MOBIO
MISSOURI BIOTECHNOLOGY ASSOCIATION

February 5, 2025

The Honorable Jill Carter, Chair
Families, Seniors and Health Committee
Missouri Senate
Jefferson City, MO 65101

Dear Chair Carter,

The Missouri Biotechnology Association respectfully expresses our opposition to SB 149. Our concerns include:

- Provisions related to labeling meat products derived from animals using mRNA technology platforms are unnecessary, as no products have been commercialized.
- Provisions related to labeling food products derived from bioengineered foods will directly conflict with the Bioengineered Food Disclosure Law, passed in 2016. That law expressly preempts additional local and state government regulations.
- Additionally, federal rules have been in place for over three years. The National Bioengineered Food Disclosure Standard (NBFDS) requires all food entering commerce must be labeled, with express provisions on how to comply with this marketing standard.
- SB 149 could lead to greater government oversight, which will drive costs for Missouri consumers, raise compliance costs for farmers and ranchers, and tighten marketing options for local producers in seeking the highest value for their produced row crops or herds.
- SB 149, in stigmatizing the mRNA platform, may reduce the opportunities for Americans to solve tomorrow's health and food security threats, many of which are unknown.

All citizens desire that products in our food supply chain are regulated appropriately for safety and efficacy claims that can be scientifically evaluated and /or validated. The USDA and the Food and Drug Administration are considered the world's gold standards for their evaluations. Collectively, we should be united on strengthening the scientific depth and expertise at these important agencies, not attempting to duplicate redundant government oversight.

I encourage Missouri policy makers to embrace the scientific and precision agriculture advancements occurring, and be proud of Missouri's role in contributing to the world's scientific knowledge base. Missouri policy makers should be aware that for the last two decades the biosciences have been one of the state's top economic strategic sectors, delivering critical new economic growth to our state.

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MOBIO provides additional information from Gene Harrington from BIO. We agree with it 100%, and we hope it is helpful to your own understanding of these policy ramifications.

Respectfully submitted,

Kelly Gillespie
Executive Director

PS. What is mRNA? Messenger RNA, or Messenger Ribonucleic acid, or mRNA is a type of single-stranded RNA involved in protein synthesis. mRNA remains in the cytoplasm (a cell's watery interior) until eliminated by natural mRNA decay; to alter the DNA, it would need to both access the nucleus and be reverse transcribed; the mRNA contains no nuclear access signals; and, there are no known reverse transcription sites.

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Testimony of the
Biotechnology Innovation Organization (BIO)

Hearing of the Missouri Senate Committee on Families, Seniors and Health
February 5, 2025

Senator Jill Carter, Chair
Senator Joe Nicola, Vice Chair
Missouri Senate
Jefferson City, MO

Re: In Opposition to SB 149, "Modifies provisions relating to food labeling"

I submit this testimony today on behalf of the Biotechnology Innovation Organization (BIO) in opposition to Senate Bill 149, legislation that "Modifies provisions relating to food labeling" that would, among other things, require meat food products derived from an animal vaccinated with a Messenger Ribonucleic Acid or mRNA vaccine to be labeled "MRNA VACCINATED" and establish disclosure requirements for bioengineered food.

BIO is a Washington, DC-based trade group representing more than 1,100 biotechnology companies – including some based in Missouri - academic institutions, state biotechnology centers, and related organizations across the United States and 31 other nations. BIO members include agricultural, health care, and industrial companies as well as vaccine developers and manufacturers.

Missouri's bioscience industry employed 38,489 in 2023 across 3,328 state business establishments. This reflects employment growth of 14.3 percent since 2019, with job gains contributed by each of the state's five industry subsectors. Missouri's agricultural feedstock and industrial biosciences subsector is more than twice as concentrated as the nation (location quotient is 2.39). The average wage in the bioscience industry was $104,855—68 percent higher than the state's private sector average.

SB 149 is based on the false premise that a Messenger Ribonucleic Acid or mRNA vaccine (or any animal vaccine) transfers from the injection to the animal to the resulting food product to the human consumer. All animal vaccines—including mRNA vaccines—are approved and regulated by the U.S. Department of Agriculture's Center for Veterinary Biologics (CVB), which rigorously assesses the safety, efficacy, and quality of all products. CVB also oversees the manufacturing and distribution of animal vaccines.

While no mRNA animal vaccine has yet been commercialized, in 2016, USDA approved an RNA-platform vaccine to treat swine for influenza A, porcine circovirus, rotavirus and other diseases. The pork industry is supportive of this and other new vaccines that help fight emerging diseases. What's more, mRNA technology and its application to human and animal health has been researched since 1961 and such

vaccines are in the early stages of development to treat significant disease threats in animals such as bird flu and African Swine Fever.

Messenger ribonucleic acid is an essential component of all living organisms and has been in cells for billions of years. More importantly, mRNA technology is safe and effective. Specifically, mRNA vaccines use a small strip of genetic code to teach the body to make a specific protein found on a virus and make antibodies to fight against infection. Shortly after mRNA is used to make the protein, it is destroyed and does not linger in the body. mRNA vaccines cannot intermingle with or change the genetic material of the person or animal receiving the vaccine.

Additionally, animal vaccine manufacturers are required to determine a "withdrawal period" to obtain USDA approval. The withdrawal period for animal vaccines is the time between when an animal is vaccinated and when its products can be used for human consumption. This period ensures that the products are free of vaccine residue and safe for human consumption. The typical withdrawal period is 21 to 28 days. As such, no component of the vaccine can be found in the animal prior to slaughter or milking. Furthermore, the primary reason it took so long to develop an mRNA vaccine is because mRNA degrades so easily, making the idea that it could survive through to a human consuming the finished food product (including the withdrawal period) completely implausible.

Numerous agricultural organizations, including the National Association of State Departments of Agriculture (NASDA) have voiced their support for mRNA vaccines. In fact, NASDA approved a policy amendment in February of 2024 that "supports the ability of livestock producers to protect animal health by using vaccines, including mRNA vaccines, that have been approved and licensed by the USDA's Center for Veterinary Biologics (CVB) through a rigorous scientific and peer reviewed research process. NASDA supports a robust federal approval and review process for any new vaccine or other animal health tool that can be used to protect the domestic livestock industry from existing or emerging foreign or domestic animal disease outbreaks, safeguarding livestock and public health."

Several bills like SB 149 have been considered by various states since 2023 and none of these measures have been enacted.

The provision related to the labeling of bioengineered food is expressly preempted by the federal Bioengineered Food Disclosure Law, a 2016 statute that was enacted with broad bi-partisan support. This law amended the Agricultural Marketing Act of 1946 to direct the U.S. Department of Agriculture to establish a national mandatory uniform standard for disclosing human foods that are or may be bioengineered. Under the standard, food manufacturers, importers, and certain retailers are required to ensure bioengineered foods are appropriately disclosed. Regulated entities have several disclosure options: text, symbol, electronic or digital link, and/or text message. Additional options such as a phone number or web address are available to small food manufacturers or for small and very small packages.

The rules implementing the National Bioengineered Food Disclosure Standard (NBFDS) were finalized

in late 2018 and companies have been voluntarily complying with the requirements since early 2019. Mandatory compliance started on January 1, 2022, and all foods entering commerce must now be labeled in compliance with the Standard.

Since the comprehensive federal regulatory review process - that includes the U.S. Food and Drug Administration, USDA, and the U.S. Environmental Protection Agency - has determined that there is no difference in safety between a bioengineered food and its non-bioengineered counterpart, the NBFDS is considered a marketing standard – not a health and safety requirement - intended to provide consumers with more information about their food.

It is important to note that crops and food derived from modern biotechnology (GMOs) are safe. Since being introduced to U.S. markets in 1996, not a single person or animal has become sick from eating biotech foods or feeds because the product was produced by biotechnology. USDA, FDA, and EPA have all found biotech crops to be safe for humans, animals, and the environment. The *American Medical Association* agrees and believes biotech plants have the potential to improve nutrition and prevent and cure disease, and the *World Health Organization* says biotech crops can help developing nations overcome food security problems.

Indeed, the committee report accompanying the 2016 federal law noted:

> "The comprehensive federal regulatory review process has determined that foods produced using bioengineering are safe and not materially different in any way from those made using other methods. This is consistent with scientific research conducted and reviewed by both federal agencies and private entities. Consequently, the legislation ensures that the national disclosure standard and USDA's implementing regulations treat the safety of a bioengineered food the same as its non-bioengineered counterpart. The mandatory disclosure requirement is designed solely to address marketing matters, not based on any concerns with respect to safety of bioengineered foods or ingredients, which is why authority for implementation of this program is given to the Secretary under the Agricultural Marketing Act. The legislation does not change the authority of the FDA to require that a bioengineered food be accurately labeled should any material difference arise with respect to safety or nutrition. FDA's authority over bioengineered foods remain the same."

The law also preempts state and local governments from enacting their own genetically engineered (GE) food or seed disclosure requirements. As such, no U.S. state or local government has adopted and implemented its own GE seed or food disclosure requirement since the federal law's enactment. Since SB 149 permits allows food manufacturers fewer options to disclose that their product contains bioengineered ingredients than the 2016 federal, it is clearly preempted.

For these and many other reasons, we ask that you vote "No" on SB 149. BIO appreciates your time and attention and urge you to contact me at gharrington@bio.org or (202) 365-6436 if you have

any questions or wish to discuss this matter in further detail.

Sincerely,

Gene Harrington
Senior Director, State Government Affairs. Agriculture and Environment

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About BIO

BIO is a national trade organization, based in Washington, DC, representing more than 1,100 biotechnology companies, academic institutions, state biotechnology centers, and related organizations across the United States and 31 other nations. BIO members are involved in the research and development of healthcare, agricultural, industrial, and environmental biotechnology products. Biotechnology researchers expand the boundaries of science to benefit mankind by providing better healthcare, enhanced agriculture, and a cleaner and safer environment.

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