**The Safety of mRNA in Animal Agriculture**

<table>
<thead>
<tr>
<th>What is mRNA?</th>
<th>How does it work?</th>
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<tbody>
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<td>Much like DNA, mRNA (messenger ribonucleic acid) occurs naturally in all living organisms. mRNA is able to quickly break down in all forms of life, including digestion of food.</td>
<td>Messenger ribonucleic acid (mRNA) technology and its application to human and animal health has been researched since 1961. In 2020, the mRNA platform was used to develop some COVID-19 vaccines. mRNA vaccines can be constructed quickly using only the pathogen's genetic code. The mRNA vaccines teach animal cells how to make a protein — or even just a piece of a protein—that triggers an immune response inside the body. This immune response, which produces antibodies, helps protect against disease.</td>
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**Is it safe?**

USDA's Animal Plant Health Inspection Service (APHIS) in its Center for Veterinary Biologics (CVB) regulates veterinary medicine to ensure the therapeutics available for diagnosis, prevention, and treatment of animal diseases are pure, safe, potent, and effective. CVB's evaluation includes safety of food derived from livestock that have received a vaccine.

**Are Livestock Vaccinated for COVID-19?**

There are no COVID-19 vaccinations for traditional food animals (beef/dairy cattle, pigs, goats, sheep, chickens). The one veterinary COVID-19 vaccine licensed in the U.S. is used for mink.

**Can I become vaccinated through the meat, milk, or eggs I eat?**

No. The USDA requires withdrawal times for all vaccinations administered to livestock. This ensures meat, milk, and eggs are safe for human consumption. Scientists agree that mRNA vaccines cannot be passed to humans through food. The use of recommended cooking temperatures and the digestion in the human gut destroy mRNA.

**Does mRNA vaccine technology change my genes?**

The mRNA vaccines cannot intermingle or change the genetic material of the person or animal receiving the vaccine.

Reach out for more information! We have worked with other industry associations to create this resource. For the full mRNA brief regarding use in animal agriculture, please contact J.J. Jones at jj.jones@animalagriculture.org.