

CROP PROTECTION FOR HEALTHY HARVESTS



Before reaching our tables, the food we eat has to withstand many challenges in the field such as invasive weeds, harmful insects, fungi, diseases and extreme weather conditions. Without crop protection solutions, a lot of the food that farmers grow would be lost to pre-harvest pests. The Food and Agriculture Organization (FAO) estimates that up to 40% of food crops are lost due to plant pests and diseases annually.

Why Crop Protection

Such losses not only threaten global food security but also have the potential to limit food access due to unavailability of food, or sharp increases in food

prices. But this challenge is also an opportunity to find new ways to help crops better withstand adverse conditions in a farmer's field. That's why at Bayer, we are exploring new ideas that can help farmers with tailored solutions to protect their crops.



Bayer offers a broad range of chemical, biological and data-driven solutions to help farmers safely and responsibly protect their crops from pests such as weeds, disease, harmful insects and fungi. Our diverse and growing portfolio provides farmers with the latest technologies and a wide range of choices for their crop protection needs. These include innovations such as pesticides, herbicides, agricultural biologicals such as microbials and digital farming tools. We also work collaboratively with farmers to offer tailored solutions – including agronomic recommendations based on the specific needs of their fields, crops, and soil to defend against pests, help ensure productive harvests and improve soil health, all while protecting our natural resources.

Curbing counterfeit CPC

Crop Protection chemicals (CPC) play an important role in preventing crop losses both before and after harvesting. That's why the increasing incidence of counterfeit and illegally traded CPC in India is a serious issue.

While legally registered CPC undergo rigorous testing under global and local regulations, illegal products are not tested for efficacy or impact on human health and environment. Counterfeit CPC may contain unknown, toxic impurities. The residues of these untested substances can be carried into harvested food and may compromise human and animal health. It can also pose health threats to farmers and farm workers through exposure during application.

Manufacturing legal CPC involves significant investment and time for securing new registrations. Proliferation of illegal products results in loss of sales, patent and trademark infringement, erosion of data protection and damage to reputation. Illegal products also cause resistance in pests and manufacturers have to come up with newer technologies to replace old chemicals.

Bayer has a zero-tolerance position towards counterfeits and is committed to combating them as effectively as possible. We conduct regular awareness campaigns to educate farmers against the ill-effects of using counterfeit CPC. This is a part of our ongoing Product Stewardship strategy.

Dealers and distributors can play an important role in discouraging the illegal sale and supply of counterfeit Crop Protection chemicals. Additionally, the enforcement department and the government's regulatory mechanism has to be more vigilant in curbing this menace.

Need for sustainable agriculture

The industry and government are supporting the shift to sustainable agriculture by popularizing the use of science-based good agronomic practices (GAP) that are climate-smart and financially viable. Enhanced collaboration will play



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a critical role to transform Indian agriculture.

Digital tools shall help farmers produce more with less resources (water, land and energy) and make data-driven decisions in real-time. New technologies like drones are revolutionizing farming. Drones can help identify weeds, pests and diseases and localize application of crop protection chemicals. Farm-

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ers in China and south-east Asia have started using drones to reduce their risk and improve profitability. Once drones are approved for use in Indian farms, it can provide farmers significant benefits including targeted and timely use of crop protection chemicals to reduce crop risks.

Right policy and market environment

India needs to develop policies for improving farm-to-fork competitiveness of major crops. For example, in horticulture India has significant opportunity

to improve productivity and quality for domestic and export markets. Creating end-to-end crop value chains with focused state clusters and strong linkages to FPOs will enable this to succeed.

Innovations in modern crop protection and biotechnology have helped change the face of agriculture, offering farmers the benefit of efficiency, productivity, and sustainability. Innovation lies at the core of transforming food production. That's why India needs to accelerate introduction of new technologies in crop protection to match pace with other big agricultural nations. This means shortening product registration timelines and fast-tracking critical innovations for timely response to emerging threats like the Fall Army Worm impacting corn cultivation. In case of biotech regulatory reforms, they need to be introduced in conjunction with reforms for crop protection. This requires a holistic regulatory regime starting with breeding, crop protection to biotechnology to mitigate risk and improve yields significantly.

For India to become a globally competitive manufacturing hub for crop protection products, we need enhanced data protection measures to safeguard the investment towards innovation and R&D of new products.

With accelerated use of digital technologies and open knowledge platforms, there's a great opportunity to scale up our regulatory capacity including strong alliances for knowledge transfer with other leading countries. This again will be a strong foundation to accelerate regulatory reforms on a real time basis.