

Innovating for Pesticide Safety

Innovation in pesticides has come a long way in the past **60 years**

leading to significant
improvements in
product safety.



PESTICIDE • FACTS •

For example, farmers can apply
10 times less pesticide per
hectare today compared to
1960 as a lower dose can
achieve the same efficacy.



Technology is at the heart of these improvements:



Artificial intelligence

assesses the potential health and
environmental impacts of hundreds
of thousands of chemical structures
with pinpoint accuracy.



Seed treatments

are pesticides applied directly to
seed allow for much less
product used and safer handling.



Biological pesticides

use natural sources, such as
microbes and pheromones, that
can be used by all farmers,
including organic.



Active ingredients

are delivered safely to targets via
smart formulations such as micro-
encapsulation, which uses sunlight or
temperature to trigger release.



Plant inoculants

derived from naturally-occurring
bacteria help legume crops by producing
nitrogen in soil, reducing fertilizer use.



RNAi

is a natural biological process that
"turns down" the expression of
certain genes in a pest to develop
highly targeted pesticides.

Innovation in pesticide packaging

helps prevent misuse and counterfeiting of products.
Examples are anti-splash bottle necks, built-in measuring
devices, gel formulas, engraved manufacturer logos, holograms
and bar codes that can only be read by official retailers.

