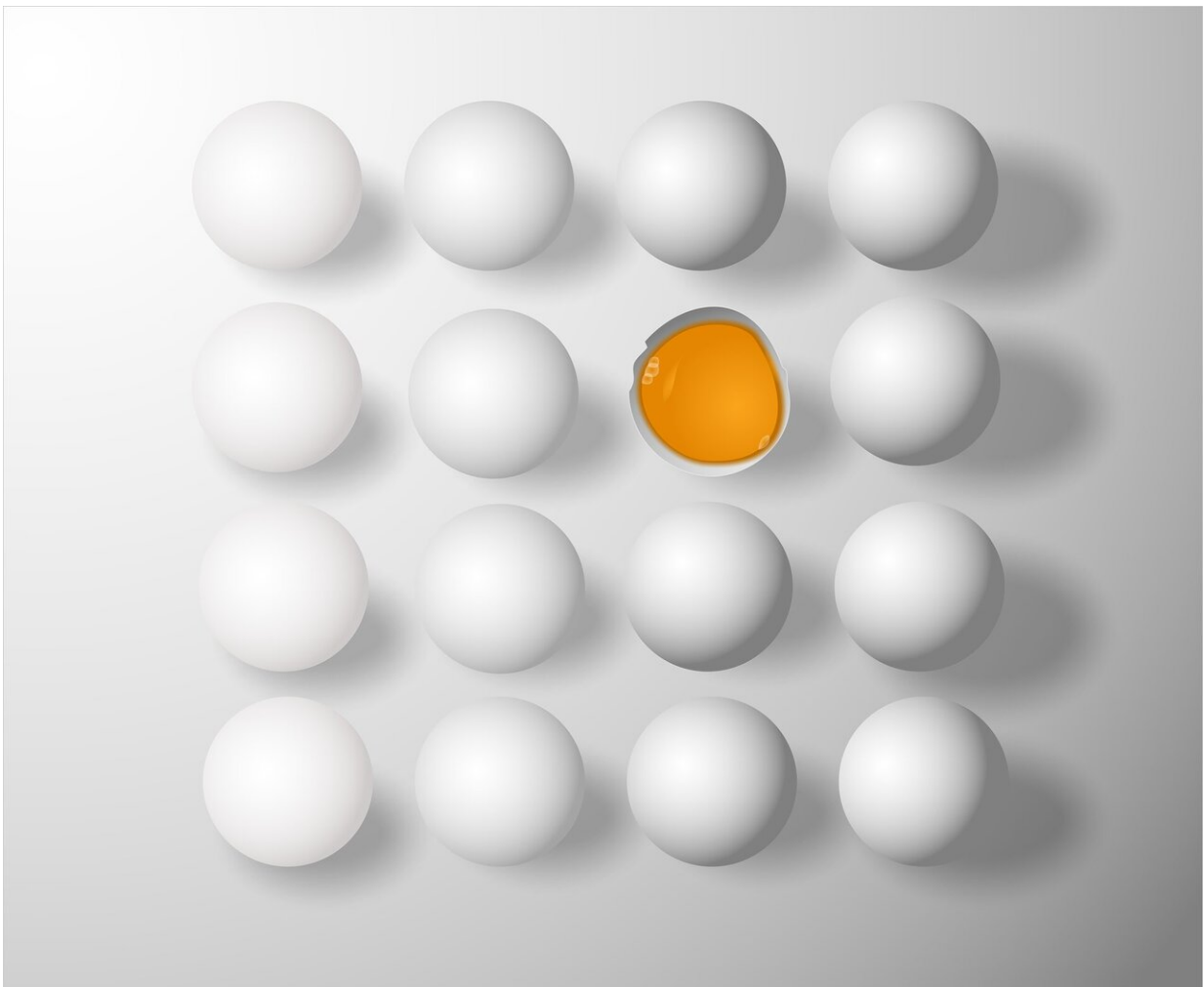


# Egg-based flu vaccines: Not all they're cracked up to be?

January 8 2020

---



Credit: CC0 Public Domain

Flu season is underway in the Northern Hemisphere, sickening millions of people and in rare cases, causing hospitalization or death. The best prevention is a flu shot, but it's not unusual for these vaccines to be less effective than intended. Some researchers suspect that the common practice of producing vaccines in chicken eggs could be partially to blame, according to an article in *Chemical & Engineering News* (C&EN), the weekly newsmagazine of the American Chemical Society.

Before each [flu season](#), the World Health Organization (WHO) selects specific influenza viruses to include in that year's shot. Currently, most vaccines are made by growing these viruses in fertilized [chicken eggs](#), purifying the viruses and inactivating them. However, sometimes the WHO guesses wrong on which viruses will be active that year, or viruses mutate in the wild so that they are different from the ones in the flu shot. Viral mutations can also occur during vaccine production: Because avian cells display different proteins on their surfaces than [human cells](#), sometimes the influenza virus mutates so that it can better latch onto and infect bird cells, Associate Editor Leigh Krietsch Boerner writes. As a result, the immune system of a person who got a [flu shot](#) might not recognize and attack the influenza virus they become infected with.

Partly in response to this concern, some manufacturers have developed egg-free methods. For cell-based vaccines, viruses are grown in canine kidney cells, which are more similar to a human's than bird cells are. To produce recombinant vaccines, researchers transcribe viral antigens—cell-surface proteins that trigger an [immune response](#)—into DNA, which they insert into a carrier virus. This virus is then used to infect the cells of fall armyworms, which make large amounts of the flu antigen proteins. However, few studies have been conducted on whether the egg-free preparations are really more effective, and most scientists agree that getting any flu vaccine is better than none.

**More information:** "Flu shots aren't always effective. Could chicken

eggs be a culprit?," [cen.acs.org/pharmaceuticals/va ... ways-effective/98/i1](https://cen.acs.org/pharmaceuticals/vaccines/ways-effective/98/i1)

Provided by American Chemical Society

Citation: Egg-based flu vaccines: Not all they're cracked up to be? (2020, January 8) retrieved 26 April 2024 from <https://phys.org/news/2020-01-egg-based-flu-vaccines-theyre.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.