Review of Agrochemicals: Paraquat Dichloride & Carbosulfan

Prelims: Current events of national and international importance | Health & Governance

Why in News?

A Central expert Panel is reviewing safety profiles of 2 major plant protection chemicals Paraquat Dichloride (herbicide) & Carbosulfan (Insecticide).

- **Reason for Probe** – Impact on Public Health & Acute toxicity.
- **Expert Panel recommended** – For a Complete Ban.
- **Phased regulatory approach**- Advocated by Agro chemical industry rather immediate ban ahead of kharif sowing seasons.

Classifications -

- **Paraquat Dichloride –** Non selective Contact herbicide, it is highly toxic.

  N0n- selective Contact – *It can kill wide range of crops regardless of species, while contact implies it can destroy only that part of plant which directly touches by rapidly disrupting cell membranes within hours.*

- **Application –** utilized in Modern Weed Management system across major commercial crops like coffee, rubber, Wheat, maize, cotton, paddy, tea & Sugarcane.
- **Declared as –** Restricted Use Pesticide (RUP) it is strictly prohibited for domestic or residential use due to its toxicity.
- **Banned in** - 60 Nations, but it's not banned under the Rotterdam Convention a multilateral treaty that promotes collective responsibility in relation to the imports of Harmful chemicals.

Carbosulfan –

- **Type -** It's a carbamate insecticide that acts by inhibiting the acetylcholienesterase enzyme, disrupting the nervous system of target pests.
- **Application –** It is commercially distributed in Emulsifiable concentrate (25% C), preferred in Cotton & Rice farming.
- **Target Pests -** It effectively manages catastrophic field pests in rice (such as Gall Midge, Stem Borer, Leaf Folder, White Backed Plant Hopper (WBPH), and Brown Plant Hopper (BPH), and sucking pests (aphids and thrips) in cotton and cumin.

LIST OF MAJOR PLANT PROTECTION CHEMICALS BANNED IN INDIA IN LAST FEW YEARS

Pesticide	Category	Common Uses

Alachlor	Herbicide	Pre-emergence weed control in maize, soybean, groundnut
Benomyl	Fungicide	Fruit & vegetable fungal disease control
Carbaryl	Carbamate Insecticide	Wide-spectrum insect control
Diazinon	Organophosphate Insecticide	Soil & household pests
Dichlorvos	Organophosphate Insecticide	Storage & household pests
Fenarimol	Fungicide	Powdery mildew control
Fenthion	Organophosphate Insecticide	Mosquito & livestock pests
Linuron	Herbicide	Broadleaf weed control
Methoxy Ethyl Mercury Chloride	Organo-mercury Fungicide	Seed treatment
Methyl Parathion	Organophosphate Insecticide	Field crop pests
Phorate	Organophosphate Insecticide	Soil pests in cotton, sugarcane
Phosphamidon	Organophosphate Insecticide	Sucking pests
Sodium Cyanide	Toxic fumigant	Insecticidal fumigation
Thiometon	Organophosphate Insecticide	Aphids, mites
Triazophos	Organophosphate Insecticide	Cotton, rice pests
Tridemorph	Fungicide	Rust & mildew control
Trichlorfon	Organophosphate Insecticide	Crop and livestock pests
Dicofol	Acaricide	Mite control
Dinocap	Fungicide	Powdery mildew
Methomyl	Carbamate Insecticide	Caterpillar control
Dichlorvos	Organophosphate Insecticide	Storage pests
Alachlor	Herbicide	Pre-emergence weed control in maize, soybean, groundnut
Phorate	Organophosphate Insecticide	Soil pests
Triazophos	Organophosphate Insecticide	Rice & cotton pests
For Reference : Business Standards | IAS Parliament		

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