

The future of meat – Part 1

When we began writing this column in July 2000, a title like “The future of meat” would have never occurred to us. Sure, there have been farm-level changes in the meat industry. Some producers have increased the number of animals they raise while others have exited the industry to focus on crop production. We have seen the consolidation of the packing industry to the point where a small number of firms are responsible for the processing of a significant portion of the beef, pork, and chicken consumed in the US.

But none of this prepared us for the article, “The cow that might feed the planet” by Aryn Baker, that appeared in the Nov. 4/Nov. 11, 2021 issue of Time magazine. In the article, she described the production of beef cells in a vat, resulting in “a product resembling ground hamburger meat, with the same genetic code” as cows living in a nearby field.

Aside from raising the cattle from which the seed cells are taken on a regular basis, few farmers are required. One of the developers of this way of growing meat, Mark Post, estimates that only 30,000 to 40,000 cows worldwide would be required to provide the cells needed to meet the world’s demand for beef. The ultimate goal is a juicy ribeye, not a basic hamburger.

But this is not the first challenge to beef and meat production we have seen in the last 20 years, so we are going to divide our analysis into three parts. In this article we want to focus on some of the earlier challenges beef producers have faced. In the next article we will examine beef production and climate change. The third article will examine some of the details and issues involved in producing cultivated meats using an industrial process that does not necessitate the slaughtering of animals.

By the 1990s, the critical issue facing beef producers was the declining per capita consumption of beef in the US. Domestic beef consumption peaked at 94.1 pounds per capita in 1976 based on beef production of 13.02 million metric tons (MMT) CWE (carcass weight equivalent).

When the National Livestock and Meat Board launched its “Beef. It’s What’s for Dinner” advertising campaign in 1992, US per capita beef consumption had declined to 65.9 pounds per capita on a domestic consumption of 11.14 MMT CWE.

Year after year the question has been whether or not US per capita consumption of beef will continue to decline. In 2020, per capita consumption was 58.4 pounds based on a production of 12.53 MMT CWE. This level of production has been possible only because the US population has increased by some 50 percent since 1976.

Over the same 1976 to 2020 period, US consumption of chicken has increased from 42.0 pounds per capita to 97.6 pounds per capita.

Clearly the challenge that beef has faced over the last nearly half-century is something that a clever advertising campaign could not overcome.

From our vantage point it seems that beef’s challenges include:

- The price differential between beef and chicken,
- Concern about the relative role of fat in beef compared to chicken in cardiovascular health, and
- The humane treatment of animals (people seem to see cattle in a slightly different ethical light than chickens).

While we don't have concrete data, it appears to us that the last two issues are correlated with an increase in the number of vegans and vegetarians in the population, taking people out of the market for any of the meats.

The data do show that while the population has increased by about 50 percent since 1976, the total domestic consumption of meat has increased by only 15 percent. Clearly US residents are reducing their overall per capita consumption of meat.

Even in the absence of factory produced meat/meat substitutes and consolidation in the meat processing industry, poultry and livestock producers will face serious challenges in the coming decades.

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