

Abstract

From 1998 to 2001, field experiments were conducted in New York, USA, and Kenya to study the relationship between foliage late blight control and tuber infection in the control of tuber blight (*Phytophthora infestans*). Most of the tuber infection occurs as a result of inoculum produced on the foliage being washed down into the soil to infect tubers. Tuber resistance and depth, precipitation and soil temperature were important factors, whereas different foliar fungicide applications had no significant effect on overall tuber blight incidence. Hilling and mulching as barriers or filters to prevent inoculum reaching the tubers differed in their effectiveness. In moderate epidemics, hilling was partially effective. It was concluded that complete control of foliage late blight and use of resistance may be the best strategy to manage tuber infection. However, poor correlation was observed between foliage resistance and tuber resistance. The use of tuber resistance in conjunction with cultural practices such as ridging and other agronomic practices such as haulm destruction before harvest may be beneficial. There is a need to identify fungicides for the control of tuber infection. As singular approaches may not be successful, integrated disease management strategies for resource poor farmers may have to be developed.