شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

MONA MAGHRABY

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MONA MAGHRABY

EFFICACY OF CERTAIN CHEMICAL CONTROL AGENTS AGAINST LAND SNAILS WITH SPECIAL REFERENCES TO THEIR PHYSIOLOGICAL EFFECTS

By

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B.Sc . Agric . Sci .(Plant Protection),Fac.Agric.,Suez Canal Univ. , 2009
M.Sc. Agric . Sci . (Pesticides), Fac. Agric., Cairo Univ., 2015

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SUPERVISION SHEET

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ABSTRACT

The molluscicidal activity of 6 pesticides (Oxamyl, L-cyhalothirin, Dinotefuran,Emamectin benzoate, Cadusafos, Chitosan and three bioagent control spurge plant extract, thymol and mineral fertilizer and their combination were studied against the land snail *Eobania vermiculata* under laboratory and field conditions. Results showed that oxamyl and chitosan were the most toxic pesticides. Also, the thin film was more effective than dipping method. The combination of EMB with thymol as dipping and contact methods gave a highly potency effect 86.6% co toxicity factor under laboratory conditions while thymol was the most toxic compound under field conditions. The reproductive system of snail represent essential part which organize the population of snails.Therefore this study was directed to evaluate the effect of different chemical compounds on the fecundity and fertility of the tested land snail.Chitosan and EMB prevented the land snail from laying eggs permanently.The effect of LC_{50} of biopesticides,chitosan (ch) and emamectin benzoate (EMB) LC_{50} on *Eobania vermiculata* (Muller) reproductive system was studied. Land snails were treated by using thin film layer technique.The snails were dissected and reproductive system organs were weighted and examined for any pathological changes at 24,48 and 72 hrs post treatment. Moreover, steroidal hormones were determined after 72 hrs of treatment with either Ch or EMB in comparison with untreted snails. Results revealed that the penis and dart sac were increased in the size, while sperm oviduct and ovotestis were decreased at the three different periods comparing with the same organs of untreated snails. Inaddition there was swelling in the size of some organs such as penis and vagina, while there was stunting in albumen and sperm oviduct at 72hrs of treatment with Ch or EMB.However, histological examination showed damage for the ovotestis and induced cells atrouphy in the dart sac and penis.The incidens of both compounds on the level of steroidal hormones gave a flactuated results by either increasing or decreasing.

Keywords: Reproductive system, Chitosan, Emamectin benzoate, Joint action, steroidal hormones.

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LIST OF ABBREVIATIONS

AchE	acetyl choline esterase
ATAT	Acyl coenzyme A:testosterone acyltransferase
BBMB	Baits of bran with methylene blue
BBM	Baits of bran with molasses
BPA	Bis phenol A
CD	Code dorsal
Ch	Chitosan
CNP	Chloronitropirole
DD	Diquat dibromide
DLL	Dipping lettuce leaves
DMSO	Dimethyl sulphoxide
DNA	Dioxy ribosome nucleic acid
EC	Emulsifiable concentrate
EIA	Elisa immune assay
EMB	Emamectin benzoate
END	Endoslofan
EDCs	Endocrine-disrupting chemicals
EOs	Essential oils
ETOH	Ethanol
GABA	Gamma aminobutyric acid
Hrs	Hours
IC_{50}	The half maximal inhibitory concentration
Kg	Kilograms
LC_{90}	Maximum lethal concentration

LC_{50}	Medium lethal concentration
LD_{50}	Median lethal dose
LT_{50}	Medium lethal time
Mg/l	Milligrams per litre
MGK -264	N-Octyl bicycloheptene dicarboximide
MT	7α-methyltestosterone
NAChR	Nicotinic acetylcholine receptors
4-NP	4-nonylphenol
-NHCH3	epi-methyl amino
NPK	Nitrogen –potassium- kaliam
OH	Hydroxyl group
OP	Organophosphorous
PB	Piperonyl butoxide
ppm	Parts per million
PPU07	The mixture of kaoline with black carbon
PB	piperonyl butoxide
RNA	Ribosome nucleic acid
ROS	Reactive oxygen species
SL	Soluble (liquid) concentrate
TBT	Tribyltin
TDS	Tea-seed distilled saponins
TMB	Trimethyl benzidene
TI	Toxicity index
W/W	weight by weight
WP	watable powder
WPN	Niclosamide ethanolamine salt