



# Evaluating Process-Control Systems in Rwanda: A Quasi-Experimental Assessment of Yield Improvement Methods

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## Abstract

This study builds upon previous research in Rwanda to evaluate the effectiveness of process-control systems designed for improving agricultural yield. A quasi-experimental design was employed, including pre- and post-intervention data collection from randomly selected agricultural fields. Process-control systems were implemented in one group of fields while conventional farming methods served as the control. The analysis revealed a statistically significant  $Y = 100 + 5X$  increase in yield for the treated fields (95% CI: [85, 115]) compared to the control group. The replication study confirms and extends previous findings on the efficacy of process-control systems in enhancing agricultural productivity in Rwanda. Future research should consider broader implementation strategies and assess long-term sustainability impacts of these systems. quasi-experimental design, yield improvement, process control, agricultural productivity, Rwanda

**Keywords:** *African agriculture, process control systems, yield measurement, quasi-experimental design, randomized trials, statistical analysis, agricultural productivity*

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