



# **KENYATTA UNIVERSITY**

## **Effects of cytokinin and Gibberellic Acid on morphological development, quality and yield of French beans grown under different irrigation water schedules**

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A research proposal submitted in partial fulfillment of the requirements for the degree of Masters of Science in Agronomy, department of Agricultural Science and Technology, School of Agricultural Enterprise and Development of Kenyatta University

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## DECLARATION

This research proposal is my original work and has not been presented for a degree in any other University or any other award.

**Ikiba, Lawrence Kalawa**

Signature 

Date 26/06/14

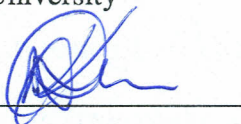
## Supervisors

This research proposal has been approved for submission with our authority as University supervisors.

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## **Abstract**

Farmers in Kenya experience low and unreliable rainfall that affects agricultural yields and family incomes. Attempts to address this situation have been further hampered by poor rainfall reliability and distribution. Integration of growth regulators in crop production are among the options of improving crop yields. Growth regulators can stimulate crop morphological development, quality and yield under conditions of poor water moisture. There are different growth regulators in the market that manifest different physiological effects on plant morphological development, quality and yield. In this study two growth regulators cytokinin (CK) and gibberellic acid (GA) will be used on French beans grown under different irrigation water schedules. The effects of growth regulators will be assessed on the basis of French bean morphological development, quality and yield under different irrigation water schedules. The study will also assess the effects of growth regulators against different amounts of irrigation water and interactive effects of growth regulators and water stress on French beans morphological development, quality and yields. The study will be conducted at National Agricultural Research Laboratories (NARL), of Kenya Agricultural Research Institute, (KARI)-Nairobi County. The study purposes to enhance French beans morphological development, quality and yields under different irrigation water schedules. The results will be extrapolated for other crops on different parts of the country. The experimental plots will constitute combination of growth regulators and different irrigation water schedules laid out in nine blocks. There will be three blocks under irrigation at intervals of two, four and six days with three replications. There will be eight plots in each block where three will be treated with gibberellic acid and the other three with cytokinin at three concentration levels. There will be a control plot in each block. The data will be analyzed using analysis of variance (ANOVA) at 95% confidence.