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PARTICIPATORY FARM-LEVEL INNOVATION IN BACTERIAL WILT CONTROL

B. Kassa [1], G Elmer, B Ochieng

[1] Ethiopian Institute of Agricultural Research (EIAR), Addis Ababa, ETHIOPIA,
[2] International Potato Center (CIP), Sub-Saharan Africa Region, Nairobi, KENYA

Research on the development of Bacterial wilt (*Ralstonia solanacearum*) control technology was undertaken using the Farmers Research Extension Group approach supported by sessions (FREG - session) harmonized with crop phenology. The study was conducted in Shashemen district (Ethiopia) from 2010 to 2012 seasons with the involvement of 250 farmers of which 64 were women farmers and the rest 186 were men. The purpose was to assist farmers in developing healthy potato farms, which are more productive, profitable, and sustainable. Using this approach, experiments on the role of crop rotation and the use of disease free potato tuber seed on disease incidence and tuber yield were studied with the full involvement of farmers' research group. 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 and most of the farmers (95 %) believe that any type of disease is caused by rain and mist whereas, others don't even guess the causes. After subsequent sessions and demonstration at field level, more than 65 % of the farmers in the group distinguish the causative agents of late blight, potato wilt and viruses and able to differentiate symptoms damaged caused by diseases and insect pests. Under wear potato production scenario 4% to 32 % correspondingly the loss was 28.6 % to 67.34 % in seed production scenario. Both one and two season's rotation potato with beans and cabbage significantly ($P>0.01$) reduced the wilt incidence from 81% to 14% and increased tuber yields to 59 % and 84 % respectively.