KNOW YOUR FOOD IS SAFE

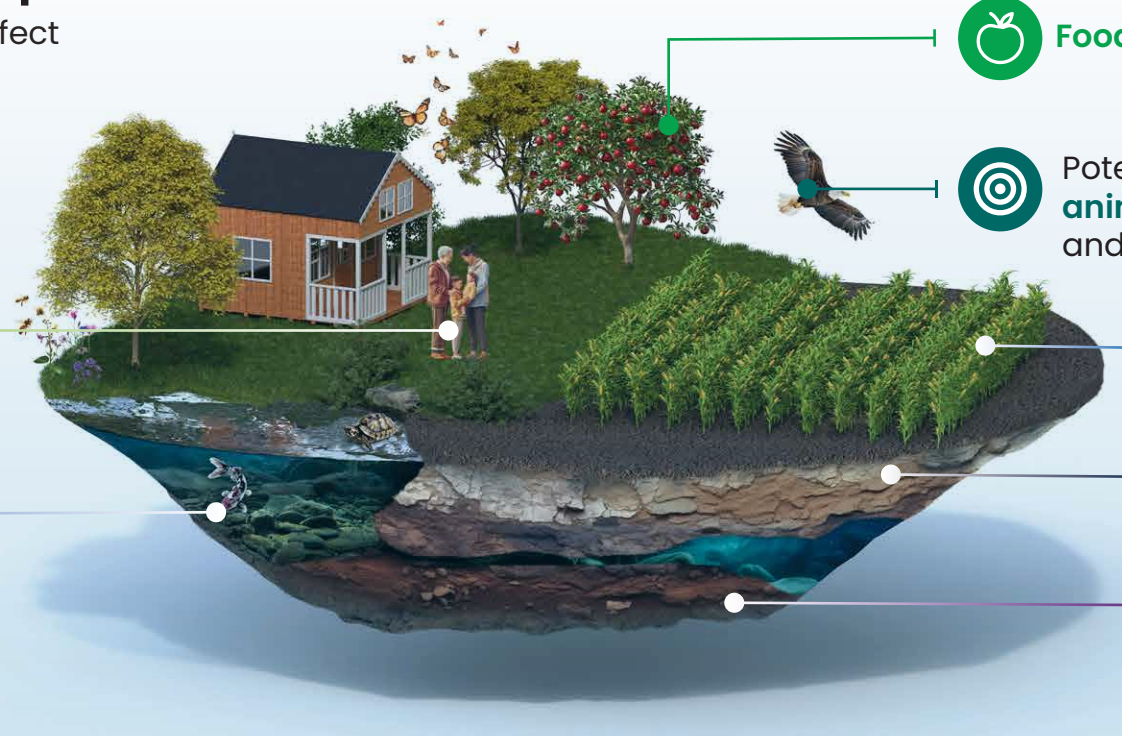
Helping farmers grow more food that is safe and healthy is critical to food security and affordability. Today's advanced pesticides have to meet stringent government standards – and undergo more than a decade of testing and review by multiple agencies – to prove that they are safe for human and animal health as well as the environment when used as intended. Learn more about this process, and why these products are important for farmers.

CORTEVA™ agriscience

Safety testing of pesticides

looks at how they might affect **humans,** **wildlife,** and the **environment.**

This includes testing focused on:



- **Human safety for all ages**
- **Water protection**
- **Food safety**
- Potential **impacts to domestic animals as well as wildlife** and their habitats
- **How it protects crops**
- **How it breaks down**
- **How long it lasts** in the environment

A LONG AND STRINGENT PROCESS

All pesticides have to pass rigorous approval processes that can demand over 150 safety studies and on average take more than 12 years.* Even after regulatory approval, the safety monitoring continues.**

Source:
*https://croplife.org/wp-content/uploads/2024/02/Time-and-Cost-To-Market-CP-2024.pdf
**https://croplife.org/wp-content/uploads/2024/02/Time-and-Cost-To-Market -CP-2024.pdf

The U.S. EPA follows a rigorous review process to confirm the safety of pesticide products - a process called registration review - that is repeated at least every 15 years.

Crop protection is critical to farmers and important for food security.

20% to 40% of potential food production is lost every year to pests.

Source: FAO/IPCC/Plant Health Climate Change: https://bit.ly/3yXYRn7

YEARS 1-4

Lab testing

Discovery of a new active ingredient to solve a critical problem can take years of dedicated research and the consideration of hundreds of thousands of potential molecules.

YEARS 5-9

Field testing

Once a product works in the lab, it's tested extensively in the field to ensure it controls its target organism under real-world conditions and passes meticulous safety testing.

YEARS 10-13

Approval

Regulators review data on each pesticide to ensure it is safe for people, animals, and the environment. Only 1 in 100,000 molecules makes it from discovery to approval.*

*Source: CP Research

EVERY YEAR

Safety Monitoring

Even when approved, products are continually monitored, and unintended effects must be reported to regulators.

EVERY 15 YEARS

Reapproval

Every pesticide has to be reevaluated every 15 years in the U.S. to ensure it considers the latest scientific data and meets current standards for safe use.

Regulatory approval takes on average more than **12 years**.

Products continue to be monitored and reapproved

A review process for every country

Pesticides have to comply with the regulations of every country in which they are manufactured, used, or sold. This means some pesticides have to meet the standards of more than 100 different regulatory agencies around the world.

Without pesticides, farmers would need twice as much land* to grow the same amount of food due to reduced yields.

*Croplife America, The Contribution of Crop Protection Products to the United States Economy 2011

Today, about 400 million acres in the U.S. are used to raise crops.** Without pesticides, farmers would need about 800 million acres or 42% of the total land area of the lower 48 states in the U.S. In addition to clearing forests and wetlands, this would require huge amounts of water to irrigate desert land and twice as much fuel.

**USDA, Census of Agriculture – 2017, Factsheet: Farms and Farmland, 2019 at mass.usda.gov/Publications/Highlights/2019/2017Census_Farms_Farmland.pdf

Helping farmers grow more food is critical to food security

The world needs more food

More than 3 billion people face food insecurity

Source: https://www.un.org/en/global -issues/food

By 2050, the world's population could grow **from 8 billion to 10 billion**

Source: https://www.unep.org/news-and-stories/story/how-feed-10-billion-people

If farmers don't use pesticides

Yields and food quality decrease

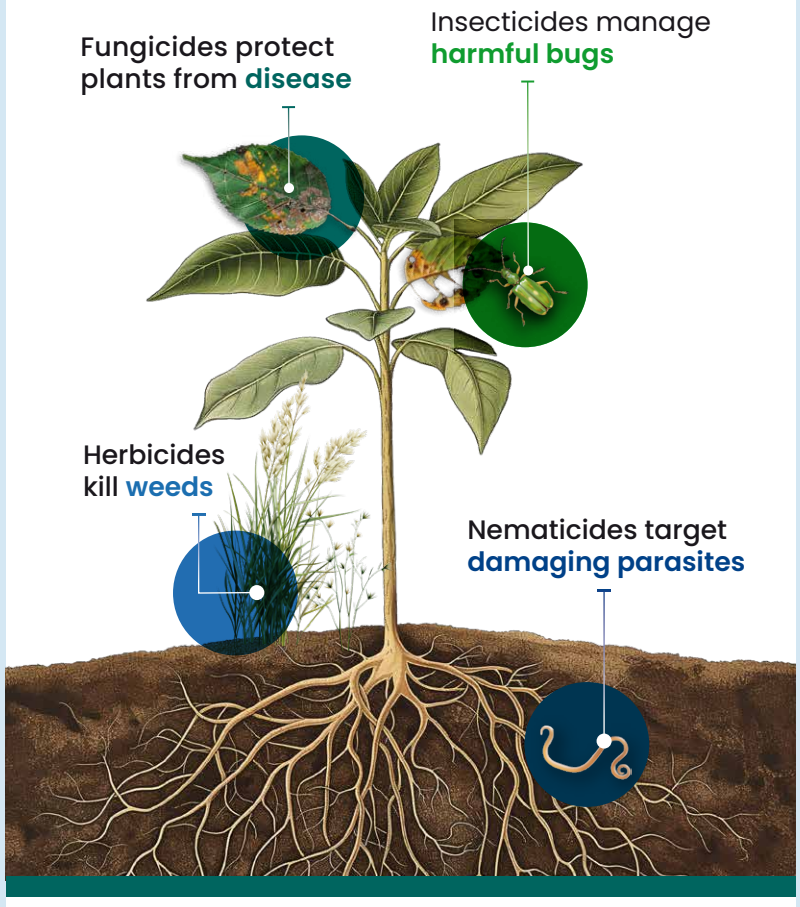
Food prices increase

Amount of land, water and energy to produce food increases

Source: https://www.croplifeamerica.org/pesticide-faqs

Battling bugs and weeds

What pesticides do:



Modern pesticides are developed to:

Break down more quickly in the environment

Achieve control with lower amounts of product

Be more selective in controlling their target pests

Be in line with United Nations sustainability criteria