
To my

Father and to my Mother

Family

Friends

I acknowledge with gratitude the support, advice and encouragement provided by my supervisor Prof. Mohammed Osman Gafar throughout the project study. Also I would like to thank my friends for their help and support. My sincere thanks are extended to my colleagues and staff of the laboratory at the college for their help, kind gestures and friendly attitude during this study and thank for abdelateaf. And Special thanks warmly go to my brother Ahamed.

An experiment was conducted at Shambat Agricultural Farm to study the effect of two pesticides Sevin and Malathion on soil and plant. Cucumber was planted on

November, 2012. Sevin and Malathion pesticides were added at different concentrations to evaluate their effect on the plant growth and soil.

The measurement taken was plant height (cm), fresh and dry weight (gm), leaf area (cm²), and number of leaves per plant.

The results revealed that both Sevin and Malathion Pesticides at all the concentrations dose gave negative effect on height, leaf area, weight and number of leaves per/ plant, compared with the control.

Soil pH, total nitrogen %, phosphorus (ppm), soil particles size analysis (sand, silt and clay %), ECe dS/m, CEC cmol (+)kg⁻¹ and O.C %.The result revealed that both chemicals affected negatively the vegetable growth of Cucumber except the ECe of the saturation extract was increased (0.4dS/m before planting and 0.98dS/m)after planting.

However, both chemicals increased soil salinity which in turn affected plant growth and soil yield.

اجريت التجربة بكلية الدراسات الزراعية جامعة السودان للعلوم والتكنولوجيا (شمبات) خلال نوفمبر 2012م وذلك بهدف معرفة تاثير مبيد السيفين والملاثيون بتركيزات مختلفة على نمو العجور وخصوبة التربة.

تم اخذ قياسات النبات خلال التجربة وهى -طول النبات (سم), الوزن الطازج والجاف (جم), عدد الاوراق للنبات, مساحة الورقة (سم 2). وبالنسبة للتربة تم قياس

الاس الهيدروجينى pH, النروجين, الفسفور, حجم حبيبات التربة (الرمل, الطمى والطين
 (%), التوصيل الكهربى فى عجينة التربة المشبعة (dS/m) ECE, السعة التبادلية
 الكاتيونية (CEC) ميلميكاى/100جرام تربة ونسبة الكربون للنروجين C/N
 واوضحت النتائج ان المبيدات المستخدمة لها تأثير سلبى على نمو العجور وخصوبة
 التربة فى كل المعاملات م قارنتا بالشاهد ولكن اكثر وضوحا فى التراكيز العالية حيث
 نقص طول النبات و قل عدد الاوراق للنبات ومساحتها.
 كما اوضحت النتائج نقص السعة التبادلية الكاتيونية (CEC) بعد التجربة من 50
 ميلميكاى/100جرام تربة الى 45 ميلميكاى/100جرام تربة وزيادة التوصيل الكهربى
 من dS/m 0.4 الى dS/m 0.98 ونقص النروجين والفسفور المتاح فى التربة.

LIST OF CONTENTS

No	LIST OF CONTENTS	Page. No
	Dedication	I
	Acknowledgements	II
	Abstract	III
	Arabic Abstract	IV
	List of Tables	VI
	CHAPTER ONE: INTRODUCTION	
1.1	Research Problem	3

1.2	Objectives	3
1.3	Hypothesis	3

CHAPTER TWO: LITERATURE REVIEW

2.1	Soil Pollution	4
2.2	Pesticide Pollution in the Environment	6
2.2.1	Soil Pollution	6
2.2.2	Atmospheric Pollution	7
2.2.3	Crop and Crop Product Pollution	7
2.3	Effects on Organisms	14
2.3.1	Soil Organisms and Processes	14
2.3.2	Soil Invertebrates	15
2.3.3	Water Organisms – Invertebrates, Amphibians, Fishes	18
2.4	Birds	21
2.5	Effects of Pesticides and Farming Practises on Biodiversity	22
2.5.1	Intensive Agriculture	22

CHAPTER THREE: MATERIALS AND METHODS

3.1	Soil Pesticides	26
3.2	Field Description	26
3.3	Soil Sample Analysis	26
3.3.1	Preparation of Soil Samples	27
3.1.2	The chemical characteristics determined on samples	27

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1	Results and Discussion	28
	CHAPTER FIVE:CONCLUSIONS AND RECOMMENDATIONS	
5.1	Conclusions	32
5.2	Recommendations	32
	REFERENCES	33

List of Tables

No	List of Tables	Page No.
4.1	Effect of Sevin on the Vegetative Growth	30
4.2	Effect of Malathion on the Vegetative Growth	30
4.3	Effect of Sevin and Malathion Pesticides on Soil	31