Infographic: The history of modern crop breeding — And how biotech seeds fit in

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BIOTECH CROPS

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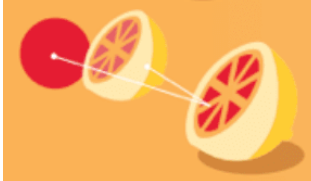
1700s

Cross-breeding: farmers and scientists cross-breed plants within a species (e.g. rutabagas are a cross between turnips and cabbage).



1940s

Seed breeding: plant breeders use radiation or chemicals to generate seeds with desirable traits. These random mutations lead to new and useful plant characteristics such as size, sweetness or color (e.g. red grapefruit).

1973

Scientists Stanley Cohen and Herbert Boyer perfect recombinant DNA development – the technique used to cut and paste DNA and reproduce the new DNA in bacteria. This signalled the birth of genetic engineering or modern biotechnology.

1996

First biotech staple crops are commercialized and available for planting.

Today

Plant biotechnology continues to evolve with new techniques that will advance food production for farmers and meet the needs of consumers (e.g. genome editing, gene silencing, plastid transformation and inducible genes).

CREATING BIOTECH SEEDS

BC 8000

Simple selection: farmers select seed from top-performing plants. Many "modern" or familiar vegetables and fruits were domesticated through breeding programs.

Scientific discoveries dating back to the 1800s have paved the way for modern plant breeders to use molecular biology to remove the guesswork and imprecision of conventional breeding methods.

1865

Scientist Gregor Mendel's pea-breeding experiments prove heredity and the field of genetics is "born."

1953

Scientists James Watson and Francis Crick discover the double helix structure of DNA.

1980s

Insulin is the first approved product of modern biotechnology. Plant breeders apply new techniques of biotechnology to plants.

1996-2014

Researchers introduce biotech corn, soybean, cotton, canola, papaya and more to farmers around the world.

Graphic courtesy of CropLife International.

For more background on the Genetic Literacy Project, read GLP on Wikipedia