

Current Status on the Use of Pesticides in Tea Plantations



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❖ Content...

- CropLife History
- Pest Management in Tea
- Present situation in chemical pest Management in Tea
- Major issues



❖ CropLife Sri Lanka History

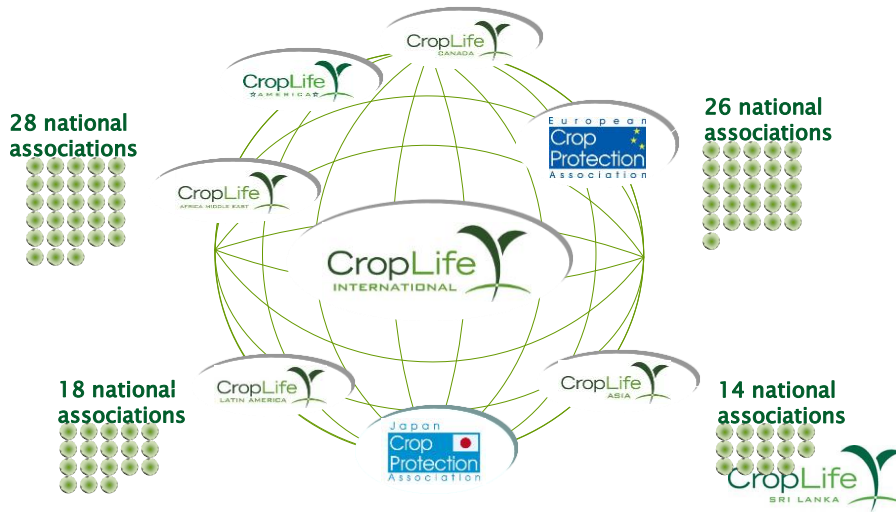
- Started in 1988 with 10 Members
- Pesticides Association
- Sri Lanka Crop Protection Association
- CropLife Sri Lanka



❖ Members of CropLife Sri Lanka

- A. Baur & Company
- Arysta Life Science Corporation
- Agro Technica (Pvt.) Ltd.
- Agstar Fertilizer (Pvt.) Ltd
- Asiatic Agricultural Industries Pte. Ltd
- BASF Lanka Pvt. Ltd
- Bayer Crop Science Sri Lanka
- CIC Crop Guard Ltd
- Ceylon Petroleum Corporation
- CIC Holdings PLC
- DTW International (Pvt.) Ltd
- Dupont Lanka (Pvt.)Ltd
- Farm & Chemical Products (Pvt.)Ltd
- Hayleys Agriculture Holdings PLC
- Hacros Chemical Pvt. Limited
- International Crop Science (Pvt.)Ltd
- IPMP (Pvt.) Ltd.
- J. L Morrissons son & Jones (Ceylon) PLC
- Lankem Ceylon PLC
- Mackwoods Ltd
- M Chem (Pvt.) Ltd
- Monsanto India Ltd
- Nukemi NN Ceylon Ltd
- Opex Agro (Pvt.) Ltd
- Oasis marketing Pvt. Ltd
- Plant Chem (Pvt.) Ltd
- Sabaragamuwa Fertilizers (Pvt.) Ltd
- Sunagro Life Science Ltd
- Unipower (Pvt.) Ltd
- Zagro Singapore (Pte.) Ltd

Hundreds of Companies through a network of Associations in 88 Countries...



Global Scenario

syngenta

BAYER
Bayer CropScience

BASF
The Chemical Company

Dow AgroSciences

MONSANTO

DU PONT

FMC

Arysta LifeScience

MAKTESHIM A G A N

Nufarm

Sumitomo

UNITED PHOSPHORUS LIMITED

CropLife SRI LANKA

❖ Our Challenges

- Loss of arable land
- Population growth
- Malnutrition



❖ Our Commitments

- **Food Safety**
 - involves the safe handling of food from the time it is grown, packaged, distributed, and prepared to prevent foodborne illnesses
 - Food safety is the responsibility of those who handle and prepare food commercially for delivery to consumers and of consumers who prepare and eat food in their homes
- **Food Security**
 - including both physical and economic access to food that meets people's dietary needs as well as their food preferences

- **Product Stewardship**

- **responsible and ethical management of our crop protection products throughout the entire product life cycle from discovery through use to disposal.**



Pest Management in Tea

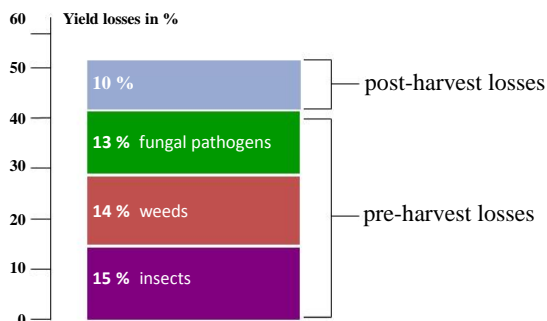


❖ Pest Management In Tea

- In tea cultivation, like any other cultivation, there are **number of pests** that interfere with **crop productivity**
- Being a long term **perennial crop**, a **sustainable pest management approach** is of paramount importance in tea cultivation

50% yield loss – without pesticides

▶ Average Destruction of non-treated Crops out of total attainable Production



Major crops analyzed:

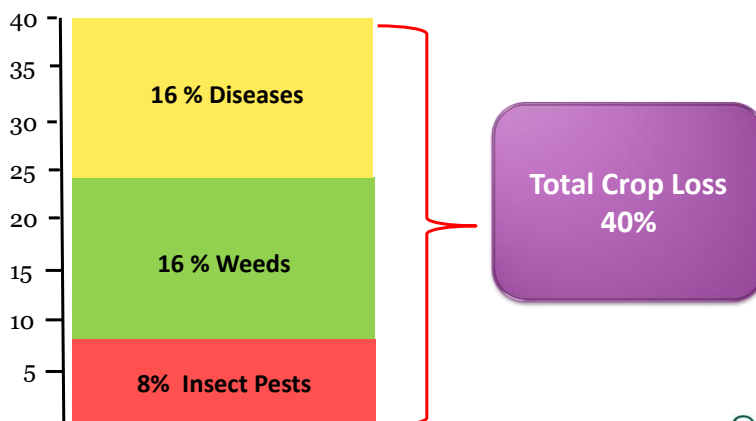
Rice, wheat, barley, corn, potatoes, soybeans, cotton and coffee*

❖ Past Assessments of crop loss caused by different tea pests

- A crop loss of 8% has been attributed to insect pests on tea in Asia (Carmer, 1967)
- Scarlet and red spider mites are reported to cause 0.5-5.0% decrease in yield (Danthanarayana and Ranaweera, 1970)
- 4 - 40% crop loss due to plant parasitic nematodes of tea in Sri Lanka (Gnanapragasam, 1988)
- Crop loss due to blister blight disease (in western Up country) was 20% -25% in average (Visser et al., 1958)
- Crop loss due to weeds in tea lands to be 7.5% - 10% (Eaden, 1941)

Estimated Crop losses in Tea due to pests Hudson et.al.2002

Crop Loss %



Hudson et.al.2002,

❖ Present Situation in Chemical Pest Management in TEA



Recommended pesticides by the Tea Research Institute of Sri Lanka

Weedicides	Insecticides/ Nematicides	Fungicides
2,4 D	Carbofuran	Bitertanol
Diuron	Chloefluazuron	Copper hydroxide
Glufosinate ammonium	Diazinon	Copper oxide
Glyphosate	Fipronil	Copper oxychloride
MCPA	Imidacloprid	Hexaconazole
Oxyfluorfen	Dazomet	Propiconazole
Paraquat	Metam Sodium	Tebuconazole
		Sulphur

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Recommended weedicides by the Tea Research Institute of Sri Lanka

Weedicides	Current Status	Supplied Companies
2,4 D	Banned	Harrisons
Diuron	Active registration	CIC, Hayleys, Agstar, Mackwoods, CPC etc.
Glufosinate ammonium	Active registration	Hayleys
Glyphosate	Active registration	CIC, Hayleys, Lankem, Bours, JL Morison's Agstar etc.
MCPA	Active registration	Lankem, CIC, Bours, Hayleys, etc.
Oxyfluorfen	Active registration	CIC, Mackwoods, Bours
Paraquat	Banned	CIC



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Recommended insecticides by the Tea Research Institute of Sri Lanka

Insecticides	Use Category	Current Status	Supplied Companies
Carbofuran	Nematodes, white grubs	suspended	Bours, Hayleys, Mackwoods, CIC etc.
Chlorofluzuron	Tea tortrix	Inactive registration	CIC
Diazinon	Ant pests	Active registration	Lankem, Hacros, Mackwoods Sun Agro
Fipronil	Shot hole borer	Active registration	BASF, IPMP, Hacros, Bours, Hayleys
Imidacloprid	Mealy bugs, thrips, brown bugs, Aphids	Active registration	Lankem, Bours, Hayleys, CG, etc.
Dazomet	Soil fumigant (Nematodes)	Inactive registration	BASF
Metam Sodium	Soil fumigant (Nematodes)	Active registration	Hayleys



Recommended fungicides by the Tea Research Institute of Sri Lanka

Fungicides	Use category	Current Status	Supplied Companies
Bitertanol	Blister Blight Disease Stem and Branch Canker Disease Red Root Disease	Active registration	Hayleys
Copper hydroxide	Blister Blight Disease Black Blight Disease Red Rust Disease	Active registration	Mackwoods
Copper oxide	Blister Blight Disease Black Blight Disease Red Rust Disease	Active registration	CIC
Copper oxychloride	Blister Blight Disease Black Blight Disease Red Rust Disease	Active registration	BASF, Hacros
Hexaconazole	Blister Blight Disease Red Root Disease	Active registration	CIC, Harcros
Propiconazole	Blister Blight Disease Red Root Disease	Active registration	Mackwoods, Lankem
Tebuconazole	Blister Blight Disease Red Root Disease	Active registration	Hayleys, Bours
Sulphur	Red spider mites (<i>Oligonychus coffeae</i>)	Active registration	CIC, Sun Agro, Harrison's, Mackwoods

❖ Major issues

Development of Glyphosate Resistant / selection on Broad Leaf weeds in tea plantations

❖ Poor Pesticides application Technology

- Product efficacy
- Workers safety

❖ New Pesticides Development / Registration Issues

- Identifying Major and minor issues
- Develop MRL values
- Certifications
- Trial Establishment in different Agro ecological zones

THANK YOU

