Abstract

Stem bleeding disease (resinosis) of coconut palm is caused by Thielaviopsis paradoxa and is very important in the state of Sergipe, Brazil. Understanding the epidemiological behavior of the disease is essential for establishing more efficient control strategies. Thus, we characterized the temporal progression and spatial distribution of stem bleeding in a commercial orchard under conditions of natural infection in the area of Neopolis, Sergipe. Three plots with 729 plants each were selected and evaluated every two months for stem bleeding incidence. In the temporal analysis, the monomolecular model gave the best fit to data on disease incidence, as it accurately showed the temporal dynamics of the disease during the experiment period. The spatial pattern of stem bleeding varied over time, with initial infections presenting random pattern and then evolving to aggregate pattern during evaluations. This indicates that the disease may have originated from the pathogen survival structures, followed by auto infections caused by dissemination from plant to plant, either by humans, by contact between roots, or by the vector Rhynchophorus palmarum.

Keywords

Coconut, epidemiology, stem bleeding, Thielaviopsis paradoxa.