

DEDICATION

**This work is dedicated
with love**

**and gratitude to my
parents, brothers, sisters,
relatives and friends.**

ACKNOWLEDGEMENT

All the praises are attributed to the sole creator of the whole universe almighty Allah, the most beneficent, the most merciful and the most compassionate, for giving me the strength to carry out this work. I invoke Allah's blessings and peace for my beloved prophet Muhammad peace be upon him.

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فَلْيَنْظُرِ الْإِنْسَانُ إِلَى طَعَامِهِ {24} أَنَا صَبَبْنَا الْمَاءَ صَبًّا }
{25} ثُمَّ شَقَقْنَا الْأَرْضَ شَقًّا {26} فَأَنْبَتْنَا فِيهَا حَبًّا {27}
وَعِنَبًا وَقَضْبًا {28} وَزَيْتُونًا وَتَخْلًا {29} وَحَدَائِقَ غُلْبًا {30}
وَفَاكِهَةً وَأَبًّا {31}.

صدق الله العظيم

{ } سورة عبس

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Abstract in English

This study was carried out under nursery condition in Sudan University of Sciences and Technology, College of Agricultural Studies Department of Horticulture, to investigate the effect of chemical and cultural treatments on seed germination of *Carica papaya L.* in intact seeds and without sarcotesta during the year 2011, germination parameters.

Both intact and sarcotesta removed seeds were soaked in either KNO_3 , HSO_4 , hot water, cold water and compared against control. Data were collected for germination percentage, germination rate, Seedling height, root length, shoot and root fresh and dry weights

The results showed that soaking seed of removed sarcotesta on potassium nitrate gave the highest germination percentage, While the highest germination percentage for intact seeds were recorded when seeds were treated with hot water. The same pattern was observed for germination rate. However, the highest number of leaves was recorded for the cold water treatment in seeds without sarcotesta and in controls and KNO_3 treatments in intact seeds.

The plant height and root dry weight was best in controls while no significant difference was observed for root length and shoot fresh weight in all treatments.

ملخص الأطروحة

أجريت هذه الدراسة تحت ظروف المشتل بقسم البساتين كلية الدراسات الزراعية جامعة السودان للعلوم والتكنولوجيا بغرض دراسة أثر بعض المعاملات الكيميائية والزراعية على إنبات بذور الباباي المقشرة وغير المقشرة وذلك خلال العام 2011م.

تم غمر البذور المقشرة وغير المقشرة في كل من نترات البوتاسيوم وحمض الكبريتيك والماء الساخن والماء البارد وقورنت مع الشاهد غير المعامل لمعرفة الأثر على الإنبات.

نتج أعلى نسبة إنبات عن معاملة نترات البوتاسيوم في البذور المقشرة، أما في البذور غير المقشرة فقد تم الحصول على أعلى نسبة إنبات وسرعة إنبات من معاملة الماء الساخن.

نتج أعلى عدد أوراق عن معاملة الماء البارد في البذور المقشرة، وفي غير المقشرة نتج أعلى عدد أوراق عن معاملة الشاهد ومعاملة نترات البوتاسيوم.

ارتفاع النبات ووزن الجذور الجاف كان الأفضل في الشاهد، بينما لم ترصد فروق معنوية في طول الجذور ووزن المجموع الخضري في كل المعاملات.

