

PREVALENCE, INCIDENCE AND DISTRIBUTION OF GROUNDNUT ROSETTE DISEASE IN WESTERN KENYA

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Abstract

Groundnut rosette disease (GRD), caused by a complex of three viral agents, namely, groundnut rosette assistor virus (GRAV), groundnut rosette virus (GRV) and satellite RNA (Sat RNA), is the most destructive disease of groundnuts in the major growing areas of Kenya. GRD infection especially before flowering results in 100% loss in pod yield. The objective of the study was to determine the prevalence, incidence and distribution of GRD in the growing Counties of western Kenya. Surveys were conducted in the field of grown groundnuts, and virus symptoms were recorded on the basis of virus incidence and severity in the Counties of Homa Bay, Siaya, Busia, Bungoma and Vihiga. Symptomatic virus leaf samples were also collected from the same fields surveyed for reverse transcription PCR tests for detection of GRD. The prevalence of GRD was 100% in all the fields of the five Counties. Incidences of GRD were variable among the Counties ranging from 23.13 to 35.68%. Busia County (35.68%) recorded the highest incidence of 35.68% while Siaya (23.13%) had the lowest incidence. The most conspicuous symptoms observed in all field inspected were yellow/chlorotic rosette and green rosette. The greatest disease severity was recorded in Busia (4.0) and Homa Bay (3.8) Counties, while the lowest was recorded in Bungoma (3.2). These findings confirm that GRD is prevalent and widely distributed in western Kenya and provide a basis for designing interventions and control strategies for the entire region.

Key words: Prevalence, Incidence, Severity, Groundnut rosette disease