



## CROP PROTECTION PRODUCTS

# CURRENT CHALLENGES, THE WAY FORWARD



**F**armers lose a significant portion of income as their crops and produce are attacked by various insects, diseases and weeds leading to a significant reduction in crop productivity and lower actual yield than the attainable yield of crops. There has been a sustained campaign in the last few years to shun Crop Protection Products (CPP) and instead go back to managing agriculture the way it was done centuries ago. The solution is not in shunning chemical pesticides but in educating farmer about proper use and consistently spending on research to come out with safer and more efficient products.

Yield losses caused by pests, pathogens, and weeds are responsible for 20–40% loss of global agricultural productivity. In India, 20-25% crop losses are reported due to pest attacks every year. As per Ministry of Agriculture, India is losing agricultural production worth INR 1.48 lakh crores annually due to damage from pests, weeds and plant diseases.

Commenting on the affordability of CPP, Dr Dalwai Committee report, on “Doubling Farmers Income” mentions that cost of pesticides is only 0.4% of total cost incurred by the farmers. The share of pesticides in the cost of cultivation was 3 per cent in cotton, 1.9 per cent in paddy, further lower in wheat (0.7%) and sugarcane (0.3%).

Recently, India fought a battle against desert locusts whose attack had wiped out lush green fields laden with crops like bajra, sorghum; maize, green gram, black gram, castor, wheat, cotton and vegetable crops spread over 50,000 hectares in Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh, Punjab and Maharashtra. The use of insecticide Malathion helped very effectively in managing the situation.

Plant protection chemicals are help in preventing rats, mice, flies and other insects from contaminating the food whilst in storage.

### Crop protection is in constant evolution

Climate change is an important development that has affected global population and agriculture. Pest and disease dynamics have altered considerably. Many minor pests have become major pests and many new pest and diseases have emerged. This has kept the crop protection sector on their toes. Besides the sweeping changes in climate, the continued emphasis on sustainability of agriculture and environmental concerns, the industry will be keen on investing in better delivery techniques and products that leave very little impact on the plant and the soil. Crop protection is in constant evolution.

Farmers at large remain unaware of new CPP or

they lack knowledge regarding a product at hand. This is a precarious situation as the efficacy or the usefulness of the product is closely linked to the knowledge of the user. Lack of education and awareness among farmers is counted as one of the main reasons behind failing efficacies of CPP or their misuse. The main point of contact between the farmers and the manufacturers, the retailers too are not bothered or are unable to provide a proper understanding of the product to the farmers.

Also, very often farmers are not able to communicate their needs effectively. Supply chain inefficiency and inadequate infrastructure are the major causes for post-harvest losses. The lack of knowledge of the farmers that there are products and storage techniques to effectively cut short these losses have added to the agony of the sector.

The development of a new molecule has huge R&D and time costs, followed by final registration process which has an extremely slow pace. Intervention is needed from government and regulatory authorities to streamline the registration process and further registration should be granted by a reasonable timeline of one year.

The recent proposal of Ministry of Agriculture and Farmers Welfare prohibiting the import, manufacture, sale, transport, distribution and use of 27



### ABOUT THE AUTHOR

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very widely used and highly effective pesticides is going to affect the farmers' approach towards the selection of pesticides for insect/disease/weed control and subsequent input cost.

The 27 generic pesticides proposed to be banned account for 40 per cent of the domestic market and 50 per cent of

all exports from India. Banning these will shrink India's export capability. The entire export market of these products worth Rs 12,000 crores will go to China, which is the main competitor of India in the global market and it would be detrimental for the Make in India movement.

In case of crop protection chemicals, following a risk-based (not hazard based) approach will be ideal. Banning any pesticides based on some studies done elsewhere in the world and taking similar action in India without adequate scientific evidence in the Indian context is not the right approach. The local climatic conditions, cropping patterns, dynamics of insects, disease and weed scenario must be taken in to consideration while guiding the choice of pesticides for any country by its government.

Recently, France proposed lifting a ban on neonicotinoids category of systemic insecticides to protect sugar beet crops after strong resistance from sugar beet growers. In addition, France will also offer 5 million euros (\$5.9 million) to support research into alternatives to neonicotinoids. Similar proactive approach and action is required from GOI.

The complexity of pests is likely to increase, with more frequent pest outbreaks in future. Climate change is likely to pose a potential threat. There are both strengths and opportunities for further updating the existing approaches of pest management in India. The country needs to adopt a holistic approach towards availability of high yielding seeds, soil test-based fertilizers application, Integrated Pest Management (IPM) and Integrated Crop Management with improved agronomic practices.

