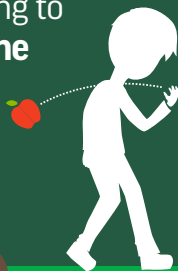
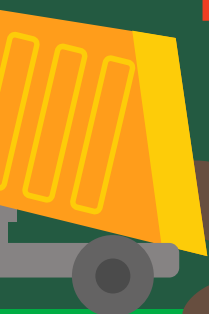


# How GMOs Help Reduce FOOD WASTE & LOSS

In the United States, approximately  
**133 BILLION POUNDS**

of food is **WASTED** annually, contributing to  
**18% of the total U.S. landfill methane**  
(greenhouse gas) emissions.<sup>1</sup>



**GM APPLES ARE  
NON-BROWNING,  
ELIMINATING  
THOSE  
SUPERFICIAL  
ISSUES** that cause  
people to  
unnecessarily  
throw them away.<sup>2</sup>

In 2010,  
each  
American  
on  
average

THREW AWAY



APPLES<sup>3</sup>

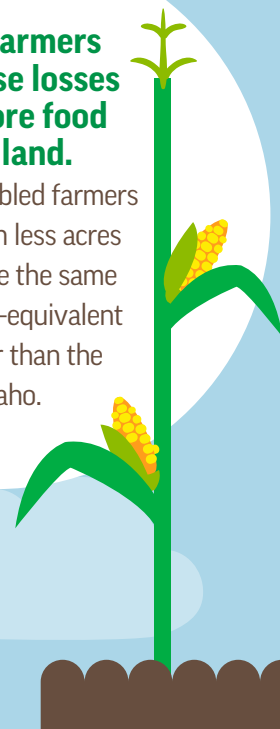
totaling  
1.7 billion  
pounds of  
food waste.<sup>4</sup>

**GM POTATOES  
ARE LESS PRONE  
TO BRUISING  
AND BLACK  
SPOTS**, meaning  
fewer potatoes  
will end up  
in landfills.



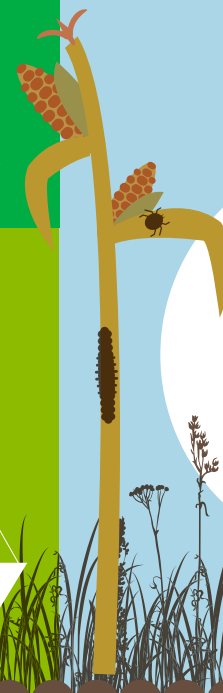
**GMOs help farmers  
minimize these losses  
and grow more food  
using less land.**

In 2016, GMOs enabled farmers  
to use 55.4 million less acres  
of land to produce the same  
amount of crops<sup>7</sup>—equivalent  
to an area larger than the  
state of Idaho.



**20 – 25%**

of all crop yields in  
the U.S. are **LOST** to  
pests, crop diseases, or  
post-harvest losses. In the  
developing world, it's as  
high as 40 – 50%.<sup>8</sup>



<sup>1</sup> America's Food Waste Problem (2016). Retrieved from <https://www.epa.gov/sciencematters/americas-food-waste-problem>

<sup>2</sup> Arctic Apple Benefits. Retrieved from <http://www.arcticapples.com/arctic-apples-r/arctic-apples-benefits/>

<sup>3</sup> Smithsonian: This Is How Much Water You Waste When You Throw Away Food (2015). Retrieved from <http://www.smithsonianmag.com/science-nature/how-trashing-food-wastes-water-too-180957239/?no-ist>

<sup>4</sup> U.S. Census Bureau Announces 2010 Census Population Counts – Apportionment Counts Delivered to President. Retrieved from <https://web.archive.org/web/20101224044247/http://2010.census.gov/news/releases/operations/cb10-cn93.html>

<sup>5</sup> Halterman, D., Guenther, J., Collinge, S. et al. Biotech Potatoes in the 21st Century: 20 Years Since the First Biotech Potato (2016). Retrieved from: <http://link.springer.com/article/10.1007/s12230-015-9485-1>

<sup>6</sup> All You Need to Know about the Eiffel Tower. Retrieved from [http://www.toureiffel.paris/images/PDF/all\\_you\\_need\\_to\\_know\\_about\\_the\\_eiffel\\_tower.pdf](http://www.toureiffel.paris/images/PDF/all_you_need_to_know_about_the_eiffel_tower.pdf)

<sup>7</sup> Brookes, G. and Barfoot, P. (2017). GM crops: global socio-economic and environmental impacts 1996 - 2015. Retrieved from <http://www.pgeconomics.co.uk>

<sup>8</sup> Global Scientists Meet for Integrated Pest Management Idea Sharing (2015). Retrieved from <https://nifa.usda.gov/blog/global-scientists-meet-integrated-pest-management-idea-sharing>