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Survey and conventional management methods of bacterial wilt disease in open fields and greenhouses in Tanzania

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Abstract

A study was conducted from January to February 2018 to determine bacterial wilt disease (BWD) incidence and severity in open field and greenhouse environments in twelve tomato growing districts in Tanzania. About 220 farmers were interviewed to assess their knowledge on BWD by using a semi structured questionnaire. Results indicated significant ($p < 0.05$) difference of BWD incidence and severity among districts. Similarly, BWD incidence and severity were significantly ($p < 0.05$) higher in greenhouses than in the open field environment. BWD is a major challenge in tomato under greenhouse than in open field environments. Most of the farmers were not certain about BWD symptomology and management. Majority (>80% of 220 respondents) of farmers could not identify sources of BWD in environment and do not adhere to sanitation measures recommended for greenhouse tomato production. 90% of the interviewed farmers ventured into greenhouse tomato production imitating from neighbors without technical guidance. To manage BWD, majority (70%) of farmers use chemicals which they reported as ineffective, 13% use botanical, 10% do crop rotation which was reported to be not practical because of land scarcity and short time that *Ralstonia solanacearum* can survive. Rest (7%) of farmers do not use any BWD management measure. There was no report of either use of disease resistant cultivars or biological control as a strategy for BWD management in the study area. There is therefore need to develop techniques for farmers to manage the BWD by exploring promising options such as use of effective botanical extracts.

Keywords

Ralstonia solanacearum, Soil borne, Incidence, Severity