The Battle to Protect Food & Grow More of It

Farmers everywhere are on the front lines, working to protect crops and raise yields on shrinking lands. Environmentally responsible FMC chemistries are part of their defensive strategy.

A THREE-PART SERIES ON FMC’s FOOD & FIBER ROLE
As our global population surpasses 7 billion, available farmland is facing steady erosion – either from the forces of nature or the encroachment fostered by housing and urban sprawl. The only solution for sustaining our food supply is helping farmers increase yield while ensuring the health and safety of those who eat the food they grow. At the very heart of that solution are chemistries that enable crop protection. That’s where FMC plays a vital role.

The Growing Challenge of Crop Protection

Make no mistake about it: farmers are at war and the stakes could not be higher. In addition to the daily challenges of uncertain weather conditions, crops are being assaulted by 30,000 species of weeds, 3,000 species of nematodes (tiny parasitic worms), 10,000 species of plant-eating insects and a wide spectrum of damaging fungi. In the case of weeds alone, there are between 50 and 300 million weed seeds lurking in every acre of U.S. cropland.

The United Nations estimates that the world’s agricultural output must double in the next 20-30 years to keep up with demand. Even with the right protective chemistry, as much as 40 percent of the world’s total crop production is decimated annually by a wide variety of weeds and pests. Forty percent! Without the ability to control this devastation, the losses could easily double – an unthinkable catastrophe. Scarce supplies of food, coupled with the resulting jump in food prices, would devastate humankind and cripple the global economy.

The wide variety of crop protection products available gives farmers cost-effective solutions for delivering higher yields with less land. In the United States, for instance, farmers produce 18 percent of the world’s food supply using only 10 percent of the world’s farm acreage. There’s steady pressure for farmers to produce much more with much less.

But eradicating pests that threaten lives and fragile economies is not the only mission. The people who work with and consume crops must be protected, too. FMC’s efforts to safeguard the world’s food supply are governed by exacting standards that make health and safety the top priorities.

The Science of Safety

In the United States, the Environmental Protection Agency (EPA) is in charge of regulating pesticides and assessing their risks. Before receiving approval for use, all crop protection products must demonstrate, through an exhaustive series of tests, that they provide a “reasonable certainty of no harm” to human health and the environment. The agency also establishes strict parameters for product use and what protective
clothing and equipment are required for safe application. The EPA says it can cost up to $256 million to research, develop and register a new crop protection product. The agency estimates that only one in 139,000 chemicals completes the journey from the laboratory to the farm.

FMC is a voluntary member of the American Chemistry Council (ACC). The ACC’s Responsible Care® program requires member companies to demonstrate continuous improvement in safe chemical management “...in a manner that is responsive to the public.” Another requirement is that the public must be directly involved in shaping the program through local Advisory Panels. Individuals throughout our business, including our CEO, are actively engaged with ACC to help make “responsible care” a shared ethic across the industry and around the world.

A vital element of the Responsible Care program is the Responsible Care Management System (RCMS), a rigorous health, safety and environmental management risk regimen. FMC was one of the first ACC member companies to receive formal RCMS certification in 2004. We are also a member of the European Chemical Industry Association as well as other organizations that adhere to the ACC’s Responsible Care principles.

FMC engages as a leader in industry and grower organizations around the world, too, and places the highest priority on obeying individual country laws concerning product registration and local use, as well as educating our grower-customers about proper use, handling and application. “The Right Chemistry” includes doing things correctly to ensure that food abundance is achieved without cutting corners.

**Less IS More**

Innovations in crop protection science have enabled farmers to do more with less. Thanks to a commitment to continuous scientific improvement, yields have increased on existing cropland and an army of pests is kept at bay with increasingly lower doses of safer chemistry. FMC’s own innovations offer farmers a broad menu of targeted, efficient and safe solutions for sustaining the food chain.

Farmers need insecticides that deliver broad spectrum residual control. They want products that target specific pests while being soft on beneficial insects such as bees and certain mites.
One of our innovative solutions in the United States is Capture® LiquidReady® insecticide, the first liquid at-plant product that combines convenience with cost-effective, broader spectrum and longer residual control of corn rootworms and other key soil pests. The LiquidReady formula coats the seed the moment it is planted, to create a long-lasting pest-free root zone for the life of the plant. The system helps farmers cut chemical use by 95 percent!

FMC has developed new insecticide products that have set industry standards for broad-spectrum pest control use for years. We recently reformulated Mustang® (zeta-cypermethrin) to expand its effectiveness in responsibly protecting more than 125 crops in North America.

Another innovation provides maximum flexibility and adaptability in crop rotations. With optimum residual protection, Authority® MTZ DF, a new herbicide that includes FMC’s sulfentrazone chemistry, enables farmers to spray existing fields in the fall and switch crops in the spring if market demands change.

The Future of Crop Protection

Today, FMC is exploring the use of all-natural, biological control products extracted from renewable resources. We recently signed an agreement with Chr. Hansen to access that company’s extensive library of existing Bacillus products to develop biologically based crop protection products. Latin American farmers are using our Regalia Max natural fungicide, which triggers natural defenses to help crops combat a variety of bacterial and fungal diseases.

There is perhaps no greater sustainability issue facing our world’s population than ensuring a safe, abundant, steady stream of high-quality, nutritious food. FMC is firmly committed to remaining on the vanguard of that essential effort.

Do you have ideas about sustainability and food production? Please share them at sustainability.info@fmc.com.