BIOPESTICIDES

MAKING THE DIFFERENCE

ACCELERATING YOUR ROUTE TO MARKET

SGS

Concerns about the environmental impact of the chemicals in plant protection products (PPP) and fertilizers are growing around the world. Natural agents are now recognized as a safer alternative that has potential to fulfill the same role within an integrated pest management (IPM) program.

Biopesticides are a subset of pesticides. They are derived from natural materials that originate from animals, plants, microorganisms, and certain minerals. More than 50% of all biopesticides contain microbial biological control agents (MBCAs).

In the EU, biopesticides fall under Regulation (EC) No 1107/2009, with Regulation EU 283/2013 – Part B specifying the data requirements for biopesticide active substances. There is currently no harmonized regulation concerning the risk assessment of biopesticide products, and the data requirements can vary between countries.

Our European experts advise clients on the most appropriate route to market for a new product and, when required, can assist with the development of tailored testing methodologies.

ROUTE TO MARKET

SGS experts facilitate the efficient development and registration of new biopesticide products onto global markets. Our dedicated testing platforms cover everything from screening under protected conditions in growth chambers or R&D greenhouses, to regulatory trials conducted under protected and/or open field conditions, environmental safety studies, and various product-related studies. Our methodologies comply with the requirements of markets all over the world, and our safety related studies are performed according to Good Laboratory Practices (GLP).

Developing a new biopesticide product can take two to three years. We have the expertise and global reach to help you expedite this process by assisting on the completion of relevant chapters within the registration dossier. These include:

- Product identity/ characterization/impurities
- Shelf life
- Efficacy
- Method development/validation
- Effect on non-target organisms

PRODUCT IDENTITY/ CHARACTERIZATION/ IMPURITIES

MCBAs require characterization at strain level, including potential toxic metabolites.

Our dedicated microbiological and chemical analytical laboratories provide:

- Content analysis
- 5-batch analysis
- Impurity profiling
- Determination of hazardous microorganism thresholds
- Certification that toxic metabolites are within limits
- Method development and validation

EFFICACY

Screening/Bioassay – supports your screening activities by performing bioassay testing in laboratories, growth chambers and R&D greenhouses to identify the limit of the biological solution.

Field Trials – demonstrate effectiveness and safety under realistic conditions. Our exploratory and regulatory field trials are conducted at protected and open field sites across Europe.

We can reduce the number of field trials by following EPPO guidance for low risk substances. Our protocols following EPPO guidelines can be adapted to the specific nature and conditions of your biopesticide product.

Utilizing our pan-EU network of field stations and many years of experience, we can perform a wide variety of trials covering most crops, under different cropping conditions, and using a variety of biopesticide products, including weed, insects, fungi and nematode controls. Additionally, trials can be held for different formulated products, from seed treatments to sprays and furrow applications. Pheromone placement trials are also within our portfolio.

Biopesticide products are innovative and target specific organisms, following multiple modes of action. This makes them complex to handle and, matched to a lack of background data and comparability studies, our trials are conducted with extra attention and monitoring.

METHOD DEVELOPMENT/VALIDATION

Regulation EU 283/2013 specifies methods for characterizing and validating the presence of a biological active ingredient in any pesticide product.

Our analytical laboratories run method development and validation product studies for chemical (e.g. plant extracts) and microbial active (e.g. bacteria, fungi) ingredients, as well as potential toxic metabolites. To assess environmental risk, we can also establish methods for testing non-target organisms, soil and water.

NON-TARGET ORGANISMS

MBCAs are considered low risk because they only target specific organisms and there is limited risk to non-targeted organisms. However, this is dependent upon whether the active agent is a chemical, a mixture of chemicals, or the actual microorganism. Risks relating to bees/pollinators, the soil microbial community and function, and organisms living in or on the soil must be addressed in the risk assessment sections of the registration dossier.

SGS can provide tailored testing solutions for non-targeted organisms like pollinators, and terrestrial and aquatic organisms.

SGS BENEFITS

SGS is the world's leading inspection, verification, testing and certification company. We strive to deliver outstanding value at every step of your project by providing:

- Global network
- State-of-the-art laboratories
- Technical competence

CONTACT US

seed.crop@sgs.com
sgs.com/seedandcrop
SGS Agriculture & Food

WHEN YOU NEED TO BE SURE