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Genetic Editing

Agriculture scientists, hobby gardeners, and even dog breeders have used genetic editing tools and techniques for decades. The latest advances in genetic editing hold incredible potential to improve human life as well as living conditions on Earth. CRISPR, a prominent and important genome-editing tool, has potential uses in combatting genetic diseases in humans and revolutionizing the GMO industry. CRISPR's relatively low cost is leading to questions about its potential uses. These resources explore recent information about genetic editing, GMOs, and CRISPR.

Read

"First U.S. Patients Treated With CRISPR As Human Gene-Editing Trials Get Underway" by Rob Stein from *NPR*.
https://tinyurl.com/yxg66ykw

Scientists have taken the first steps in using the CRISPR gene-editing technology to cure diseases with a cancer study involving two patients at the University of Pennsylvania in Philadelphia.

"A simple suide to CRISPR, one of the biggest science stories of the decade" by Brad Plumer, Eliza Barclay, Julia Belluz, and Umair Irfan from *Vox*
https://tinyurl.com/y8xdvyxc

This article provides a comprehensive overview of CRISPR genetic editing, how it is currently being used, and the potential for such technology.

"CRISPR Baby Scientist Comprehensively Denounced by Genetics Experts" by David Grossman from *Popular Mechanics*
https://tinyurl.com/y4fwka4k

Two Chinese scientists have taken apart the CRISPR work by He Jiankui, the "CRISPR Baby Scientist" who attempted to use the technology to genetically modify two fetuses.

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Listen

"Genetically Modified Organisms" from *Sawbones*
https://tinyurl.com/yxzfxe6k

Are GMOs dangerous or is genetic modification a desperately needed technology to help humans avoid extinction? Dr. Sydnee McElroy and her husband Justin McElroy talk about genetically modified organisms in this podcast.

"Update: CRISPR" from *Radiolab*
http://www.radiolab.org/story/update-crispr/

Radio program and podcast *Radiolab* combines its initial episode about CRISPR from nearly two years ago with an update on recent developments. Listeners hear from scientists involved in the discovery of the genome-editing tool.

"CRISPR vs. Climate Change" from *Base Pairs*
https://goo.gl/xQb8eG

From Cold Spring Harbor Laboratory, this podcast episode includes an interview with a plant scientist who shares how advances in agriculture with CRISPR can help curb the effects of climate change.

Watch

"Biologist Explains One Concept in 5 Levels of Difficulty—CRISPR" from *WIRED*
https://goo.gl/bZRhDW

Biologist Neville Sanjana explains CRISPR to five different people of differing ages and expertise.

Reflect and Share

1. What ethical considerations are associated with genetic editing?
2. How has genetic editing affected your life?
3. How should tools like CRISPR be regulated, and by whom?