

Follow-Up Questions for The Good Food Institute, Part Two (2018)

Can you give us any information about how many products has been sold by the companies you helped to launch?

GFI has helped launch three companies from scratch and has played a pivotal role in the development of 22 additional companies.

In 2016, GFI was responsible (with partners, of course, but we were a but-for cause) for the launch of two companies—[Good Dot](#) and [Good Catch](#). Good Dot developed and manufactures shelf-stable plant-based mutton and chicken products in India and specifically for the Indian consumer market. Good Catch worked with culinary experts to develop a range of plant-based seafood including tuna, crab-free cakes, and whitefish products.

Good Dot sold approximately 1.7 million units in their first year and has nationwide distribution across India. The company also exports to Nepal and Bangladesh. The company's distribution partner, RCM, has over 1 million agents selling Good Dot's plant-based meat in every village and town across India, and they have 7,500 stores. Good Dot's cofounder Stephanie Downs says "I think we have sparked an interest in others starting vegan businesses. Prior to our launch, there was little happening in the space (I would relate it to U.S. product availability in the 1980s). I think seeing a company come in and go big gave others confidence."

SeaCo/[Good Catch](#), also founded in 2016, expects to launch by January 2019 in Whole Foods, Fresh Direct, and Thrive Market. They have raised \$9.2 million, and they provided plant-based tuna appetizers enjoyed by 500 people at the Good Food Conference in September. The largest poultry producer in Germany, PHW Group, is an investor.

We started work with the founding team of [Dao Foods](#) last year, and the team [announced their launch](#) in February 2018. The aim of Dao Foods is to help entrepreneurs introduce innovative plant-based and clean meat products in China to reduce consumer demand for the products of animal agriculture. In their first six months, Dao Foods has met with many food entrepreneurs and is building a local Chinese ecosystem of food industry partners and investors. In September 2018, Dao Foods hosted a plant-based food festival for 10,000 people in China. In November 2018, in collaboration with Dongsheng Science and Technology Park in Zhonguancun (China's Silicon Valley), Dao Foods will host the first U.S.-China Next Gen Good Food Forum to connect and foster learning between U.S. and China plant-based and clean meat entrepreneurs, agrifood industry experts, researchers, and investors. Dao Foods will also be launching their own investment fund soon, to invest in the most promising companies focused on this sector in China.

Our Innovation team has played a pivotal role in the launch of 10 additional plant-based and clean meat companies: New Age Meats, Terramino, Better Meat Co., Memphis Meats, Abbot's Butcher, Higher Steaks, Biocellion, Something Better Foods, Mission Barns, and Fora. Descriptions of GFI's role in supporting each of these companies is available upon request.

Our SciTech team has played a very strong technical advisory role with five plant-based and clean meat companies, including Alpine Roads, Aleph Farms, Memphis Meats, SuperMeat, and BlueNalu. We have provided technical plan review and feedback with additional plant-based and clean meat companies, including Biomimetic Solutions, Mission Barns, Wild Type, Higher Steaks, Bond Pets, Mosa Meat, CellularRevolution, and Simple Foods.

We have hired a Strategic Implementation Specialist who is developing metrics for evaluating the success of companies GFI supports and/or helps create. It is worth recalling that Beyond Meat and Impossible Foods, two wildly successful plant-based companies, required three years and five years respectively to launch their first products. Beyond Meat was incorporated in 2009 and launched their first product regionally and in Whole Foods in 2012. Their first national launch was in 2013. Impossible Foods was founded in 2011 and launched their first product in 2016.

We would like to include a visual in our reviews showing how your program expenditure has changed over the last few years. Could you provide us with a budget breakdown from July 2016 to June 2017 similar to the 17/18 one you provided?

We have provided our expenses from July 2016–June 2017 in a PDF titled “The Good Food Institute 2016–2017 Expense Budget and Narrative.”

Can you provide estimated expenses and your fundraising goal for 2019 if you have it?

GFI's estimated programmatic expenses for 2019 are:

- \$6.2 million for core programs
- \$2 million for plant-based and clean meat research (dedicated funding from gifts and grants that GFI awards and administers through a competitive grant process launched in the fall of 2018)
- \$350,000 for the Good Food Conference (to be underwritten by sponsorships and registrations)

Our fundraising goal for 2019 is:

- \$9 million (for operating expenses in 2020 and to ensure that we can continue to build our safety net of 10-12 months of operating reserves)
- \$5 million for our research fund

- \$400,000 in conference income (sponsorships and registrations)

The extra \$50,000 is for staff salaries related to conference organization.

In our review of GFI this year, we are considering saying the following: “Whereas many animal charities draw funds primarily from within the movement (e.g., from donors who might have otherwise given to other animal charities), GFI is seeking to reach potential donors whose primary interests are in environmental protection, the sustainability of the global food system, and human health.” Could you provide more details about the extent to which you attract these donors?

Since our founding in February 2016, GFI has been supported primarily by donors who identify animal protection as being their primary cause area. We are terrifically grateful to our core base of funders who have made possible our robust growth in size and impact since then. However, in order to truly fulfill our potential to transform the global food system we recognize that we must also identify, build partnerships with, and secure funding from individuals and grantmakers whose cause areas include human health, food security and the sustainability of the global food system, and environmental protection. However, building and nurturing such a diverse base of funding will take time.

As part of this diversification strategy we hired two philanthropy officers (who joined the team in June 2018), as well as a foundation relations manager (who joined in April 2018). Each of these team members is a frontline fundraiser, tasked with not only deepening GFI’s relationships with those already in our family of supporters, but also building a far broader donor base that encompasses the cause areas above. They share with donors GFI’s research about the promise of plant-based and clean meat not just to benefit animals but to benefit the environment, the global poor, and global (human) health as well. While each of these development team members tracks donor interest areas, they have been with GFI for just a few months, making precise measurements of GFI donor interest areas difficult to gauge so far.

To date we have received generous grant support from two significant foundations whose primary cause area is environmental protection (totaling \$500,000 per year), and we are working with two more grantmakers whose primary cause area is global poverty. We are completing the process of migrating our current donor database to Salesforce (to be completed by February 2019), which will provide us with far more sophisticated tools to track the cause areas our donors care about, which will also enable us to provide materials that best serve their philanthropic needs and interests.

How many staff members did you send our culture survey to? (We just want to calculate a response rate.)

We shared the culture survey with all of our staff (48 at the time of the survey) plus four senior advisors. We conduct anonymous staff surveys every six months and would be happy to share our results if you wish.

In the past, GFI has stated that if plant-based meat captured the same share of the meat market that plant-based milk has captured of the milk market, that would spare almost 1 billion land animals (and even more sea animals) annually in the United States alone. We would appreciate any information you can provide about this.

According to the North American Meat Institute, in 2013 (the most recent year data is available), meat and poultry industry sales totaled \$198 billion. Meat consumption is up 7.5 percent since 2013, so meat sales this year will total an estimated \$212 billion. The Wall Street Journal, on October 3, 2018 mentioned [a figure of \\$200 billion](#).

Plant-based meat sales totaled \$684 million this year. When we divide this figure by the total sales for meat (684m/212b), we determine that plant-based meat sales currently amount to roughly 0.3 percent of conventional animal meat sales.

Plant-based milk sales are 13 percent of dairy milk sales for the past year, so the plant-based milk market is 12.7 percent larger than plant-based meat re: market share.

In 2017, approximately 9.46 billion animals were slaughtered in the U.S. ([160 million mammals](#) and [9.3 billion birds](#)). If we multiply the number of animals killed by 12.7 percent ($9.46b \times 0.127$), 1.2 billion animals will be spared if plant-based meat captures the same share of the meat market that plant-based milk has captured of the milk market. This number is very conservative, as the USDA doesn't include the massive pre-slaughter death losses in its accounting (see, e.g., [here](#)).

If plant-based and clean seafood captured 13 percent as much of the market share as sea animals, approximately 3 billion sea animals' lives could be spared each year. This is a very rough approximation, since seafood calculations are all by weight, not number of animals.

We're aware that GFI encourages and facilitates collaboration within the plant-based and cultured meat industry by bringing together cultured meat companies from around the world quarterly and hosting a monthly call and Slack group with over 350 entrepreneurs. Could you tell us more about how many of the 350 members actively and regularly contribute to this Slack group and attend the monthly call?

Approximately 60 entrepreneurs participate in each monthly GFIdeas meeting. Our Slack group has six community channels including: general communications, plant-based meat, clean meat, eggs and dairy, events, and idea exchanges. These channels are currently not consistently used by members of our GFIdeas community. GFI recently hired a new business analyst who is fostering more active participation in the Slack communities and is helping to more actively engage our 350 member community of entrepreneurs.

Besides your administrative improvements, have you made any strategic changes or improvements to your programmatic work in the past year (specifically in response to signs of success or failure)?

GFI has made strategic improvements across all of our programs. Notable developments in innovation, SciTech, policy, and corporate engagement follow.

Innovation: We shifted our strategy for launching companies over the past year. GFI developed and regularly updates a list of "white space" companies representing promising plant-based and clean meat opportunities that have not yet been capitalized upon. When we initially published this list, we then waited for interested entrepreneurs to approach us, while proactively promoting the white space company concepts through channels such as our (now 350-plus member) GFIdeas entrepreneur community. To increase the chances of very strong teams coming together, we now actively recruit founders. For example, we proactively reach out to tissue engineers who may have been planning to work in the medical field, synthetic biologists who may have been planning to work in chemicals, plant biologists who may have been planning a career focused on creating new designer plants, and so on. We then educate and encourage these individuals to use their skills on behalf of food technologies that will transform our food system away from industrially produced animal products and toward more sustainable plant-based and clean meat products.

At the same time, we engage in detailed discovery with entrepreneurs who approach us so that we can be confident that the person has a high likelihood of success in launching a new business. We continue to assist anyone in our space who asks for assistance (that is a huge part of what our innovation department does), but we feel that more onus should be put on the entrepreneur or entrepreneurs who come to us; those who are likely to succeed should have the internal motivation to press forward.

Scientific Research Funding: Over the past year, in response to promising scientific research opportunities we've identified and connections we've established, we have come to understand that facilitating direct funding into plant-based and clean meat scientific research is an incredibly powerful way to rapidly scale advancements and innovation within the sectors. As just one recent example, this year we helped secure \$243,247 from the USDA for pea protein research partnering with Dr. Girish Ganjyal at Washington State University. This invaluable research for the field of plant-based meat and the dry pea industry will determine how proteins from different varieties of peas will function in plant-based meats.

To propel this work, in September 2018 we launched a first-of-its-kind initiative: [competitive grant programs](#) focused on plant-based meat and clean meat R&D, made possible by generous gifts from two visionary donors. The funds secured to launch this program were gifted explicitly for this purpose and so are separate from funds donated to support GFI's core programs. Our goal for each of these grant programs is to produce open-source research that will benefit the entire plant-based and clean meat industries. These competitive funding programs will serve as a critical strategic step for advancing the fields of plant-based and clean meat by funding essential research designed to solve many of the challenges facing these industries.

We have identified projects that would be extraordinarily high-impact (project briefs available upon request). As a part of this program, we are soliciting proposals from relevant researchers for the work we already know will be high impact. We are surveying top plant-based and clean meat companies for additional ideas and research leads.

Beyond that, scientists from around the world are being invited to submit proposals for research funding. Additional outcomes include:

- Reaching scientists outside of GFI's existing network (for example, we have identified a target list of 24 universities globally—12 each for plant-based and clean meat)
- Creating a better understanding in the academic community of the need for innovation in plant-based and clean meat
- Generating a list of research ideas beyond the scope of this project
- Accelerating the creation of a plant-based and clean meat research institute through the excitement and network generated by this competition

Thanks to incredibly generous leadership gifts from two visionary donors, the pool of funds available to be granted initially for plant-based and clean meat research is \$3 million. An

additional pledge of \$500,000 for clean meat research will be fulfilled if we can secure \$500,000 in fresh funding. We are actively seeking additional funding for both research tracks so each can be most impactful. Based on conversations that members of our SciTech team are having with researchers across the world, we are confident that funding in the tens of millions of dollars could be directed to these programs and utilized extremely impactfully.

Policy: We originally miscalculated the likely threat from state legislation, and we also miscalculated the amount of time that would be required to handle all of the regulatory work. We anticipated that our director of policy and one paralegal would be able to handle this work, along with some freelance lawyering from a good friend of GFI in Washington who has been helping us from the outset. We were caught off-guard when we were hit by labeling censorship attacks on the state, federal legislative, and federal regulatory fronts—all at the same time. This came at the same time that both federal regulatory and legislative oversight efforts ramped up with regard to clean meat. As a result, we transferred a staff member into our policy department to help with research and writing primarily, and we hired two more lawyers to assist with what is clearly going to be a significant workload. We now have eight people in our policy department, and although we don't have plans for more (due to competing budgetary priorities), we could certainly use more.

As one example of our unexpected state work, which we believe will be followed by similar required activity in other states, Director of Policy Jessica Almy submitted written testimony to a Missouri House Agriculture Policy Committee on behalf of Beyond Meat, Hungry Planet, and GFI opposing a bill intended to censor the use of meat terms on labels by making it a crime—punishable by up to a year in jail—to include meat terms on plant-based or clean meat. The Missouri law's explicit aim is to protect current meat producers from plant-based and clean meat company competition. Unfortunately, the law passed, and so—alongside the ACLU and ALDF—we sued on behalf of GFI and Tofurky; GFI is both counsel and plaintiff in the suit. Our [lawsuit](#) argues that the law infringes on the First Amendment, the Dormant Commerce Clause, and the Due Process Clause.

Corporate Engagement: Finally, our corporate engagement department is about to significantly ramp up in response to a surprisingly receptive audience across food processing, grocery, and chain restaurants. Just this week, three members of our corporate engagement team spent nine hours with 18 top decisionmakers at a Fortune 500 food processing company, which shared a tremendous amount of information with us under NDA. We are working with them to get animal ingredients out of a broad array of their products, and we are also working on a variety of other initiatives that could pay massive dividends to GFI's mission.

Suppose it will take 40, 50, or even 100 years for cultured meat to reach cost competitiveness. Is there still a strong case that donating to GFI is a cost-effective use of the movement's resources right now?

Our own research and cost of goods analysis for clean meat is very encouraging, and we believe that clean meat will be cost-competitive with conventional animal meat much much sooner than 40 years from now. One of the first analyses that GFI undertook, beginning in the summer and fall of 2016, was determining whether there was a path towards clean meat reaching cost competitiveness within a reasonable timeframe and without relying on technological "moonshots" for which timeframes are exceedingly difficult to forecast. The resulting analysis has focused on the cell culture media as the main input—and thus the main cost driver—of clean meat production. This analysis examines what price points could be expected with conservative assumptions about costs decreasing with scale. It also examines a handful of alternative formulation scenarios with straightforward substitutions of specific high-cost components of the media. Each of these scenarios and price point assumptions are justified using parallels and data points from other industries (including the food industry, whenever possible) and/or using data from the scientific literature.

The outcomes and benefits of this analysis were two-fold: first, it allowed us to feel confident in continuing to devote resources toward the clean meat industry because this analysis showed that there is a straightforward path for clean meat to cost competitiveness with animal meat, and this path is not reliant upon substantial technical advances that do not yet exist. Second, it allowed us to articulate the major pain points in achieving price parity with animal meat; this included identifying the highest-cost components of clean meat production as well as approaches to alleviate those costs. Our analysis has contributed to our understanding of high-value research projects to advance these cost-saving approaches, and it has informed our strategy for reaching out to other industries (such as the life science industry, ingredient and raw material suppliers, chemical suppliers, etc.) to bring in stakeholders that can accelerate progress down the clean meat cost curve.

Second, we point out that there are now almost 30 clean meat companies that are working to build the clean meat market sector. For anyone who wants to accelerate the demise of animal agriculture for the success of clean meat, backing one or more of these companies is a great option if your goal is to make money—that is, if you are looking for an equity investment. But if your goal is to see clean meat commercialized as quickly as possible, supporting open-source science through GFI is one way to help all of the companies—and the entire endeavor writ large—at the same time.

Indeed, we believe that philanthropic support will best accelerate the commercialization of clean meat. GFI donors enable us to launch projects that are beyond the scope of any individual player within the clean meat commercial landscape but that can substantially accelerate R&D and make more efficient use of private capital and resources for ALL companies tackling these challenges.

Third, if it really did take 40 or more years to reach cost competitiveness, it seems likely that most of the current crop of companies would fail, since their investors are expecting commercialization much more quickly. In that case—which again, we do not believe is likely—the work of GFI would be even more important, since we would continue even as profit-driven enterprises did not. GFI and other nonprofits would then become the most important path to reaching clean meat cost competitiveness as quickly as possible. Cutting just a few years off that trajectory would save billions of animals, in addition to the other positive impacts (global health, food security, climate, etc.).

GFI's network of supporters is helping our SciTech department lay the groundwork from which all companies and scientists can build, our Policy department lobby to unlock millions of dollars in government grants for basic and open-source science, our Corporate Engagement department to inspire the food processing industry to get excited about and invested in clean meat R&D, and our representatives in India, Brazil, China, and Israel to generate public funding and scientific activity in those countries. Without GFI's critical work, cost-competitive clean meat will take much longer—whether that is relative to five years or relative to 50 years.

Fourth, consider the promise of hybrid plant-based/clean meat products: Before clean meat reaches price parity with conventional meat, companies will achieve price parity by creating hybrid plant-based/clean meat products. For example, if at one point in time clean meat costs \$50/kg but it's incorporated in a product that's 90 percent plant protein and 10 percent clean meat (added for the flavoring and sensory component it provides), companies selling clean meat products will much more rapidly reach price parity with conventional meat.

Finally, if it does turn out that clean meat will require much more time to reach price parity, GFI can shift as much of our focus as we would like to plant-based meat, which is equally important to us and our mission.

Does GFI directly support work on developing products other than those that could decrease animal product consumption (e.g., promoting alternatives to silk or leather or promoting yeast-based vanillas or flower fragrances)? Why or why not?

GFI currently focuses primarily on plant-based meat and clean meat because they believe that we can now help animals the most by focusing on farmed animals (who far outnumber animals exploited by other industries). For this same reason, they hope to do more work with eggs. They

don't expect to move beyond animal products, since their goal is to help as many animals as possible. GFI will be doing a lot more with sea animals in the coming year and has released a 34-page action paper titled [An Ocean of Opportunity: Plant-based and clean seafood for sustainable oceans without sacrifice](#).

Some might suggest that technological progress will come eventually, and what matters most in the long run is whether we've achieved the social change necessary to use those new technologies to help animals. Why is GFI working to advance technology rather than to shift public attitudes?

Critics of GFI might be concerned that their work does not directly help to change public attitudes towards animals, and changing those attitudes may be essential for ensuring lasting progress. Suppose we develop commercial animal alternatives that are initially competitive with animal products. If animal products somehow become more appealing to consumers, nothing would stop consumers from returning to animal products unless they have changed their attitudes towards animals.

As GFI has pointed out, however, many animal charities are already working to shift public attitudes; some have been working in that area for decades. In fact, advancing technology elegantly complements all the work that is being done to shift attitudes. It may even catalyze a shift in public opinion. Some have argued that it may be easier for individuals to feel compassion towards animals when that compassion is not at odds with their diet or behavior. However, critics could argue that the social change resulting from new technologies is also inevitable.

GFI believes that there is a strong argument for charities to focus on areas other than technological development, particularly when for-profit companies seem likely to develop a technology on their own. Still, in the case of plant-based and cultured foods, GFI contends there is a role for charities in encouraging early-stage research, laying the scientific groundwork for the advancement of these technologies, working on government and foundation funding of R&D, helping connect scientists to for-profit funding and business partners, and promoting cultural and institutional acceptance of new food technologies. GFI actively seeks out these opportunities, rather than working primarily on projects which would likely be done by food or technology companies if GFI were not involved. In particular, GFI believes that they can engage in a broad array of activities that are focused on moving the entire plant-based and clean meat market sectors forward whereas individual companies have to focus on their own path to market and profitability.

Why does GFI invest some of its resources in plant-based foods as well as cultured foods when (a) plant-based options already exist, and (b) the development of cultured foods seems like it could relieve the need for better plant-based options?

Some of GFI's potential donors may be concerned about GFI's decision to invest resources in the development of plant-based foods in addition to cultured foods. After all, plant-based meat is already commercially available and we have not yet seen evidence that it has taken market shares from conventional meat. Moreover, if and when groups like GFI succeed in putting cultured products on the market, there may be even less consumer interest in plant-based products than there is now.

We think that some of the work GFI has done so far on plant-based meats is promising, and the fact that it had not already been done suggests that there is a role for charities working in this area. In particular, charities may be able to do more to foster and accelerate the introduction of certain technologies than companies could, since companies must protect their commercial interests and intellectual property. However, since there are already companies operating profitably in this area, we do think there is particular need for charities to be aware that some work could be done efficiently without their help. GFI is aware of this and has stated that they do not provide much in the way of communications or graphic design assistance once a company is beyond its seed round of fundraising.

GFI argues that though it is true that plant-based products already exist, there may be significant room for the improvement of plant-based technology, and improving plant-based technology may yield shorter-term traction (i.e., greater market share) than the cultured foods. Recently developed plant-based products already seem to represent improvements from past products; for example, the Impossible burger, released in 2016, has received favorable reviews from vegans and omnivores alike. GFI's fostering and promotion of the development of similarly popular plant-based products could cause a significant reduction in the demand for animal products, particularly if they focus on plant-based chicken and fish and if they convince institutions to serve the plant-based products rather than animal products.

If and when cultured meat becomes commercially available, it may take market shares from plant-based meat, but that does not necessarily eliminate the value of developing better plant-based meat technology. GFI argues that plant-based meat requires fewer resources and is more sustainable and healthier than cultured meat, so we should continue to promote plant-based products.

What can GFI do to ensure that consumers will embrace cultured meat?

GFI sees value in market research and employs a full time consumer research scientist, Dr. Keri Szejda, who has both an M.A. and a Ph.D. in communication. GFI collaborated with Faunalytics on an ACE-funded consumer survey about clean meat and the most appealing framing for the product; they have also conducted multiple surveys focused on identifying the most appealing name for cultured meat. They are conducting research to identify other critical factors in successfully promoting plant-based meat to non-vegetarians, such as ideal packaging and food modifiers (plant-based, vegan, etc.). They share these findings with companies and will encourage their use by companies.