

ON TARGET



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Why 'veggie meat' won't replace beef

Lately the news is overrun with features on how we humans plan to shift away from meat as we've always known it to plant protein alternatives. Personally, I refuse to call it meat; vegetables and legumes in a meat-like form perhaps, but meat it is not.

"Lab meat," despite not being commercially available, continues to garner news coverage with the implication it may be coming soon to a store near you. The troubling aspects of these products are the claims they make against the methods and efficiency we use in raising cattle, and the suggestion that these alternatives are more sustainable than the ruminant model. Recent research offers some compelling arguments that will add to our enjoyment of watching cows and yearlings graze pastures this spring.

At the 2018 Plains Nutrition Conference, Texas A&M University graduate student Jessica Baber presented on evaluating bovine efficiency at converting feed, forage and some human-edible proteins (HEP) to one HEP better known as beef. The work considered all feed sources a beef animal needs from conception to consumption to calculate the return on HEP invested.

Baber's team found differences in conversion efficiency by segment in the beef supply chain. On the farm or ranch, we may think cows less efficient because they spend all their time in maintenance. But considering they convert otherwise indigestible forage into new calves and milk for those calves, the conversion ratio of HEP out from HEP consumed in this stage was reported at 2,871 to 1. As you might expect, the huge factor in this lopsided efficiency ratio for the cow-calf segment derives from the fact that it consumes so little HEP.

Since the stocker segment is also forage focused, the HEP conversion ratio is also favorable, but maintenance requirements for a growing calf coupled with greater feed supplement levels common to the stocker phase reduced that ratio to 5.94 to 1. The feedyard is the least efficient in the HEP conversion ratio, generating 0.65 pound of protein (beef) for 1 pound of HEP input, just due to the larger percentage of HEP concentrates used during the finishing phase.

When you look at the entire beef supply chain, the percentage each segment contributes is comparable to the amount of weight gained during the period. The cow-calf segment is responsible for 57% of human edible protein (yes, beef) while stocker makes up 10% and feedyard is 36% of the total.

Overall, the "return on protein invested" is favorable for the beef community, at 1.72 lb. of HEP returned for each pound consumed. Perhaps more importantly, the quality of this protein is enhanced threefold relative to human needs. While we often consider the protein needs of our cow herd, we rarely consider protein needs of the human race. Beef offers a much improved protein and amino acid balance to the human than any one plant or grain input consumed by cattle.

What the Baber study didn't explore was the diversity and satisfaction of flavors associated with beef, but that goes without saying. Not much need to conduct that research in this context—I have yet to meet an omnivore who will argue that the protein found in cattle feed is tastier than beef itself, especially when it's the *Certified Angus Beef*® brand.

So tune out those persistent lab meat feature stories with their wild assumptions. Instead, as you watch the calves turned out this spring to graze forage only a ruminant can digest, remember you are watching the ultimate value addition of turning sunshine and rain into a high-quality and tasty human-edible protein. The next time you hear some herbivore arguing that plants are a more efficient protein source, relax and quote the data. Beef is the product of superior resource efficiency, making use of two-thirds of the U.S. land that is unable to raise crops and improving the protein quality and taste over feed grains. If that data isn't compelling enough, then just offer them a scoop of feed for lunch.