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DETECTION AND CHARACTERIZATION OF SEED-BORNE BACTERIAL LEAF BLIGHT IN WHEAT

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Text

Wheat is one of the most important crops which contributes toward global food security and represents a main source of food and income for millions of smallholder farmers worldwide. *Pseudomonas syringae* pv. *syringae* (*Pss*) is the causal agent of bacterial leaf blight wheat disease which can cause up to 50% yield loss or more depending on the time of infection and region. In addition, *Pss* is transmitted by wheat seeds, which can play a role in long-distance spread. Therefore, developing and implementing effective management strategies for bacterial diseases is very important to reduce yield and quality loss. However, rapid and accurate detection of diseases is the first essential step for effective management strategies for control of this disease. Even though molecular tools for *Pss* precise detection and characterization has been developed, the most practical approach for rapid diagnosis is the use of serological assays using specific antibodies. A polyclonal antiserum against a Syrian isolate of *Pss* was produced and its quality was evaluated by Dot-blot Immunoassay using homologous and heterologous antigens. Results revealed that the produced antiserum was able to detect *Pss* up to 1×10^3 CFU/ml dilution using raw antiserum at a dilution of 1/160 with no cross reactivity with other bacterial species (e.g. *Xanthomonas*).