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# **EFFECT OF DUSTING ON BIOCHEMICAL CONSTITUENTS OF POTATO TUBERS DURING STORAGE**

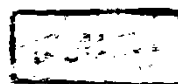
**By**

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2

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## CONTENTS

	<u>Page</u>
1. INTRODUCTION .....	1
2. REVIEW OF LITERATURE .....	4
2.1. Effect of Insecticides on $\alpha$ - and B-amylases .....	4
2.2. Phosphorylase .....	7
2.3. B-fructofuranosidase .....	8
2.4. Effect of insecticides on carbohydrates content ...	8
2.5. Effect of insecticides on total protein content ...	13
2.6. Effect of insecticides on protein fraction .....	17
2.7. Effect of insecticides on DNA and RNA .....	17
2.8. Effect of sprout inhibitor in phenolic contents ....	18
2.9. Metabolic changes in potato tubers during sprouting	18
3. MATERIAL AND METHODS .....	21
4. RESULTS AND DISCUSSION .....	35
4.1. Effect of insecticides on $\alpha$ -amylase activity in potato tubers during storage .....	35
4.2. Effect of insecticides on B-amylase activity in potato tubers during storage .....	41
4.3. Effect of insecticides on phosphorylase activity in potato tubers during storage .....	49
4.4. Effect of insecticides on B-fructofuranosidase activity in potato tubers during storage .....	56
4.5. Effect of insecticides on carbohydrate contents in potato tubers during storage .....	63
4.5.1. Reducing sugars .....	63
4.5.2. Total reducing sugars in potato tubers .....	70
4.5.3. Sucrose content in potato tubers .....	76
4.5.4. Starch content in potato tubers .....	82
4.5.5. Total carbohydrates content in potato tubers	87
4.6. Amylose/amylopectin % in potato tubers during storage .....	92
4.7. Effect of insecticides on total proteins in potato tubers during storage .....	100

CONTENTS : Cont'd.

	<u>Page</u>
4.3. Effect of insecticides on phosphorylase activity in potato tubers during storage .....	49
4.4. Effect of insecticides on B-fructofuranosidase activity in potato tubers during storage .....	56
4.5. Effect of insecticides on carbohydrate contents in potato tubers during storage .....	63
4.5.1. Reducing sugars .....	63
4.5.2. Total reducing sugars in potato tubers .....	70
4.5.3. Sucrose content in potato tubers .....	76
4.5.4. Starch content in potato tubers .....	82
4.5.5. Total carbohydrates content in potato tubers .....	87
4.6. Amylose/amylopectin % in potato tubers during storage .....	92
4.7. Effect of insecticides on total proteins in potato tubers during storage .....	100
4.8. Disc-gel electrophoresis of potato tubers aqueous salt soluble proteins fraction in potato tubers Atzimba variety stored for six months .....	106
4.9. Effect of insecticides on DNA contents in potato tubers after six months of storage .....	109
4.10. Effect of insecticides on RNA contents in potato tubers after six months of storage .....	116
4.11. Effect of insecticides on total phenol compounds in potato tubers after six months of storage .....	117
4.12. Effect of insecticides on sprouting of potato tubers during storage .....	121
5. SUMMARY .....	127
6. REFERENCES .....	133

ARABIC SUMMARY.

(-7-)

## LIST OF TABLES

No.	<u>Page</u>
1- Activity of $\alpha$ -amylase in potato tubers alpha variety treated with different insecticides during storage.....	36
2- Activity of $\alpha$ -amylase enzyme in potato tubers atzimba variety treated with different insecticides during storage.....	39
3- Activity of B-amylase enzyme in potato tubers alpha variety treated with different insecticides during storage.....	43
4- Activity of B-amylase enzyme in potato tubers atzimba variety treated with different insecticides during storage.....	46
5- Activity of phosphorylase enzyme in potato tubers alpha variety treated with different insecticides during storage.....	51
6- Activity of phosphorylase enzyme in potato tubers atzimba variety treated with different insecticides during storage.....	54
7- Effect of insecticides on B-fructofuranosidase enzyme activity in potato tubers alpha variety during storage.....	57
8- Effect of insecticides on B-fructofuranosidase enzyme activity in potato tubers atzimba variety during storage.....	60
9- Effect of insecticides on reducing sugars contents in potato tubers alpha variety during storage....	64

(v)

No.	<u>Page</u>
10- Effect of insecticides on reducing sugars contents in potato tubers atzimba variety during storage....	68
11- Effect of insecticides on total reducing sugars content in potato tubers alpha variety during storage .....	71
12- Effect of insecticides on total reducing sugars content in potato tubers atzimba variety during storage.....	74
13- Effect of insecticides on sucrose contents in potato tubers alpha variety during storage.....	77
14- Effect of insecticides on sucrose contents in potato tubers atzimba variety during storage.....	80
15- Effect of insecticides on starch contents in potato tubers alpha variety treated with different insecticides and stored for six months.....	83
16- The percentage of starch contents in potato tubers atzimba variety treated with different insecticides and stored for six months.....	85
17- Effect of insecticides on total carbohydrate content in potato tubers alpha variety treated with different insecticides and stored for six months.....	88
18- Effect of insecticides on total carbohydrate contents in potato tubers atzimba variety treated with different insecticides and stored for six months.....	90





No.	<u>Page</u>
19- Effect of insecticides on amylose/amylopectin % in potato tubers alpha variety during storage.....	94
20- Effect of insecticides on amylose/amylopectin % in potato tubers atzimba variety during storage...	97
21- Protein contents in potato tubers alpha variety treated with different insecticides during stor- age.....	101
22- Protein contents in potato tubers atzimba variety treated with different insecticides during sto- rage.....	104
23- Effect of insecticides on DNA contents in potato tubers after six months of storage.....	110
24- Effect of insecticides on RNA contents in potato tubers after six months of storage.....	113
25- Effect of insecticides on total phenols in potato tubers after six months of storage.....	118
26- Effect of insecticides on sprouting percentage of potato tubers alpha variety during storage.....	122
27- Effect of insecticides on sprouting percentage of potato tubers atzimba variety during storage.....	124

## LIST OF FIGURES

No.	<u>Page</u>
1- Effect of insecticides on $\alpha$ -amylase enzyme activity in potato tuber alpha variety during storage.....	37
2- Effect of insecticides on $\alpha$ -amylase enzyme activity in potato tubers atzimba variety during storage.....	40
3- Effect of insecticides on B-amylase enzyme activity in potato tubers alpha variety during storage.....	44
4- Effect of insecticides on B-amylase enzyme activity in potato, tubers atzimba variety during storage.....	47
5- Effect of insecticides on phosphorylase enzyme activity in potato tubers alpha variety during storage..	52
6- Effect of insecticides on phosphorylase enzyme activity in potato tubers atzimba variety during storage.	55
7- Effect of insecticides on B-fructofuranosidase enzyme activity in potato tubers alpha variety during storage.....	58
8- Effect of insecticides on B-fructofuranosidase enzyme activity in potato tubers atzimba variety during storage.....	61
9- Effect of insecticides on reducing sugars content in potato tubers alpha variety during storage.....	65
10- Effect of insecticides on reducing sugars content in potato tubers atzimba variety during storage.....	69
11- Effect of insecticides on total reducing sugars in potato tubers alpha variety during storage.....	72
12- Effect of insecticides on total reducing sugars in potato tubers atzimba variety during storage.....	75
13- Effect of insecticides on sucrose contents in potato tubers alpha variety during storage.....	78

6

No.	<u>Page</u>
14- Effect of insecticides on sucrose contents in potato tubers atzimba variety during storage.....	81
15- Effect of insecticides on starch contents in potato tubers alpha variety during storage.....	84
16- Effect of insecticides on starch contents in potato tubers atzimba variety during storage.....	86
17- Effect of insecticides on total carbohydrate contents in potato tubers alpha variety during storage.....	89
18- Effect of insecticides on total carbohydrate contents in potato tubers atzimba variety during storage.....	91
19- Effect of insecticides on amylose/amylopectin % in potato tubers alpha variety during storage.....	95
20- Effect of insecticides on amylose/amylopectin % in potato tubers atzimba variety during storage.....	98
21- Effect of insecticides on total proteins content in potato tubers alpha variety during storage.....	102
22- Effect of insecticides on total proteins content in potato tubers atzimba variety during storage.....	105
23- Electrophoretic separation of potato tubers proteins, of 0.1 N Na Cl extr. ....	107
24- Electrophoretic separation of potato tubers proteins, of 0.1 N Na Cl extr. ....	108
25- Effect of insecticides on DNA contents in potato tubers alpha variety after six month of storage.....	111
26- Effect of insecticides on DNA contents in potato tubers atzimba variety after six months of storage....	112
27- Effect of insecticides on RNA contents in potato tubers alpha variety after six months of storage.....	114

213

No.	<u>Page</u>
28- Effect of insecticides on RNA contents in potato tubers atzimba variety after six months of storage....	115
29- Effect of insecticides on total phenols in potato tubers alpha variety after six months of storage....	119
30- Effect of insecticides on total phenols in potato tubers atzimba variety after six months of storage..	120
31- Effect of insedticides on sprouting percentage in potato tubers alpha variety during storage.....	123
32- Effect of insecticides on sprouting percentage in potato tubers atzimba variety during storage.....	125

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## 1. INTRODUCTION

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## 1. INTRODUCTION

Potato is one of the world's most nutritious plant sources of food for human consumption. The ratio of proteins to carbohydrates is higher in potatoes than in many cereals and other roots and tubers, and the quality of potato proteins is higher than that of most other food crops. In developing countries, potatoes rank first in energy production per hectare per day, significantly above the cereals. Egypt is considered one of the ten largest potato exporting countries. The amount exported reached more than 150.000 tons (World Potato Facts of the International Potato Center, Lima, Peru, 1982).

Potato "Solanum tuberosum L." is considered one of important vegetable crops in Egypt either on the scale of local consumption or export. During the period of storage, the biochemical constituents of tubers undergo various metabolic changes which usually cause some damage and affect their nutritive value particularly when sprouting starts to take place. Thus the problem is now to protect their keeping quality during storage with reasonable cost.

During the last fifty years, much consideration was given to the use of different insecticides to reduce the development of decay organisms and insects infestation. The use of insecticides has two objectives, firstly to protect the crops from related harmful pests and secondary to obtain a good tuber quality with higher yield.

The side effects of insecticides on plant need much studying the effects of insecticides and its metabolites on the biochemical compounds in plant. Food scientists are looking into the possibility of using insecticides that will inhibit development of decay organisms and insect infestation without appreciable effect on the quantity of crops yield.

The present investigation aimed to study the effect of three insecticides on some biochemical compounds in potato tubers stored for six months.

The first insecticide is Phostoxin, which constitutes the most common fumigants. Phostoxin releases a very pure hydrogen phosphide. Little work was carried out on the phytotoxic effect of repeated fumigation with Phostoxin.

The second insecticide is Thuricide, a biological insecticide, whose active ingredient is based on Bacillus thuringiensis Berliner. It is only active against the larval stage of Lepidoptera, which comprise many economically important insect pests. They may kill by infecting the insect and causing a fatal disease, or they may produce a toxic chemical an exotoxin called beta exotoxin or thuringiensin that poisons the insect.

The third insecticide is Sevin (N-methyl 1-naphthyl carbamate).