

## Conclusion



**L**t has been nearly two decades since agricultural biotechnology put the ancient art of employing living organisms to produce specific products to the modern task of creating crops with novel properties – including tolerance to environmentally friendly herbicides and built-in protection from pests and diseases. In that short time, plant breeders have equipped farmers with crops that can be grown more productively and more cost-effectively to supply a growing population. No other options have been identified that offer potential benefits as great as biotech crops farmed with sustainable agricultural practices.

The first generation of those engineered crops have boosted production, reduced pesticide applications by millions of pounds of active ingredients every year, and made it more attractive for growers to adopt no-till and other conservation farming practices that improve soil, water and air quality.

The next generations of bioengineered crops will include production-oriented traits such as improved tolerance to stresses including drought and salinity – vital to growers here and in the developing

world – as well as output-oriented traits including better oil and dietary nutrient profiles, and starches suited for high yields of biofuel production.

In all, biotechnology has played a significant role in influencing the shift of millions of acres of U.S. cropland to conservation tillage systems, which in turn has reduced topsoil loss, energy consumption, pesticide use, labor, water pollution and air pollution. Conservation farming systems facilitated by biotech crops also may create opportunities for farmers to generate revenue by providing ecological services to society, sequestering carbon and improving water quality in quickly adoptable and highly cost-effective ways.

The result is improved sustainability, both ecologically and economically, as well as increased production.

Every ton of soil saved on the field, every pound of pesticide that doesn't have to be applied, every extra dollar to help a farmer stay financially viable and – most important – every bushel of yield produced is a milestone in the effort to provide for a global population that steadily continues to increase.

