

The Decision to Develop

The decision to develop insecticides, herbicides and fungicides is carefully based on current and potential crop threats, growing consumer demand for a wide variety of safe and abundant food, and the practical needs of farmers and growers who manage their operations as a part of their local agricultural communities. Farmers appreciate the important partnership they have developed with the crop protection industry and rely on the many technologies and innovations the industry provides to battle new and existing invasive pests and weeds. Through the use of innovative crop protection technology, farmers have been able to fight most invasive insects, weeds and plant diseases, such as thrips, aphids, fruit flies, pigweed, foxtail and soybean rust, that attack fruits, vegetables, grains and fibers crops.

Millions of dollars and years of research are required before a product is registered by the EPA for sale and use. As part of this intensive process, each product is also carefully studied to ensure human safety, efficacy against pest problems and minimal impact on the environment.

In the case of crop emergencies that arise due to weeds, insects or diseases and require immediate action, the EPA may grant an emergency exemption for the use of pesticides not yet registered for the specific need. Again, after careful evaluation, these exemptions are only granted (1) for the duration of the emergency; (2) for limited geographic areas; and (3) with strict use restrictions.



Advancing Agriculture

Agricultural crop protection products - herbicides, insecticides and fungicides - are vital to the economical, safe, and efficient production of abundant and affordable supplies of food, fiber, lumber and biofuels. Crop protection products, by helping farmers control weeds, insects and plant diseases, grow and guard the world's food staples, along with many other day to day essentials.

The crop protection industry, comprised of the manufacturers and distributors of these products, is one of the most heavily-regulated industries in the United States. CropLife America (CLA) serves as a collective voice for the industry and welcomes this regulation and oversight as a key part of its commitment to develop and market safe and effective products. The industry works closely with the U.S. Environmental Protection Agency (EPA) and other federal and state regulatory agencies, from initial research to the final product label with instructions for use.

This pamphlet gives an overview of the rigorous process of research, development, testing, and government review and evaluation that leads to the market approval or "registration" of new crop protection products. It is a time-tested and proven process that assures the foods we eat are safe.

For an in-depth look at the development, testing and registration process for these important products, please visit CLA's website at www.croplifeamerica.org.

FROM LAB TO LABEL

INNOVATIONS THAT FEED THE WORLD

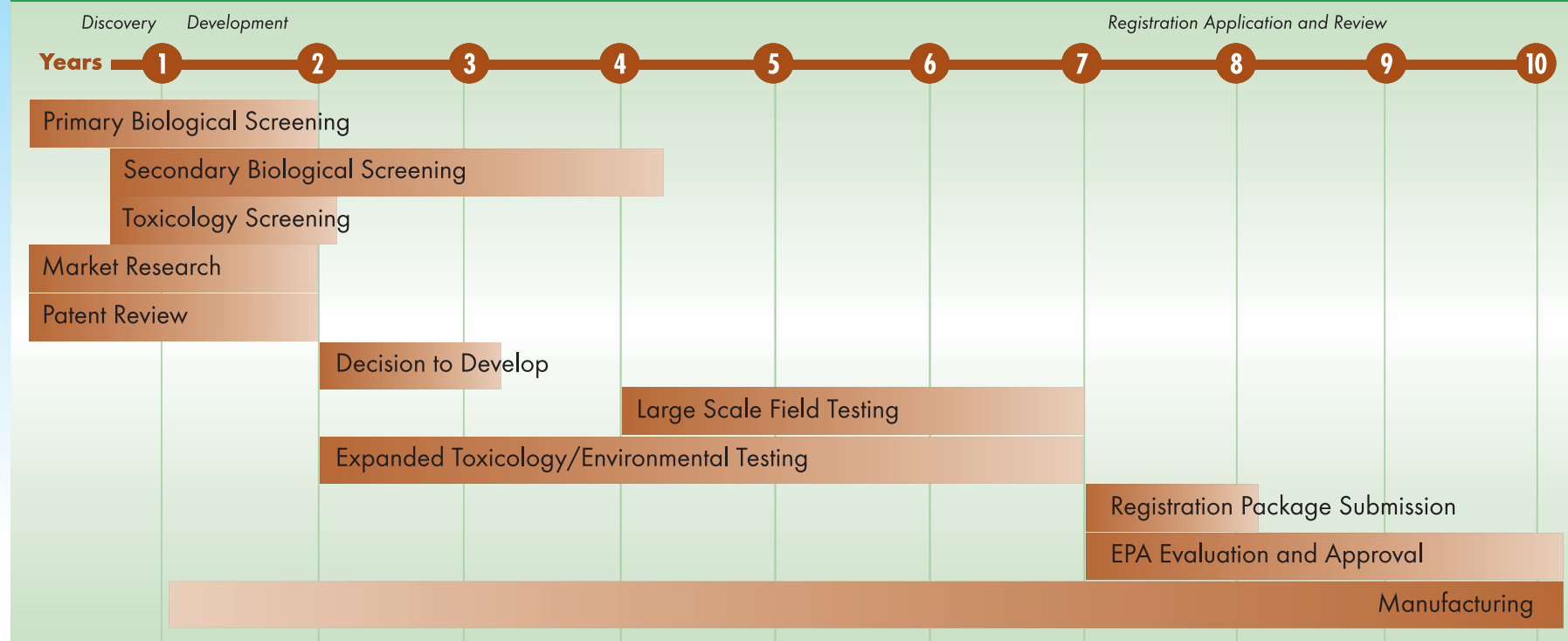


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Development and Registration Progression



Registration/Registration Review

Registration

The process of gaining pre-market approval or "registering" a new pesticide product is intentionally rigorous and demanding, and usually requires six to seven years from the discovery of a pesticide compound to its submission to the EPA for registration. As the registration package proceeds through EPA review, the manufacturer also begins preparing for commercial production in order to coordinate with the expected date of product registration by EPA.

The registration package for a particular crop protection product contains thousands of pages of test data that are reviewed by scientific and administrative branches of EPA's Office of Pesticide Programs. Only after these data pass rigorous scrutiny and risk assessments is the product registered.

Registration Review

Significant advances in environmental science and analytical technology have been made since many crop protection products were first registered. Since 1972 Congress has updated pesticide laws multiple times to mandate that the products be reviewed again on a regular basis to assure that all pesticides meet current scientific and regulatory standards. In addition, manufacturers spend a great deal of resources ensuring agronomic value throughout the life of their products.

Evaluating the Risks and Benefits

Bridges, airplanes, drug treatments, countless consumer products – most all things carry some level of risk, even those we use and rely on every day. But the risks are managed by government regulation and outweighed by the benefits these products and innovations provide us. The same principle is applied in assessing potential risks during the evaluation of crop protection products.

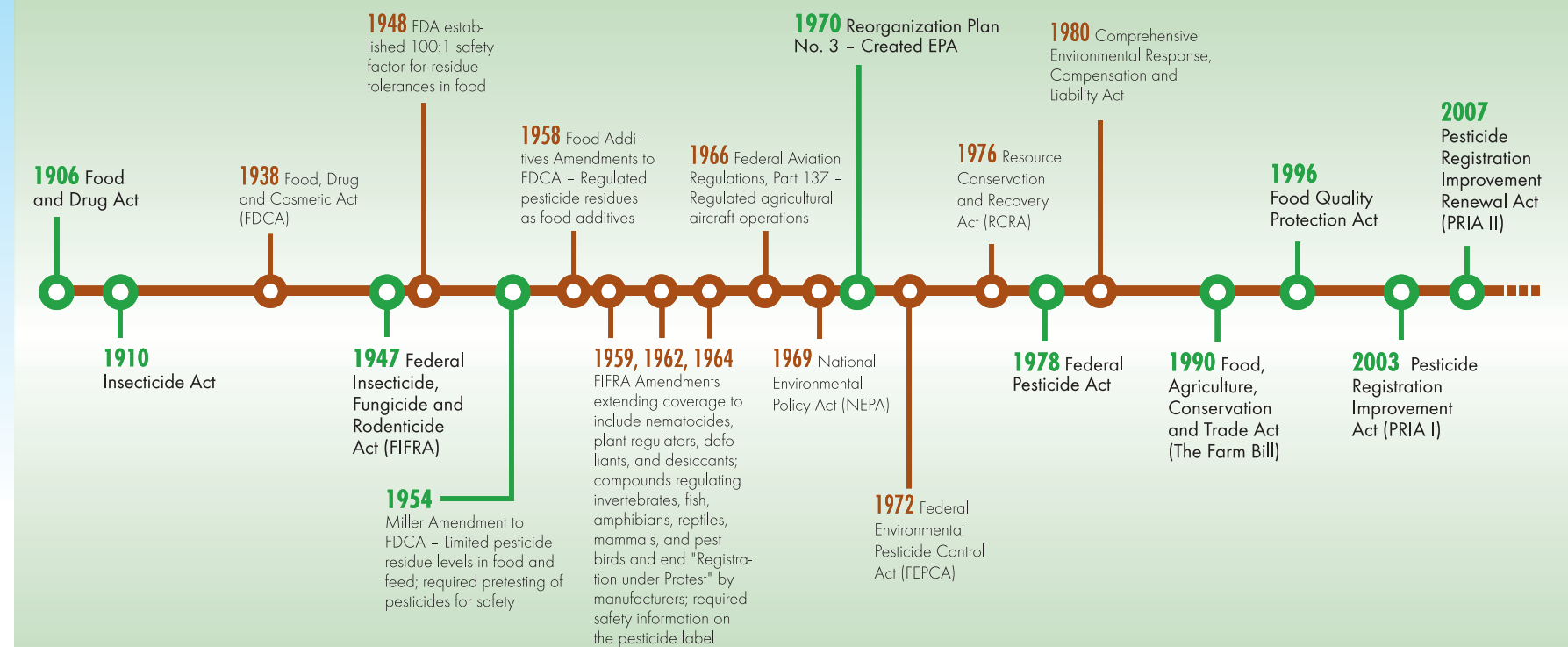
Every day across the nation and around the world, farmers are using crop protection products to guard their growing crops from the effects of weeds, insects and diseases and increase crop yields in order to sustain a growing world population. Even after harvest, insects, rodents and molds can harm grains and produce. Post-harvest use of crop protection products prevents huge losses. The products that protect America's crops are subject to more than 120 health, safety and environmental tests to ensure their safety and effectiveness before being registered for use by the EPA. Their use and development are regulated by the EPA primarily under two federal laws: the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act (FFDCA).

Under FIFRA, EPA ensures that each pesticide "will perform its intended function without unreasonable adverse effects on the environment." In order to meet this standard, every new crop protection product is evaluated for potential effects to humans, wildlife, plants and other organisms. It is essential to understand the importance of evaluating both hazard (chemical properties, including toxicity) and exposure (amount, frequency and length of exposure to a chemical) in assessing risk before approval for the use of a product can be granted.

FFDCA further requires EPA to determine "that there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue" in foods. In the registration process, EPA evaluates the pesticide residues likely to occur in foods, other potential human exposures and the toxicity of the chemicals to assure that the products meet this standard also.

It is also critical to evaluate and take into account the risk of **not** using pesticide products that protect our crops. These products are essential to safeguard the crop yields we depend on and new advancements hold the potential to significantly increase food yields worldwide. Without crop protection innovation, the potential consequences to food production could be considerable and devastating. A scarcity of food could see food prices rise and hunger and malnutrition increase substantially. The responsible and safe use of crop protection products, along with continued industry innovation, helps to ensure that such scenarios are never realized.

Major Milestones in Pesticide Legislation



Labels and Use Instructions

EPA defines how a crop protection product may be used, how often it may be applied to the crop and what protective clothing or equipment the applicator must use, along with other limits and restrictions. This information is spelled out on the label of each product. Every pesticide applicator has the responsibility to read and follow the label instructions regarding proper handling and use of the product, potential risks and how to minimize and avoid those risks.

Detailed label information may include:

- Where the product can and cannot be applied.
- Necessary application and safety equipment.
- Relevant restrictions for use of the product, including the amount of the product to use and when to apply it.
- Where and how to store the product.
- How to rinse and dispose of the product container.

The crop protection industry strongly supports and advocates for regulatory and legislative standards for the protection of pesticide applicators and others who work in crop production. The health and safety of America's farm workers are of critical importance to all, and the information included as part of each crop protection product's label is essential in ensuring farm worker safety.

The crop protection industry has also been a leader in reducing its environmental impact by developing lower-dosage products and comprehensive recycling programs for product containers.

Sound, Safe, Sustainable

The process of developing and registering crop protection products for commercial use is methodical and demanding. The EPA, state regulatory agencies and the crop protection industry all share the common goal of creating effective products that are environmentally sound, safe and sustainable. When the process of development and registration for crop protection products is fully understood by the general public, their importance and safety are readily apparent.

The industry welcomes the federal government's efforts to assure that new pesticide products are safe for both the environment and consumers. All crop protection technology is subject to hundreds of tests and years of examination before being registered for use, thereby helping to ensure that modern agriculture continues to provide affordable crops, a sustainable food supply and a healthy planet for all.

