

# TALKING TO CONSUMERS

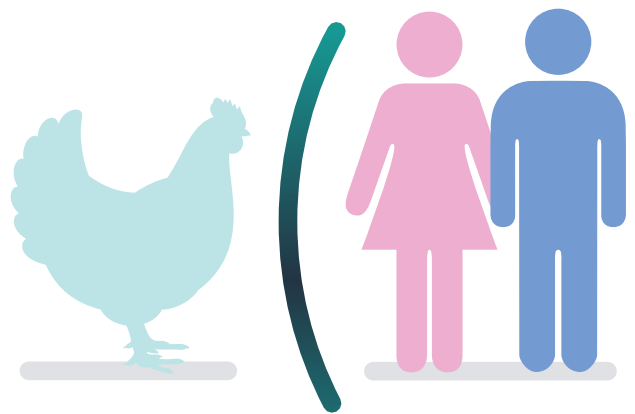
## about the benefits of animal vaccines

Merck Animal Health is committed to improving the health and well-being of animals through innovative science-based solutions, products, treatments and services that help ensure a safe and affordable food supply. We provide the most comprehensive vaccine portfolio and lead in global biological solutions. We also provide other vital prevention strategies including wellness programs and disease surveillance and diagnostics. Our priority: advanced diagnostics and preventative approaches to help keep animals healthy and minimize the need for treatment.



### Vaccines benefit animals

- Animal vaccines are considered the first line of defense against diseases.
- Vaccines reduce the need for treating illness.<sup>1</sup>
- Less disease and illness means improved animal health and well-being.

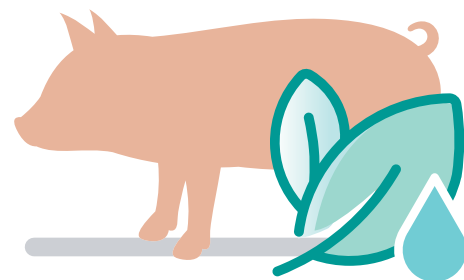


### Vaccines benefit people

- Vaccines protect animals from contracting disease that they may then transmit to humans.<sup>2,3</sup>
- Vaccines minimize the likelihood and spread of food-borne pathogens.<sup>4</sup>
- Vaccines help keep food affordable. By keeping animal healthy, food can be produced using fewer resources.<sup>5</sup>

### Vaccines benefit the environment

- Animal vaccines reduce death loss in animal herds, which means we don't have to treat animals for illness as often and fewer resources are used or wasted.<sup>5,6</sup>
- Healthy animals require fewer resources to raise, which reduces the environmental footprint of raising animals.<sup>5</sup>



<sup>1</sup>WHO. Media centre. Antibiotic resistance. Fact sheet. July 2020. <https://www.who.int/en/news-room/fact-sheets/detail/antibiotic-resistance>. Accessed January 2, 2021.

<sup>2</sup>Mathews, L., R. Reeve, D. L. Gally, J. C. Low, M. E. J. Woolhouse, S. P. McAteer, M. E. Locking, M. E. Chase-Topping, D. T. Haydon, L. J. Allison, M. F. Hanson, G. J. Gunn, and S. W. J. Reid. 2013. Predicting the public health benefit of vaccinating cattle against *Escherichia coli* O157. *Proc Natl Acad Sci USA*. 110(40):16265-16270. <https://www.pnas.org/content/110/40/16265>. Accessed January 2, 2021.

<sup>3</sup>Rose, N. and Andraud, M. The use of vaccines to control pathogen spread in pig populations. *Porcine Health Management*. 2017. 3:8 DOI: 10.1186/s40813-017-0053-6. <https://porcinehealthmanagement.biomedcentral.com/articles/10.1186/s40813-017-0053-6>. Accessed January 2, 2021.

<sup>4</sup>Farrington, C. P. On vaccine efficacy and reproduction numbers. *Math Biosci*. 2003. 185:89-109. <https://pubmed.ncbi.nlm.nih.gov/12900143/>. Accessed January 2, 2021.

<sup>5</sup>Roth, J. A. Veterinary Vaccines and Their Importance to Animal Health and Public Health. *Procedia in Vaccinology*. 2011. 5:127-136. <https://www.sciencedirect.com/science/article/pii/S1877282X11000270>. Accessed January 2, 2021.

# TALKING TO CONSUMERS

## about the benefits of animal vaccines

### Consumers want to know more about how their food is grown and raised.

We understand that many people may not know much about the safety and benefits of vaccines, and that farm animals are vaccinated just like humans and pets. We want to be transparent and help people understand how farmers work to keep their animals healthy to provide high-quality, affordable food.

#### CONSUMER: I know why I have my kids vaccinated, but I never really thought about farm animals needing vaccines. What's the story behind that?

Thanks for mentioning that you vaccinate your kids. I do, too. And just like people, animals sometimes get sick. An important way to prevent illness in animals is to vaccinate. Vaccines act as a first line of defense and provide many great benefits to both animals and people.

#### CONSUMER: How do animal vaccines help people?

You may find it interesting to know that the benefits of animal vaccines extend to people as well. For example, animal vaccines minimize the risk of animals contracting diseases that may then be spread to humans.<sup>2,3</sup> They also minimize the spread and likelihood of food-borne pathogens like salmonella.<sup>4</sup> And since animal vaccines reduce the need for treating sick animals, they also reduce antibiotic use in animals.<sup>1</sup>

#### CONSUMER: That's nice to hear that they reduce the need to use antibiotics. What types of things do you vaccinate animals for?

I understand you have questions, and I'm glad that I can answer them. Farmers work with veterinarians to identify diseases they need to prevent in their herd, the appropriate vaccination and the right time to vaccinate the animal. For example, one thing we vaccinate cattle for is tuberculosis. We vaccinate pigs for foot and mouth disease, and we now have technology to vaccinate poultry in the shell to prevent diseases that have been known to wipe out entire flocks.<sup>7</sup> Taking care of our animals is a top priority for us on the farm, and healthy animals equals safe, wholesome food for your dinner table.

#### CONSUMER: How do we know vaccines are safe?

When it comes to food, safety is the number one priority. The USDA's Animal and Plant Health Inspection Service (APHIS) has been regulating vaccines for more than 100 years.<sup>5</sup> APHIS and its regulations ensure vaccines are pure, safe, potent and effective.<sup>5</sup> Just like with humans and pets, each animal vaccine must undergo rigorous testing and regulation to prove it isn't worthless, contaminated, dangerous or harmful.<sup>5</sup> Animal vaccines are considered the first line of defense against diseases, and by keeping animals healthy, food can be produced using fewer resources.<sup>5</sup>

#### CONSUMER: Are there any other benefits to me because you vaccinate animals?

That's a great question. There are other economic and environmental benefits to animal vaccines as well. Vaccines reduce death loss in animal herds, which means we don't have to treat animals for illness as often and fewer resources are used or wasted.<sup>5,6</sup> Since fewer resources are used, the cost of raising food is lowered, which helps keep food affordable for consumers.<sup>5</sup> And as technology improves, our vaccines will continue to get simpler and more effective.<sup>5</sup>

#### CONSUMER: That sounds great. Thanks for sharing more information about the benefits of animal vaccines.

My pleasure. We understand transparency in food production is important, and I enjoy these conversations and the open dialogue. Our tagline is "The Science of Healthier Animals," and we prioritize preventative approaches to help keep animals healthy and minimize the need for treatment. We are also always looking for ways to improve animal care.

<sup>1</sup>United States Department of Agriculture. Animal and Plant Health Inspection Service. Veterinary Services. Centers for Epidemiology and Animal Health. Vaccination of Cattle and Calves on U.S. Beef Cow-calf Operations. [https://www.aphis.usda.gov/animal\\_health/nahms/beefcowcalf/downloads/beef0708/Beef0708\\_is\\_GenVacc\\_1.pdf](https://www.aphis.usda.gov/animal_health/nahms/beefcowcalf/downloads/beef0708/Beef0708_is_GenVacc_1.pdf). Accessed January 2, 2021.

<sup>2</sup>American Meat Institute. The Facts About Antibiotics in Livestock & Poultry Production. Sort fact from fiction. <https://www.meatinstitute.org/index.php?ht=d/sp/i/102248/pid/102248>. Accessed January 2, 2021.