

**EFFICACY OF CASSAVA-MAIZE INTERCROP ON WEED CONTROL AND  
YIELD OF COMPONENT CROPS**

**BY**

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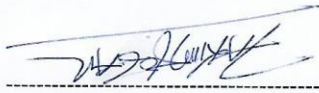
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**CERTIFICATION**

This is to certify that this work was carried out by EJALONIBU, MUSA SHOLA (06/10AC141) of the Department of Agronomy, University of Ilorin, Ilorin, Nigeria, for the award of Master of Science in Agronomy.



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## **DEDICATION**

This project is dedicated to the Almighty Allah, the source of my strength, for His infinite mercies and favour that surrounded me from the beginning of my programme, till the end.

Also my Late Father, Mallam Aliu Aremu Ejalonibu, may his soul rest in peace.

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## ABSTRACT

Low yield of maize/cassava intercrop is majorly due to some identified constraints like poor density of component crops, inappropriate application of fertilizer and weed infestation. This study was conducted in Otukpo-Icho, southern Guinea savanna of Nigeria and Igbariam, Humid Tropical Forest of Nigeria during 2018/2019 cropping season to determine the weed control efficiency and performance of cassava/maize intercrop. The trials were laid out as randomized complete block design in a factorial arrangement with four replications. Cassava (TME 419) was planted as 1m x 0.8 m (12,5000 plants/ha) while maize (SAMMAZ 35) seeds were sowed at 1m x 0.5 m (20, 000 plants/ha) and 1m x 0.25 m (40, 000 plants /ha). Fertilizer was applied as 90 kg N,20 kg P, and 40 kg K /ha versus 75 kg N, 20 kg P and 90 kg K /ha. Data were collected on plant height, number of leaves and stem girth at 3,6 and 8WAS for maize while 3, 6 and 9 MAP for cassava. Weed density and weed biomass were estimated at 4, 8, 12,16 and 20 WAP. All the data collected were subjected to analysis of variance (ANOVA) using Genstat statistical package and significant were separated using LSD at  $P < 0.05$ . The results showed *Ageratum houstonianum* Mill. (96.29), *Cyperus rotundus* Linn. (35.84) and *Digitaria horizontalis* Willd. (16.95) were prevalent in Igbariam while *Lindernia crustacea* (L.) F. Muell. (59.35), *Stachytapheta jamaicensis* (Linn.) Vahl. (37.30), *Oldenlandia corymbosa* Linn. (27.33), were prevalent in Otukpo-icho site. Weed density peaked at 8WAP. Intercropped plots had

significantly lower weed infestation. The higher maize grains yield (3.69 - 4.25 ton/ha) obtained in 12,500 + 40,000 plants/ha maize + 90:20:40 kg/ha of NPK. Higher root yield (22.34 ton/ha) recorded in intercrop plots obtained in 12,500 plants/ha cassava + 20,000 plants /ha maize + 75:20:90 kg/ha of NPK. This study recommended a broad spectrum herbicide for Igbariam and Trazines mixture for Otukpo-Icho and any supplementary weed control strategy necessary targeted at the peak of weed emergence (8WAP). If maize is main crop, farmer should plant 12,500 plants/ha of cassava and 40,000 plants/ha of maize with application of 90:20:40 kg/ha of NPK. If cassava is main crop, farmer should plant 12,500 plants/ha of cassava and maize 20,000 plants/ha with application of 75:20:90 kg/ha of NPK both suppresses weed.