

PDF - GRAIN YIELD AND YIELD COMPONENTS OF EARLY MAIZE (ZEA MAYS L.) VARIETIES UNDER DIFFERENT POPULATIONS AT BENIN CITY IN THE NIGERIAN RAINFOREST - researchcub.info
ABSTRACT

This study was carried out at the Research Farm of the Faculty of Agriculture, University of Benin to investigate the effect of different population levels on growth and yield of extra-early and early maturing maize varieties. The trial was laid out in a split-plot factorial in a randomized complete block design with three replicates. Plant population: 40,000, 53,333 and 66,666 plants ha⁻¹ and variety: TZEE-Y, TZEE 2004, TZEE 2009, 99 EVDT were used. The characters evaluated include days to tasselling, days to silking, anthesis –silking interval, total dry matter, number of grains, harvest index, seed weight, grain yield, stover yield. The result obtained showed that these characters except grain yield were significantly influenced by plant population and maize variety. Grain yield was significantly influenced by interaction. The study showed that TZEE-Y was best for grain production with better performance at 66,666 plants ha⁻¹ and may be cultivated in the Nigerian rainforest.

CHAPTER ONE

INTRODUCTION

Maize (*Zea mays* L.) is the most important cereal crop widely grown in sub-Saharan Africa; it has the ability to thrive in different ecological environments (IITA, 2008, FAO, 1966). It is also known as Indian corn in some countries, is an annual, short day, cross pollinated crop belonging to the family Poaceae, genus *Zea* and tribe Maydeae. The world total hectareage under maize is put at about 118 million hectares out of which about 19 million hectares are located in Africa (IITA, 1980). In Africa, the total annual production is about 25 million tonnes which represented 6% of the total world production (Hartmans, 1985). The total production of maize in Nigeria averaged 9.3 million tonnes in 2012 from 9.2 million tonnes in 2011 (USDA GAIN, 2012). According to FAO (2007), Africa harvests up to 29 million hectares of maize, with Nigeria being the largest producer in the Sub-Saharan Africa, harvesting 3%.

It is now a staple food in Nigeria and now gradually competes with well-established, major cereal crops including sorghum (*Sorghum bicolor* L.) and millet (*Panicum miliaceum* L.). Global production of maize exceeded 400 million tonnes per year, compared to almost 500 million tonnes of wheat and just less than 400 million tonnes of rice (Ristanovic, 2005).

A plant population of 53,333 plants ha⁻¹ with a spacing of 75cm by 25cm and a seed rate of 25-35kg ha⁻¹ was recommended by (Lucas, I. A. and Remison S. U. 1982). Large ear size is widely accepted and readily sought after than the small ear size. However, late maturing maize varieties are mainly grown in the humid rainforest where there is abundant rainfall that encourages two planting seasons in a year. Therefore, growing of extra early and early maize varieties in the humid rainforest has the potential to increase the number of production cycles per year, resulting in total reduction of food insecurity and hunger in the region. Thus, this study was initiated with the objective to determine the optimum plant population that will give the best agronomic response in four maize varieties (TZEE-Y, TZEE-2004, 99EVDT, TZEE-2009).

GRAIN YIELD AND YIELD COMPONENTS OF EARLY MAIZE (ZEA MAYS L.) VARIETIES UNDER DIFFERENT POPULATIONS AT BENIN CITY IN THE NIGERIAN RAINFOREST

The complete project material is available and ready for download. All what you need to do is to order for the complete material. The price for the material is NGN 3,000.00.

Make payment via bank transfer to Bank: Guaranteed Trust Bank, Account name: Emi-Aware technology, Account Number: 0424875728

Bank: Zenith Bank, Account name: Emi-Aware technology, Account Number: 1222004869

or visit the website and pay online. For more info: Visit <https://researchcub.info/payment-instruct.html>

After payment send your depositor's name, amount paid, project topic, email address or your phone number (in which instructions will sent to you to download the material) to +234 70 6329 8784 via text message/ whatsapp or Email address: info@allprojectmaterials.com.

Once payment is confirmed, the material will be sent to you immediately.

It takes 5min to 30min to confirm and send the material to you.

For more project topics and materials visit: <https://researchcub.info/> or For enquiries: info@allprojectmaterials.com or call/whatsapp: +234 70 6329 8784

Regards!!!