

RECOMMENDATIONS

- Care must be taken while dealing with pesticides.
- Personal protective equipments should be used.
- Reduce the amount of pesticides you consume by washing and scrubbing all fresh fruits and vegetables thoroughly under running water.
- Avoid prolonged contact with pesticides in closed or poorly ventilated spaces and breathing vapors from pesticides while handling pesticides without appropriate protective equipment.
- Washing hands after handling pesticides or their containers, splashing or spraying pesticides and avoid touching pesticide-treated surfaces.

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الملخص العربي

أجريت هذه الدراسة في مختبر علم السموم البيئية "قسم الدراسات البيئية، معهد الدراسات العليا والبحوث - جامعة الاسكندرية. وكان الهدف من هذه الدراسة هو التحقيق في قدرة الميثوميل للحث على الإجهاد التأكسدي، الاضطرابات البيوكيميائية والتغيرات النسيجية مقارنة مع استخدام المبيد الحيوي باسيلس ثورينجينسيس إلى جانب استخدام خليط منهما في بلازما و كبد وكلى الجرذان. تم تحديد مستويات الجذور الحرة (TBARS) و مضادات الأكسدة الأنزيمية وغير الأنزيمية في الجرذان. وبالإضافة إلى ذلك تم تقييم المؤشرات الحيوية لوظائف الكبد والكلية أيضا تم تقسيم الجرذان إلى أربع مجموعات : الأولى لم يتم معاملةها بأى مبيد (المجموعة الضابطة)، الثانية تم معاملةها بمبيد الميثوميل، الثالثة تم معاملةها بالمبيد الحيوي باسيلس ثورينجينسيس ، الرابعة تم معاملةها بخليط من الميثوميل و الباسيلس ثورينجينسيس. تم اعطاء الجرعات المحددة عن طريق الفم.

يمكن تلخيص النتائج المتحصل عليها علي النحو التالي :

- 1- حدث زيادة معنوية في مستوى الجذور الحرة (TBARS) في البلازما و الأنسجة (الكبد والكلية) في الجرذان في كل من المجموعات التي تم معاملةها بالميثوميل و الباسيلس ثورينجينسيس كل على حده و في حالة خليط منهما بالمقارنة مع المجموعة الضابطة.
- 2- حدث انخفاض معنوي في تركيز نشاط الجلوتاثيون اس- ترانسفيراز (GST) ، الكاتاليز (CAT) ، السوبر اوكسيد ديسموتاز (SOD) و محتوى الجلوتاثيون المختزل (GSH) في البلازما و الأنسجة (الكبد والكلية) في الجرذان في كل من الثلاثة مجموعات التي تم معاملةها بالمقارنة بالمجموعة الضابطة.
- 3- لوحظ ايضا حدوث انخفاض معنوي في أنزيمات الاسبريتيت امينوترانسفيريز (AST) و الألائين امينوترانسفيريز (ALT) و الفوسفاتيز القاعدي (ALP) في الأنسجة (الكبد و الكلية) بينما لوحظ زيادة معنوية في نشاط انزيم الاكتات ديهيدروجينيز (LDH) في الكبد في كل المجموعات التي تم معاملةها بالمقارنة بالمجموعة الضابطة.
- 4- قد حدث ارتفاع معنوي في نشاط انزيمات الاسبريتيت امينوترانسفيريز (AST) و الألائين امينوترانسفيريز (ALT) و الفوسفاتيز القاعدي (ALP) في البلازما في كل المجموعات التي تم معاملةها بالمقارنة بالمجموعة الضابطة.
- 5- قد انخفض محتوى البروتين في في البلازما و الأنسجة (الكبد والكلية) في الجرذان في كل من المجموعات بالمقارنة بالمجموعة الضابطة.
- 6- قد لوحظ انخفاض نشاط انزيم أستيل كولين استيراز (AChE) بشكل ملحوظ في البلازما في كل المجموعات التي تم معاملةها مقارنة بالمجموعة الضابطة.
- 7- كما لوحظ ارتفاع ملحوظ في محتوى اليوريا و الكرياتينين و الكوليستيرول الكلي والدهون ثلاثية الجليسيريدات والليبوبروتينات منخفضة الكثافة كما انخفضت الليبوبروتينات مرتفعة الكثافة في كل المجموعات التي تم معاملةها بالمقارنة بالمجموعة الضابطة.
- 8- بالنسبة لتحليل عينات انسجة الكبد في المجموعة المعاملة بالميثوميل أظهرت وجود تغيير مائي في خلايا الكبد، والتليف والالتهاب كبدي. اما بالنسبة المجموعة المعاملة بالباسيلس ثورينجينسيس قد لوحظ وجود نخر تدريجي، والتليف والالتهاب كبدي و ايضا المجموعة المعاملة بالميثوميل و باسيلس ثورينجينسيس معا أظهرت وجود تغيير مائي، والتليف والالتهاب كبدي.
- 9- اما بالنسبة لعينات انسجة الكلية المعاملة بالميثوميل أظهرت وجود الاختناقات مع ورم الخلايا البطانية ورمور الخلايا الطلائية المبطنة للأنايب الكلوية و بالنسبة المجموعة المعاملة بالباسيلس ثورينجينسيس قد لوحظ وجود تغيير مائي في الأنايب الكلوية، سماكة في الغشاء القاعدي الكببي مع ورم في الخلايا الظهارية و البطانية و ايضا المجموعة المعاملة بالميثوميل و باسيلس ثورينجينسيس معا أظهرت وجود تغيير مائي في الأنايب الكلوية

وسماكة في الغشاء القاعدي الكبيبي مع ورم في الخلايا الظهارية و البطانية وفي الأوعية الدموية وذلك بالمقارنة بالمجموعة الضابطة.

وفي الختام فمن الواضح أن كل من المبيد الحشري(الميثوميل) والمبيد الحيوي (باسيلس ثورينجينسيس) كل علي حده له تأثيره السام الملحوظ على الجزدان من خلال قياس بعض المؤشرات الحيوية و التغيرات النسيجية.

كما اسنتج من هذه الدراسة ان باسيلس ثورينجينسيس له تأثير تحفزي واضح على الميثوميل عند عمل خليط منهما على المؤشرات الحيوية والنسيجية.



جامعة الإسكندرية
معهد الدراسات العليا والبحوث
قسم الدراسات البيئية



تأثيرات بكتيريا باسيلس ثورينجينسيس السامة ومبيد الميثوميل على أكسدة الدهون ونظام الدفاع المضاد للأكسدة في الجرذان

رسالة مقدمة إلى

قسم الدراسات البيئية- معهد الدراسات العليا والبحوث- جامعة الإسكندرية

ضمن متطلبات درجة الماجستير

في

الدراسات البيئية (شعبة العلوم البيولوجية)

مقدمة من الطالبة

رضوى صلاح عبد العاطى محمود عيسى

بكالوريوس العلوم – كيمياء/علوم البيئة- جامعة الإسكندرية ٢٠١١

قسم الدراسات البيئية

معهد الدراسات العليا والبحوث

جامعة الإسكندرية

٢٠١٥

تأثيرات بكتيريا باسيلس ثورينجينسيس السامة ومبيد الميثوميل على
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مقدمة من الطالبة

رضوى صلاح عبد العاطى محمود عيسى

للحصول على درجة

الماجستير فى الدراسات البيئية (شعبة العلوم البيولوجية)

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معهد الدراسات العليا والبحوث
جامعة الاسكندرية

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د/هدى متولى نصر
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قسم وقاية النبات
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جامعة دمنهور

التوقيع

لجنة الإشراف

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أ.د/ فاطمة محمدى الدمرداش
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قسم الدراسات البيئية
معهد الدراسات العليا والبحوث
جامعة الإسكندرية

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د/هدى متولى نصر
أستاذ مساعد كيمياء وسمية المبيدات
قسم وقاية النبات
كلية الزراعة
جامعة دمنهور