

NO-TILL AGRICULTURE

Impact of Tillage on Global Agriculture:

For centuries, farmers have used tools, from plows to tractors, to turn over, or till, their soil to remove weeds before planting. While this has been a common and effective method for generations, it can ultimately lead to soil erosion and loss of essential soil nutrients. Advances in biotech crops and crop protection products are allowing farmers worldwide a new approach through conservation – or no-till – agriculture. By leaving the soil untilled, farmers build up the nutrients in their fields and preserve topsoil, which boosts yields and helps our environment.

Tillage Trends:

Tillage can remove topsoil, which contains essential nutrients and water that crops need to thrive.



Traditional tillage practices use **60% more fuel** than a no-till system when producing a corn crop.¹

With farmers using no-till on 274 million acres each year², **stopping this tillage prevents at least 3.2 million tons of CO₂ emissions – enough to offset U.S. home electricity use for nearly 3.5 years.**^{3,4,5}



Technology Profile:

- By using herbicide-tolerant biotech crops, farmers can use crop protection products, instead of tillage, to remove weeds before planting. This no-till approach **reduces soil erosion, preserves water and nutrients, and boosts crop production.**
- No-till farming has the potential to **increase irrigated maize crop yields** globally by 67% and wheat yields by 57% by 2050.⁶
- Combined with precision agriculture and heat-tolerant varieties, no-till could **reduce maize and wheat prices** by 10 to 20 percent by 2050.⁷
- No-till agriculture uses **less fuel** and **keeps carbon in the soil.** In 2012 alone, the amount of CO₂ saved by biotech crops was equal to removing every single car from the streets of London for five years.^{8,9}
- Globally, farmers are **adopting no-till practices at a dramatic rate, especially as herbicide-tolerant biotech crops become more available worldwide** – from 45 million no-till hectares in 2001 to more than 100 million hectares in 2008.¹⁰

Global Benefits:

By 2050, agriculture will need to produce enough food to feed 9 billion people while battling increasingly difficult growing environments due to climate change. No-till agriculture will enable farmers to adapt to these new conditions and deliver yield benefits around the world:

Worldwide yield improvements on irrigated acreage with no-till agriculture¹¹

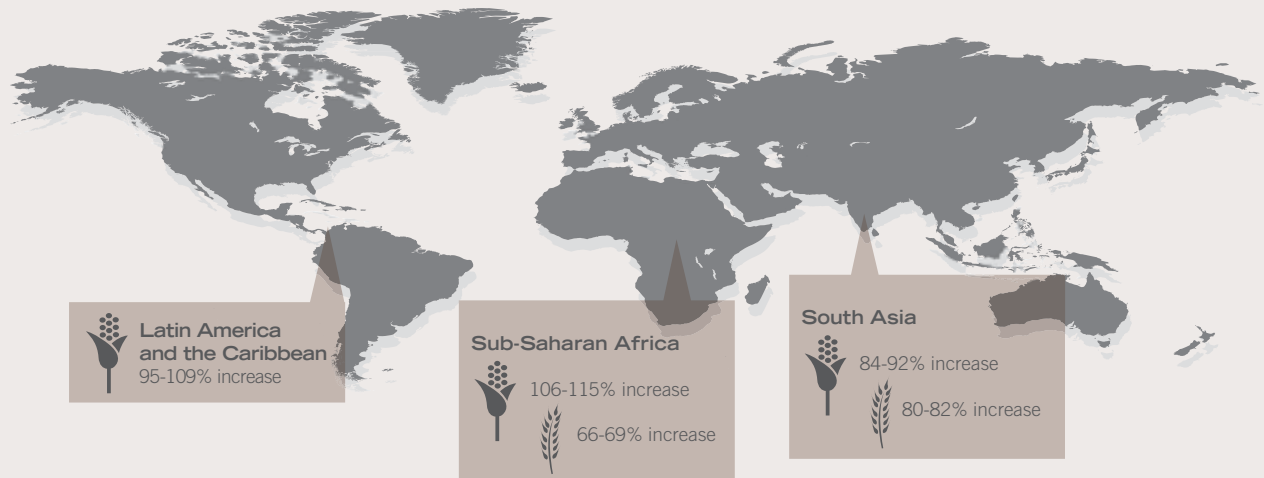
Global Production



Maize:
67% increase



Wheat:
57% increase



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