

## Study on the Screening of Omnicidal Pollution Effect in North Bihar

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### Abstract:

Pollution is an undesirable change in the physics chemical or biological properties of air, water and land causing harmful effects on our life.

In the present investigation, the residual values of some selected omnicides in crops have been evaluated and to monitor the alarming situation. The gross residual accumulation of omnicides in the soil has been assessed. The use of omnicides become essential for small holding farmers. Under the area of our investigation. Farming is in common practice which makes frequent and essential application of omnicides on crops. Adverse effects on living beings, have been observed, which are based on these crops.

### 1. Introduction:

The inclusion of various fungicides, pesticides, bactericides, insecticides, fertilizers and manures in the modern agriculture practices, result in several biological and chemical contamination of lands. Actually, speaking these agriculture practices are polluting<sup>1,4</sup>. The soil of land to a large extent. Today we are employing

huge quantities of fertilizers, pesticides, herbicides weedicides and soil conditioning agents to increase the crop yield under the advance agro technology. Since these fertilizers and chemical agents are being used to fortify the soil but they also contaminate the soil with their impurities. The application of chemical fertilizers to the soil in the large quantities to increase the

yield of wheat and rice production which was mainly caused under green revolution. The chlorinated hydrocarbon insecticides are synthetic chemicals which are characterised by the presence of carbon, hydrogen, chlorine and cyclic carbon chain including aromatic ring especially benzene ring. The most chlorinated hydrocarbons insecticides as chlordane, heptachlor, Aldrin, dieldrin and endosulphan. The organophosphorus insecticides are synthetic chemicals viz. TMPP, Parathion Malathion etc. The effect of these chemicals are the pollution of water, air and finally to human beings and animals through, skin, respiratory and gastrointestinal tract. The variants of these pesticides may get absorbed by soil particles which may contaminate root crop grown in soil residual herbicides<sup>5-7</sup>, which are applied to the soil at the time of seeding remain active for several weeks and prevent the growth of weeds in competition with emerging germinating crops. The use of pesticides in highly counter production because leads to death of large number of pollinating species, this in turn reduces crop output. Pesticides spread most widely and alarming in the environment through migration. They are washed off row the crops into water enter water bodies penetrate with food an enter hence foods stuffs.

## 2. Materials and Methods:

Among the insecticides the organo chlorine compounds like D.D.T. Dieldrin Aldrin and heptachlor were taken is practice the quantitative evaluation of these omnicides (biocides) have been performed by gas-chromatography and high-performance liquid chromatography (HPL) method.

## 3. Procedure:

The sample was extracted repeatedly with 20% Diethyl ether in n-hexane. The ether extract was allowed to heat on steam bath to remove and to lower the volume of extract (3-4 ml). The remaining was further diluted with n-hexane to about 5 ml. An aliquot (0.5 ml) of this extract was injected in the gas chromatographic column by making use of a micro syringes at 180<sup>0</sup>C, the carried gas being used was argon-methane at the rate of 60 ml/min. The pesticides present in the extract got vapourised and move through the chromatographic column at different rates. They were detected by using electron capture detector.

HPLC method was carried out for the quantitative evaluation<sup>8-11</sup> of organophosphorus and carbamate pesticides.

## Results:

**Table No.1 Residual values of omnicides (biocides) in different crops**

Villages/ Area	Crops	Omnicides (Biocides)	Concentration omnicides		
			Pre harvesting kg/ha	Post harvesting kg/ha	Percentage Residual values
Vishwanathpur Sonbarsha Khutauna	Paddy	Denticide(zone) Zinc phosphide	0.0218	0.11772	54
Jhapha, Jale Asthua	Paddy	Insecticide (Malathion 5%)	25.30	13.75	53.85
Hajipur, Sonapur, Chapra, Siwan	Banana	Insecticide (Phoret)	13.25	11.75	89.10
Motihari, Bettiah, Motipur, Raxaul, Areraj, Narkatiaganj	Paddy	Insecticide (Malathion 5%)	20.52	16.41	80
Janipur, Pupri, Koyelli, Bajpatti	Brinjal, Paddy, Maize	Methyl Parathion Insecticide	27.25	17.95	66
Ujiarpur, Bidupur, Mahnar	Banana, Maize	Fungicide	2.76	1.38	50
Dalsinghsarai,	Wheat,	Fungicide	3.20	1.53	48
Barauni	Paddy, Lady Finger, Chilli, Pumpkin etc	Fungicide (Theram 75%)	2.8	1.314	47

## 4. Discussion:

Increasing demand of food and ruthless race to produce more and grain has raised the omnicides consumption in developing countries like India. The area under study properly grows paddy, wheat, maize, banana, brinjal, chilli, lady finger and pumpkin etc in which rodenticides, insecticides and fungicides are generally employed in common use. The area wise omnicide application and consumption can

be well understood from the table already mentioned above. Data indicate that rodenticide applied to paddy in form of zinc dust leave 54% unconsumed while the insecticide remains 5.30% as residue in banana. In brinjal thiram used as fungicide remains 48% unused while methyl parathion applied to maize as insecticides hardly consumes are open to atmosphere getting change to spread in air, water and soil. Thus the unconsumed omnicides, 12-

polluted the ecosystem directly and those inhaled in the study of living beings effect more adversely.

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