Faculty of Agricultural Sciences

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AN INVESTIGATION ON THE USE OF DIFFERENT FERTILISERS AT EACH GROWTH STAGE OF THE CROP ON THE YIELD AND QUALITY OF Lycopersicon Esculentum (TOMATO)

BY

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THIS DISSERTATION IS SUBMITTED IN PARTIAL FULFILLMENT OF THE BACHELOR OF SCIENCE HONOURS DEGREE IN CROP AND SOIL SCIENCES AT LUPANE STATE UNIVERSITY.

JUNE 2014
ABSTRACT

Tomato production in Zimbabwe is one of the backbones of horticultural production. The tomato is a healthy vegetable consumed almost by everyone on a daily basis and it also sustains the livelihood of most small-scale farmers.

The objective of this research was to identify the method of fertiliser application that would result in high yield and good fruit quality. A hybrid determinate variety called Galina from Nitric Seeds was used. It has a lifespan of 120 days and takes 60 days to maturity with a potential yield of 3-3.5kg/plant which gives a total of 75-90tons/ha. Two treatments, A and B each with 40 plants were fertilised differently. Treatment A was fertilised with different fertilisers at different growth stages of the crop; Compound S (7:21:8) at planting, Quick-start Plus (10:46:10) at initiation, Quick-grow Plus (20:10:20) at flower formation, Best-bloom Plus (15:5:35) and Calcium Nitrate (19%Ca) at fruiting stage. Treatment B was applied with Compound S (7:21:8) as basal application at planting, Ammonium Nitrate (34.5%N) at 4 weeks after planting as topdressing and Potassium Sulphate (0:0:43:18) when fruits were marble size. The second treatment is what is recommended for farmers by the Zimbabwe Fertiliser Company (ZFC). The other agronomical practices like spraying, weeding and irrigation were the same for both treatments. Parameters of interest were yield in terms of amount of tomato fruits harvested in kilograms and the quality of the fruits which was measured in terms of the shelf life. This was done by observing the number of days it took for the fruits to deteriorate (when the fruit skin became soft and shrunk) after harvesting at room temperature.

A Completely Randomised Design (CRD) was used and the yield data obtained was analysed using the Genstat Software Version 11.