

There's a New Kid in Town

Understanding Meat Alternatives

Martha Moenning

Minnesota FFA

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It's high noon. The sun is beating down on the crowd that has gathered to witness which gunfighter will successfully make the first move. They stand at opposite ends of the street. Their hands hover over their holsters. Fingers twitch. Long seconds pass. Wait! Is this showdown necessary?

Yes, there's a new kid in town, and it's creating questions and uncertainty over the "meat" consumers choose to put on their plates. Perhaps an introduction would be helpful?

This "new kid" goes by a lot of names -- cultured meat, lab-grown meat, clean meat, plant-based meat, and some even call it fake meat. Others would rather it not be called "meat" at all. Whatever the name, there's no doubt these meat alternatives are finding their way onto a menu near you.

Let's explore a few key questions. First, what are these meat alternatives? What are the perceived benefits and concerns? Will consumers buy them? And finally, what does this growing trend mean to the conventional meat and livestock industry?

Let's start first with lab-grown meat. The first successful lab-grown meat was presented in the form of a five-ounce hamburger patty by Dr. Mark Post and his research team in the Netherlands in 2013. To create the burger, researchers harvested stem cells directly from a live animal and place the cells in a petri dish with amino acids and carbohydrates. There, the muscle cells grow and multiply resulting in a fiber that mirrors ground meat (Ferdman, 2015). Lab-grown meat is not available in the market yet. But here's what is ... and it's a serious contender in this protein showdown.

Plant-based meat alternatives, which can be made from soy, peas, beans, rice, wheat, or potatoes, strive to replicate the taste, texture and appearance of real meat. There are two primary plant-based alternatives that are capturing most of the headlines. Bloomberg Business Week

reported the Impossible Burger is available in roughly 15,000 restaurants and food service locations nationwide, and Beyond Meat products are sold in more than 53,000 restaurants and grocery stores like Giant and Safeway. The makers of Beyond Meat have been trying to mimic the sensory qualities of beef for the past ten years (Shanker, 2019).

Several start-up companies have ventured into this area of developing meat alternatives. According to the Scientific American some of the companies investing in lab-grown meat include Mosa Meat, Memphis Meats, Super Meat, and Finless Foods (Schaeffer, 2018). Tyson, Nestlé, Perdue and Danone are just a few of the companies positioning themselves in the plant-based meat alternative market. Investment firm USB projects growth to increase from \$4.6 billion in 2018 to \$85 billion in 2030 (Siegener, 2019).

Investments in meat-alternatives are accelerating, but will consumer acceptance be similar?

Meat substitutes appear to be attracting consumers because they are promoted as healthier for both humans and the environment, or at least that's the perception. Mintel Group Ltd. surveyed consumers last year and found almost a third said they considered plant-based burgers healthier than the animal kind. However, experts say, the reality is these alternative products are less healthy than a lot of people think (Shanker, 2019).

"If you compare a Beyond Burger to a McDonald's Quarter Pounder patty, nutritionally speaking, it's a wash," according to Bonnie Liebman, director of nutrition at the Center for Science in the Public Interest. Liebman says they're about comparable for calories and saturated fat (Shanker, 2019).

I conducted my own survey online with 100 people responding. My results indicated that 49 percent would not try a meat alternative, but a sizable group, 37 percent, said they would. The

perceived benefits mentioned were eco-friendliness, animals not being harmed, and that these new products could help feed a growing world population. Many people were unsure what the benefits would be, and one individual responded, “There are far too many benefits of real meat” (Moenning, 2019).

When asked what their concerns were about meat alternatives, people cited taste, texture, price, and food safety. One respondent summed it up by saying, “The general unnaturalness of it” (Moenning, 2019).

This comment was reflected in a major study lead by Dr. Jason Lusk at Purdue University which indicated while there is interest in meat alternatives, people still want the “real thing.” They surveyed about 1,800 U.S. consumers to assess food choices related to alternative meats, and found overwhelmingly, 72 percent chose conventionally farm-raised beef over the alternatives (Fatka, 2019).

I wanted further insight, and so I personally spoke with Michael Uetz, who is the Principal and co-founder of Midan Marketing, a firm specializing in the marketing of meat and understanding its consumers. Uetz said lab-grown meat and other plant-based alternatives demonstrate innovation in the food industry. He told me while beef is still the gold standard in the protein market, to maintain that success, the industry must do a better job of promoting all that it has to offer (Uetz, 2019).

Uetz said, “Meat substitutes will be an alternative protein that will appeal to *some* people. The key for beef and other conventional meats is to make sure *they* don’t become the alternative” (Uetz, 2019).

This insight from Uetz leads me to a final question. What impact will alternative meats have on the conventional meat and livestock industry?

Analysts in a Food Dive newsletter said the industry would be wise not to take its eyes off the competition from meat alternatives. As this trend continues to gain momentum, it has the potential to impact the five million people in the U.S. who work in the meat and poultry industry, and ultimately, alter the face of conventional farming as we know it today (New Economic Impact Study Shows U.S. Meat and Poultry Industry Represents \$1.02 Trillion in Total Economic Output, 2016).

I am one of those faces. I am a fourth-generation farmer. My great-grandparents and my grandparents raised livestock, as does my father today. Continuing that legacy, I own and raise market lambs and Simmental cattle. My curiosity about meat alternatives is personal. I wanted to learn what they are, who would buy them, and most importantly, understand consumer interest regarding the perceived benefits and concerns. As part of this process, I hoped I could find answers as to what this “new kid in town” meant to me and my future.

A decade ago, lab-grown meat and plant-based meat alternatives may have seemed like science-fiction or a passing fad. Today, researchers and marketers have translated that science into a reality. What I discovered in researching this topic is that there is no need for a “showdown” when there is so much more to learn.

The FFA Creed reminds us to secure knowledge and skill to work efficiently and think clearly. That is exactly what I will continue to do as I pursue my career in meat science. Armed with knowledge and desire to learn more, I believe the real work for me is just beginning.

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