

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

Dedication

To the Kindful Parents in the world My Father and Mother.

To my sister and brothers

To my friends

Acknowledgment

Thanks at the beginning and end to great Alla. I would like to express my deep gratitude and sincere appreciation to my supervisor Dr. Ali Khalid for his great effort and continuous follow up of this work, especial acknowledgment and deep and warm thanks are due to Mr. Galal Abbas, Mr. Mahil Mohammed, Mr. Adel kamal, Mr. Amin and Mr. Mutaz Hassan for their help during the field survey and data collection. My deep and warm thanks are extended to Dr. Mohammed Osman Abnaof for his help. Deep thanks are also to Dr. Hala, Dr. Gammar eldein and Dr. Abdalla el Feel.

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Abstract

This study was conducted at Getain locality in White Nile state. It lies between latitudes 15°: 13" N- 13°: 30"N and longitudes 32°: E- 33°E. The objective of this study is to investigate the soil seed bank under different conditions and practices in the study area.

The soil seed bank was analyzed for the number of live and dead seeds at three depths in two types of soils within the study area.

The study showed that 13 species were found in site (A) is 12 species in site (B), clay and sand soil respectively.

The analysis showed the following results: the seed bank density was higher in upper soil depths as compared to the lower levels for both types of soils. It was also found that the seed density decrease with increasing depth. The live seed density ranges from 789- 7150 seed/m² where as the density of the dead seed s ranges from 2410- 12150 seeds /m².

The plant species to which the live seeds belong were *Chloris gayana*, *Panicum turgidum*, *Aristida adscensionis*, *Tribulus terrestris*, *Cenchrus ciliaris*, *Schoenfeldia gracilis*, *Indigofera spp*, *Eragrostis tenella*, *Achyranthus aspera*, *Barchiaria mutica*, *Cenchrus biflorus*, *Corchorus spp* and *Dactyloctenium aegyptium*,

The plant species to which the dead seeds belong were *Chloris gayana*, *Panicum turgidum*, *Aristida adscensionis*, *Tribulus terrestris*, *Cenchrus ciliaris*, *Schoenfeldia gracilis*, *Indigofera spp*, *Eragrostis tenella*, *Achyranthus aspera*, *Brachiaria mutica*, *Cenchrus biflorus*, *Corchorus spp* and *Dactyloctenium aegyptium*.

ANOVA results showed that there were high significant differences in the number and density of live and dead seeds within depth and species in the two sites.

The study recommended reseeding and replanting the area with plant species so as to prevent more regeneration degradation with regard to the prevailing ecological condition

الخلاصة

دراسة المخزون البذري للتربة

أجريت الدراسة الحالية بمحلية الـ قطينة بولاية النيل الأبيض التي تقع بين خطي طول 32° ق - 33° ق و خطي عرض 15° 13' ش - 13° 30' ش وهدفت هذه الدراسة لمعرفة مخزون التربة من البذور تحت ظروف وممارسات مختلفة في منطقة الدراسة لـ قد تم تحليل مخزون التربة من البذور الحية والميتة لكل عمق من ثلاثة أعماق مختلفة لمنطقة الدراسة و لـ قد وجد أن مخزون البذور أعلى في الطبقات العليا للتربة مقارنة بالطبقات السفلى منها. كما وجد أيضا أن كثافة البذور تقل بزيادة عمق التربة، تراوحت كثافة البذور الحية من 789- 7150 بذرة/متر² ، بينما تراوحت كثافة البذور الميتة من 12150- 2410 بذرة/متر².

الأنواع النباتية السائدة التي تنتمي إليها البذور الحية هي عفن الخديم *Chloris gayana*، تمام *Panicum turgidum*، الـ قو *Aristida adscensionis*، ضريسة *Tribulus terrestris*، حسكيت ناعم *Cenchrus ciliaris*، ضنب الناقة *Schoenfeldia gracilis*، شرايا *Indigofera spp*، البنو *Eragrostis tenella*، خشم النسيبة *Achyranthus aspera*، كوريب *Brachiaria mutica*، حسكيت خشن *Cenchrus biflorus*، خضرة برية *Corchorus spp*، أبو اصابع *Dactyloctenium aegyptium*.

الأنواع النباتية السائدة التي تنتمي إليها البذور الميتة هي عفن الخديم *Chloris gayana*، تمام *Panicum turgidum*، الـ قو *Aristida adscensionis*، ضريسة *Tribulus terrestris*، حسكيت ناعم *Cenchrus ciliaris*، ضنب الناقة *Schoenfeldia graclis*، شرايا *Indigofera spp*، البنو *Eragrostis tenella*، ناعم، خشم النسيبة *Achyranthus aspera*، كوريب *Brachiaria mutica*، حسكيت خشن *Cenchrus biflorus*، خضرة برية *Corchorus spp*، أبو اصابع *Dactyloctenium aegyptium*.

أيضا خلال التحليل الاحصائي بواسطة برنامج (SAS) أظهرت النتائج أن هناك فروقات معنوية عالية بالنسبة للبذور الميتة في الأعماق المختلفة للأنواع النباتية.

أوصت الدراسة بإجراء المزيد من الدراسات في مجال مخزون التربة من البذور في منطقة الدراسة والمناطق المشابهة، كما أوصت أيضا بإعادة نثر البذور وزراعت الأنواع المذقرضة مع الاخذ في الاعتبار الظروف الأيكولوجية لمنع تدهور الغطاء النباتي .

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