February significantly suppressed disease development in May/June. This data was used to design experiments to develop strategic spray schedules. Data from two seasons' research showed disease is effectively controlled by three applications of copper oxide in January, February and March.