

DEDICATION

To my Father

To my Mother

To my Family members

To my Colleague and friend (Salha Ebeid)

To all my Colleagues at Batch (8)-M.Sc.

To all my Colleagues at PPD- Khartoum state



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In the name of Allah, most Gracious, most Merciful, praise and thanks be to Allah for blessing and offering me health and strength to accomplish this work.

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Abstract

This study was carried out in the laboratory of Entomology, Plant Protection Department, College of Agricultural Studies, Sudan University of Science and Technology (SUST) to evaluate the lethal effect of hexane extracts of the leaves of Rehan (*Ocimum basilicum*) and Lupine seeds (*Lupinus termis*) against the 3rd larval instars of spiny bollworm (*Earias insulana* Boisduval, 1833). Also further experiments were conducted to investigate the efficacy of sesame oil as a synergist. Four concentrations of hexane extracts of each plant were prepared and used in this study. The results showed that all tested concentrations of the two plant extracts gave higher significantly mortality percentage than the control. The lowest concentration (1.25%) of hexane extract of Rehan leaves gave only (36.7) mortality after 24 hrs of exposure; however, when mixed with sesame oil it increased to (60%). The synergized hexane extract of Rehan leaves at (5% and 10%) concentrations generated (93.3%) and (96.7%) mortality respectively after 24 hrs of exposure and the results were not significantly different from the standard insecticide, Engeo.

On the other hand, the lowest concentration (1.25%) of hexane extract of lupine seeds gave only (20%) mortality after 24 hrs of exposure but when mixed with sesame oil it increased to (50%) mortality. After 72 hrs of exposure the highest concentrations of hexane extract of lupine seeds (10%) gave only (63.3%) whereas the same concentration of synergized hexane extract of Rehan leaves generated (100%) mortality after 72 hrs.

The results obtained after 72 hrs of application showed that the LC₅₀ values were (1.51 and 3.91) for Rehan and lupine respectively, but when sesame oil was administered the LC₅₀ values were reduced to (0.75 and 1.06) for Rehan leaves and Lupine seeds respectively.

ملخص الأطروحة

تم إجراء التجارب المعملية داخل معمل الحشرات ، قسم وقاية النباتات ، كلية الدراسات الزراعية ، جامعة السودان للعلوم والتكنولوجيا. هدفت هذه الدراسة لتقييم الأثر القاتل للمستخلصات الهكسانية لأوراق الريحان (*Ocimum basilicum*) وبذور الترمس (*Lupinus termis*) ضد الطور اليرقي الثالث لديدان اللوز الشوكية (المصرية). كما هدفت أيضاً لإختبار فعالية زيت السمسم كمنشط للمستخلص النباتي والذي تم خلطه بنسبة 1:10 (المستخلص : الزيت).

أوضحت النتائج ان كل التركيزات المختبرة من كلا النباتين أحدثت نسبة موت عالية وبفروقات معنوية مقارنة بالشاهد. أعطى اقل تركيز (1.25%) من المستخلص الهكساني لأوراق الريحان فقط نسبة موت (36.7%) ولكن عند خلطه مع زيت السمسم أعطى زيادة معنوية في نسبة الموت وصلت إلي (60%) بعد 24 ساعة من المعاملة. أعطت التركيزات (5% و 10%) من المستخلص الهكساني لأوراق الريحان المنشطة بزيت السمسم نسبة موت (93% و 96.7%) علي التوالي بدون فرق معنوي مقارنة بمبيد الانجيو بعد 24 ساعة من المعاملة.

ومن ناحية اخرى اعطى اقل تركيز (1.25%) من المستخلص الهكساني لبذور الترمس فقط نسبة موت (20%) بعد 24 ساعة من المعاملة ولكن عندما خلط بزيت السمسم اعطى زيادة معنوية في نسبة الموت وصلت إلي (50%). اعطى أعلى تركيز (10%) من المستخلص الهكساني لبذور الترمس فقط نسبة (63.3 %) في حين ان نفس التركيز من المستخلص الهكساني لأوراق الريحان اظهر نسبة موت (100%) بعد 72 ساعة من المعاملة.

كما أوضحت النتائج المتحصل عليها بعد 72 ساعة من المعاملة ان التركيزات النصفية القاتلة هي (1.51-3.91) للريحان والترمس ولكن عندما اضيف زيت السمسم للمستخلصان نقص التركيز النصفى القاتل لاوراق الريحان وبذور الترمس إلي (0.75 -1.06) علي التوالي.

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