



بسم الله الرحمن

حيم



**Sudan University of Science and Technology**

**College of Graduate Studies**

**Department of Agronomy**

**Effect of intercropping Phillipsara on growth  
characters of forage Maize**

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## بسم الله الرحمن الرحيم

قال تعالى:-

أَنْزَلَ وَمِنْهُمُ اللَّيْمِيُّ مَاءً فَأَخْرَجْنَا بِهِ نَبَاتَ كُلِّ شَيْءٍ فَأَخْرَجْنَا مِنْهُ  
النُّخْرَ جُ مِنْهُ ضَبَابٌ مُتْرَاكِبًا وَمِنَ النَّخْلِ مِنَ طَلْعِهَا قِنْوَانٌ دَانِيَةٌ وَجَنَّاتٍ مِنْ  
أَعْنَابٍ وَالزَّيْتُونَ وَالرُّمَّانَ مُشْتَبِهًا وَتَشَاوِيرَهُ لِنُظِرُ وَإِلَى ثَمَرِهِ إِذَا أَثْمَرَ  
وَيَنْدِعُهُ إِنَّا فِي ذَلِكَ لِقَوْمٍ يُؤْمِنُونَ (99))

صدق الله العظيم

سورة الانعام الاية (99)

قال تعالى:-

مُيْرًا وَالتَّانِسُوتُ الْمَاءِ إِلَى الْأَرْضِ الْجُرُزِ فَنُخْرُجُ نَبَاتًا كُلِّ مِنْهُ  
أَنْعَامُهُمْ أَفَلَا يُبْصِرُونَ (27))

صدق الله العظيم

سورة السجدة الاية (27)

DeDication

To my father

To my mother (Neamat)

To my brother and my sisters

To my dear friends

And colleagues

With love and respect

**Acknowledgement**

My great thanks are extended firstly to Almighty Allah who supported me to finish this work successfully. I am indebted to Prof. Dr. Yassin Dagash, my supervisor for his invaluable, scientific guidance, suggestions and the time he spent stumbling discussion. My thanks are extended to the staff members of Agronomy Department, College of Agricultural Studies, Sudan University of Science and Technology. Last but, not least, I would like to express my thanks to my parents and family for their ultimate support and encouragement.

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## **Abstract**

The experiment was carried out at the Sudan University of Science and Technology at the demonstration farm of the College of Agriculture Studies at Shambat during the period of summer 2016. The experiment was laid out on randomized complete block design(RCBD) with three replications and four treatments, Maize(control)A, 25% phillipsara with

75% maize (1:3)B, 50% phillipsara with 50%maize(2:2)C, 75%phillipsara with 25% maize (3:1)D, in one hole of different seeding combinations of Maize, and Phillipsara. Measurements were obtained for plant height , number of leaves , stem diameter every two weeks and fresh weight and dry weight at the end of the experiment. In this study significant differences were recorded for plant height and number of leaves and stem diameter, while no significant differences were observed for the other parameters. Treatment 25% phillipsara with 75 % maize (B) gave the best results for plant height(148.20cm), fresh weight(305.60g) and dry weight (108.90g).

## المستخلص

أجريت هذه التجربة بالمزرعة التجريبية في كلية الدراسات الزراعية – جامعة السودان للعلوم والتكنولوجيا - شمبات , وذلك في صيف 2016 بهدف دراسة تأثير الزراعة المتداخلة للفلبسارا مع الذرة الشامية , وصممت التجربة باستخدام تصميم القطاعات العشوائية الكاملة , واربع معاملات هي ذرة شامية (شاهد) A , 25% فلبسارا مع 75% ذرة شامية (3:1) B , 50% فلبسارا مع 50% ذرة شامية (2:2) C , 75% فلبسارا مع 25% ذرة شامية (1:3) D , في الحفرة الواحدة , وكررت ثلاث مرات , ولقد تم قياس طول النبات وعدد الاوراق وسمك الساق كل

اسبوعين والوزن الرطب والوزن الجاف عند نهاية التجربة . أظهرت نتائج التحليل وجود فروقات معنوية في طول النبات وعدد الاوراق و سمك الساق اما بقية القياسات فلم تظهر أي فروقات معنوية . المعاملة 25% فلبسار مع 75% ذرة شامية ( B ) أعطت افضل النتائج في طول النبات (148.20سم ) والوزن الرطب (305.60جم) والوزن الجاف (108.90جم).