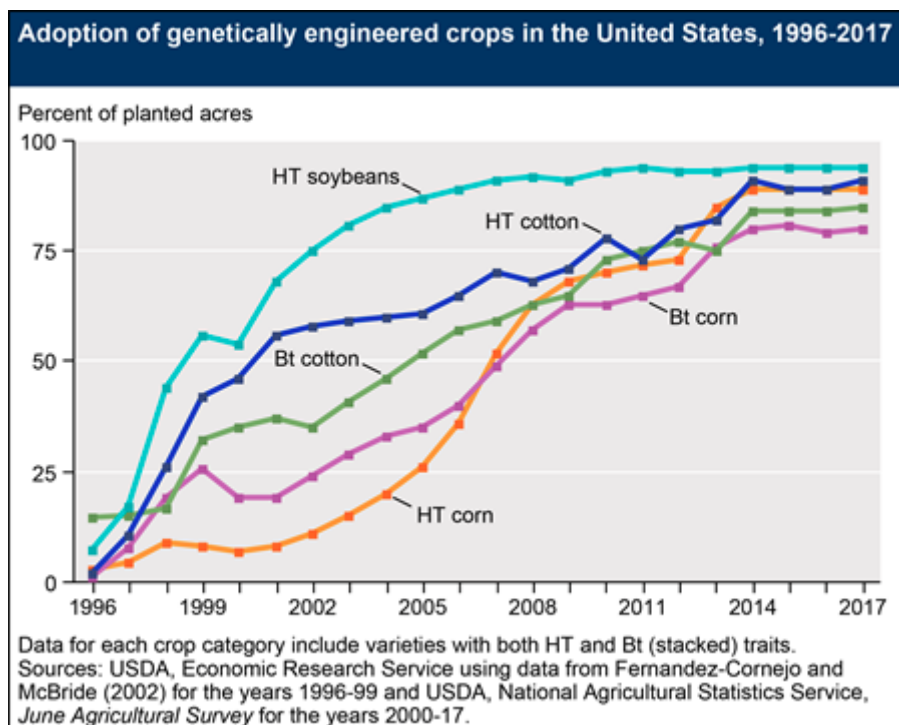




United States Department of Agriculture
Economic Research Service

United States Department of Agriculture (<https://www.usda.gov>)
Economic Research Service (/)

Recent Trends in GE Adoption



[Chart data \(/webdocs/charts/58020/biotechcrops_450px.png?v=42565\)](/webdocs/charts/58020/biotechcrops_450px.png?v=42565)

[Download higher resolution chart \(2083 pixels by 1667, 300 dpi\) \(/webdocs/charts/58020/biotechcrops.png?v=42565\)](/webdocs/charts/58020/biotechcrops.png?v=42565)

Herbicide-tolerant (HT) crops, which tolerate potent herbicides (such as glyphosate or glufosinate), provide farmers with a broad variety of options for effective weed control. Based on USDA survey data, the percent of domestic soybean acres planted with HT seeds rose from 17 percent in 1997 to 68 percent in 2001, before plateauing at 94 percent in 2014. HT cotton acreage expanded from approximately 10 percent in 1997 to 56 percent in 2001, before reaching a high of 91 percent in 2014. Adoption rates for HT corn grew relatively slowly immediately following the commercialization of GE seeds. However, adoption rates increased following the turn of the century. Currently, approximately 89 percent of domestic corn acres are produced with HT seeds.

Insect-resistant crops, which contain genes from the soil bacterium Bt (*Bacillus thuringiensis*) and produce insecticidal proteins, have been available for corn and cotton since 1996. Domestic Bt corn acreage grew from approximately 8 percent in 1997 to 19 percent in 2000, before climbing to 81 percent in 2015. Bt cotton acreage also expanded rapidly, from 15 percent of U.S. cotton acreage in 1997 to 37 percent in 2001. Currently, 85 percent of U.S. cotton acres are planted with genetically engineered, insect-resistant seeds.

Increases in adoption rates for Bt corn may be due to the commercial introduction of new varieties resistant to the corn rootworm and the corn earworm (prior to 2003, Bt corn varieties only targeted the European corn borer). Adoption rates for Bt corn may fluctuate over time, depending on the severity of European corn borer and corn rootworm infestations. Similarly, adoption rates for Bt cotton may depend on the severity of tobacco budworm,

bollworm, and pink bollworm infestations. As of 2017, insect-resistant varieties have not been commercialized for soybeans.

The figures below illustrate increases in adoption rates for "stacked" varieties, which have both (in some cases, multiple) HT and Bt traits. Adoption of stacked varieties has accelerated in recent years. Approximately 80 percent of cotton acres and 77 percent of corn acres were planted with stacked seeds in 2017.

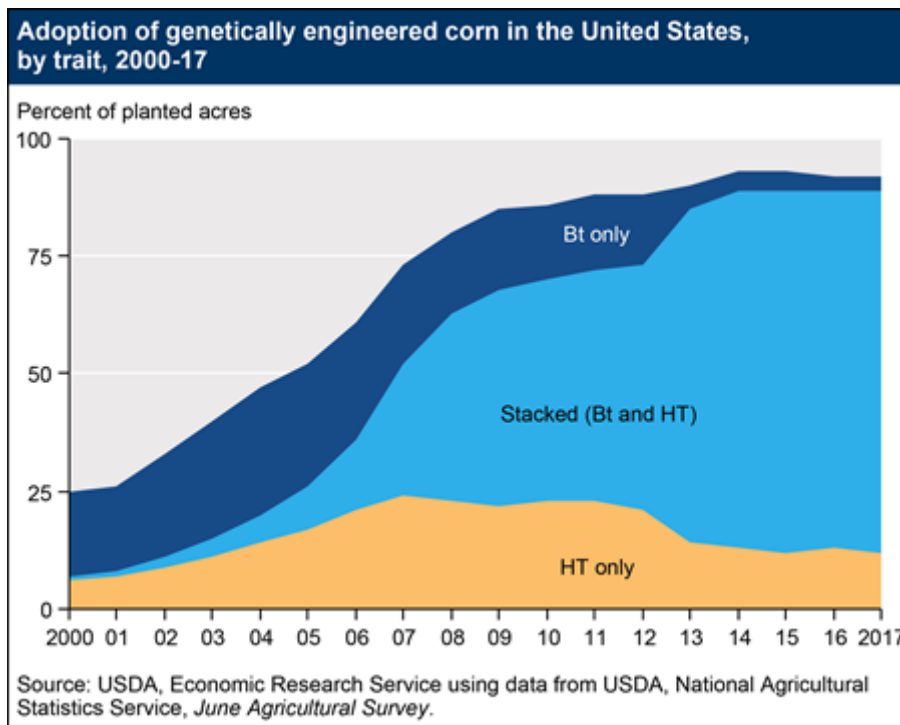


Chart data (/webdocs/charts/55237/biotechcorn_450px.png?v=42565)

Download higher resolution chart (2083 pixels by 1667, 300 dpi) (</webdocs/charts/55237/biotechcorn.png?v=42565>)

