



Solutions through Stewardship: Managing Pesticide Residues in Farm Produce

The Food Security Challenge

Globally, agriculture is facing enormous pressure to produce more food for growing population while it is increasingly getting affected by shrinking cultivable land area, water availability and climate change. With impressive economic growth, homogeneity of diets across countries has increased in the last 50 years and is pushing more and more countries become heavily reliant on a shorter list of major crops - wheat, maize and soybean as global population grows and meat consumption is steadily on the rise. Any shortfall in one crop in a major country creates seismic ripple effects in the global trade and push millions deep into hunger and poverty mainly in Asia and Africa. Further, while productivity needs significant improvement, the crop protection chemicals globally play a vital role in protecting crops from pests and diseases on the field and in storage, assuring production of adequate quantities of safe and quality food and contribute immensely to food security.

In India, according to a recent study by ASSOCHAM (Associated Chambers of Commerce and Industry), crop losses due to pests and diseases amount to a whopping Rs. 50,000 crores (US\$8.6 billion), which is quite significant particularly in a country where 300 million Indians live below the poverty line for whom getting two square meals a day is a challenge.

Importantly, this is avoidable to a great extent by using appropriate control methods which can broadly be classified as Integrated Pest Management (IPM). It includes judicious and responsible use of crop protection chemicals as one of the several tools to improve crop yield and food quality; minimize risks to environment and health and manage pesticide residues in the final produce.

“Pest and disease infestation amounts to crop losses worth a whopping Rs.50,000 Crore (about US\$ 8.6 billion) each year in India”

- ASSOCHAM

Several media reports have emerged recently on excessive levels of residues found in commonly consumed vegetables such as onions, tomato, cabbage, chilli and ladies finger; greens such as coriander and mint; and also in banana, apples, grapes and raisins.

All these suggest it is rather a nation-wide issue. Several random inspections and studies done across cities such as Bangalore, New Delhi, Trivandrum and Pune confirmed the presence of unacceptable of residues of several chemicals, some of which were banned by the Government of India for use on crops.

The Delhi High Court which took a *suo moto* cognizance of the issue, called for addressing it appropriately and the move evoked mixed reactions from different groups having diverse interests.

While some groups concerned about consumer food safety and quality, called for stricter regulatory regimes and better surveillance while some proposed stricter measures to regulate availability and importantly, control pesticides that are banned elsewhere in the world on health concerns. Those who oppose usage of pesticides in crops and paint a scary picture to the poorly-informed, have gone to the other extreme of proposing blanket bans.

While it is important to have the necessary regulations in place and implement them effectively on-ground, in the long-term perspective, it is more important to invest in capability building, training, educating and promoting awareness among farmers on good agricultural practices combined with appropriate stewardship activities particularly, judicious, safe and responsible use of crop protection chemicals.

It would not be unfair to say it is a shared responsibility of every entity involved in the food value chain to equip the farmers to do their job better and ensure food that reaches the consumers is safe.

Initiatives by CropLife International

Spearheading the stewardship responsibility of the industry, several initiatives sponsored by CropLife International network globally and in India (through CropLife Asia and CropLife India) successfully demonstrated enormous benefits - both tangible and intangible - to the farmers, rural communities, Governments, entire food value chain and also consumers.

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“In crop protection products, stewardship is a holistic product life-cycle approach whereby the benefits are maximized through responsible, safe and judicious use while risks are minimized through educating the users against indiscriminate and unscrupulous usage”

In Guntur, Andhra Pradesh, when Chilli farmers were educated about stewardship, IPM and responsible use principles, they realized higher net returns (about 52% higher) with real savings in input costs as their produce conformed to the MRLs for exports.

In Adoni, Kurnool district of Andhra Pradesh, farmers were given hands-on training on IPM and responsible use practices and about 1,01,000 were trained since 2010. As a result, farmers are able to better identify beneficial insects, understand the pesticide labels and also use personal protective equipments while spraying.



In Burdwan taluk, West Bengal, under the GRES (Green Revolution in Eastern States) initiative, rice farmers were trained on several productivity improving technologies with key focus on IPM and responsible use of chemicals and preliminary results show that the farmers achieved at least 22% higher yields.

Other benefits for the farmers and the rural communities include reduced usage and expenditure on pesticides; improved personal health; and overall reduction in environmental pollution and public health hazards owing to indiscriminate use of pesticides and reduction in the level of pesticide residues in the final produce.

These initiatives and other educational resources developed by CropLife International are aimed at promoting farmers' awareness and encourage adoption of good agricultural practices. This includes responsible use of crop protection products and following necessary intervals between pesticide applications mainly, prior to harvest.

Several Governments across Asia adopted these materials for training their technical and extension staff who in turn provide training to the farmers.



Way Forward

For addressing the issue of residues holistically in the long-term, it is important to have a balanced perspective considering the enormous contribution of the crop protection industry to the agricultural GDP and overall economic growth.

Short-term measures such as improved surveillance, stringent implementation of existing regulations related to food safety and quality; enhanced stewardship training of farmers; and holistic adoption of the International Code of Conduct on Pesticides Management are needs of the hour.

In the long term, it requires revitalizing the agricultural industry through promoting investments on R&D and infrastructure as well as forging partnerships with the private sector for capacity building, technology transfer and educating the farmers and other stakeholders on the benefits of adopting better farming practices particularly, in using crop protection chemicals responsibly.

Initiatives like the abovementioned go a long way in equipping farmers with necessary knowledge and technological tools to support their pursuit of feeding the billion-plus population that is growing faster than the productivity growth in key food crops.

It requires a strong will, commitment and long-term vision to promote stewardship to the top of national priorities for the agricultural sector which will eventually pay off ensuring healthy, prosperous farmers helping the country achieve its food security goals.

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