The 3 Steps of the Crop Protection Solution Life Cycle

Preparing for the future across three multi-year steps, the global network of locally based field scientists at Corteva Agriscience anticipates emerging crop threats before they're fully established. Thousands of molecules are screened for potential activity before the crop protection solution life cycle begins.

Step 1: Molecule Discovery (5-7 years)

Research: Design a molecule that offers efficacy in the field, addresses sustainability goals and is feasible to formulate and manufacture—all of which indicate that it's worth future research and development.

Resourcing: Core personnel are grouped by discipline area, working across biology, chemistry and other disciplines involved at this stage, collaborating as needed.

Regulatory: Use software and other tools to start predicting whether molecule variations are promising and could result in products that meet Corteva's sustainability goals.

"We leave Step 1 committed to investing significant time, effort and money to bring a new solution to market that meets the needs of farmers."

–Ramnath Subramanian, Vice President of Crop Protection R&D, Corteva Agriscience

Step 2: Characterizing the Molecule (3+ years)

Research: Take what is learned in the lab and smaller field settings to larger, more diverse field sites around the world, developing and refining the formulation to confirm the exact amount farmers will need to manage the pest.

Resourcing: Resources increase in all areas, and interdisciplinary teams interact more. Subject matter experts determine how the molecule and formulation can be manufactured at scale in an economical and ecological way.

Regulatory: Gather all necessary regulatory data that will be summarized for individual countries for their review and approval of the molecule.

"This is the step where the work done reflects the type of uses the grower will have—but we are still many years away."

–John Wiles, Global Biology Leader, Insect and Nematode Management Portfolio, Corteva Agriscience

Step 3: Commercializing the Molecule (3+ years)

Research: Collaborate with farmers to pilot the solution on a small scale, and perform other tests to fine-tune the solution and identify how it can best be used in the field.

Resourcing: Work with academic scientists and other external advisers to further understand the product and ensure it meets the needs of farmers around the world.

Regulatory: Educate about the benefits of the new molecule and its fit within sustainable farming practices.

"It's about how much can we do right before launch to get people comfortable with the solution so that when we launch, they're ready to roll."

–Melissa Siebert, Global Crop Protection R&D Pipeline Development Leader, Corteva Agriscience

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