

Podcast: How to build a coronavirus; alcohol doesn't shrink your brain; and locusts threaten famine in East Africa

Should we build a synthetic coronavirus? Does alcohol shrink your brain? As Africa battles a massive locust infestation, why are activists trying to ban insecticides that could halt the destructive pest? And how many trillions of dollars do nutrient deficiencies cost every year? Plant geneticist Kevin Folta and GLP editor Cameron English return to the Biotech Facts and Fallacies podcast to break down four of the latest headlines from the world of genetics and biotechnology.

Alcohol shrinks your brain?

We've all heard that alcohol consumption can impact our long-term cognitive abilities—and even shrink our physical brain mass. There is almost certainly a link between imbibing and brain function, but the latest research suggests the relationship isn't what it seems. Do moderate drinkers have smaller brains, or do people with slightly smaller brains drink a little more than the rest of us? A series of recent [studies](#) indicate that smaller brain size is probably a marker of genetic predisposition to higher alcohol consumption. The complex relationship offers us a textbook example of the dictum “correlation isn't causation.”

[Moderate drinking won't shrink your brain, but people with smaller brains do drink 'slightly' more](#)

Building a synthetic coronavirus



Credit: Mladen Antonov/AFP

While cases of coronavirus (Covid-19) [begin to decline](#) in China, the pathogen continues to spread across the globe. Researchers are working at a feverish pace to develop better diagnostic tools, treatments and vaccines for the infection. With access to the [virus's full genome](#), experts have begun building synthetic versions of the virus using custom-ordered genes synthesized in specialized labs around the US. This strategy allows scientists to replicate Covid-19, edit its DNA and expose it to chemicals that might effectively treat the disease [that has infected at least](#) 92,000 people and killed more than 3,000. But if well-meaning scientists can buy viral DNA online, can't would-be bioterrorists as well?

[Creating a synthetic version of the coronavirus fuels hopes of treatments — and conspiracy theories](#)

Activists aim to ban pesticides that could curb locust swarms in Africa

East African countries are facing a food security threat more severe than any they've faced in decades: swarms of ravenous desert locusts are consuming everything in their path, including the crops people rely on to feed themselves. The pests can be stopped dead in their tracks with the application of widely used insecticides.

However, EU-based anti-pesticide groups are pressuring African governments to ban these chemicals, despite the fact that millions of people could go hungry if the locust infestation isn't eradicated. According to science writer James Njoroge, "European activists are putting lives at risk in East Africa, turning a plague of insects into a real prospect of widespread famine."

[East Africa faces two plagues: Once-in-a-generation insect infestation and swarms of European activists trying to block the only effective tool, pesticides](#)

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Nutrient deficiencies cost \$3.5 trillion annually. Biotech crops can help—if activists get out of the way

Millions of people in the developing world subsist on a handful of foods like rice and cassava. While good sources of calories, these staples contain few or none of the essential micronutrients the human body needs to function properly. This can lead to a slew of health problems, such as blindness caused by vitamin A deficiency. The global cost of these deficiencies reaches a staggering \$3.5 trillion annually.

With the tools of biotechnology, scientists can safely fortify these crops with the nutrients they naturally lack — at little or no cost to consumers. But anti-biotech activists continue to wage a ferocious battle to keep biofortified foods out of Africa and Asia in the name of beating back 'Big Ag,' though most of these crops are developed by independent scientists and funded by local governments and nonprofit groups.

[Biofortification from Golden Rice and other biotech crops could help cut \\$3.5 trillion lost annually to malnutrition](#)

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