

# **Dedication**

I would like to dedicate this work to:

My father

My mother

My wife and daughters

My son

My brothers and sisters

My colleagues and friends

With love

Mohammed Hamad

## **Acknowledgment**

First of all my thanks and pries is due to Almighty Allah, the beneficent, the merciful, for giving me health and strength to accomplish this work.

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My best regard to all without any exceptions.

## ABSTRACT

Field experiment was conducted for one growing season(2009/2010)in the Demonstration Farm of College of Agricultural Studies at Sudan University of Science & Technology at Shambat to investigate the effect of sowing date on two Soybean genotypes (*Glycine max* L.),G1, 1904- 5E(E)and G2, 1905 -2E(M) on growth, yield and yield components. Lay out of experiment was split block design with four replications, growth parameters were number of leaves, plant height, yield and yield components (50% and 100% flowering, weight of pods/plant, number of seeds/pod, number of seeds/plant, shoot dry weight 100 seeds weight, weight of seeds/plant and harvest index). Fourth reading every fifteen days (30, 45, 60, 75 days after sowing) showed significant difference only in first reading (30 days) at first sowing date. The result showed that time of flowering was significantly effect by sowing date and genotype. Late sowing date resulted in early days of flowering. Yield components (weight of pods/plant, number of seeds/ pod, numbers of seeds/plant shoot dry weight) and yield (kg/ha) revealed highly significant difference in sowing date only. While 100 seeds weight, weight of seeds/plant and harvest index showed no significant differences may be the former two parameters are genetically controlled. In conclusion, the first sowing date at July 2 was the best sowing date for growing soybean in this climatic zone of Sudan according to the above finding. G2 (1905) was favorite than G1 (1904) but without clear significant evidence. The interaction between sowing date and genotypes also gave superiority to S1G2 for all parameters with slight difference among treatments.

## ملخص الدراسة: أثر مواعيد الزراعة على نمو وإنتاجية طرزين وراثيين من فول الصويا:

أجريت تجربة حقلية لموسم نمو (2009م-2010م) في المزرعة التجريبية لكلية الدراسات الزراعية، جامعة السودان بشمبات لفحص أثر مواعيد الزراعة علي طرزين وراثيين من فول الصويا { $G_1=1904-5E(E)$ ,  $G_2=1905-2E(M)$ } علي النمو والإنتاجية ومكونات الإنتاجية. مقياس النمو كانت عدد الأوراق، طول النبات، الإنتاجية و مكونات الإنتاجية 50% و 100% من الأزهار، وزن القرون للنباتات، وزن البذور للنباتات و دليل الحصاد. وقد استخدم تصميم القطاعات المنشقة داخل التجربة مع أربعة مكررات، حيث أخذت أربعة قراءات لكل 15 يوم من (30، 45، 60 و 75 يوم من الزراعة). ووجدت فروقات معنوية فقط في 30 يوم من مواعيد الزراعة الأولى.

أظهرت النتائج أن زمن الأزهار ذو تأثير معنوي مع مواعيد الزراعة والطرزين، مواعيد الزراعة المتأخرة نتج عنها إزهار مبكر. مكونات الإنتاجية (وزن القرون للنبات، عدد البذور للقرون، وزن البذور للنبات، وزن النبات الخضري الجاف و الإنتاجية أعطت تأثير معنوي لمواعيد الزراعة.

وزن الـ 100 حبة ووزن البذور للنبات و دليل الحصاد لم يعطي فروقات معنوية.

خلاصة، أول تاريخ زراعة 2 يوليو. أنسب مواعيد لزراعة فول الصويا في الظروف المناخية السودانية (ولاية الخرطوم) على حسب المعطيات السابقة.

وكان الطرز الوراثي  $G_2$  أفضل من الطرز الوراثي  $G_1$  ولكن بدون فروقات معنوية. وقد أظهر التداخل بين مواعيد الزراعة الطرز الوراثي  $S1G_2$  تفوق ولكن بزيادة طفيفة مقارنة مع باقي المعاملات.

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