Occurrence and distribution of citrus gummosis (Phytophthora spp.) in Kenya

Lenard Gichana Mounde, Elijah M Ateka, Agnes W Kihurani, Lusike Wasilwa, E G Thuranira

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Abstract
Citrus production in Kenya comprises sweet oranges, lemons, limes, tangerines, grapefruits and pummelo, occupying about 10,000 ha. Despite this large hectarage, Phytophthora foot rot (gummosis) occurs frequently leading to considerable losses in major citrus growing areas of the country. A countrywide survey to determine the incidence and distribution of citrus gummosis was conducted between October 2007 and February 2008 in major growing areas of Kenya. Ninety citrus orchards in nine agroecological zones (AEZs) covering nine districts were sampled for the presence of citrus gummosis. Diseased plants were sampled from each orchard and gummosis incidence and prevalence determined. Information on the varieties of citrus grown, farmers’ knowledge and perception of the disease, particularly its cause, spread, control, cropping system, husbandry practices, source of planting material was gathered using a semi-structured questionnaire. The disease was observed in 79% of the 90 orchards visited with high prevalence being observed in low altitude areas. The highest incidence was observed in Kilifi district, whose predominant AEZ was Coastal Lowland 3. There was a positive and significant correlation (r= +0.471) between disease incidence and temperature. Sixty-seven percent of the farmers interviewed did not recognize the disease and 77% did not know its cause. All citrus varieties grown by farmers were susceptible to gummosis. Thus, gummosis is widespread in Kenya and continues to gain importance as a constraint to citrus production. Concerted efforts should be directed towards educating farmers and extension personnel about the disease’s spread and management.