

Infographic: GMO crops ‘wreck’ the environment, human health? Latest evidence says otherwise

“GMOs are not saving farmers money, they’re not producing higher yields, and perhaps most significantly they’re wrecking the environment and human health,” the anti-biotech outfit [Natural News warned](#) in December 2014. Such claims are recycled endlessly by environmental activists and widely circulated thanks to social media, but they are wholly unsupported by the evidence, according to [a new report](#) published by the The International Service for the Acquisition of Agri-biotech Applications (ISAAA).

As adoption of biotech crops continues to accelerate, the report notes, the environmental, health and economic benefits of that transition are difficult to deny. The infographic below provides a helpful illustration of the situation globally. Farmers have not only saved money thanks to genetic engineering, but earned an additional \$150 billion since 1996.

Meanwhile, the technology has served as a bulwark against biodiversity loss and climate change, cutting fuel and pesticide use and allowing farmers to grow more food on fewer acres, a phenomenon known as [land sparing](#). Reduced pesticide use also lowers farmer and consumer exposure to potentially harmful chemicals, and higher yields provide more food to alleviate hunger—a clear benefit to human health.

CONTRIBUTION OF BIOTECH CROPS TO SUSTAINABILITY

INCREASES CROP PRODUCTIVITY

contributes to **food, feed, & fiber** security



more **affordable** food

reduced production costs



LESS

ploughing
pesticide sprays
labor

US\$150 BILLION

farm income gains in 1996-2014
GENERATED GLOBALLY BY
BIOTECH CROPS

HELPS CONSERVE BIODIVERSITY

land-saving technology



higher productivity

on world's
1.5 BILLION
hectares of
arable land



prevents
deforestation
protects
biodiversity

REDUCES AGRICULTURE'S ECO-FOOTPRINT

lowers **CO2** emissions



in 1996-2014, pesticide
spraying reduced by
583.5 million kg

decreased environmental
impact from herbicide &
insecticide use by **18.5%**

use of **herbicide tolerant**
biotech crops conserves
soil moisture

savings on
fossil fuels



HELPS MITIGATE CLIMATE CHANGE

fewer **herbicide & insecticide** applications



reduced
FUEL
USE

reduced **CO2 emissions**
equivalent to removing
12 MILLION CARS
from the road for **1 YEAR**



CONTRIBUTES TO THE ALLEVIATION OF POVERTY AND HUNGER

better **livelihoods** from **higher yields**

~18 million farmers in **28 countries**
planted **biotech crops** in 2015



90%

small, resource-poor
farmers from
developing countries

biotech crops help farmers **earn reasonable incomes**

biotech cotton has made
significant contribution to the incomes of

~16.5 MILLION
farmers and their families in
CHINA, INDIA, PAKISTAN, MYANMAR,
BURKINA FASO, & SOUTH AFRICA



SOURCES:

Brookes, Graham and Peter Barboot, 2016.
James, Clive. 2015. 20th Anniversary (1996 to 2015) of the Global Commercialization of
Biotech Crops and Biotech Crop Highlights in 2015. ISAAA Brief No. 51. ISAAA: Ithaca,
New York.

For more information, visit ISAAA website:
www.isaaa.org



Read full, original report: [Biotech Crops Continue to Help Meet the Challenges of Increased Population and Climate Change](https://www.isaaa.org/BriefNo51)