



Revista Mexicana de Fitopatología

ISSN: 0185-3309

mrlegarreta@prodigy.net.mx

Sociedad Mexicana de Fitopatología, A.C.
México

Pérez Hernández, Oscar; Góngora Canul, Carlos Cecilio; Medina Lara, María Fátima; Oropeza Salín, Carlos; Escamilla Bencomo, José Armando; Mora Aguilera, Gustavo
Patrón Espacio-Temporal del Amarillamiento Letal en Cocotero (*Cocos nucifera* L.) en
Yucatán, México

Revista Mexicana de Fitopatología, vol. 22, núm. 2, julio-diciembre, 2004, pp. 231-238
Sociedad Mexicana de Fitopatología, A.C.
Texcoco, México

Available in: <http://www.redalyc.org/articulo.oa?id=61222210>

Abstract

A study on temporal-space pattern of coconut lethal yellowing (LY) was carried out in Sisal, Yucatan, Mexico, with the objective to provide basis for eradication of diseased palms. A block of 400 palms (20 x 20) from a plantation of *Cocos nucifera* was selected for monthly inspection of disease incidence and severity of LY from July 1999 through June 2000. In addition, data collected in 1992 from 35 plots (10 x 10 palms each) along a transect of 147 km from Santa Clara to Celestun in the Yucatan Coast was analyzed. Disease severity was measured by visual symptoms according to McCoys scale, while the spatial pattern was analyzed monthly by geostatistical maps and aggregation index (Morisitas and Lloyds). Optimal quadrat size was determined by the Greig-Smiths method. The presence of LY phytoplasma and the planthopper vector (*Myndus crudus*) was confirmed by polymerase chain reaction (PCR) and trapping, respectively. Geostatistical maps showed random spatial pattern of diseased palms when disease incidence was below 35%, but an aggregated pattern was revealed when LY was > 35.9%. However aggregation index revealed a random spatial pattern regardless of the percentage of disease incidence. Disease progress was exponential with an increment of 22% through the year. The apparent infection rate was 0.077 log units month⁻¹ ($r^2 = 0.93$). In the coastal transect, the spatial pattern of diseased palms varied; eleven plots had palms in aggregated pattern, 21 with a uniform pattern, and only 3 with a random pattern. These results suggest eradication of individual diseased palms when detection is carried out at the beginning of the epidemic, and when there is not an indication of clustering.

- ▶ How to cite
- ▶ Complete issue
- ▶ More information about this article
- ▶ Journal's homepage in redalyc.org

redalyc.org

Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal

Non-profit academic project, developed under the open access initiative