

**TH3ABS185****Participatory farm-level innovation in bacterial wilt control**

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**Abstract**

At 2100 metres above sea level, the Shashemene pilot has a temperate climate and ideal for cereals and Irish potato. There are two cropping seasons, the first runs from February to April (the short rainy season) and the second from June to October (the main season). Farmers often fail to grow potatoes in the main growing season owing to late blight and bacterial wilt incidences in the main potato crops. A technology development and dissemination activity was undertaken by using the modified Farmers Research Extension Group (FREG) approach to develop potato technologies suitable to local conditions. The purpose was to assist farmers in developing healthy potato farms, which are more productive, profitable, and sustainable. Using this approach, experiments including varietal evaluation, the natural variability of potato clones in response to major potato diseases such as late blight, the role of crop rotation in reducing the incidence of bacterial wilt and the contribution of the use of disease free seed on limiting disease dissemination and tuber yield were tested with the full involvement of farmers' research group. The research activities were supported by sessions harmonized with crop phenology. The modified FREG approach was found to be effective in stimulating farmer participation by considering their goals in the targeting and design of innovations. Before the inception of the project, more than 90 % of the farmers were not aware of the causes of potato diseases. Most of the farmers do not have the basic knowledge to differentiate symptoms caused due to insect damage and/or infection by pathogens. Regarding diseases, most of the farmers (95 %) believe that any type of disease is caused by rain and frog whereas; others don't even guess the causes. At the end of the season after subsequent sessions, and demonstration at field level, farmers were able to change their views and understanding about the causes of diseases and potential control measures. Currently the majority of the farmers who participated in the farmers research extension groups know the causative agents of potato wilt, late blight, viruses and damage caused by potato tuber moth and aphids and are also able to differentiate symptoms. Moreover, after two seasons, more than 65 % of farmers in the group knew the life cycle of the major pathogens and major insect pests of potato. Concurrently, farmers acquired knowledge on how BW and LB are disseminated and about possible control measures of potato bacterial wilt and late blight.

**Key words:** FREG, bacterial wilt, late blight, potato