بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

PHYSIOLOGICAL EFFECTS OF PESTICIDES ON CARP, *CYPRINUS CARPIO*

Thesis Presented
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Introduced as fulfillment Study for Master Degree

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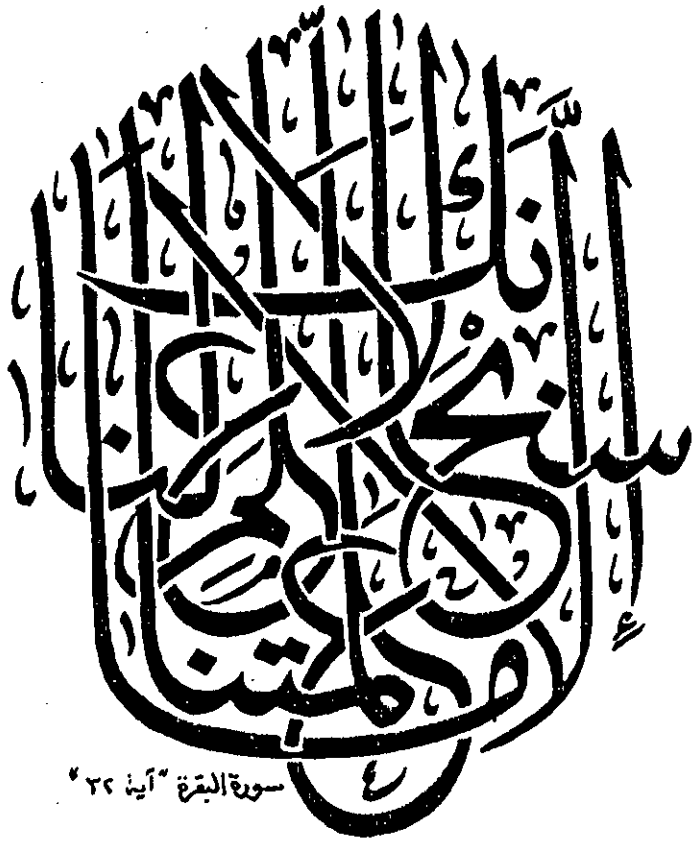
بسم الله الرحمن الرحيم



سورة البقرة "آية ٣٢"

إنك أنت العليم الحكيم

To my Parents

& Brother

Acknowledgement

First of all prayful thanks to merciful ALLAH for the power endurance and every thing, ALLAH gave me through out my life.

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CONTENTS

CONTENTS

INTRODUCTION

I. INTRODUCTION

Herbicide, in a broadest definition, is any compound that is capable of either killing or severely injuring plants and may be used for the elimination of plant growth or the killing off of plant. In the late 1930s, many studies were initiated to find agents that would selectively destroy certain plant species. Many of these early chemicals were more effective but still possessed mammalian toxicity. However, a few compounds served as prototype chemicals for further development. Summaries of the early day's herbicide development are presented by Lee *et al.* (1999). Dithiopyridine [3,5-pyridinedicarbothioic acid, 2-(difluoromethyl) -4(2-methylpropyl)- (6-trifluoromethyl)-s,s-dimethyl ester] provides effective post-emergence control of crabgrass. The foliar safety and potential rooting as well as its biological, physiological, biochemical and histopathologoical effects on living organisms need to be documented before its use commercially. The trade name of dithiopyridine is Dimension (MNO15100). MNO15100 has several formulations: liquid (emulsifiable), granular

and fertilizer combination forms. Herbicides, as most pesticides, had toxic effects on aquatic micro- and macro-organisms (Villalobos *et al.*, 2000) and mammals (Roegge *et al.*, 2001; Hanley *et al.*, 2001). The dynamics of herbicides in aquatic ecosystem and agricultural land is principally controlled by various abiotic-biotic factors (Holm *et al.*, 2001). Acute and chronic toxicities of herbicides to different species of fish may cause various morphological, behavioral, and physiological derangements in fish (Govt. Reports Announcement & Index, 2001).

Hassanein *et al.* (1999) studied the expression of the biomarker hsp70 in the liver and kidney of the freshwater fish *Oreochromis niloticus* following exposure to the herbicide oxyfluorfen. Fishes were exposed to three concentrations, the 96-h LC_{50} (3 mg/l), the 96-h (1/2) LC_{50} (1.5 mg/l), and the 96-h (1/4) LC_{50} (0.75 mg/l) of oxyfluorfen for 6, 15, and 24 days, respectively, and samples were taken at three different time periods for

each concentration. Poleksiâc and Karan (1999) studied the acute and subacute toxicity of the herbicide trifluralin on carp. Median lethal concentrations were determined in acute tests. The 96-h LC_{50} value was 0.045 mg/l. Fish were exposed to subacute concentrations of the herbicide (0.005, 0.01, and 0.02 mg/l trifluralin) in the 14-day toxicity tests and the effects on the relative growth rate, some biochemical parameters (alkaline phosphatase (ALP), aspartate aminotransferase (AST) changes were found in the gills and kidney of the fish examined. Kovriznych and Urbancikova (1998) determined the acute lethal toxicity of herbicide acctochlor for two species of fish: guppy and zebrafish, each in two different stages of development. For adult individuals of guppy the 96-h LC_{50} was 1.7 mg/l, for juvenile guppy LC_{50} represented for the same time of exposure 1.3 mg/l. LC_{50} of a 96-h exposure for adult individuals of zebra fish represented 0.37 mg/l and for embryos of zebra fish in eggs the 96-h LC_{50} was 0.61 mg/l.