

# **Economic Impact of Rice Blast in Mwea**

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## **Abstract**

Rice is one of the most important cereal crops in Kenya coming third after maize and wheat. It forms a very important diet for majority of Kenyans and is the source of livelihood in the Mwea region, Kenya. The demand for rice in Kenya has increased dramatically over the last few years while production has remained low. This is because rice production has been faced with serious constraints notably plant disease of which the most devastating is rice blast. Rice blast is caused by *Magnarpothe oryzae* fungus and is the one of the most frequently and costly rice disease in the Mid-South and temperate rice growing regions. The aim of this study was to determine the economic impact of rice blast on yield of susceptible varieties, estimate the yield losses caused by rice blast on susceptible varieties in Mwea, and estimate the increased cost of production due to the rice blast disease. The study involved a survey in which a sample population of 50 farmers from a targeted population of 500 within Mutithi in Mwea region were interviewed. The collected data was analyzed using SPSS software. Descriptive statistics were used to summarize the socio-demographic characteristics and farmers perception on rice blast disease. It was found that farmers in Mwea continue to count on average 14% yield loss every season due to blast occurrence. The degree of yield losses depended on the rate of blast infection; in 2014 the disease was most prevalent at 62% whereas the average yield loss being 39% per acre. The rice cultivar Basmati 370 was ranked as the most susceptible to blast in spite being ranked the most grown variety in Mwea; this is because of its high demand and market price. Farmers spent on average US \$9.00 to mitigate the disease. However, it was noted that farmers could not realize the impact of rice blast on cost of production as the increased cost was covered by the premium prices of the rice. Our findings suggest that any reduction in blast via breeding will have significant positive impacts in reducing food insecurity in Kenya through increased supply of rice, as well as decreased price due to high productivity at a lower cost.