Infroduclion

Pesticides are a toxic chemical compounds designed to control pests, causal organisms of plant disease, \\ Celt; and other living organisms that reduce the quantity and quality of crop yields. However their adverse effects have lollowed in the wake of intensive pesticide use. Pesticides are commonly recorded in water supplies and food chain. The increasing rate of pest resistance to pesticides, loss of biodiversity and particularly human poisoning in developing countries are common *(Mastomara, 1985).*

Insecticides constitute a major factor of environmental pollution in Egypt. The problem is aggravated when the insecticide is sprayed From air mer 1\ ide areas. The insecticide besides being in the application site, usually is dispersed in Me environment compartment such as air, water and soil inducing its harmful effect on their inhabitant *(Thomas et at, 1990).*

It was recorded that the Egyptian markets is using large amount of pesticides between 30-60 thousands metric Ions/year. More than 50?h or this quantity ends up in the soil by direct or indirect 1% a s, thus increasing the problem of pollution. Carbaryl is a common carbamate insecticide which is extensively used in the agricultural field in Egypt *(Amt et at, 1990).*

The present study was carried out to determine the effects of the repeated exposure and after a period of exposure stoppage (recovery)in different concentration and different periods of exposure of Carbarvf on some serum biochemical parameters, reproduction and some histopathology of tissues in albino rats.

2-Review Of literature

2.I.The physical and chemical character of the carimryl

Carbamates are a group of synthetic insecticides that have been developed and used on a large scale as insecticides miticides, amphicidcs, fungicides and herbicides.(Casidn, *1963).*

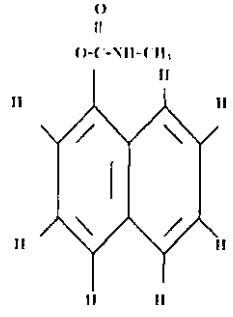
Carbamates are naturally present in calabar bean (Physostigme venerrostun). The active principle of Carbamates is called physostignie or eserine which possesses a powerful anticholinestrase activity *(Helmstedt, 1974.* Synthetic carbamates are derived ljom carbantic acid. They have a common structure of 12, - 0 - C (0) - N - (CHO- $R_{,}$. Where R_{I} is an alcohol, $0_{,}$(1111C, or phenol, and R, may be a wide variety of chemical structures as methyl group in pro-carbamates (carbamate insecticides), a romatic moiety in barban (carbamate herbicides, or benzimidazole moiety as in lethal', (carbamate fungicide) *(Hayes and Laws, 1991).*

Carbaryl (I-naplithyl-N-methyl carbamate) is one of the carbamate insecticides. The common name Carbaryl is in general use except in Eastern Europe, arylam may be used and in the USSR, where the trade name sevin is used as a common name in Egypyt. Other trade names have included Aloxan, Caprolin, Carbacide, Carbamine, Carpolin, Cekubaryl, Denapon, Devicarb, Dicarbam, Gamonil, Ilexavin, Karbaspray, Karhatox, Karboscp, Mervin NAC, Panam, Rayvon, Septet), Sedum, Sevidol, Tercyl and lastly Tricarnam *(Ransack, 1980).* It is applied for the control of major pests which attack citrus, ponies, stone, and he' fruits, forage, field and vegetable crops, mit, lawns, forests,

ornamental plants, rangeland, shade trees, poultry and pets and indoor use. Formulation of carbaryl have been used to control human lice.

Carbaryl has the empirical formula C_{12} 11 $_{11}$ I'It F_{t}. Cinbai)1 is a while to light tan solid material and has a mild phenolic odour or may essentially odourless. It has a melting point of 142 "C and a vapor pressure of less than 4x IV minflg at 26 "C. It has flash point of 3X01. It is soluble in water at 30"C, moderately soluble in most polar organic solvent, but poorly soluble in non polar solvents such as hexane, benzene and methanol. Carbaryl is stable under normal storage condition but is hydrolyzed rapidly at p11 10 or above *(Serron et. at, 1966).*

The methods of its application are ground and aerial. Its carrier is synthetic clay, talc, or various solvent. *(Sussman et. al., 1969)*



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Carbaryl like other carbamates, is reversible inhibitor of acetyl cholinesterase *(I andeker et a1,1971)*