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“Filling gaps and removing traps  
for sustainable resource management”

## Farmers’ Knowledge and Practices of Potato Bacterial Wilt Management in Ethiopia

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### Abstract

Potato (*Solanum tuberosum* L.) is an increasingly important crop for food and nutrition security in Ethiopia. It is also a vital source of income and more than 3.7 million smallholder farmers are involved in potato production in the country. However, bacterial wilt is currently causing an overwhelming impact on the country’s potato production systems, threatening food and nutrition security initiatives.

A survey of 261 randomly selected smallholder farmers was carried out in three major potato growing districts in the central highlands of Ethiopia to examine farmers’ knowledge and management practices of bacterial wilt, and to analyse the role of relevant knowledge in their practices. Considering their different characteristics, three groups of farmers were distinguished: producers of quality declared seed, producers of normal seed and producers of ware potatoes. The results of the study indicated that most farmers (72%) could recognise symptoms of the disease on infected potato plants. However, they had very limited knowledge of the disease including its causal agent, spreading mechanisms, and management methods. All of the farmers were unaware of the causal agent of the disease and there were significant incongruences between scientific explanations and farmers’ understanding of the disease. The farmers provided different explanations and confused a causal agent of the disease with various factors, such as water shortage, insects, planting seed potato with high moisture content, and waterlogging. Further, the majority of the farmers (60%) did not know spreading mechanisms of the disease. There was also no statistically significant association between farmers’ knowledge of the disease and the category of the farmers.

Farmers’ knowledge of recommended management methods for bacterial wilt was also limited. The study further showed that practices of farmers have striking implication for spreading of the disease instead of controlling it. Previous agricultural extension efforts did not have the desirable effect on farmers’ knowledge and practices. Therefore, to bridge the gap between scientific knowledge and farmers’ understanding and practices, farmers need to learn about the disease and how to manage it through appropriate learning approaches that foster innovations in their local context.

**Keywords:** Bacterial wilt, disease management, farmers’ knowledge, farmers’ practices, potato disease