

Nutrition Edition

8 articles per issue

Serving size 1 article

Article	Page
Preconditioning	24
Creep feeding	28
Microbes 101	38
Fake meat	42
Preweaning feed	46
Clostridial disease	50
Controlling weeds	58
Trace minerals	62

* Lab-grown meat may soon enter the marketplace as an alternative to traditional livestock products.



PHOTOS BY REDWAN FAROOQ

No Livestock Required

Industry representatives pursue government oversight over labeling “bogus beef” products.

by *Brooke Roberts*

The beef industry is no stranger to the negative impacts of misleading food labels. Beef products have long competed with other animal and plant-based proteins over nutritional merit and sustainable production methods. However, an unexpected competitor has been thrown into the mix.

In response to consumer-driven demands, increasing global protein consumption and decreasing resources, the field of “cellular agriculture” is gaining ground in the food sector. A new wave of innovative food companies is creating imitation meat — “fake meat” — in an attempt to replace traditional beef products.

According to Danielle Beck, the director of government affairs for the National Cattlemen’s Beef Association (NCBA), the broad category of fake meat represents two separate types of products. The first is “plant-based protein products,” which are often accompanied with misleading labels.

“The second is products grown in a petri dish,” Beck says. “These products are still under development and are not yet commercially available.”

In 2013, Professor Mark Post of Maastricht University, Netherlands, revealed the world’s first cultured hamburger derived directly from cattle cells. Cultured meat start-up Mosa Meat was launched due to high interest in the product, and hopes to have commercial products enter the market by 2021.

Beef burgers have so far peacefully coexisted with products like black bean burgers because product labeling accurately describes them as plant-based alternatives to traditional beef. On the contrary, cultured-meat products refuse to identify themselves as alternatives but, instead, position themselves as replacements. Aggressive marketing tactics and a need for government

jurisdiction over these products have stimulated a response from the beef industry.

Misleading marketing

Bold marketing claims threaten current consumer perceptions of beef products and risk blurring the lines between real beef derived from harvested livestock and imitation beef products made from plants or grown in a petri dish. For example, the entirely plant-made Impossible Burger is promoted as “a delicious burger made entirely from plants for people who love meat” and is available in more than 1,000 restaurants in the United States. A similar product, the Beyond Burger, is available in more than 8,000 restaurants, grocery stores and hotel and university cafeterias. The burger’s packaging reads, “The revolutionary plant-based burger that looks, cooks, and satisfies like beef.”

“They’re really inching closer to the line of being misbranded and to misleading the consumer,” Beck says, and points out labeling language of this nature raises red flags for the beef industry because of its stated desire to replace traditional beef.

The beef industry is working hard to avoid a mislabeling situation similar to that affecting the dairy industry, where products made from ingredients like soy, rice and almonds can identify as milk.

“Unfortunately, the experience in the dairy industry shows that the FDA [Food and Drug Administration] has a history of failing to enforce food labeling standards,” Beck says. “The dairy industry has been asking the FDA to take action against imitation milk products for 30 years, and no action has been taken.”

The FDA has — and likely always will have — jurisdiction over plant-based meat products. Therefore, such products have already utilized marketing claims that position themselves as replacements for traditional beef. In response, NCBA has focused its attention to acquiring more proactive regulation for lab-grown products before they become commercially available.

Pursuing policy

Fake meat was designated as one of five NCBA policy priorities for 2018. NCBA’s first major action was to file comments with the USDA’s Food Safety and Inspection Service (FSIS) in response to a petition submitted by another cattlemen’s association in February. The petition asked to define the terms “meat” and “beef,” but the NCBA felt a more extensive solution was necessary, asking for the discussion of the labeling of existing and future products in the marketplace, as well as government jurisdiction over imitation beef products.

Beck says the NCBA would like to see the USDA engage and intervene on behalf of the beef industry because “the USDA has always been a long-standing champion of agriculture.” NCBA believes the USDA is the only government agency that will guarantee an even playing field while still ensuring consumer



Mosa Meats produced this lab-grown hamburger, the world’s first meat product derived directly from cattle cells.

safety. Additionally, the USDA-FSIS has a mandatory labeling preapproval process that holds the power to guarantee science-based labeling and to protect traditional beef products from disparaging claims.

In contrast to the FDA's oversight of imitation milk and plant-based beef, Beck has higher expectations from the USDA. "We would expect USDA to lead a transparent, public process to ensure the labels are appropriate and based on sound science," she says.

Another key concern of the labeling debate is consumer safety. If cultured-meat products fall under FDA regulation, they could be labeled as "clean meat" to imply the end product is real meat free from antibiotics, E. coli, salmonella or waste contamination — a "lost battle" in Beck's mind.

The NCBA feels cultured-meat products should follow the strict food safety rules all traditional beef products do. "[Fake meat] is meant to mimic a meat product," Beck says, "and will have all the same susceptibility to foodborne pathogens that traditional meat products do."

NCBA is working toward legislation that safeguards consumer health while defending the integrity of traditional beef products and the industry.

"It is imperative that these products, as they're grown in a lab and make their way to the market after reaching commercial scale, are labeled in a way that is legally and scientifically defensible and is not derogatory to traditional beef products in any way whatsoever," she says.

Legislative momentum

Fake meat has proven to be a growing concern on the state level. In May, Missouri passed a bill sharing NCBA's preference for USDA regulation and limiting "meat" labels to products only derived from harvested livestock. The bill passage made Missouri the first state to introduce legislation addressing the situation, and Minnesota has since advanced legislation of a similar nature.

Missouri Cattlemen's Association (MCA) Executive Vice President Mike Deering anticipates other cattle organizations will push for legislation in their respective states.

"This isn't a Missouri issue," Deering says. "This is about protecting the integrity of the products that farm and ranch families throughout the country work hard to produce every day." He emphasizes legislation is not intended to stifle technology but to protect the integrity of the meat supply while minimizing consumer confusion.

"I never imagined we would be fighting over what is and isn't meat," Deering says. "It seems silly. However, this is very real and I cannot stress enough the importance of this issue."

While NCBA is supportive of state action, Beck hopes to see legislation in Washington occur prior to a large influx of state laws. "We don't want to find ourselves with a patchwork of conflicting state regulations," she says. "The USDA needs to take action sooner rather than later so that there's clear regulation from the federal level."

In Washington, several legislators have voiced support for USDA jurisdiction of lab-grown meat products. While marking up the 2019 House Agriculture Appropriations bill, several House Appropriations Committee members voted to support USDA oversight. The bill requires USDA inspection and regulation of lab-grown meat products, and also prevents adulteration and misbranding — an important step in the right direction for the beef industry.

Forecast: Cloudy with a chance of fake meat

Lab-grown meat has yet to become available for consumer purchase, but several companies hope to offer products for sale before the end of 2018. Silicon Valley-based Memphis Meats, a biotech company using rapidly advancing cellular technologies, is proving attractive to investors like Tyson Foods, Cargill and Bill Gates.

It costs roughly \$2,400 to produce one pound of cultured meat, an expense Memphis Meats hopes to reduce with advice from an industry leader like Tyson. The biotech startup claims that the final cost will be much lower than conventional meat and, additionally, that the product will be identified as a more environmentally friendly alternative to traditional beef products.

Beck encourages producers to stay tuned to what is happening at NCBA. "Protecting consumers and producers from fake meat and misleading labels is a top priority for NCBA and our affiliates," she states. "We cannot allow fake meat manufacturers to use deceptive marketing claims that harm consumers and disparage beef."

While society continues to adopt innovations, Beck remains confident beef will always be what's for dinner. "As long as we have fair and accurate labels, we are confident that real beef will continue to be the leading protein choice for families in the United States and around the world." **HW**

Editor's Note: The FDA hosted a public meeting July 12 entitled "Food Produced Using Animal Cell Culture Technology." Details of the meeting can be found at Beefusa.org.