

Grow More From Less

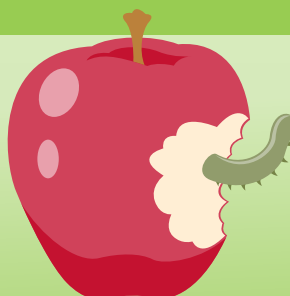
As the world's population continues to expand exponentially, growing more from less has never been more important. According to the United Nations' Food and Agriculture Organization, we have 200,000 more people to feed every single day. The organization also reports that producing more food will largely depend on increasing crop yields, not farming more land.



CHALLENGES AHEAD

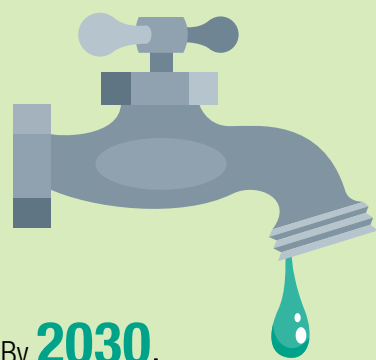


In **2050**, there will be **9 billion** people in the world to feed, which will require a **70 percent increase in food production**



40%

of the **world's harvest** is lost to **insects, weeds and diseases**



By **2030**, **water needs will exceed** current supplies by

40%

PROGRESS SINCE 1980¹

ENERGY SAVINGS

44%

reduction in energy use per unit of production in corn



YIELD IMPROVEMENTS

55%

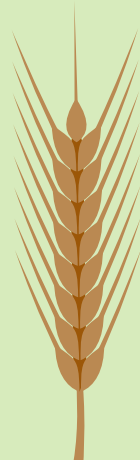
increase in bushels per planted acre of soybeans



WATER SAVINGS

12%

decrease in irrigated water applied to wheat per unit of production



SYNGENTA CONTRIBUTIONS



High-performing Syngenta **herbicide technologies** help reduce the need to control weeds through tillage. Benefits of conservation tillage have included²:

2" of **additional water** available in late summer

90% **reduction in soil erosion** when compared to an unprotected, heavily tilled field

3.5 **gallons** per acre of **average fuel savings**

13.7%

higher yields produced with **Agrisure Artesian® corn hybrids** compared to the plot average in more than **4,000 Syngenta on-farm trials** under **severe and extreme drought stress**³



Water™ Intelligent Irrigation Platform improves yield with up to

25% **less water** compared with other programs⁴



In a 100 million-gallon ethanol plant, **Enogen®** grain can result in an annual savings of⁵:

68 million gallons of **water**



10 million kilowatts of **electricity**



350 billion Btu of **natural gas**



The **Agrisure Duracade™** trait **reduces adult corn rootworm beetle emergence** by

99.79%

helping growers avoid significant yield losses⁶



Sustainable agriculture is a balance between environmental, social and economic realities. This balancing act requires the production of adequate, affordable, quality food, while at the same time protecting the environment and biodiversity. It also means making sure farming is economically viable and contributes to the long-term prosperity of local communities.



¹ Statistics from Field to Market™: The Alliance for Sustainable Agriculture (2012 v2), *Environmental and Socioeconomic Indicators for Measuring Outcomes of On-Farm Agricultural Production in the United States; Summary Report: Second Report (Version 2)*, December 2012 cover the years 1980 through 2011.

² "Top 10 Conservation Tillage Benefits." *Conservation Technology Information Center*, 2014.

³ Data is based on 4,075 Syngenta on-farm strip trials, 2010–2013. Syngenta defines a yield environment of 50–99 bu/A as severe and fewer than 50 bu/A as extreme.

⁴ 2011: Data analyzed from 19 sites in eastern Colorado, Nebraska and western Kansas. 2013: Data analyzed from five sites in eastern Colorado, Nebraska and western Kansas.

⁵ Savings calculated based on Enogen trial and commercial results at Midwest ethanol plants.

⁶ Bruce E. Hibbard, Daniel L. Frank, Ryan Kurtz, Eric Boudreau, Mark R. Ellersieck and J. Frederick Odhiambo, "Mortality Impact of *Bt* Transgenic Maize Roots Expressing eCry3.1Ab, mCry3A, and eCry3.1Ab Plus mCry3A on Western Corn Rootworm Larvae in the Field," *Journal of Economic Entomology*, 2011, 104 (5): 1584-1591.