YEAR IN REVIEW 2025

IMAGINE *more*

SPECIAL 10TH ANNIVERSARY EDITION

ABOUT THE THEME

Imagine more

> **“Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution.”** — Albert Einstein

To change the world, we must first imagine that a better world is possible.

And we must see clearly what needs changing.

Right now, the way we feed ourselves is pushing us past planetary boundaries. Industrial animal agriculture drives nearly a fifth of global greenhouse gas emissions. It turns forests into feedlots and breeds conditions for the next pandemic. When supply chains break, we all feel it—some more than others.

For years, the answer seemed obvious: eat less meat. But global meat demand keeps rising. Asking people to give up foods they love was never a plan built to win.

Ten years ago, the Good Food Institute (GFI) asked a different question: what if we re-imagine how meat is made?

A burger with no cow? Mark Post imagined it. Now cultivated meat—grown directly from animal cells—is real.

Chicken made from plants? Innovators turned everyday crops into foods that look, cook, and taste like the meat people already love.

These aren't curiosities. They're answers to a real and global problem.

Back then, the few plant-based meat options on the market were expensive first-edition versions.

Cultivated meat was an unproven theory, mostly just an idea. Public investment was zero. Alternative proteins were invisible in climate policy, absent from government budgets, and missing from university classrooms.

GFI was founded to change that. As a nonprofit, we don't bet on one company. We build conditions that let many solutions grow—pushing science forward, fighting for fair rules, and equipping researchers and entrepreneurs with shared tools.

Because donors shared our vision and backed these ideas, the world looks different now. Today, the United Nations includes protein diversification at climate summits, governments worldwide fund alternative protein research, and 70+ student chapters at the world’s top science and engineering universities are building the workforce.

We're not done. Imagine meat that protects the planet instead of straining it. Imagine food that nourishes families while easing pressure on land and water. Imagine animals spared needless suffering. Imagine resilient supply chains that can withstand a crisis.

The next decade will decide whether alternative proteins reach enough plates to make that future real.

Your support powers the open science that everyone benefits from. It creates new jobs and career pathways. It moves institutions and governments to adopt real commitments.

Thank you for what you've made possible, and for the possibilities still unfolding.

With gratitude,

GFI’s global team

What’s inside:

The decade at a glance

The dramatic transformation of the past decade didn't happen by accident. Donors made this happen. Donors funded the foundational science, the infrastructure, and the conditions for collaboration.

◇THEN:	◆NOW:
Fringe climate solution	***Gaining ground at global climate summits***
Commodities fed to livestock	***Ingredients for alternative proteins***
Pandemic risk ignored	***Emerging public health strategy***
Few scientists conducting isolated research	***Global movement powered by shared knowledge***
No dedicated research funding	***129 GFI-funded projects across 25 countries***
Negligible political support	***$2.1 billion in public funding***
Fragmented research paths	***10 alternative protein centers at elite institutions worldwide***
“Veggie burgers” under attack	***Bills defeated or amended in 25 U.S. states, censorship challenged worldwide***
No clear path to market	***Cultivated meat approved in 3 countries, 7 companies cleared***
No academic pathways	***70+ student chapters across 6 continents***
Off the radar	***Recognized by the UN, World Bank, World Health Organization, and Nature***
Side discussions at niche food expos	***On the mainstage worldwide***

A global network for maximum impact

A decade ago, we started with a transformative idea: Let's change how meat is made. That idea has grown into a coordinated global network involving thousands of people, combining local expertise with shared science to reimagine protein.

Our theory of change

Billions of people around the world love meat and want to keep eating more of it. Even the most conservative estimates project meat demand rising by 50 percent (from 2012 levels) by 2050. Business-as-usual ways of producing that meat, however, are not a viable path if we want to achieve the world's climate, biodiversity, public health, and food security goals within the next two critical decades.

Enter alternative proteins.

Just as renewable energy meets growing energy needs more sustainably, alternative proteins let people eat the foods they love, made in ways that cause far less harm and bring far more benefits. GFI advances the science, policy, and private sector commitment needed to make alternative proteins as delicious and affordable as conventional meat, addressing consumer demands while building a sustainable food future.

As a donor-powered global network, we fill gaps others can't: **We unlock the knowledge and resources needed to transform how meat is made in ways that accelerate climate progress, protect animals and ecosystems, help relieve food insecurity, and strengthen public health.** This is how we create **a thriving world, fed sustainably**.

GFI (est. 2016)

Home to robust scientific innovation, substantial biotech funding, and leading food companies, the United States anchors our policy, research, and business partnerships with global reach.

GFI Europe (est. 2019)

Europe's world-class universities and bold public research investments drive scientific advancement and policy frameworks that influence global progress.

GFI Brazil (est. 2017)

As one of the world's most biodiverse countries and a top soy producer and meat exporter, Brazil's transformation of protein production creates ripple effects worldwide.

GFI Israel (est. 2019)

Israel's combination of elite research institutions, entrepreneurial culture, and public investments in technology makes it a hub for breakthrough innovation.

GFI India (est. 2019)

India's vast talent pool, agricultural diversity, and tech-forward government create opportunities to address malnutrition and build resilient protein supply chains.

GFI Japan (est. 2024)

As the world's fourth-largest economy and with advanced research and manufacturing capabilities, Japan accelerates pathways from idea to market.

GFI APAC (est. 2019)

Representing 60 percent of the world's population and with established expertise in energy transition, the Asia Pacific region is positioned to lead alternative protein adoption at scale. GFI teams are currently on the ground in Singapore and Japan, with plans for expanding our presence in Korea and China.

Why alternative proteins

The way the world currently produces meat is pushing the natural balance of our planet to a breaking point. Farmers face mounting challenges from climate change and resource scarcity. Food supply chains face mounting threats from conflict and extreme weather, and we have seen how dramatically they are disrupted in a pandemic.

The transition toward alternative proteins will increase global food security while lowering pandemic risk and antibiotic-resistant disease. It will spare billions of animals from suffering. And by protecting planetary health, this transition will benefit all: we will cut emissions, prevent pollutants from harming lands and waters, and enable the restoration of forest, marine, and other ecosystems on a vast scale.

➤ Alternative proteins 101

Plant-based meat is produced directly from plants, which is vastly more efficient than feeding plants to animals to make meat.

Cultivated meat is real meat, grown directly from animal cells. A small sample of cells is fed basic nutrients in environments similar to those used to make yogurt, cheese, and beer, which then develop into ingredients or end products like meat or seafood.

Fermentation—a process humans have used in food production for millennia—uses microorganisms to produce ingredients for alternative proteins.

Climate

Animal agriculture accounts for approximately a fifth of global climate-warming emissions and is a top source of nitrous oxide and methane. Even if we stopped burning fossil fuels tomorrow, we wouldn't hit climate goals without a decrease in conventional meat production.

At just 11 percent of market share, alternative proteins would deliver climate benefits equivalent to grounding nearly every airplane on the planet.

Animal welfare

Almost 100 billion land animals are slaughtered annually for food. Including aquatic animals, the number climbs into the trillions.

With global meat demand projected to rise, a 10-percent market share for alternative proteins would spare approximately 10 to 14 billion terrestrial animals from industrial agriculture *every year*.

Ocean health

Destructive fishing practices drive climate change and habitat loss, creating harmful cascades through ocean ecosystems. Human impacts are increasing across two-thirds of the ocean, and 35 percent of fish stocks are now overexploited.

Plant-based and cultivated seafood can help close the gap between supply and demand with far less environmental harm.

Health and pandemics

Intensive animal farming creates two urgent public health threats. Crowded conditions allow viruses to mutate, raising pandemic risk, and routine antibiotic use fuels superbugs that already kill over a million people annually.

Alternative proteins address both: they eliminate the need for antibiotics in meat production and help prevent future pandemics.

Food security

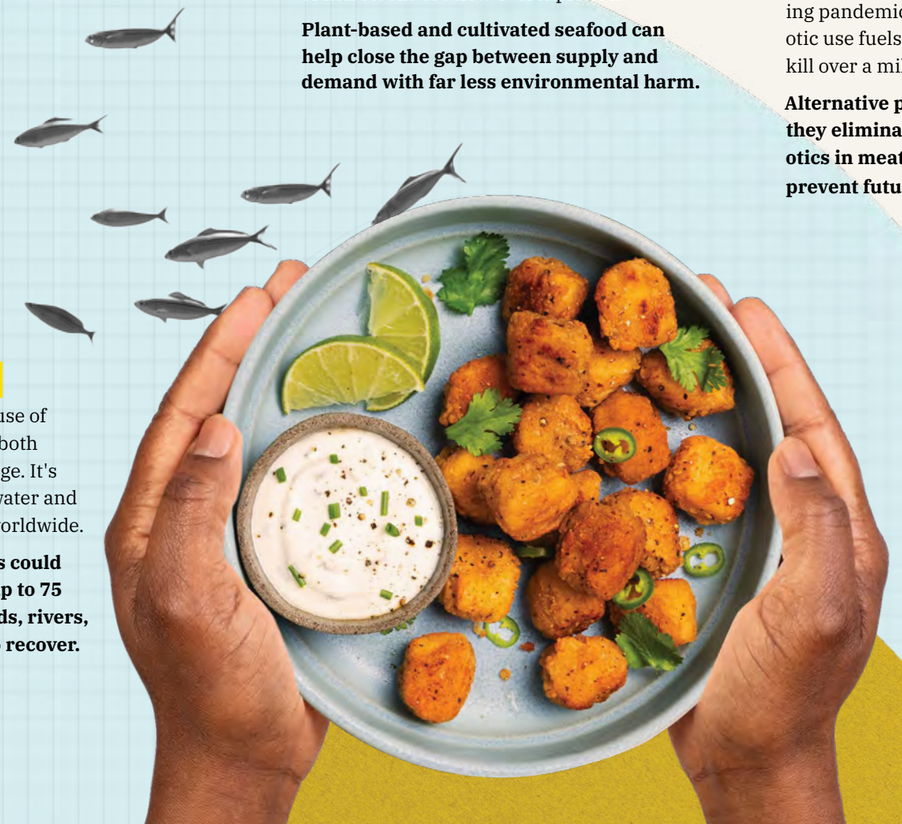
Feeding crops to livestock to produce meat is massively inefficient. Even chickens—the most efficient livestock—convert only one in nine calories of feed into meat.

One-third of all staple crops are fed to farmed animals, while one in twelve people is undernourished.

Nature and biodiversity

Animal agriculture is a leading cause of global deforestation, accelerating both biodiversity loss and climate change. It's also a leading consumer of fresh water and a major cause of water pollution worldwide.

A global shift to plant-based diets could cut the land needed for food by up to 75 percent, giving forests, grasslands, rivers, and coasts vast areas in which to recover.



➤ The next 10 years

Climate shocks, food price spikes, and disease outbreaks already shape daily life, especially for smallholder farmers and subsistence fishers in the Global South who cannot absorb repeated losses.

This must be the decade that alternative proteins become as affordable and delicious as conventional meat. It's the only way the harms described above are truly averted.

Imagine meals that feel familiar, taste great, and help people, animals, and the planet thrive—every time we eat. Imagine a thriving world, fed sustainably.

Sources available at gfi.org/resource/year-in-review-2025

Photo credit: TiNDLE Foods

Creating collective good

◇**THEN:** *Fringe climate solution* ◆**NOW:** *Gaining ground at global climate summits*
✶**IMAGINE MORE:** *Unlocking billions in climate finance*

What happens to the planet happens to all of us. As warming accelerates and ecosystems collapse, the risks multiply: food shortages, pandemic threats, and communities with nowhere left to turn. How we produce meat drives much of this harm. A decade ago, the approach was simple: convince people to eat less meat. But it wasn't enough.

The world needed a new strategy.

Donor support made it possible for GFI to chart a different path—one where people could still eat the foods they love, produced in ways that protect rather than harm.

In the U.S., a land-use analysis that GFI conducted with economic consultants Highland Economics showed that increasing alternative proteins could free up millions of acres for restoring forests, grasslands, and wetlands.

Making the meat-climate-nature connection

Ten years ago, little to no data existed on how much alternative proteins could cut emissions or protect ecosystems. Without that evidence, the sector couldn't compete for funding or political attention. Investors looked elsewhere. Policymakers ignored it.

Donor funding built that evidence base from scratch. GFI commissioned independent land-use analyses, environmental footprint assessments, and economic models that showed that alternative proteins could deliver a positive impact on a huge scale.

These studies gave decision-makers the data they needed to put strategy and funding behind alternative proteins.

Putting alternative proteins on the global climate stage

When GFI was founded, alternative proteins were ignored in climate policy. Today, international bodies and governments are beginning to see how protein innovation can significantly drive down emissions.

That shift required building credibility at every level by publishing research that governments could cite, convening the right people in the right rooms, and proving the benefits were real, not theoretical.

As a nonprofit, GFI can do what companies can't: fund open-access science, convene competitors, and contribute to the public good.

In 2022, GFI cohosted a dinner with the government of Singapore and the cultivated meat startup Eat Just at the UN Climate Conference. We served cultivated meat to global leaders. What had been abstract became something officials could see and taste. That same year, working separately through a U.S.-United Arab Emirates global climate partnership, GFI helped secure more than $42 million in commitments toward alternative protein research.

The credibility built through these efforts opened bigger doors. GFI's Shayna Fertig and Michael Carter were among the coauthors of the UN Environment Programme report on alternative proteins—the first time a multilateral body highlighted alternative proteins as a possible climate intervention. "Having the UN Environment Programme validate this approach can inspire countries to take alternative proteins seriously," says Michael.

GFI pushed for the inclusion of alternative proteins in the U.S. National Climate Assessment, Israel's National Climate Strategy, and Singapore's Paris Agreement pledge. We elevated the sector's global standing through the Agriculture Breakthrough Agenda, a major multilateral climate initiative, and brought together officials from more than 10 nations to share blueprints for safety regulations and public funding.

"We're moving from getting alternative proteins into the conversation to securing the tools—regulatory frameworks and funding streams—that make scale possible," explains Michael.

At the world's largest climate conference, GFI elevated alternative proteins as a globally scalable climate solution. At COP30 in Belém, Brazil, GFI APAC CEO Mirte Gosker (right) led a discussion focused on unlocking finance to accelerate the scaling of sustainable food production.

Media spotlight

"With COP30 taking place, governments, scientists, investors and citizens must send a clear message to the Amazon: there is no effective climate solution without transforming our food system."

– Carlos Campillos Martínez, GFI Europe,

"Innovation in proteins is one of the most impactful climate solutions—and also one of the most neglected," *Sapo* (popular Portuguese news website), translated by GFI Brazil

2025 IN FOCUS:

Unlocking climate finance for food systems

The momentum is building, but a critical gap remains. Despite food production accounting for a third of all global emissions, only three to seven percent of climate finance is directed to food system solutions.

At the 2025 UN climate conference in Belém, Brazil, GFI pushed to close that gap. GFI APAC and GFI Brazil partnered with the governments of Singapore and Brazil to lead high-level dialogues focused on unlocking climate finance for sustainable proteins.

During these sessions, Andy Jarvis, director of Future of Food at the Bezos Earth Fund, issued a call to action: "Philanthropic capital should go where the free market is failing to deliver. I'd love to see a real, meaningful coalition around sustainable protein emerge in the world—where the meat industry, alternative proteins, governments, all of the finance come around and realize that this isn't something to see as a 'problem area,' it's something to see as a 'massive solution' area."

Gift and grant support for GFI is exactly the kind of philanthropic capital that creates the conditions for others to follow.

◇**THEN:** *Commodities fed to livestock* ◆**NOW:** *Ingredients for alternative proteins*
✶**IMAGINE MORE:** *Sustainable economies at scale*

Freeing land for climate and biodiversity

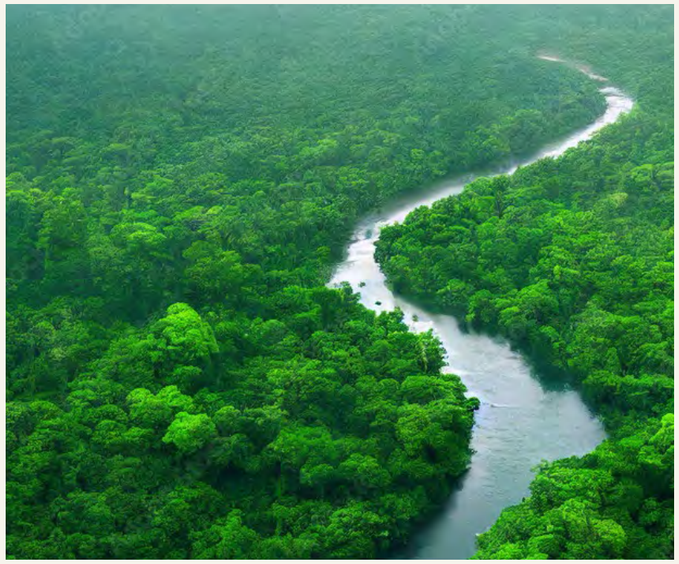
Clearing forests for pasture and feed crops drives biodiversity loss and climate change. The solution: produce protein more efficiently, enable farmland to transition to agroecological farming, and let ecosystems recover. But we needed data to demonstrate the scale of this opportunity.

Europe faces a land crunch: much of its farmland grows animal feed rather than food for people. "Farmers are caught in the middle, squeezed by low margins and a changing climate," says GFI Europe's Ellie Walden.

Ellie led GFI Europe's work with Green Alliance to analyze alternative protein scenarios across 10 European countries. The study found that in a high-ambition scenario, land devoted to organic production could quadruple, eight countries could become land self-sufficient or net exporters, and the region could meet one component of its biodiversity strategy while mitigating or sequestering nearly 250 million tonnes of carbon—more than twice EU air travel emissions in 2022. These insights demonstrate how alternative proteins and regenerative agriculture can work hand in hand.

In the U.S., GFI partnered with Highland Economics on a first-of-its-kind analysis. We found that a 50-percent shift toward alternative proteins could restore cropland in 64 percent of threatened ecosystems and sequester as much carbon as all U.S. domestic flights emit per year.

We took these findings to America's heartland. GFI's Sheila Voss co-led a workshop at the Midwest Climate Summit to map how the region can lead in climate-smart protein production. Afterward, the summit added a food and agriculture track for the first time, with alternative proteins as a dedicated focus.



"For farmers and rural communities, it's about having more choices," says Sheila. "Growing crops for higher-value plant-based foods, earning income from restoring parts of their land, and bringing new processing and manufacturing jobs to their regions."

Rooting alternative proteins in regional economies

Harnessing Brazilian biodiversity

"Brazil holds the world's greatest biodiversity, yet our economic model has relied on deforestation for cattle ranching, destroying vast areas of Amazon rainforest and other unique ecosystems," says GFI Brazil's Luciana Fontinelle. "We must provide livelihoods for local communities without degrading our biomes."

GFI Brazil launched the Biomes Program to transform native species into high-value ingredients for plant-based meat, working with crops like babaçu, cupuaçu, and baru that grow abundantly in Brazil's ecosystems without deforestation. The program involved traditional communities directly. Quilombola babaçu coconut breakers, for instance, participated in developing new ingredients; one project resulted in a babaçu burger that increased community income by 50 percent.

The program developed approximately 30 ingredients and 20 prototypes of new products, involving more than 30 research institutions and 25 local communities.

Brazil grows the crops and turns them into high-value ingredients that keep the economic value local.

2025 IN FOCUS:

Making plant-based meat affordable

Brazil grows more soybeans than any other country, but most get sold as commodities: whole beans, meal, and oil. When producers press soybeans to extract oil, they're left with massive amounts of low-cost, protein-rich flour.

If Brazil could upgrade that leftover flour into premium ingredients for plant-based meat, the country could keep more profits at home while making alternative proteins cheaper for everyone.

The specific proteins used in plant-based meat—the kind that bind, stretch, and taste neutral—are expensive, one of the biggest cost drivers. Brazil has the raw material, but not in the right form. The leftover flour from oil production tastes "beany" and lacks the properties needed for plant-based meat.

GFI Brazil's Graziele Bovi and Bruno Filgueira brought together Brazil's leading food scientists and industry experts for the first-ever Soy Technical Forum to identify the barriers to making soy flour functional for plant-based meat and what research is needed.

With a clear problem in mind, GFI Brazil put out a call for researchers. They selected ProVerde Processos Sustentáveis, led by researcher Paula Speranza, to tackle some of these challenges. ProVerde is now developing the methods needed to transform leftover soy flour into neutral-tasting, high-performing, food-grade protein.

If it works, Brazil gains a new high-value export, plant-based meat gets cheaper, and more revenue stays in the country where the soybeans are actually grown.

Transforming India's pulses into high-value protein

"India is the world's largest pulses producer, but the regions growing them lack processing infrastructure for turning them into protein ingredients," says GFI India managing director Sneha Singh. "Farmers sell their crops only as commodities instead of capturing the value of refined protein." Simultaneously, the global alternative protein sector needs diverse, climate-resilient ingredients beyond wheat and soy.

GFI India, a technical partner in our network, has been actively collaborating with the Nagpur Dal Millers Cluster (NDMC) and the World Bank-backed Indo Pulses Development Association (IPDA) to propose and design a "Plant Protein Cluster" to retrofit existing infrastructure that can turn local crops into export-ready protein ingredients. We authored the strategic blueprint to upgrade existing mills into protein extraction facilities.

This strategy has secured high-level political buy-in. GFI India head of policy Arghadeep Saha and the IPDA presented the idea to the principal secretary of agriculture in the Government of Maharashtra, while Sneha and NDMC presented the strategic roadmap directly to Union Minister Nitin Gadkari. "The political and bureaucratic interest means there's a real opportunity to unlock the capital needed to transform Vidarbha into a global processing hub," Sneha explains. We also supported the bid for India's smallholders to connect with global value chains by connecting farmer collectives, such as Farm Veda (representing 16,000 farmers), directly to ingredient processors.

By transforming a raw commodity region into a high-value ingredient hub, GFI is diversifying the global protein supply chain while ensuring Indian farmers capture economic value from the protein transition.

This kind of field-building work—convening stakeholders, creating blueprints, securing ministerial support—happens because GFI has been able to take the long view. Companies chase markets. Policymakers respond to pressure. As a nonprofit, GFI creates the conditions that, over time, make new markets possible.

Media spotlight

"A shift toward climate-resilient crops for alternative protein production can cut water usage by nearly 70 percent, enrich soil health, and safeguard yields during extreme climates."

— Sneha Singh, GFI India, "The next trillion-dollar food opportunity: GFI India on India's smart protein ecosystem," *The Economic Times*

2025 IN FOCUS:

Lowering the cost of protein with local leftovers

Producing alternative proteins remains expensive, largely due to the high cost of ingredients. India has abundant, underutilized resources that could be upcycled to lower those costs while creating rural income. "Our agricultural sector generates huge volumes of rice, flax, and sugarcane waste that gets discarded or sold for almost nothing," says GFI India scientist Dr. Padma Ishwarya S. "That's lost income for rural communities."

Padma led GFI India in launching the SPARK Fellowship Program, a research initiative to turn this waste into protein. The 2025 cohort is now tackling three promising waste streams.

At NIFTEM-K, one of India's premier food science institutes, researchers are extracting protein from flax and rice byproducts. Meanwhile, at InStem, scientists are adapting yeast to grow on sugarcane waste to produce omega-3 fatty acids through fermentation.

"By transforming low-value waste into high-quality protein and fermentation inputs, we are creating a circular bioeconomy," explains Padma. "This lowers the cost of alternative proteins. But it's also about farmers earning a steadier living and rural communities having a more secure future."

◇**THEN:** *Pandemic risk ignored* ◆**NOW:** *Emerging public health strategy*
✶**IMAGINE MORE:** *Global public health priority*

Protecting our health

Preventing pandemics

Industrial animal agriculture creates two urgent public health threats. First, pandemic risk: crowded conditions allow viruses to mutate and jump to humans. Second, antibiotic resistance: routine antibiotic use accelerates the rise of superbugs—bacteria resistant to our most advanced medicines, projected to kill 10 million people annually by 2050.

For decades, global health plans addressed symptoms while ignoring the root cause: how we produce meat. No major health organization considered alternative proteins in their antimicrobial resistance or pandemic analysis or strategies.

GFI moved to close this gap. GFI scientist Dr. Claire Bomkamp and GFI research fellow Dr. Eileen McNamara coauthored a paper in *Nature Food* outlining how cultivated meat can be produced without antibiotics. We partnered with the World Health Organization to cohost a workshop for regulators from the Western Pacific to Brazil, demonstrating how alternative proteins can sever the link between meat production and zoonotic disease. We convened roundtables with the Center for Strategic and International Studies (CSIS), bringing together officials from the White House, Department of Defense, and Department of Homeland Security to position alternative proteins as a national security imperative.

"It's really encouraging to see how the narrative has shifted," says Claire. Following our engagement, CSIS released a report explicitly calling for government investment in alternative proteins to address global health and national security risks.

"We are transforming alternative proteins from just a food source into a global health shield." Claire explains. "By securing government support for antibiotic-free meat production, we are protecting the efficacy of life-saving medicines for future generations."

This work—publishing in *Nature Food*, partnering with the World Health Organization, briefing defense officials—requires a trusted, independent voice. Your support funds that voice.

Demystifying plant-based nutrition

Health is the top reason people try plant-based meat. But critics increasingly label these products "ultraprocessed" and equate them with chips or soda, even though plant-based meat has a very different nutritional profile from those foods. Yet, public health guidance from bodies across Europe highlights nutritional quality over processing in assessing food healthfulness. The American Heart Association has also certified various plant-based meat products for heart-healthy eating. And GFI is countering this narrative with evidence. In Europe, we partnered with the Physicians Association for Nutrition to publish a guide unpacking the research on plant-based meat and ultraprocessed foods, highlighting that current misconceptions undermine the potential of plant-based meat to support healthier diets. In India, our scientists published a first-of-its-kind nutritional analysis of Indian plant-based meat and egg products compared to conventional ones, sparking headlines in the *Times of India* and driving a data-led national dialogue about how these foods can deliver essential nutrients. In Brazil, we commissioned a study analyzing the nutritional profiles of 349 plant-based meat products to understand how they actually stack up against conventional meat.

The data indicates that "processed" doesn't mean "unhealthy." Our Brazil study revealed that 80 percent of the plant-based meats analyzed received top nutritional marks compared to 19 percent of conventional counterparts. By validating the nutritional value of alternative proteins, we ensure they remain part of the public health policy conversation.

Photo credit: Beyond Meat

Media spotlight

"There's such great urgency related to climate change, environmental degradation and public health that we need to give people as many options as possible, including plant-based meat alternatives,"

— Dr. Walter Willett, professor of epidemiology and nutrition at Harvard T.H. Chan School of Public Health and professor of medicine at Harvard Medical School in Boston, "Eating this ultraprocessed food may be good for you and the planet, experts say," *CNN*

◉ **2025 IN FOCUS:**

Clearer nutrition guidance

In 2025, we released *The Nutritional Profile of Plant-Based Meat: Strengths and Opportunities*, a comprehensive review that evaluates exactly how these foods measure up against conventional meat. This white paper validates the many ways plant-based meats already support health goals, highlights the nutritional advantages of plant-based meat compared to conventional meat, examines the differences between plant-based meat and ultraprocessed foods, and gives manufacturers a clear roadmap to optimize the healthfulness of ingredient selection and processing. This work gives policymakers the clarity and practical guidance they need to integrate plant-based meat into public food programs, ensuring healthy, sustainable options are available to everyone.

✶ ***Imagine more communities where farmers earn steady incomes from crops that keep soil and forests healthy, and families enjoy familiar foods made in new ways. Animals are no longer packed into crowded factories, and everyday meals support a thriving planet.***

Advancing science

◇**THEN:** *Few scientists conducting isolated research* ◆**NOW:** *Global movement powered by shared knowledge*
✶**IMAGINE MORE:** *Sustainable protein solutions at price parity*

When GFI was founded, scientists who wanted to reimagine meat had little support. There were no dedicated grants, no shared tools, and almost no clear path from hypothesis to real-world impact.

Donor funding built the foundation that changed everything. Open-access research grants, shared cell banks and datasets, and new research centers now give scientists worldwide the resources to tackle taste, price, and scale together. **Government investment followed, but it was early donor support that turned potential into momentum.**

The open-source engine: Accelerating the entire field

Ten years ago, scientists faced scattered knowledge and little published research to build on. Startups burned precious cash researching what others had already researched. Breakthroughs stayed siloed in private companies.

We drew the map to a sustainable future and gave it to everyone.

Through our Advancing Solutions for Alternative Proteins initiative, we identified the most urgent technical gaps by telling scientists exactly which problems need solving to unlock taste and affordability.

GFI scientist Dr. Claire Bomkamp built PISCES, a first-of-its-kind dataset on seafood biology. She also worked with GFI scientist Dr. Elliot Swartz to build the Alternative Protein Literature Library, organizing scientific knowledge into one searchable hub. Our Teaching Library, an open-access collection of syllabi and lectures, lets any professor spin up an alternative protein course with relative ease. GFI's open-access cost and environmental impact analyses—often first of their kind—are widely used by industry and government.

By sharing foundational tools, we de-risk product development for everyone, compressing decades of R&D into years and ensuring the next breakthrough reaches the market fast enough to make a difference.

◉ **2025 IN FOCUS:**

The great cell line rescue

When a startup closes its doors, years of scientific progress can vanish. When SCiFi Foods shut down this year, their cell lines (the fundamental building block for cultivating meat) and growth media (the nutrient-rich broth cells need to grow) for cultivated beef faced the same fate: lost or locked up as private intellectual property.

We didn't let that happen. Led by Dr. Elliot Swartz and GFI's legal team, with critical support from GFI APAC's Dr. Maanasa Ravikumar, GFI bought SCiFi's cell lines and growth media recipe, partnering with Tufts University to make them available for researchers worldwide.

For the first time, researchers can access a beef cell line specialized for cultivated meat. By late 2025, 18 companies and 22 academic labs worldwide had requested access.

"We estimated that it would take ~$2 million and 2-3 years for each company to reach the same level of development for these particular cells and media," explains Dr. Elliot Swartz. "By making these cells open-access, we are saving the industry and academia many millions of dollars and many years in duplicated R&D costs," says Elliot.

No company would have done this—rescued a competitor's assets and made them available to all. This is what philanthropy enables that the market won't.

"The technology of cultivated meat strikes me as one of the most promising ways to greatly reduce farmed animal abuse."

— Dr. Stephen R. Kaufman, GFI donor

Following cultivated meat startup SCiFi Food's decision to cease operations, GFI made an unprecedented move to acquire a small portion of their cell lines and growth media with the intention of making them available for the good of the entire sector. Soon after, GFI's vice president of science and technology Dr. Amanda Hildebrand trekked to SCiFi's pilot plant in San Leandro, CA to ship the assets to Tufts University, where they are now banked and will soon be available for use by academia and industry—a step projected to save millions in early research costs, remove major barriers to entry for other startups, and leapfrog years of R&D.

GFI being able to act nimbly in this way is only possible because of our global community of donors, our expert team, and strong partnerships. As a nonprofit supported by philanthropy, we're uniquely positioned to seize opportunities like this, and do so in ways that ultimately benefit and lift up the entire field.

2025 IN FOCUS:

Cracking the code on fermentation costs

Certain proteins and fats give meat its rich taste. The fermentation process creates those same proteins and fats, making alternative proteins taste and cook more like conventional meat. But these ingredients are still expensive, and they raise the price of alternative proteins. The industry needed a clear path to affordability.

GFI scientists Dr. Adam Leman and Lucas Eastham partnered with Hawkwood Biotech to conduct the most comprehensive meta-analysis to date of fermentation costs. They looked under the hood of fermentation-based ingredient production to pinpoint exactly what's driving prices up.

Their report, *Driving Down Costs*, provides the industry with the first clear blueprint for price parity. It reveals that some sustainable proteins are already nearing cost competitiveness with conventional options. Crucially, Adam and Lucas identified specific levers companies can pull right now—such as designing flexible factories—to drive prices down even further. By solving the cost puzzle, we are accelerating the day when alternative proteins are the easy, affordable choice for everyone.

This report by GFI and Hawkwood Biotech analyzes the cost and competitiveness of fermentation-derived ingredients, outlines cost drivers and reduction strategies, and highlights critical data gaps.

◇**THEN:** *No dedicated research funding* ◆**NOW:** *129 GFI-funded projects across 25 countries*
✶**IMAGINE MORE:** *Research partnerships that bring new funders to the table*

GFI's research grant program for open science

Taste, texture, and affordability are the recipe for the success of alternative proteins. Making alternative proteins delicious and affordable requires scientific breakthroughs, such as new ingredients, better processes, and formulations that deliver on flavor while lowering costs.

Launched in 2019, GFI's Research Grant Program invited scientists to tackle fundamental questions: how do we make alternative proteins more delicious and cheaper?

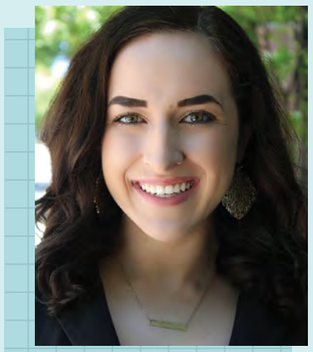
Under the leadership of GFI's Dr. Samantha Riches and Elisha Reichling, the program has grown into a global research engine, awarding over $24 million to 129 projects across 25 countries. The program is designed to achieve three core objectives: address technical bottlenecks, catalyze further funding, and foster collaboration. The grants come with a simple but powerful rule: Share your discoveries with the world. That way, a breakthrough in Brazil, for instance, can immediately accelerate progress in Singapore. Through active facilitation and connection, GFI helps grantees turn individual discoveries into shared momentum to advance the field.

GFI's initial funding has brought in an additional $75 million in government and philanthropic support. Our grantees have filed at least 40 patent applications and founded 15 companies. They have published over 160 scientific papers and widely presented their findings.

In 2025, stubborn barriers are no longer mysteries; they are targets of active investigation. Thanks to this research, scientists are now solving for taste and texture through new fat systems, whole-cut structures, flavor molecules, and much more.

Donor support de-risks the early stages of science, incentivizing governments and investors to join in. Together, we are compressing decades of scientific progress into years, ensuring the future of food arrives on time.

GOOD FOOD INSTITUTE • RESEARCH GRANT PROGRAM •



GFI's research grant program has channeled more than $24 million into much needed open-access science. With a reach spanning 25 countries, the program is growing into a global research engine under the leadership of GFI's senior associate director of research funding Dr. Samantha Riches and research grants program manager Elisha Reichling.

Project spotlights:

Donor-funded science in action

Dr. Marianne Ellis

One of the hardest parts of cultivated meat is growing cells at an economically viable scale. Dr. Marianne Ellis's project mapped how bioreactors, growth media, and scaffolds work together as volume grows, to cut waste, shrink equipment size, and lower costs.

That early research helped Marianne secure the funding to launch the Cellular Agriculture Manufacturing Hub at the University of Bath, a seven-year project backed by £12 million from UK Research and Innovation plus university and industry support. Marianne now directs this hub, exploring how to make cultivated meat at scale.

Beth Zotter and Dr. Amanda Stiles

Red seaweed is savory, protein-rich, and naturally red—ideal for plant-based meat but historically difficult to use. Beth Zotter and Dr. Amanda Stiles used a GFI grant to crack the code on protein extraction, sharing their foundational findings with the scientific community. That open-access proof-of-concept gave them the momentum to launch Umaro Foods, raise $6.8 million in follow-on investment, and put seaweed-and-chickpea bacon on restaurant menus. Their success proves GFI's model: philanthropy funds the initial scientific breakthrough, which de-risks the technology for investors and launches new companies.

GFI's principal scientist (plant-based) Dr. Nikhita Mansukhani Kogar engages with fellow researchers at a GFI-led summit hosted at North Carolina State University, focused on fostering greater collaboration across the plant-based research community.

Photo credit: UNLIMEAT

2025 IN FOCUS:

Building the next wave of taste and cost tools

GFI's 2025 request for proposals offered up to $3.5 million for projects working on cell lines, open-access research tools, and ingredients to improve taste, cost, and nutrition.

"The Good Food Institute has been the global catalyst for alternative protein innovation, centering alternative proteins as an essential food and climate solution."

— Andy Jarvis, Director,
Future of Food, Bezos Earth Fund

Dr. Restituto Tocmo

Dr. Restituto Tocmo at the University of Reading leads YarroPro, a multi-continental collaboration developing plant-based sausages that taste great and use resources wisely.

His team is turning spent coconut meal—waste from coconut processing—into food by growing *Yarrowia lipolytica* yeast on it. They blend this yeast with legume proteins and test extrusion settings to create sausages with better flavor, texture, and nutrition. The project builds a lasting research bridge between the United Kingdom, Singapore, and the Philippines while turning waste into nutritious food.

Dr. Billy Yi Yang

Making plant-based meat that's just as juicy as conventional meat is an important challenge. Many products can lose moisture during cooking, which can leave them feeling dry. At the University of Auckland, Dr. Billy Yi Yang is solving this problem by looking at New Zealand's winemaking harvest. His team is using the skins and seeds left over from winemaking to grow a natural fiber through fermentation. This ingredient acts like a tiny, natural sponge that helps plant-based meat stay moist and helps ensure that the body absorbs more of the nutrients.

Championing science through public investment

It started with a few **donor-funded grants, providing open-access research that proved what was possible.** That early data gave our policy teams the evidence they needed to walk into government offices and make the case for public investment, turning evidence into policy action.

We built the case for alternative proteins with USDA for the first-ever congressionally directed funding for alternative protein research—$4.5 million in 2022 that grew to $5.5 million in each of the next three years. Then, by showing how alternative proteins are essential to national security and the bioeconomy, the team also helped public funding to scale precision fermentation infrastructure, including working with local stakeholders to send $51 million in federal grants to the American heartland.

Around the world, GFI staff embedded alternative proteins into national strategies. GFI Europe's Policy and SciTech teams spent years engaging with UK Research and Innovation to help secure £127 million for alternative protein research over five years, including £65 million for dedicated research centres.

Our advocacy also got alternative proteins into the EU's Farm to Fork strategy, opening access to Horizon Europe, the EU's flagship R&D program. That breakthrough has channeled at least €263 million to alternative protein projects, including support for cultivated octopus research led by Dr. Frederico Ferreira, a former GFI research grantee.

In Germany, GFI Europe helped secure €56 million in government funding. GFI India ensured "smart protein" was written directly into India's national biotechnology policy, positioning the sector to access government R&D funding for the first time. GFI Israel partnered with the government to launch an $18 million Cultivated Meat Consortium and secured 1:4 government matching for GFI research grants.

In 2025, GFI worked closely with the Illinois Alternative Protein Innovation Task Force—the first state-level endeavor of its kind—to release a landmark report outlining how the state can lead the next wave of sustainable food innovation. At the launch event held at the University of Illinois Urbana-Champaign, Beth Conerty, Associate Director of Business Development for the university's Integrated Bioprocessing Research Lab addressed state legislators, industry leaders, and academia to acknowledge how Illinois is emerging as a national hub for protein diversification and biomanufacturing.

Photo courtesy of University of Illinois Urbana-Champaign.

GFI Brazil advised the government on its first public calls for alternative protein research, while GFI Japan is rallying Japanese ministries to treat alternative proteins as a pillar of economic security.

"By weaving alternative proteins into national industrial, bioeconomy, and food security strategies, we're moving toward sustained, large-scale public investment," says GFI founder and president Bruce Friedrich. "This is how we de-risk the industry for private investors and build the capacity needed to feed 10 billion people."

2025 IN FOCUS:

The Paraná launchpad

As Brazil's second-largest producer of soy and corn, the state of Paraná is an agricultural powerhouse. But while the state was investing millions in general food innovation, it lacked a dedicated mechanism to channel that power into alternative proteins. Local scientists and startups struggled to access the resources needed to turn the state's raw ingredients into high-value, sustainable foods.

Building on a long history of collaboration with the Federal University of Paraná extension program, GFI Brazil's Alexandre Cabral and Ana Carolina Rossettini engaged deeply this year with the state's research agency, Fundação Araucária. They moved beyond charts and graphs to prove the sector's viability—they brought the future to the table. They served a traditional regional dish featuring mycelium-based chicken, developed by a startup previously funded by Fundação Araucária.

A meal is worth a thousand words: GFI Brazil and Fundação Araucária signed a cooperation agreement to launch the first state-level call for proposals dedicated exclusively to alternative proteins. **Through fund-matching, every dollar from GFI donors was doubled by public money, unlocking R$2 million (approximately $360,000) for fermentation and cultivated meat research.**

The funds are now supporting researchers developing technology to make proteins tastier and cheaper. This victory created a blueprint that the Brazil team is using to engage other state agencies. We are proving that alternative proteins can thrive in the heart of traditional agriculture.

◇**THEN:** *Negligible political support* ◆**NOW:** *$2.1 billion in public funding*
✶**IMAGINE MORE:** *Sustained, billion-dollar commitments*

"The Good Food Institute is . . . second-to-none in the influence of its public policy efforts, its centrality to the ecosystem of companies and researchers, and its international footprint. It has also been effective at convincing traditional meat companies to explore alternative proteins, which could lead both to important products and turn political enemies into allies."

— Ezra Klein, *The New York Times* columnist

Research centers: Shared labs for a changing food system

Startups and individual researchers working on plant-based or cultivated meat face serious hurdles. Equipment is expensive. Successful alternative protein development requires expertise across multiple fields. And the industry faces a talent shortage.

We needed centralized hubs to bring talent together, train the next generation, and solve industry-wide challenges under one roof. **As a donor-funded nonprofit, GFI could play a unique role: design the strategy, connect competitors, and advocate for public investment without commercial conflicts of interest.**

It began with a connection. GFI scientist Dr. Claire Bomkamp recognized synergy between two GFI grantees: tissue engineering expert Dr. David Kaplan at Tufts University and seafood safety expert Dr. Reza Ovissipour at Virginia Tech. She introduced them, and they partnered on a proposal to USDA for the first-of-its-kind alternative protein center. Meanwhile, our Policy team had been briefing USDA officials since 2017 and building support with champions like Chair Rosa DeLauro to create new funding for this work. In October 2021, USDA awarded $10 million to Tufts University to establish the National Institute for Cellular Agriculture, the U.S. government's first major investment in the field.

GFI guided a $100-million investment from the Bezos Earth Fund to the alternative protein field to establish three research centers worldwide and create global R&D and regulatory roadmaps to close key research gaps and coordinate key stakeholders. GFI scientist Dr. Samantha Riches and lead strategic advisor Brian Berry designed and managed a global selection process that established centers at North Carolina State University, Imperial College London, and the National University of Singapore. Funding these centers brought an additional $53 million in support from project partners. GFI now coordinates multiple activities across centers, including working with them on our analyses, media and communications opportunities, and education and workforce development.

GFI Israel's Dr. Michal Halpert and CEO Nir Goldstein partnered with the Technion – Israel Institute of Technology to secure a $20-million investment to launch the Sustainable Protein Research Center. This center unites over 40 researchers from 10 different departments to tackle critical bottlenecks in taste, safety, and cost.

Research from these centers is advancing the entire field through published papers, patents, and shared data. They give regulators access to standard methods and common safety protocols. GFI is connecting them into a network—ensuring that a breakthrough in a lab in Tel Aviv can immediately inform research in North Carolina or Singapore. We're now identifying sites for the next wave of centers in key agricultural regions.

GFI senior scientific partnerships manager Dr. Bianca Datta and GFI principal scientist (plant-based) Dr. Nikhita Mansukhani Kogar enjoyed connecting researchers with each other during a GFI-convened plant-based research summit held at North Carolina State University. Such collaborations are essential in speeding up scientific progress that can help plant-based meat compete and scale on the path toward mainstream adoption.

◇**THEN:** *Fragmented research paths* ◆**NOW:** *10 alternative protein centers at elite institutions worldwide*
✶**IMAGINE MORE:** *A network of networks*

2025 IN FOCUS:

Israel's Alternative Meats Sandbox: From classroom to test kitchen

Israel has long been known as the "Startup Nation," but food innovators faced a gap: promising university research had nowhere to go for real-world testing without first raising millions in funding.

GFI Israel built that bridge. The Alternative Meats Sandbox is designed to accelerate academic research into commercial products. GFI Israel pairs researchers and early-stage startups with industrial food engineers, giving them access to labs, extruders, and sensory testing equipment. Scientists can physically prototype their concepts without massive upfront investment.

In just a short time, the Sandbox has helped turn research breakthroughs into tangible products. We helped Malanta Foods refine a novel plant-based steak to the point where it is now preparing for a retail launch with Soglowek, a major Israeli meat producer. Working with Better Pulse, the team successfully processed black-eyed pea flour to remove "beany" off-flavors, creating a superior neutral base for burgers. Through the Sandbox, researchers Dr. Ben Shahar and Prof. Eyal Kurzbaum processed *Laetiporus* spp. (chicken of the woods) mycelium into a dense texture resembling canned tuna, opening new doors for seafood alternatives. The Sandbox is turning academic research and early concepts into prototypes that can be tasted and refined quickly, effectively filling the innovation pipeline for major hubs like the Technion's Sustainable Protein Research Center and Israel's cultivated meat consortium.

✶ ***Imagine more scientists, from Singapore to America's heartland and everywhere in between, collaborating and sharing breakthrough solutions faster—all of it leading to new and vastly more sustainable and just ways of feeding a population nearing 10 billion.***

Building coalitions

From courtrooms and parliaments to campus lecture halls, GFI has spent the past decade bringing everyone to the table. Public interest attorneys stand with plant-based startups. Midwestern legislators defend consumers' right to choose cultivated meat. Brazilian and German policymakers recognize the economic opportunity of plant-based meat. Halal authorities and food-safety agencies adopt fair regulatory practices. Student leaders turn universities into talent engines for this growing industry. It takes a global community to imagine—and make real—a more just food future.

Protecting consumer choice and free speech

As alternative proteins began gaining market share and media attention, a coordinated backlash emerged. Laws were introduced in multiple countries targeting the terms consumers rely on to understand what they're buying.

The justification? Opponents claimed shoppers were accidentally buying veggie burgers, thinking they were beef. But words like "burger" describe a shape, a texture, and a use, and evidence shows those terms improve consumer understanding. These laws don't protect consumers; they block competition and keep companies from describing products clearly.

We partnered with the Animal Legal Defense Fund and Tofurky to challenge these state laws and secured favorable federal court rulings in Arkansas, Missouri, and Louisiana.

◇**THEN:** *"Veggie burgers" under attack*
◆**NOW:** *Bills defeated or amended in 25 U.S. states, censorship challenged worldwide*
✶**IMAGINE MORE:** *Turning the tide globally*

When Chilean lawmakers proposed banning plant-based companies from using terms like "burger," GFI Brazil's Alysson Soares traveled to Santiago and built consensus for a commonsense middle ground: companies can use familiar names if they clearly label products as plant-based.

In India, when regulators moved to censor plant-based dairy labels, we rallied the industry and coordinated a legal strategy that secured a court order pausing the crackdown.

We haven't won every battle. Protectionist laws are still creating real barriers.

In the European Union, while we defeated a "veggie burger ban" in 2020, strict restrictions on plant-based dairy terms remain. In late 2025, the European Parliament once again advanced proposals to restrict common terms like "steak" or "burger" for plant-based foods. Simultaneously, opponents have opened a new, more alarming front: outright bans on cultivated meat.

Italy preemptively passed a law banning the production and sale of cultivated meat. In the U.S., several states have passed similar bans, criminalizing sales before products even reach shelves.

Nevertheless, our defense is containing the backlash. Across the U.S., bans introduced in Colorado, Georgia, Illinois, Missouri, North Dakota, Ohio, South Dakota, Tennessee, West Virginia, and Wyoming have stalled or failed—often due to advocacy by GFI and our allies. We're supporting legal challenges against the Florida ban and working with European allies to challenge Italy's restrictions under EU law. Banning cultivated meat is unnecessary government overreach, and more legislators are saying so. This is a global fight for the right to innovate.

Media spotlight

"Policymakers are devoting so much attention to unnecessary restrictions that would harm companies seeking to diversify their business."

– Alex Holst, GFI Europe, "How a 'veggie burger' ban nobody wanted became one Brussels might actually pass," *Politico*

◉ 2025 IN FOCUS:

Transforming censorship into support in Brazil

In Brazil, producers faced legislative attempts to ban common terms like "milk" and "meat" on plant-based labels as well as a tax code that penalized plant-based products while subsidizing animal-based ones. "It's a double penalty for plant-based products," explains GFI Brazil's Alexandre Cabral. "It's so short sighted when Brazil could become a global superpower in this emerging industry. We are limiting our own opportunity."

GFI Brazil's policy team formed a coalition with the Brazilian Vegetarian Society, the Association of Plant-Based Beverage Producers, and the Brazilian Supermarket Association and worked directly with ministries to reframe the conversation around alternative proteins.

When regulators viewed plant-based products with skepticism, the coalition used our data on nutrition (see page 15) and economic opportunity to make the case for alternative proteins. Our work paid off when the government issued a Presidential Decree granting plant-based milk the same tax-exempt status as cow's milk—leveling the field and making plant-based milk more affordable for Brazilian families.

This victory protected free speech and, by lowering costs for producers and consumers, made sustainable food more accessible while signaling that alternative proteins are a national economic priority. **This 18-month campaign happened because donor funding allows GFI to invest in patient advocacy.**

2025 IN FOCUS:

Stopping bans in the heartland

Following Florida's ban on cultivated meat, legislators in South Dakota and Wyoming introduced bills to ban cultivated meat sales entirely, criminalizing an emerging industry before it could take root.

We met this challenge with a unified front of policy and science. Policy team members Pepin Andrew Tuma and Tamar Leiberman led a strategic campaign, building coalitions with local lobbyists to reframe the debate around free-market principles. GFI scientist Dr. Erin Rees Clayton provided expert scientific testimony, explaining how these technologies work and why they belong in a modern food system. She showed how these innovations align with America's agricultural tradition.

On February 20, 2025, we secured a double victory. The South Dakota Senate voted down the ban. Hours later, the Wyoming Senate defeated their ban as well. Legislators in both states echoed GFI's arguments, with one Wyoming senator declaring on the floor, "It isn't government's role to pick winners and losers."

These victories keep the door open for the next generation of farmers. By defeating these bans, agricultural states remain places where innovation can take root, offering farmers new markets for their crops and the freedom to participate in the future of food production rather than being fenced out of it.

2025 IN FOCUS:

Making the economic case in Germany

Critics argue that shifting away from conventional meat poses an economic risk. To elevate alternative proteins to a national industrial priority, we needed to prove the financial upside.

GFI Europe commissioned *A Taste of Tomorrow*, conducted by Systemiq, to quantify the sector's economic potential: with the right support, the alternative protein sector could generate a €23 billion domestic market and create up to 250,000 new jobs in Germany by 2045.

GFI Europe's Ivo Rzegotta took these findings to Berlin, hosting a launch event attended by German federal ministry officials, parliament staffers, industry leaders, and scientists.

GFI Europe commissioned *A Taste of Tomorrow*, conducted by Systemiq, to quantify the sector's economic potential. With the right support, the alternative protein sector could generate a €23 billion domestic market and create up to 250,000 new jobs in Germany by 2045—findings that GFI Europe's Ivo Rzegotta took to Berlin to share with German scientists, federal ministry officials, parliament staffers, and industry leaders.

The event featured a welcome message from the State Secretary for Economic Affairs and a panel with representatives from three federal ministries. Furthermore, our team in Germany disseminated the report to more than 600 stakeholders.

"We're turning environmental necessity into economic opportunity. By demonstrating that alternative proteins can be a major job creator, we're giving German leaders the evidence they need to back this sector," says Ivo. "Because of the impact this report had in Germany, thanks to donor support, we're expanding this work to produce a similar Europe-wide economic report that is going to be launched in early 2026."

The report's findings were covered by most major German media outlets within the context of the debate on impending labelling restrictions for plant-based meat in the EU, and played a major role in shaping the German government's rejection of these proposed bans.

Media spotlight

"In order to tap the potential of the industry, political will and financial support are necessary. GFI called for an increase in public research funding from the current 13 million euros per year to 140 million euros. In addition, canteens in daycare centers, schools and hospitals should rely more on plant-based substitute products."

— "Germany 'in a unique position': According to a study, meat and dairy alternatives could create up to 250,000 new jobs," *Tagesspiegel*, translated by GFI Europe

◇**THEN:** *No clear path to market* ◆**NOW:** *Cultivated meat approved in 3 countries, 7 companies cleared*
✶**IMAGINE MORE:** *Harmonized global standards*

Global norms

Rules and religious guidance that people can trust

For cultivated meat to become a global climate solution, it must be accessible to Muslims who observe halal religious law. Without understanding cellular agriculture, Islamic authorities couldn't determine if cultivated meat complies with halal standards.

So, GFI APAC bridged the gap between cutting-edge science and ancient jurisprudence.

In Singapore, GFI APAC's Dr. Maanasa Ravikumar and Ankur Chaudhary engaged with the Majlis Ugama Islam Singapura (MUIS), providing religious scholars with technical training on how cells are sourced and cultivated.

In February 2024, the MUIS Fatwa Committee announced that cultivated meat can be halal under specific conditions, a decision GFI APAC CEO Mirte Gosker hailed as an "emerging global consensus."

Media spotlight

"For cultivated meat to go from novelty to norm, it must meet the dietary needs of diverse communities, including the over one billion people who follow Halal standards,"

— Mirte Gosker, CEO, GFI APAC, "Korean Muslim Federation Declares Cultivated Meat Halal," *The Halal Times*

GFI APAC Senior SciTech Specialist Dr. Maanasa Ravikumar at the Fatwa Conference, where Singapore's halal certification authority ruled that cultivated meat can be halal (providing that certain conditions are met).

2025 IN FOCUS:

Halal rulings open doors for cultivated meat

In 2025, this precedent rippled outward. By March, South Korea's largest Muslim organization issued the world's second fatwa (legal opinion) supporting cultivated meat. In May, the International Islamic Fiqh Academy, one of the world's leading Islamic legal authorities, ruled similarly. In December, Malaysia's Islamic authority declared cultivated meat can be halal—a first for a Muslim-majority country.

"As one of the world's largest halal markets and an influential voice in multilateral standard-setting, Malaysia's fatwa will have far-reaching implications and signals an emerging global consensus on the permissibility of cultivated meat," says Mirte. "By providing clear guidance for startups, scientists, and regulators, this ruling sets the stage for greater collaboration between Malaysia, Singapore, and other forward-looking countries as we build a more secure and sustainable protein supply for Asia and beyond."

Photo credit: Mission Barns

Cultivated meat approvals

For years, cultivated meat faced a "valley of death." The science was advancing rapidly, but without clear government approval processes, companies were stuck and unable to sell products or scale up.

As a nonprofit, GFI bridges the gap between innovators and regulators, providing the technical expertise to build regulatory frameworks from scratch. Our advocacy has been instrumental in every market that has approved cultivated meat.

In the United States, we championed a joint FDA-USDA regulatory framework to prevent conflicting rules and create a clear path to market.

GFI APAC's Dr. Dean Powell codeveloped the Safety-Assessed Media Ingredient (SAMI) framework, helping regulators assess the safety of nutrients used to grow meat. This removes the need for companies to reestablish the safety of common ingredients.

GFI Europe worked with the UK government to establish a £1.6 million Regulatory Sandbox, enabling companies to work directly with food safety officials to test safety protocols in real-time, speeding approval timelines.

In Brazil, cultivated meat risked being governed by outdated slaughterhouse regulations. GFI Brazil worked with the national health agency, Anvisa, to secure a resolution giving companies a pathway to market.

The dam is breaking. As of late 2025, cultivated meat can be sold in Singapore, the United States, and Australia—encompassing 373 million people. Seven companies have received regulatory clearance for products from cultivated chicken and quail to salmon.

The UN body that sets global food standards (Codex Alimentarius Commission) agreed to use the SAMI framework to develop international safety guidelines, harmonizing rules so cultivated meat can eventually be sold across borders.

We are moving from "if" to "how," clearing the path from pilot plants to mass markets and securing a future where meat can be produced without deforestation or antibiotic overuse. Next, we'll work to ensure that regulations remain science-based and help more countries finalize their own frameworks to open up new markets.

Media spotlight

"The goal is for the SAMI [Safety-Assessed Media Ingredient] framework to be a resource for developing a harmonised international approach to safety assessments of media components in cultivated meat production."

— GFI APAC's Dr. Dean Powell and coauthors, "Development of a Safety-Assessed Media Ingredient (SAMI) framework for streamlined safety assessment of cultivated meat and seafood products", *Trends in Food Science & Technology*

In March of 2025, three Alt Protein Project groups from Canadian universities joined forces to launch the Canadian Alternative Proteins Symposium—the first of its kind for the nation. At the event, student organizers launched a $25,000 CAD student cellular agriculture research fund.

Photo courtesy of Gabriela Landim Araujo.

The Alt Protein Project

From the classroom to the lab: Building the next generation of innovators

Ten years ago, alternative proteins faced a critical bottleneck: a lack of people with the right training.

At top universities, alternative proteins weren't on the syllabus. No degrees, no labs, and no pathways for students to turn their passion for a sustainable future into a career.

GFI stepped in to build a global student movement. In 2017, former GFI scientist Christie Lagally partnered with UC Berkeley to launch the world's first plant-based meat course.

We then started the Campus Fellows Program at Stanford and Wharton. To turn these isolated wins into a global network, GFI's Amy Huang and Annie Osborn launched The Alt Protein Project (APP), empowering student groups to act as catalysts on their own campuses.

What began as a single class at Berkeley has grown into an international movement. Today, under GFI's Dr. Nathan Ahlgrim, Asia Sheehab, and Hanna Barlow, APP has more than 70 active chapters across the globe:

Building the curriculum: Students aren't just taking classes—they're creating them. At UNC Chapel Hill, Stanford, Johns Hopkins, and Brazil's Federal University of Minas Gerais, student groups helped launch for-credit courses. Last year, students led over 20 courses, many the first of their kind on their campuses.

Fueling research: Student leaders identify "white spaces" (areas where critical data is missing) and recruit faculty to fill them. Waterloo (Ontario) students facilitated a grant proposal that became a GFI-funded research project. UChicago's APP created a Research Accelerator on topics like cell-line characterization and genome screening.

Creating career pathways: APP alumni are securing roles at Impossible Foods, Redefine Meat, and Wildtype. At the Technical University of Denmark, APP leaders Katrine Hald and Magdalena Dzierzynska cofounded Oh My Celia!, a mycelium startup. In 2025, the APP orchestrated 18 consulting projects with industry partners and secured 22 internships and jobs.

Donor funding built this infrastructure—the fellowships, the curriculum, the career calls, the chapter support—that turns passionate students into the workforce this sector needs.

◇**THEN:** *No academic pathways* ◆**NOW:** *70+ student chapters across 6 continents*
✶**IMAGINE MORE:** *Alternative proteins at every major university*

2025 IN FOCUS:

Alt Protein Project summits circle the globe in 2025

For the alternative protein sector to scale, we need confident leaders ready to navigate the commercial landscape. This year, student leaders transformed their universities into hubs of professional exchange, organizing summits that rivaled established industry events.

- Harvard and Tufts students drew 800+ attendees to Boston's Food 4 Thought Festival.
- Toronto's Canadian Alternative Protein Symposium unlocked $25,000 CAD in grants through the Consecon Foundation.
- Brazil's UNICAMP and UFMG chapters convened government officials and industry leaders.
- Denmark's Technical University hosted 150+ attendees—a quarter of them industry representatives.

The regional student symposia

GFI brought 63 student leaders from 29 universities and 19 countries to major industry conferences worldwide.

LATIN AMERICA: Eight university chapters convened at the Plant-Based Tech & New Meat conference. Students visited a global equipment manufacturer and discussed accessing equipment, a capability students didn't have before. “It is now up to us to pass on what we've learned and continue to build connections, strengthening a community united by the same ideals,” says Tiago William Buranello, APP chapter, University of São Paulo.

NORTH AMERICA: At the Bridge-2Food conference, students engaged directly with industry players. “In speaking to a biotech company, I got a valuable new perspective that could lead to exciting research collaborations and changes in my graduate degree plans,” says Rikard Saqe, APP chapter, University of Waterloo.

EUROPE: In Amsterdam, students gathered at the Future of Protein Production conference. “This exposure shifted how I think about career opportunities. The conversations made the pathways feel far more concrete and urgent,” says Helen Monica Regina, APP chapter, University of Bayreuth. Helen connected with ADM to explore internships.

ASIA PACIFIC: During Singapore International Agri-Food Week, students toured Google's campus and FoodPlant facility. “Seeing real-scale processing equipment made my studies feel real and achievable,” says Zaihidi Rusli, APP chapter, Universiti Sains Malaysia. Daniel Honig from the APP chapter at the University of New South Wales left with clarity: “The conference and speaking to all these people clarified what I want to do.”

These symposia transformed students from learners into active participants who are shaping the future of food.

GFI team members Asia Sheehab, Hanna Barlow, and Dr. Nathan Ahlgrim join student leaders at the North American Regional Student Symposium, part of the Bridge2Food Conference in Minneapolis—a career-shaping experience where students directly engaged with industry leaders.

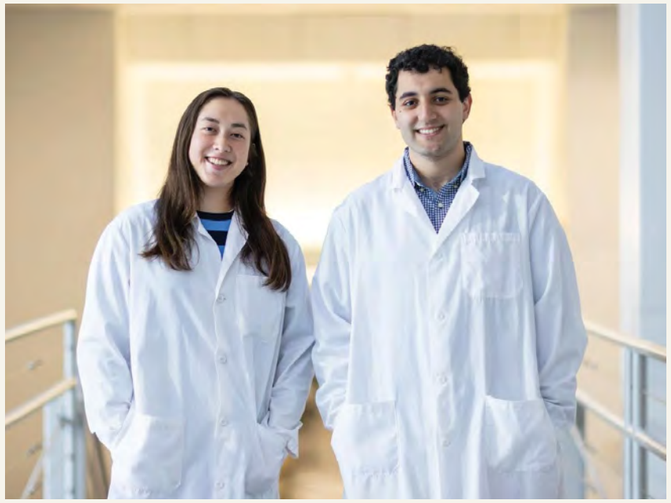
Photo courtesy of GFI academic community specialist, Hanna Barlow.

In November 2025, students from the Delhi Smart Protein Project participated in the APAC regional student symposium, held as an official side event during Singapore International Agri-Food Week.

Photo courtesy of Udvansh Pratap Singh Chauhan.

Students from the University of Nigeria Alt Protein Project were active at several events in 2025 including the EAGx Nigeria Conference, the National Food Science Conference in Nigeria, and the Animal and Vegan Advocacy Summit in Nairobi, Kenya.

Photo courtesy of UofN Awareness and Outreach at the University of Nigeria.

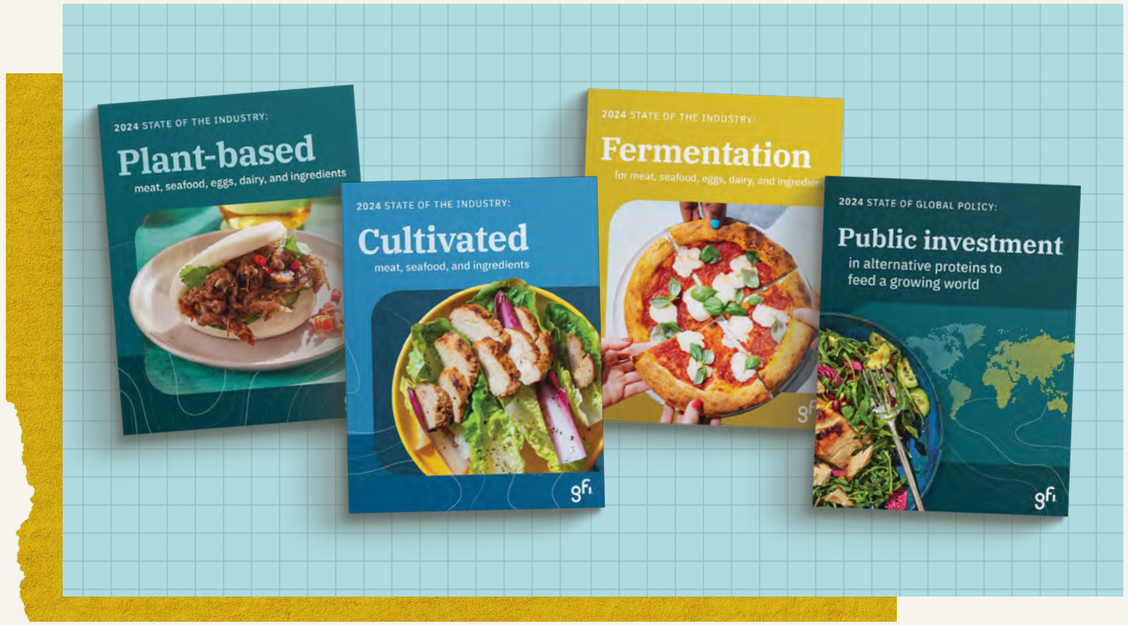


Olivia Calkins and Adham Ali, co-founders of the Tufts Alt Protein Project, are the world's first students to graduate with a degree in cellular agriculture—thanks to Tufts' new cellular agriculture minor. Photo courtesy of Jenna Schad for Tufts University.

Photo courtesy of Jenna Schad for Tufts University.

Imagine more communities joining forces to create new and better livelihoods that nourish people and the planet. More partnerships across governments, academia, industry, and nonprofits that prioritize the public good, enabling a thriving world, fed sustainably.

Deepening data and evidence



When a field is young, authoritative research is essential to build momentum. GFI's open-access reports became the evidence base governments cite, the analysis investors trust, and the framework regulators use, shifting how the world's most influential institutions approach the future of protein.

A decade of changing the conversation

GFI has moved the conversation so that major international bodies and leading journals now highlight alternative proteins as a key strategy for environmental and food security goals.

What's Cooking? (United Nations Environment Programme)

A major UN body documented the costs of today's food system and recognized alternative proteins as a viable climate solution. Working with UNEP, our experts coauthored and reviewed the assessment, bringing the case for government funding and supportive policy into global climate and health conversations.

Recipe for a Livable Planet (World Bank)

The world's largest development bank ranked alternative proteins among the strongest climate actions in food and agriculture. We synthesized the findings into policy briefings and shared them with decision-makers across regions to accelerate public investment.

Food Safety Aspects of Cell-Based Food (UN FAO and WHO)

Regulators need to employ an evidence-based approach for the global approval of cultivated meat. This report gave them a strong baseline for risk assessment. Our experts contributed technical input on potential hazards and manufacturing, providing data that informed the report's safety tables.

Creating a Vibrant Food Innovation Ecosystem (World Economic Forum, GFI Israel, Israel Innovation Authority)

Governments don't scale new industries by accident. This report showed what strategic support looks like, using Israel as a working model. GFI Israel drafted the framework, creating a replicable blueprint that other countries can adapt.

◇**THEN:** *Off the radar* ◆**NOW:** *Recognized by the UN, World Bank, World Health Organization, and Nature*
✶**IMAGINE MORE:** *Standard reference in climate, health, and economic policy worldwide*

In Asia, alternative proteins are the new clean energy (*Nature*)

The "future of food" conversation reached a new audience where scientific credibility drives policy. GFI APAC and an independent partner in China coauthored this piece, framing alternative proteins as a technology shift that matches the scale of the climate challenge.

Slaughter-free meat hits the grocery shelf (*Nature Biotechnology*)

After deep conversations with GFI experts, an editor moved from skepticism to support, and the final editorial argued for greater public investment. GFI shared expert context and connected the editor with additional scientific voices, strengthening the case for cultivated meat in a top journal.

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reports and peer-reviewed papers published or coauthored by GFI in 2025

2025 highlights

State of the Industry Reports

Investors and companies need reliable data to make smart decisions. These reports provide open-access information on alternative protein sales, consumer insights, science, and public investment trends. They are a go-to reference for the field to improve cultivated, fermentation-derived, and plant-based meat.

State of Global Policy Report

Government funding and clear regulations determine how fast alternative proteins scale. This report mapped where momentum is building and where it's stalled. Following the report's release, our policy specialists presented findings in a webinar for policymakers. The webinar aimed to inform public investment and regulatory decisions about plant-based, fermentation, and cultivated meat.

Plant-Based Meat Consumer Segmentation Report

To win over everyday meat-eaters, companies need to understand who they're trying to serve. This first-of-its-kind public segmentation identified distinct consumer groups and their needs. The analysis informed presentations to food manufacturers and other industry stakeholders and generated strong web traffic, becoming a key resource for the industry.

Safety-Assessed Media Ingredient (SAMI) Framework

Standardized safety assessment protocols for cultivated meat growth media ingredients can accelerate reviews for both startups and regulators. Published in a leading journal and presented to Codex, this framework was cited by the Singapore Food Agency as foundational to its proposals at the United Nations.

Driving Down Costs: Fermentation-Derived Ingredients Analysis

Cost remains one of the biggest barriers to scaling fermentation-derived ingredients, even as the sector continues to show strong promise. Done in collaboration with Hawkwood Biotech, this meta-analysis identified the biggest cost drivers and reached hundreds through a live webinar, with hundreds more registrants accessing the recording.

These reports do more than document progress. They accelerate it. They give policymakers sharper frameworks, companies clearer strategies, and investors better data. As a result, alternative proteins are becoming harder to dismiss and easier to scale.

Bringing more people to the table

By bringing together scientists, policymakers, and entrepreneurs at high-impact gatherings—from the halls of the U.S. Congress to research centers in Singapore—we create the essential connections that turn isolated ideas into scalable, real-world solutions.

FFAR-GFI Workshop on Ingredient Optimization (U.S.)

GFI launched a major partnership with the Foundation for Food and Agriculture Research (FFAR) to tackle making better ingredients for alternative proteins. In July, we cohosted a workshop in Chicago, gathering 87 global experts to identify where research funding can make the biggest difference. The insights shaped a joint report that defined priorities: find better protein sources, improve how ingredients perform in food products, and solve the technical challenges that stand between today's products and true taste and price parity. This partnership leverages GFI's scientific expertise to direct funding where it matters most: making sustainable proteins the easy choice for consumers.

Singapore International Agri-Food Week

Regulatory confusion slows down innovation. At Singapore International Agri-Food Week, GFI APAC helped organize a symposium on scaling cellular agriculture and profitability, and participated in a regulatory roundtable organized by the Singapore Food Agency (SFA). In a major win, the director-general of the SFA confirmed that GFI's SAMI framework underpins their proposals to the UN Codex Alimentarius. Harmonizing regulations means safe, sustainable food can move across borders faster. By creating the scientific frameworks regulators rely on, GFI is paving the regulatory highway for the entire sector.

Alt Protein Project students bonded during their time together at the Singapore International Agri-Food Week in November 2025.

◇**THEN:** *Side discussions at niche food expos* ◆**NOW:** *On the mainstage worldwide*
✶**IMAGINE MORE:** *On everyone's plate*

In December 2025, GFI founder and president Bruce Friedrich took the plenary stage to make the case for alternative proteins at the World FoodTech Forum in Seoul.

The Future of Meat Forum (Israel)

Even in Israel, a global innovation hub, many good ideas risk dying between the lab and the market. To change this, GFI Israel initiated the Future of Meat Forum, an intimate retreat where policymakers, startups, chefs, and GFI founder and president Bruce Friedrich worked through consumer barriers and product-market fit. The result was a level of trust and shared problem-solving that typical events can't deliver, and a clearer roadmap for getting Israeli alternative proteins from prototypes into everyday kitchens.

Cell Ag Week 2025 (Japan)

Japan has strong tech talent but a young cultivated meat sector that needs coordination across academia, startups, and government. In 2025, GFI Japan cofounded Cell Ag Week with three local partners. The three-day event in August brought together more than 300 participants, including officials from four ministries. GFI scientist Dr. Claire Bomkamp presented on cell lines, while GFI Japan's Kimiko Hong-Mitsui positioned GFI as a bridge between academia, startups, industry, and government. As Japan prepares to release cultivated meat safety guidelines in 2026, this coordinated front is building a coalition and advancing Japan as a technology provider for alternative proteins.

II Conference on Alternative Proteins (Brazil)

Latin America is an agricultural powerhouse; now it's building the technical community to lead the next generation of protein. GFI Brazil partnered with Embrapa—the Brazilian government's premier agricultural research corporation—and the Federal University of Santa Catarina to host a three-day event drawing around 300 participants. GFI scientists led key lectures and panels, and APP students pitched solutions to real industry problems, rooting alternative proteins in Brazil's public research system and farm economy.

IFFA: Technology for Meat and Alternative Proteins (Germany)

To shift meat production fast enough for the climate, we need the existing meat industry to embrace alternative proteins. At IFFA, the world's largest meat trade fair, GFI Europe's Carlotte Lucas shaped a "World of New Proteins" presence, leading tours and moderating a roundtable on low-risk entry points to the alternative protein sector. The conversations moved many leaders from curiosity to concrete interest in new product lines and processing investments, showing that alternative proteins are not a threat but a major growth and risk-management opportunity.

National Symposium at CSIR-CFTRI (India)

India has world-class food scientists and facilities that could be extensively used for alternative proteins. GFI India joined the Central Food Technological Research Institute at its plant protein symposium to showcase SPARK fellows' research and feature alternative proteins at lunch. During the event, GFI India established a major partnership with CFTRI to expand technology transfer, scale-up, and talent development through GFI India's fellowship programs.

Find recordings of GFI conferences and events on our YouTube channel.

Powered by donors

GFI was founded only 10 years ago, and donors have made every step along the way possible. We are profoundly grateful for every single one, whether they are first-time donors or have been with us from the very beginning.

"With so many challenges facing the climate movement—and with industrial animal agriculture continuing to drive environmental damage, human-health risks, and immense animal suffering—our support for the Good Food Institute has only deepened over the years. GFI remains one of the few organizations creating truly scalable, science-driven solutions: reducing harm to animals, advancing smarter climate strategies, and offering a real path toward a sustainable global food system.

Each gift we make feels like a meaningful investment in the kinder, healthier world we want future generations to inherit. Supporting GFI reminds us that we can actively help shape a better future."

— Timi and John Sobrato

"The Good Food Institute is at the cutting edge of advancing alternative proteins globally. From Brussels to Singapore, we've seen the consistent results of their talented teams, their strategy, and their relentless focus on execution."

— Lewis Bollard, Managing Director, Farm Animal Welfare, Coefficient Giving

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"Asia is at the heart of achieving global climate and food security goals. As demand for conventional meat and seafood soars, so do deforestation, emissions, and biodiversity loss. We need bold, scalable solutions to transform how we produce protein—and GFI is bringing together the science, partnerships, and vision to help drive that change."

— Kathlyn Tan, Director, Rumah Group & Foundation

"GFI is so much more than a charity. They're an expert-led think tank with a clear roadmap to a brighter food future and a proven track record of catalysing the key policymakers, business leaders, and scientists who can make it happen. Nobody else does what they do, which is why we're proud to support their work to build a healthy, secure, and sustainable world for future generations."

— Sally Tsai and Wayne Chang, Affinity Impact

◇**THEN:** *Proving it could be done.* ◆**NOW:** *Proving it can scale.*
✶**IMAGINE MORE:** *Making it inevitable.* Join us.

"I have dedicated my career to moving our planet to a more sustainable food system. GFI is central and critical to this food system shift and, in addition to my own work, supporting GFI is the best and most important use of my time and resources."

— David Welch, Chief Scientific Officer and Cofounder, Synthesis Capital, former GFI team member

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"I see a world where it's possible for everyone to make climate-friendly choices, regardless of financial status, diet, or preference. A world where animals are treated with kindness alongside our efforts to maintain human survivability! Thanks to GFI for sharing that vision."

— Sydney Lester

"By donating to GFI, I am supporting an organization who cares about not only our personal health, but the health of our planet."

— Alyssa Caron

Photo credit: Tomorrow Foods

"I love GFI's focus on the big picture and on being a catalyst, enabling others to go further, faster, to maximize the difference their efforts can make."

— Phil Stanton

"GFI's work has never been more critical. That is why we are proud to recommend them once again in 2026 as one of our top charities."

— Romain Barbe and Jennifer Stretton, Cofounders, Mieux Donner

"At Effektiv Spenden, our goal is to help donors support the most effective solutions to the world's most pressing problems. The Good Food Institute has consistently stood out for its science-driven and collaborative approach towards reducing animal suffering and environmental impact through alternative proteins. We are pleased to feature GFI among our recommended organisations and look forward to continuing to highlight their work as they enter their second decade."

— Sebastian Schwiecker, Founder and Managing Director, Effektiv Spenden

Good Food Institute

GFI.ORG

Imagine the next ten years

Imagine emissions in steep decline, public health on the rise, and forests and oceans teeming with life. Key to each is new transformative ways of producing the meat humans crave. Join us in turning "what if" to "what is."

Mission:

We unlock the knowledge and resources needed to transform how meat is made—satisfying rising food demand in ways that accelerate climate progress, protect animals and ecosystems, and strengthen public health.

Vision:

A thriving world, fed sustainably.

Values:

- **Believe change is possible.**
- **Do the most good we can.**
- **Share knowledge freely.**
- **Act on evidence.**
- **Invite everyone to the table.**

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