

Animal Feed vs. Human Food: Challenges and Opportunities in Sustaining Animal Agriculture Toward 2050

To [feed the nine-plus billion people](#) projected to inhabit the earth by 2050, some are proposing that land would be best used through systems producing food consumed directly by humans. There are only two approaches by which this could be accomplished.

- The first is to harvest forages currently produced and feed them directly to humans.
- The second is to cultivate grazing land to produce other crops that could be consumed directly by humans.
- Both of these approaches are impractical on a large scale and have great ecological risks.

The suggestion that animal agriculture should be abolished fails to consider the [consequences of such an action](#).

- The “Meatless Mondays” program decreases greenhouse gas emissions by less than one-third of one percent, likely to have only a very small environmental impact within the United States.
- A large-scale reduction in meat consumption not only would result in the replacement of animal products with plant-based foods, but additional sources would be required for the diverse by-products from animal agriculture.
- A major advantage of livestock production is the ability to convert human-indigestible by-products into high-quality animal proteins for human diets.



The public is often confused about the [efficiency of food production](#).

- When grains or other vegetable ingredients are processed for human consumption, a significant portion is residue.
- The most meaningful measure of feed efficiency in the future may be the ratio of human-edible protein input relative to the human-edible protein output.
- Research is continuing to optimize utilization of pasture, crop residues, and by-product feeds in all aspects of livestock and poultry production.

The most [critical messages](#) that need to be communicated by food production stakeholders to the consumer are as follows:

- Global animal agriculture provides safe, affordable, nutrient-dense foodstuffs that support human health and well-being.
- Livestock production plays a significant role in the economic and social sustainability of developed and developing countries.
- A significant proportion of land is incapable of supporting the production of human food crops.
- The gains made by “recycling” safe, yet otherwise valueless, by-products from human food and fiber production decrease competition between animals and humans for crops.

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