

# Regenerative agriculture and alternative proteins: complementary approaches to feed a growing world

Regenerative agriculture and alternative proteins can work hand-in-hand to create a just, secure, and sustainable food system.

November 12, 2021 | Bruce Friedrich



## Tradition meets innovation

Modernizing meat production is necessary to sustainably feed close to 10 billion people by 2050, and that's why GFI focuses on advancing the science of plant-based and cultivated meat.

But of course, no single solution addresses all the urgent and complex needs of a growing global food system. There are, as they say, no silver bullets – and that's especially true with something as complex as global food systems.

One promising complement to our work is regenerative agriculture. Overarchingly, this system of farming principles and practices aims to rehabilitate ecosystems, enhance soil and other natural resources, protect animal welfare, and promote social equity. Indigenous peoples have practiced regenerative agriculture for millennia.

As Energy Innovation executive director Dr. Anand Gopal and I discuss for CNN, shifting from conventional to alternative protein production can slash direct emissions and free up vast quantities of land – the opportunity cost of current methods of meat production is roughly 26 Gt CO<sub>2</sub>eq per year. With a shift toward alternative proteins, government policy “could help farmers, ranchers and others with intimate understanding of local lands and waters access new income streams and enjoy livelihoods funded by recovery and rewilding.”

Regenerative agriculture practices may include:

- Using cover crops, crop rotation, and conservation tillage to build organic matter in soil and promote biodiversity.
- Reducing or eliminating reliance on synthetic fertilizers and pesticides.
- Grazing animals throughout their lives, rather than using feedlots.
- Ensuring farmers and farmworkers are paid fairly and have safe working conditions.

Beyond meat and dairy, ingredients in plant-based foods and even personal care items can be sourced from regenerative agriculture. Regenerative Organic Certified is one certification program that builds on the organic standard to incorporate these principles. Like alternative protein, regenerative agriculture has gained momentum in recent years as more people seek to lessen the environmental impact of food production.

## A common goal

Regenerative agriculture and alternative proteins share a common goal: to shift our food system toward more sustainable production methods. Specifically, both aim to reduce or eliminate antibiotic use on farms, increase biodiversity, and conserve natural resources. At GFI we see regenerative agriculture as a complementary solution that can work in harmony with alternative proteins, and many of our supporters and staff are all-in on both theories of change.

Cover crop rotations are a scalable regenerative agriculture practice that can be used to improve soil health and build resilient systems. Several of the common crops used in alternative proteins, such as peas, are well suited for crop rotations. Currently, cover crops grow on less than 5 percent of farmland, but with the right government policies, they could become a significant source of ingredients for, especially, plant-based meat.

## Better together

GFI and the alternative protein movement need partners in regenerative agriculture. Likewise, regenerative meat can better compete with conventional meat if it partners with the alternative protein movement.

Plant-based meat and grass-fed beef (which includes regenerative beef) each make up less than 1 percent of the total meat market. Meanwhile, global meat demand shows no signs of slowing down. Per-person meat consumption in 2019 exceeded every year before, and the United Nations predicts that global meat production will increase by more than 50 percent by 2050 to meet growing demand. Recent work sponsored by ClimateWorks Foundation suggests even more robust growth in meat demand.

Scaling up regenerative meat production will require more pasture—which must come from existing cropland rather than wilderness to provide net benefits. Fortunately, alternative proteins spare land. Plant-based meat uses up to 99 percent less land than conventional beef, and cultivated meat uses 95 percent less land. Even plant-based chicken and cultivated chicken require one-ninth and less than one-third the land of conventional.

One of the huge biodiversity advantages of alternative proteins is the decreased land use, and that land use change for meat production will lower land stress, save precious rainforests, and open up options for both heritage breed and regenerative farming practices.

## Likely partners

Alternative proteins and regenerative agriculture are both essential to the more just food system we're working toward, but neither is a silver bullet. As GFI and Climate Advisers explain in our policy brief (funded by ClimateWorks Foundation), the world needs a full protein transition, and alternative proteins and regenerative agriculture will both be essential to realizing that transition's full promise.

Together, the two can be mutually reinforcing solutions to create a just, secure, and sustainable food system.



## A global protein transition is necessary to keep warming below 1.5°C

Learn why alternative protein innovation is crucial to meeting the Paris Agreement temperature target and how we can accelerate progress.



### Author

**BRUCE FRIEDRICH | FOUNDER & CHIEF EXECUTIVE OFFICER**

Bruce Friedrich directs GFI's strategic planning and execution in the United States and globally.

**Areas of expertise:** alternative proteins generally, GFI's global programs and strategy, bicycling in heavy traffic.