



ISOLATION, IDENTIFICATION OF *Fusarium oxysporum* F. SP. *phaseoli* AND SCREENING A BEAN GERMPLASM FOR FUSARIUM WILT DISEASE

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ABSTRACT

Fusarium wilt or Fusarium yellows is an economically important fungal disease of common bean worldwide. The causal agent of this disease is *Fusarium oxysporum* f. sp. *phaseoli*. The study was conducted to find the suitable medium for the multiplication and to determine the reaction of 30 common bean accessions, including two susceptible controls (Wade and Keppetipola Nil) to the *Fusarium oxysporum* isolates under greenhouse condition. Isolates of the pathogen were collected from the root and stem fragments of common bean plants grown in the production fields of Regional Agricultural Research and Development Center, Bandarawela. Species identity was based on the colony characters, nature of conidiogenous cell, and morphology of microconidia, macroconidia and chlamydospores. It was found that isolates had a relatively high growth in Bean extract Agar (BEA) medium, than in Potato Dextrose Agar (PDA) and Corn Meal Agar (CMA) medium. Screening of the bean germplasm in the greenhouse was done by transplanting inoculated seven day old seedlings into pots filled with pasteurized soil: sand (1:1) medium. At 15 days after inoculation, the primary leaves showed epinasty symptoms and chlorotic areas appeared on leaves followed by necrosis at their margins of most accessions, including two recommended varieties. Disease severity was recorded 21 days after inoculation and it was observed that disease reactions in the germplasm varied from highly resistant to highly susceptible. Out of the 30 bean accessions including two recommended varieties there were 2 resistant (DSI 1-3), 19 intermediate (DSI 3.1-6.0) and 11 susceptible (DSI 6.1-9.0) accessions in the germplasm.

Keywords: Common beans, Germplasm, *Fusarium oxysporum* f. sp. *phaseoli*, Fusarium wilt, Accessions, Greenhouse screening