How GMOs and Sustainable Farming Practices CAN IMPROVE AIR QUALITY

GMOs have reduced greenhouse gas emissions on farms globally and can help farmers adapt to and mitigate climate change.

According to the USDA, adopting conservation tillage can save at least **3.5 gallons (13.2 liters) of fuel per acre** for farmers because they're spending less time on tractors.[3]

If all of the corn (GM and non-GM) planted in the U.S. in 2015 was grown with conservation tillage methods, nearly **308 million gallons (1.2 billion liters) of fuel** would be saved.

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6.9 billion pounds (3.1 billion kg) of carbon dioxide emissions prevented.[4] Globally, the benefits could be even greater.

With conservation tillage[1], less carbon dioxide is released from the soil.

In 2014, **49.4 billion pounds (22.4 billion kg)** of atmospheric carbon dioxide emissions were reduced by conservation tillage and decreased fuel use – made possible by GM crops.

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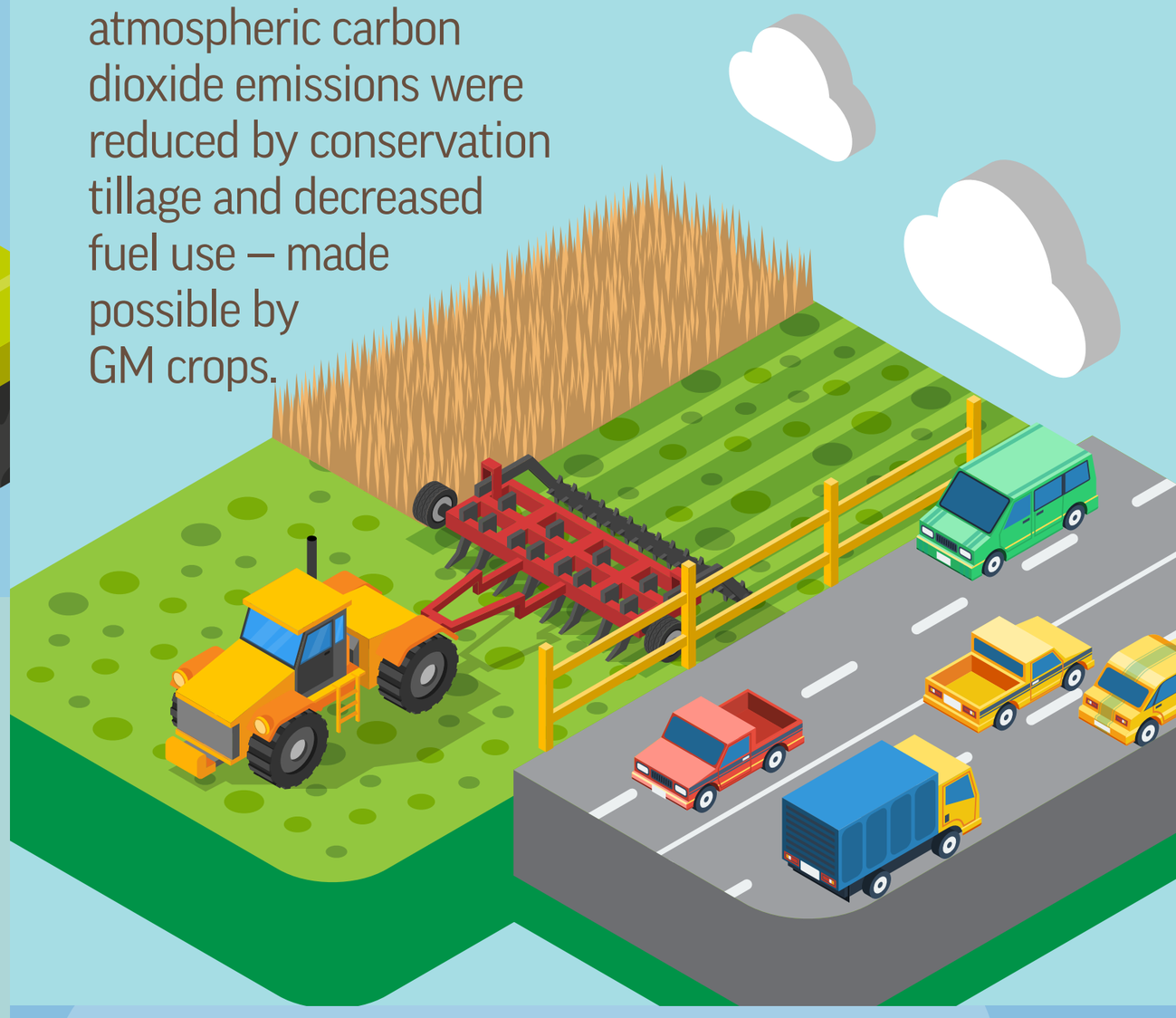
Nearly **10 million fewer cars** on the road for one year.[2]



RICE is a staple food for **more than half** of the world's population.[5]

Research shows that **nitrogen-use-efficient rice**, which requires 50% or less the amount of normal fertilizer applications, **reduces nitrogen emissions** (a greenhouse gas) and has shown a **30% average yield increase** across four years of field trials.[6]

[1] Conservation tillage is any method of soil cultivation that leaves the previous year's crop residue (such as corn stalks or wheat stubble) on fields before and after planting the next crop, to reduce soil erosion and runoff. Conservation Practices | Minnesota Conservation Funding Guide, (2016). Retrieved from http://www.mda.state.mn.us/protecting/conservation/practices/constillage.aspx

[2] Brookes, G. and Barfoot, P. (2016). Environmental impacts of genetically modified (GM) crop use 1996-2014: Impacts on pesticide use and carbon emissions. http://www.tandfonline.com/doi/full/10.1080/21645698.2016.1192754

[3] Conservation Practices that Save: Crop Residue Management (2005). http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/energy/conservation/?cid=nrcs143_023637

[4] Crop Production 2015 Summary (2016). http://www.usda.gov/nass/PUBS/TODAYRPT/cropan16.pdf

[5] The global staple. http://ricepedia.org/rice-as-food/the-global-staple-rice-consumers

[6] Nitrogen Use Efficient Rice Demonstrates an Average Yield Increase of 30 Percent in Four Years of Field Trials (2015). http://www.arcadiabio.com/news/press-release/nitrogen-use-efficient-rice-demonstrates-average-yield-increase-30-percent-four

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