Dedication

To my Parents and the soul of my brothers

Aiman and Abdeen

Acknowledgement

First, of all I am grateful to Almighty Allah For his great blessing. My sincere thanks and gratitude to my Supervisor Prof. Abdel Gabar Eltayeb Babiker, For encouragement help, guidance and continued support. Due thanks are to the staff of the Department of Plant Protection, College of Agricultural Studies Sudan University of Science and Technology. Thanks are also due to my colleagues

.brothers sisters and friends

الخلاصة

أجريت هذه التجارب بمعمل وقاية النبات بكلية الدراسات الزراعية جامعة السودان للعلوم والتكنولوجيا
(الخرطوم- شمبات) وذلك لمعرفة تاثير الضوء والظلام والتجفيف علي إنبات بذورام برمبيطة، صممت التجارب علي نسق التصميم العشوائي الكامل ووجد ان نسبة الإنبات تكون عالية في الضوء أكثر منه في الظلام حيث كانت نسبة الإنبات بعد 24ساعة إلي 72ساعة في الضوء عالية مقارنة مع الظلام. لوحظ أن تعريض البذور لفترة ضوئية قبل تعريضها للظلام يؤدي الي زيادة الإنبات. عند تبلل بذور ام برمبيطة لفترة في الظلام قبل تعرضها للضوء تقل نسبة الإنبات, يقل الإنبات بإذدياد فترة التبلل في الظلام. البذور التي لم تتعرض للظلام اعطت نسبة إنبات 84%ـ ، تعرض البذور للظلام لمدة 12ساعة أو أكثر يؤدي الي تثبيط الإنبات بفروقات معنوية. تعرض البذور لفترة إظلام 24ساعة أدي الي تقليل نسبة الإنبات الي 1%. تعرض البذور لفترة تجفيف 24,12ساعة بعد التبلل أدى الي ذيادة في الإنبات بنسبة تراوحت بين 59,49%.

Abstract

The experiments were undertaken at the laboratory of the Plant Protection Department, College of Agricultural Studies, Sudan University of Science and

Technology at Shambat. The experiments were conducted in the period April to June 2007. The objectives of the experiment were to study the effects of light, darkness and wetting and drying period on germination of the aquatic weed *Typha angustata* Bory and chub. The seeds were incubated at ambient temperature. Light manipulation was effected by an electric bulb (Candle 60W) and by wrapping the plates, containing the seeds, in aluminum foil. Treatments were arranged in Complete Randomized Design (CRD) with 6 replicates. The results showed that *T. angustata* displayed negligible germination in the dark. Light promoted germination considerably. Incubation of the seeds in the dark for 24 and 72 h resulted in 3 and 19 % germination. Corresponding germination figures in light were 87 and 91 %. Pre-soaking of the seeds, in light for 2h promoted germination in the dark. Seeds pre-soaked in water and exposed to light for 2 h prior to incubation in the dark for 48 h displayed 95% germination. Seeds pre-soaked in water and incubated in the dark showed reduced germination on subsequent exposure to light. Seeds pre-soaked in the dark for 12 h or more prior to exposure to light for 2 h, displayed 3-6% germination, while those pre-soaked in continuous light exhibited 84% germination. Drying of dark imbibed seeds prior to exposure to light restored germination, albeit not completely. Plausible mechanisms of light promotion of *T. angustata* germination and the significance of dark inhibition of germination on its management were discussed.

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