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Meat or Plant-Based Protein?

A new generation of proteins may have Americans contemplating what's for dinner.

by **Rebecca Bland**

The media is abuzz with stories about the latest and greatest plant-based proteins and the accompanying movements to reduce or eliminate meat — specifically beef — from diets of Americans and populations worldwide. The information leaves U.S. cattle producers questioning whether they should be concerned about the future of the U.S. beef industry. No one can say with certainty how the future will play out, though many positive factors leave beef industry experts feeling confident about the outlook for cattle producers.

Rethinking plant-based proteins

The introduction of plant-based proteins is not new. After all, veggie burgers debuted in 1982, Boca Burgers hit the market in 1993, and high-protein grains such as quinoa have risen to stardom in the past several years.

Today, a new generation of plant-based proteins has captured America's attention, with manufacturers lauding the products better than beef regarding health, the environment and animal welfare. A primary difference between these new plant-based proteins and earlier products is meat eaters are the new target audience rather than vegetarians and vegans.

Plant-based proteins which have received the most attention lately come from Impossible Foods and Beyond Meat. The Impossible Burger, an all-plant patty for meat lovers, is available in more than 5,000 restaurants including Burger King. The patty uses synthetically produced heme to replicate the taste and texture of

beef, beet juice to imitate blood, and coconut oil bits to replicate animal fat. In April, Burger King test marketed the Impossible Whopper — made with “a savory flame-grilled patty made from plants” — and, following encouraging sales, rolled it out nationwide.

Beyond Meat produces the Beyond Burger, a pea-protein patty the company claims “looks, cooks, and satisfies like beef.” Consumers can find Beyond Burgers at Kroger, Publix and other supermarkets and in restaurants including Carl's Jr., Del Taco and TGI Fridays.



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Global movements have cropped up to convince consumers to collectively shift away from meat-inclusive diets. For decades, vegans have excluded all animal-based foods and nonfoods, and vegetarians have committed to diets which exclude meat but may include eggs and dairy. In 2019, vegans and vegetarians comprised 7% of the U.S. population, the same percentage that were vegans and vegetarians in 2008 (see Figure 1 below).

Studies show many meat eaters want to reduce how much meat they eat but do not want to become full-blown vegetarians or vegans. Now, movements such as flexitarians, reducetarians and climatarians are increasing in popularity to limit, but not eliminate, meat from diets. Flexitarians adhere to a plant-based diet with some inclusion of meat, eggs and dairy products in moderation. Reducetarians, whether consciously motivated by a movement or not, gradually reduce the consumption of meat, eggs and dairy in an attempt to improve their health, the environment and animal well-being. Climatarians limit consumption of beef and lamb because they believe the carbon footprint of these livestock damages the climate.

Also, Meatless Monday has gained momentum. This global movement encourages people to forgo meat one day each week. Celebrities, musicians and chefs have jumped on this meatless bandwagon, which has even reached the New York City public school lunch program where 1.1 million students will receive all-vegetarian breakfasts and lunches every Monday.

Demanding more beef

So where does this plant-based, reducetarian, climatarian information leave the U.S. cattle producer? According to Jennifer Tilliss, executive director of issues management and media relations for the National Cattlemen's Beef Association (NCBA), cattle producers should continue with business as usual because although consumer interest in plant-based proteins may be on the rise, so is demand for beef.

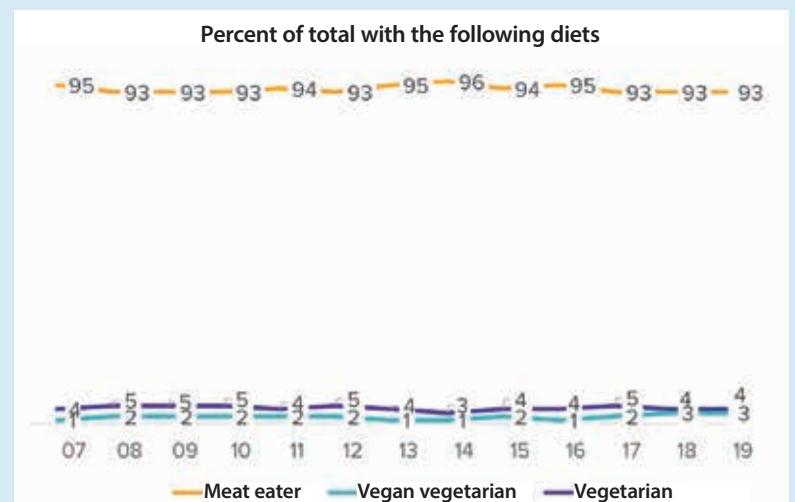
“When people are trying these products, they're not trying them in place of beef,” Tilliss says. “They're continuing to eat just as much beef. It's just something else to try when they potentially want a meal that doesn't have any meat in it, similar to how some days you feel like you want a salad.”

Indeed, demand for beef is continuing to grow. For the fourth straight year, per capita consumption of beef has increased from 53.9 pounds in 2015 to 58 pounds in 2019. In 2018, expenditures on beef reached an all-time high of \$105 billion in sales, and the foodservice industry sold \$31 billion in beef compared to \$99 million in beef substitutes. Beef substitutes including plant-based proteins account for only 0.5% of total market share.

“Even though a lot of the media attention today is going to that plant-based meat alternative, the vast majority of consumers are still meat eaters, and I think that's lesson No. 1,” says Anne-Marie Roerink, principal at 210 Analytics LLC, a qualitative and quantitative market research company. “It's very important to keep talking about the fact that the vast majority of Americans love their meat, eat their meat, and not just let plant-based meat alternatives constantly steal the media thunder and, as a result, create a lot of intrigue among consumers.”

The NCBA agrees. “Beef demand is up, and that signals to us that consumers continue to want beef and to crave beef's great taste,” Tilliss says. Her advice for cattle producers is to promote beef by educating consumers about the health benefits of beef,

Figure 1: Annual diets trending



Source: 2007-2017 Consumer Beef Index Data; 2018 and on Consumer Beef Tracker
Due to different panels and surveys definitions, the diets listed and the sample have slight variations

Figure 2: Sources of protein — 2017-2019

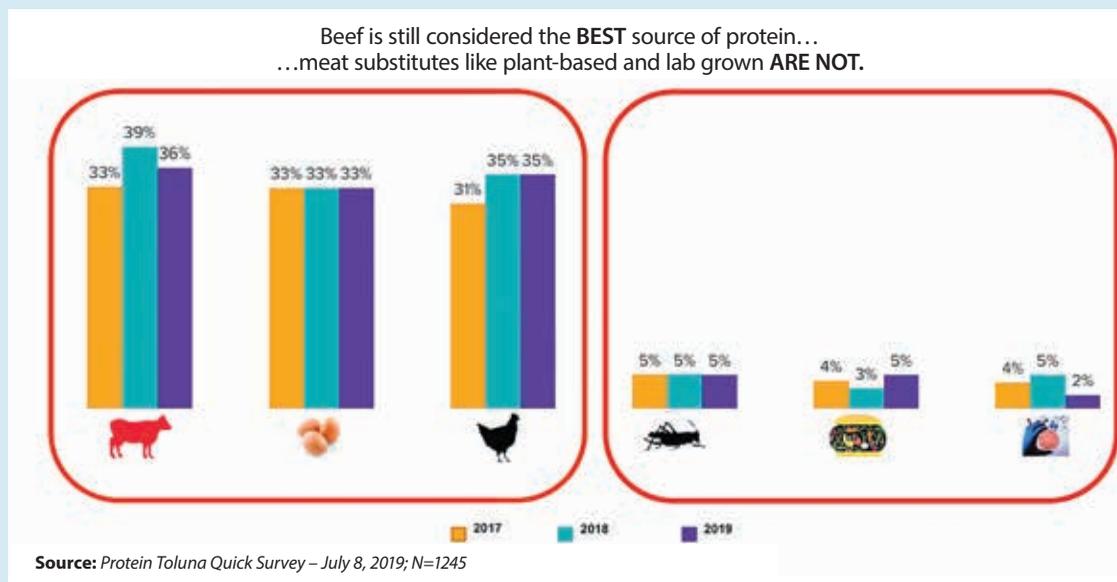
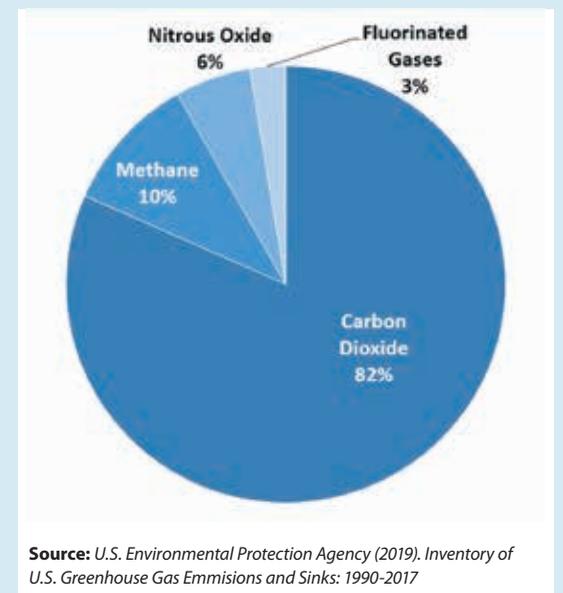


Figure 3: U.S. greenhouse gas emissions in 2017



the sustainability of cattle and the responsible care producers take toward their animals.

Proclaiming the health benefits

Not all proteins are created equal, and research shows consumers know the difference. When ranking a list of protein sources from best to worst, consumers consistently rank beef as one of the best sources of protein while plant-based proteins fall low in the rankings. Beef contains high-quality protein and nutrients with just one ingredient: 100% beef. With the global population expected to reach 9.7 billion by 2050, the world will need all the high-quality protein available to feed the masses, and beef is an excellent source of needed protein (see Figure 2 above).

On average, Americans consume less than 2 ounces of beef per day, consistent with the 2015 Dietary Guidelines. Beef contains 10 essential nutrients, including zinc, iron and B vitamins, and has less fat, saturated fat and sodium than many plant-based proteins. Also, calorie count is a positive benefit for beef. A 3-ounce serving of cooked beef equals 173 calories. To consume the same amount of protein in quinoa, for example, a consumer would need to eat 3 cups of the grain, which is 666 calories. That's an additional 493 calories to intake the same amount of protein from a plant-based food versus high-protein beef.

"Consistently over the last three years, beef has come out among consumers as what they consider one of their top three sources of protein," says Rick Husted, vice president of strategic planning and market research for NCBA. "Calorie for calorie, beef is one of the best sources of protein you can get."

Promoting sustainability

Cattle serve an important environmental purpose for the planet that plant-based dieters often overlook. Livestock are efficient upcyclers of human inedibles, meaning they convert forage and plant leftovers people cannot eat into high-quality protein people can eat. More than 40% of land in the contiguous U.S. is pastureland that is too rocky, steep or arid to cultivate. Cattle, as upcyclers, make productive use of the land to help feed a high-protein diet to people worldwide.

When digesting forage, cattle emit greenhouse gas (GHG) through burps. Often, the beef industry is scrutinized for the amount of GHG emissions cattle produce. However, direct GHG emissions from U.S. beef production are estimated at only 1.9% of the total U.S. emissions, according to the Environmental Protection Agency. The percentage is small compared to GHG emissions for transportation

at 27% and electricity production at 29%. Cattle producers outside the U.S. have higher rates of GHG emissions from cattle, which account for the higher percentages sometimes reported by the media. The carbon footprint of U.S. beef is 10 to 50 times lower than other regions of the world due to improved productivity practices and scientific advancements (see Figure 3 above).

"I think people are applying global conclusions when cattle are raised really differently in different regions of the world," Tilliss notes. "We absolutely raise beef sustainably in the U.S. We produce 18% of the world's beef with only 8% of the world's cattle."

Caring for the herd

Many plant-based diet movements are driven by concern for the welfare of cattle and agricultural animals. But cattle producers know their animals and are committed to caring for and responsibly raising healthy cattle. Cattle producers operate more than 700,000 cattle farms in the U.S., and those farms have an average herd size of only 40 cattle.

"Animal welfare is something we know consumers are concerned about and so we try to do our best to help them understand that the beef industry is really committed to animal welfare and raising beef responsibly," Tilliss says. "Not only is it the right thing to do, but it leads to a higher-quality product."

Making a difference

As plant-based proteins and movements make headlines, cattle producers may want to actively participate in the discussions. According to Tilliss, producers already have most of the information they need – the most influential way to participate is continuing to promote beef by discussing nutrition and great taste, sustainability and responsible handling rather than comparing beef to plant-based proteins. Sharing personal stories is another great way to resonate with shoppers.

"Overall, beef is in a really good place," Tilliss says. "We expect that consumers will continue to want to put beef on their plates." **HW**

Editor's note: Additional resources and tools about nutrition and raising beef, including videos about the people raising healthy cattle, are available at BeefItsWhatsForDinner.com.



The longstanding "Beef. It's What's For Dinner" campaign has played an instrumental role in educating the public about the health benefits of beef.



With an average cow herd size of 40 in the U.S., there is no doubt small cattle operators are the majority. Even so, operations big and small hold animal welfare in high esteem to raise healthy cattle and maintain fertile soil.