

Plant Breeding Innovation

Meeting the challenges of global agriculture

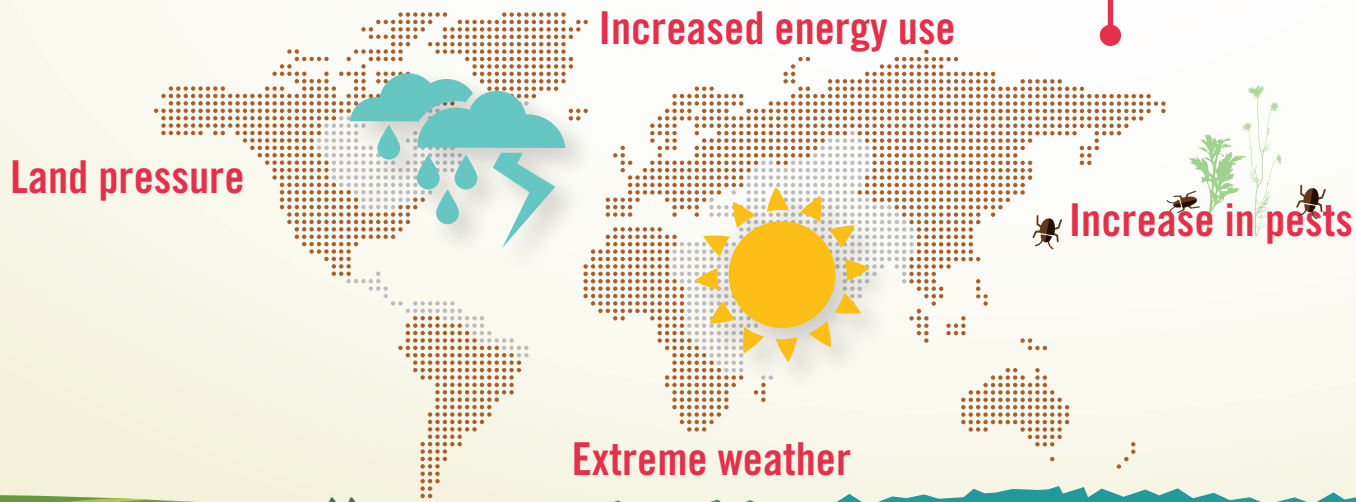
By **2050**,
farmers will need to
produce **70%** more
food to feed the
world

NEARLY
10 billion
people *by* **2050**



Plant Breeding Innovation helps to produce seeds that can meet these challenges, delivering significant benefits for **consumers, farmers and the environment.**

To feed this growing world, we must overcome a continuously changing environment:



PLANT BREEDING INNOVATION DEFINED

Plant breeding innovation is based on the same seed improvement principles that farmers and plant scientists have used for thousands of years.

Breeding tools are continually evolving due to our increased understanding of plant physiology, molecular biology and genetics. Current examples include gene or genome editing (CRISPR/Cas 9 and site-directed mutagenesis) and cisgenesis. Many of the products of these latest methods are indistinguishable from those produced with traditional methods.

Innovation in Plant Breeding Brings Benefits

The environment

More food from same land

Decreased greenhouse gas emissions

Preservation of natural habitats

Optimized use of crop protection products

Reduced soil erosion

Efficient water use

Renewable source of fuel and fiber

Farmer

More abundant and reliable harvests

Sustainable crop systems

Profitability, stable income and enhanced quality of life

Contribution to local, regional and international food security

For subsistence farmers – increased income, supporting their own food security

Quicker and continuous access to improved seed

Greater diversity of crops adapted to local growing conditions

Consumer

Food security

Improved health, well-being and quality of life

Diverse and balanced diet

Affordable food

Foods with enhanced taste and nutrition

Foods of consistent quality and longer-lasting freshness

Innovation is Essential for New Plant Varieties

Innovation in plant breeding results in new varieties of fruits and vegetables. For example, plant breeders have been able to work within the wild mustard family by aligning desirable characteristics to select staples such as broccolini, kale and improved varieties of cauliflower.

