

Edible but ugly: Bruised apples and spotty potatoes never make it to supermarket shelves. Tweaking crop genes could feed billions and help address climate change

Farming has a major food waste problem. Approximately [40 per cent of the food produced globally](#) goes uneaten every year, and much of this wastage occurs even before the food leaves the farm.

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To this end, scientists are deploying a new weapon in the fight against food waste: gene editing. They hope that the technology can help develop next-generation crops that are more resistant to pests and diseases, sustain less damage during transportation and storage, or have a longer shelf life – essentially quasi-imperishable produce.

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Yinong Yang, a plant pathologist at Pennsylvania State University, has successfully engineered the white button mushroom to reduce browning and increase its shelf life. To do so, he knocked out one of the mushroom's six PPO genes using CRISPR, effectively reducing browning activity by 30 per cent.

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Elsewhere, researchers have discovered that it is possible to use CRISPR to improve the aesthetic quality of produce. For instance, [boosting anthocyanin production in fruits such as tomatoes](#) can give them a vibrant hue, making them more appealing to consumers and reducing waste.

[This is an excerpt. Read the original post here.](#)