



## *Introduction*

**T**oday's farmers are under unprecedented pressure. The world's population is closing in on seven billion, and it is projected to reach nine billion by 2050. Billions of those people will be enjoying an improving standard of living, including increased consumption of more nutritious food, milk, meat and energy.

A crowded planet adds to the environmental challenges of feeding, clothing and powering the world. Water supplies will be increasingly scarce, threatened by pollution, and diverted to population centers. We can no longer set out to farm new frontiers – we must make every acre already being farmed even more productive and prevent environmental degradation.

With shrinking resources and little margin for expansion, the stakes of environmental degradation are too high. Protecting our soils, air and water – and our forests, wetlands and grasslands – is vital to all of us in the long term. Environmental and economic sustainability are essential on every farm.

Norman Borlaug, the legendary plant breeder and Nobel laureate who was the driving force behind the Green Revolution of the 1960s and 1970s, summed up the task when he wrote, “Over the next 50 years, the world's farmers and ranchers will be called upon to produce more food than has been produced in the past 10,000 years combined, and to do so in environmentally sustainable ways” (Matz, 2009).

The American farmer is uniquely prepared to meet the challenge of feeding a growing world. Pioneer spirit, hard work and grit are complemented by tools, technology and management. Together, they allow U.S. farmers to feed more people with every acre. Among those tools is plant biotechnology, which is already enabling growers to feed more people, with less land and chemicals, than ever before. As the pressure on farmers grows, agricultural biotechnology is on its way to becoming the most revolutionary life-saving technology the world has ever seen.

Soybeans have already enriched countless lives around the world through the protein and oils they provide directly to human diets, as well as nutrition for livestock and a sustainable biofuel feedstock. Soybeans have been among the first crops targeted for many advances in biotechnology. In addition to direct production improvements including improved pest control options, biotech soybeans have facilitated farmers' adoption of a variety of sustainable farming practices, including conservation tillage – in which high-disturbance tools are replaced by tillage tools that cause less soil disturbance and leave more crop residue on the soil surface – or no-till farming, in which the soil is undisturbed except for placing the seed into a narrow seedbed.

In this document, we will explore how plant biotechnology and the sustainable farming systems it helps facilitate – in soybeans as well as in other crops – are helping farmers grow more food, feed, fiber and fuel while protecting the environment.