



**Report to the Nell Newman Foundation, Inc.
January 2018**

I. Introduction

Friends of the Earth is pleased to provide this report on the activities of our GMOs 2.0: Synthetic Biology Campaign, made possible with generous support from the Nell Newman Foundation's July 2016 grant. We thank the Nell Newman Foundation for its partnership, which has allowed us to (1) educate the public, press, food and consumer products companies, regulators and elected officials about next-generation genetic engineering and impacts on consumers, businesses and the environment; (2) organize consumers and encourage food and consumer products companies to reject synthetic biology-produced ingredients; (3) work with business allies and consumers to ensure synthetic biology ingredients are excluded from organic and non-GMO certifications; and (4) advocate for precautionary safety assessment, labeling and regulation of synthetic biology and its products.

II. Progress Toward Goals

2017 has been a significant year for synthetic biology developments and our campaign work. As outlined below, with support of the Nell Newman Foundation, Friends of the Earth has increased public visibility about how synthetic biology applications are entering the market and environment, and have offered ways for the public to voice concerns about the applications. We have raised awareness about concerns and risks related to synthetic biology ingredients in food amongst consumers and company leads, and about plans for environmental release in places such as Hawaii. We have worked nationally and internationally to share our understanding about safety and environmental risks, and advocated for precautionary oversight and regulation of this emerging technology. We continue to develop more robust communication strategies for our campaigns, earned media, and public presentations, and have been broadening our alliances within nonprofit, private and public sectors.

A. Educated the public, press, food and consumer products companies, regulators and elected officials about next-generation genetic engineering and impacts on consumers, businesses and the environment via: (1) organizing events at strategic gatherings including Natural Products Expo and the UN Convention on Biological Diversity (CBD) to educate key business, government and media stakeholders about new genetic engineering techniques such as CRISPR and gene drives; (2) organizing strategy sessions with allies to educate about new developments in genetic engineering, and how the changes impact regulations, policies and a spectrum of issues ranging from agriculture and animal welfare to environmental sustainability and land grabs; and (3) using social media, webinars, blogs, action alerts, reports and earned media to educate the public and other key stakeholders.

1. Organized events at Natural Products Expo and the UN CBD.

a. Organized "Natural Products Working Group on GMOs 2.0" meetings at Natural Products Expo East and West 2017. Over the course of the past five years of Natural Products Expos West and East, Friends of the Earth has organized and facilitated eight one-hour group meetings that provided updates and offered opportunities for engagement with diverse leaders of the organic and natural products industry. These meetings, attended on average by approximately 25-40 people, have helped to spread new and urgent information about the potential impacts of GMOs 2.0 on the natural and organic products industries and given people opportunities to ask questions about the emerging technologies. The meetings also provided opportunities to discuss the possible market impacts, as well as opportunities for companies and

organizations to coordinate and participate in influencing decisions related to GMOs 2.0. Friends of the Earth also coordinated meetings with individual influential companies to discuss GMOs 2.0 in the context of specific sectors and companies. Friends of the Earth will continue to organize the meetings, providing market and regulatory updates and opportunities for discussion. The next meeting will take place in March 2018 at the Natural Products Expo West in Anaheim, California.

b. Organized educational sessions at UN COP CBD 2016. At COP 13, Friends of the Earth co-organized a series of educational side-sessions for delegates and allies, during which we had diverse panels that gave overviews of synthetic biology, gene drives, digital sequencing and farmer livelihoods. The UN CBD was heavily attended by synthetic biology promoters and companies, making it more critical for Friends of the Earth to be advocating for international regulations that ensure environmental social and economic impact assessments are thorough and inclusive of civil society participation. Given the presence of gene drive developers, it was also critical that Friends of the Earth and allies raised awareness and concern about the risks of gene drives and the potential negative impacts on global biodiversity.

2. Engaged with Natural and Organic Products Leaders. For the past four years, Friends of the Earth has coordinated one-hour meetings and updates at the Natural Products Expos. However, given the pace of the synthetic biology industry and rate of new ingredients entering the market, it became increasingly critical for a safe and productive space to discuss the implications for the natural products industry and to be able to discuss how companies want to respond to the potential infiltration of new genetically engineered ingredients. In response to this need, Friends of the Earth organized a full-day meeting for leaders in the natural and organic products industries to have in-depth dialogue about market, safety and ecological implications and potential impacts on various sectors of the natural and organic markets. The meeting was held August 18, 2017 on the UC Berkeley campus. The meeting was invite-only, attended by 25 leaders from sectors ranging from food products, flavors and spices, supplements, ingredient testing, food lawyers, and a few sustainable food system NGO representatives.

Important topics for discussion included ingredient testing, legal implications for companies, standards to update, supply chain analysis, and how to communicate with various players about new genetic engineering concerns. The meeting was paramount for moving strategic conversations forward about how to address the influx of unregulated, unlabeled and unassessed genetically engineered ingredients in the natural products industry supply chain, as well as to identify questions and resources that people need to move conversations forward within their own companies.

3. Used social media, webinars, blogs, action alerts, reports and earned media to educate the public and other key stakeholders. While not in the initial proposal, over the past six months Friends of the Earth raised public awareness about the new wave of genetically engineered animal replacement products. Because of the lack of balanced coverage of this topic in the press, we found it imperative to produce public-facing materials that described the health and environmental risks and lack of safety assessment, oversight and labeling for these new genetically engineered foods rapidly entering the market.

In March 2017, Dana Perls produced a blog, [“Is ‘Food-Tech’ the Future of Food?”](#) which was read widely and received significant social media attention. Thanks to our efforts, the issue of next generation genetic engineering and synthetic biology animal replacement products and related concerns have gained media attention in outlets ranging from the [New York Times](#), [LA Times](#), and the [SF Chronicle](#), to [Grist](#), [Huffington Post](#), and the [Eater](#).

The publicity also raised attention amongst NGO allies in the animal welfare and environmental movement, and in response to the immediate demand for more information, we are in the process of finalizing an issue

brief titled *“Synthetic Biology Animal Replacement Products; Critical questions and implications for our health and the environment.”* This issue brief will be made public on Friends of the Earth’s website, and will detail the specific concerns related to genetically engineered and synthetic biology-derived animal replacement products. We will update this issue brief based on future research in collaboration with ETC Group.

Friends of the Earth also partnered with BioFuels Watch to write an issue brief about synthetic biology algae. Increasingly, synthetic biology companies are genetically engineering algae to produce products ranging from biofuels to coconut oil replacements, such as Thrive cooking oil. Although it is advertised as a sustainable form of production, genetically engineered algae puts the environment at risk. Harmful algal blooms of naturally occurring algae are a major environmental problem. The escape of engineered algae into the environment — either intentionally or otherwise — could have serious and unforeseeable consequences, including genetic contamination of wild species, disruption of natural ecosystems and release of chemical and biological pollutants. Because of the growing urgency to publicize more information about this commonly used method of producing GMOs 2.0, Friends of the Earth felt it important to partner with BioFuels Watch and released the issue brief about synthetic biology algae in September 2017.

B. Organized consumers and encouraged food and consumer products companies to reject synbio-produced ingredients via: (1) education, online, offline and social media advocacy, reports, earned media, shareholder activism and dialogue; and (2) continued to work with allies in the natural and organic products industry to educate and advocate with key stakeholders about this new unregulated technology and its potential impacts.

1. Updated the company guide, “GMOs 2.0: Synthetic Biology: A guide to protecting natural products,” in light of new research and developments. Friends of the Earth, with support from allies such as ETC Group, published an updated version of the [Company Guide](#) in order to help companies determine how to keep their supply chains free of GMOs 2.0. Since its publication two years ago, there has been more research about the risks of new genetic engineering, and more products have come to market. The updates to the Guide include new information from the ingredient database (developed by ETC Group), new regulations addressing GMOs 2.0, and new set of questions/guidance to help companies avoid sourcing synthetic biology derived ingredients in their supply chains.

Friends of the Earth distributed this guide online and at Natural Products Expo West 2017, the 2017 Independent Natural Food Retailers Association (INFRA) annual meeting and additional gatherings where natural and organic products companies gather. INFRA retailers are interested in using the guides to help ensure that products which may contain GMOs 2.0 are not sneaking onto their shelves.

2. Engaged directly with companies and encouraged food and consumer products companies to reject synthetic biology-produced ingredients. Friends of the Earth has also fostered relationships with leaders of prominent companies that are not organic. This past year, Friends of the Earth reached out to 17 major multinational food companies (including General Mills, Panera, Chipotle, Mars, Campbell’s and Hershey’s) that have made commitments to removing artificial ingredients from their products, and asked for commitments that the replacements will be truly natural and not derived from GMOs 2.0. Friends of the Earth has had follow-up conversations with six of these companies and will be following up with the rest.

In addition to working with individual companies, Dana Perls presented a 1.5-hour workshop at the INFRA national conference in July 2017. The workshop introduced information about GMOs 2.0, which certifications exclude new genetic engineering techniques, and how to use the GMOs 2.0 database that ETC Group produced to do an inventory of where ingredients may be showing up. Stores discussed how to

collaborate to identify products using new genetically engineered ingredients, and how to work with suppliers to identify products. Friends of the Earth will continue to coordinate with INFRA and other retailers to help identify which products may contain GMOs 2.0, and to ensure that suppliers are aware of which products may contain these new ingredients.

C. Worked with business allies and consumers to ensure synthetic biology ingredients are excluded from organic and non-GMO certifications via: (1) educating, advising and advocating with the natural and organic products industries and with the National Organic Standards Board (NOSB) and Non-GMO certifiers; (2) providing comments and participating in NOSB processes and technical advisory committees; and (3) developing resources on synthetic biology for companies to ensure that synthetic biology ingredients do not enter their products.

1. Educated and advised Non-GMO certifiers. For the past four years, Friends of the Earth has worked closely with the Non-GMO Project to update their genetic engineering standards to include GMOs 2.0. Our technical advising, assistance in developing their decision-tree, and ongoing development of communication and messaging has helped ensure that more than 43,000 verified products and 3,000 brands are free from GMOs 2.0. Friends of the Earth recently completed a [podcast](#) for the Non-GMO Project about GMOs 2.0, which it shared with its members and more than 1 million social media followers.

In addition to company commitments to the Non-GMO verified and USDA Organic standard, several companies have expressed interest in a coordinated and joint commitment to not source GMOs 2.0. Friends of the Earth will coordinate a joint company commitment, with the help of a small committee of company representatives.

2. Advised NOSB Materials Subcommittee to help tighten regulations for GMOs. Friends of the Earth for three years led efforts to update the genetic engineering standards and excluded methods for USDA Organic. As a result of these efforts, the NOSB voted unanimously in November 2016 to update U.S. organic standards to exclude ingredients derived from next-generation genetic engineering and gene editing. As part of this effort, Friends of the Earth serves on an advisory committee to the NOSB and continues to coordinate with allies to ensure that U.S. organic standards do not allow new genetic engineering techniques. In November 2017, the NOSB further updated its list of excluded methods to include several more gene-edited techniques.

3. Updated GMOs 2.0 materials for companies. Friends of the Earth is working together with natural products industry partners to update the Company Guide with appendices specific to various natural products sectors, such as the supplement industry and natural products retailers, which may have different questions according to their supply chains and specific products.

D. Advocated for precautionary safety assessment, labeling and regulation of synthetic biology and its products via: (1) leading civil society advocacy around synthetic biology at the international level, seeking strong positions on regulations and environmental and socio-economic risk assessments through the CBD; and (2) advocating for U.S. federal safety assessment, labeling and strong regulations for new gene editing techniques, including organizing and working with NGO allies and companies to petition the FDA for guidelines preventing products of synthetic biology from being legally labeled as natural.

1. Advocated at the UN CBD for strong regulations on synthetic biology. Friends of the Earth coordinated with allies to organize a [call for a moratorium](#) on gene drives at the UN COP CBD 13, held in December 2016 in Cancun, Mexico. Although we did not successfully achieve a moratorium, Friends of the Earth helped raise attention to the issue. 160 organizations signed on to our coalition letter which called for the global

moratorium, and the call received major international and national news coverage in journals such as [Nature](#). Friends of the Earth will help coordinate and organize the coalition of civil society groups that work on synthetic biology at the UN CBD in the upcoming summer Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) meetings and in the lead-up to COP 14 to be held in November 2018.

More recently, Friends of the Earth and ETC Group co-released a set of emails about [gene drive developments](#), funding and impacts on the UN CBD processes. The [emails](#) were obtained via open records request by an investigator from Prickly Research, and revealed that the Gates Foundation had paid an industry PR firm to influence the UN online forum discussion, and that the U.S. military has become the top funder of gene drives. Friends of the Earth and ETC released this timely information about the undisclosed conflicts of interest ahead of the UN expert advisory group meetings on gene drives. The information was picked up by major journals including the [UK Guardian](#), [MIT Technology Review](#), and [Science Magazine](#). It was also picked up in papers across New Zealand, France and Germany.

2. Engaged with U.S. regulatory and policy processes. Friends of the Earth continues to engage with and organize our allies in the environmental and agricultural communities to participate in shaping federal regulations that will address synthetic biology and new gene editing techniques. We advocate for mandatory federal oversight that includes precautionary health and environmental assessments, process-based regulations and labeling. Over the past year, Friends of the Earth has participated in and organized allies to participate in the following processes:

- **U.S. Department of Agriculture (USDA)** public comments regarding Animal and Plant Health Inspection Service (APHIS) and gene editing technologies, and about mandatory federal regulations to label genetically engineered products (including new synthetic biology techniques).
- **U.S. Food and Drug Administration (FDA)** public comments about genetically engineered animals, plants and insects.

For each set of public comments, Friends of the Earth coordinated and organized meetings with NGOs and scientists to enumerate our asks of the FDA and USDA, and to align ourselves to be more unified with our advocacy efforts. Friends of the Earth members generated more than 112,000 comments advocating for strong regulations, safety and environmental assessments, and for regulations to include all organisms derived from genetic engineering.

The federal regulatory work is a long-term process, which requires close attention and coordination with scientists, academics, NGO allies and allies in the natural products industry. Although over the past 5 years there has been progress with public dialogue about needed regulations, it is uncertain how the opportunities for public comments will continue with the new administration, and Friends of the Earth will remain vigilant and ready to mobilize our members and allies. In addition, as the synthetic biology industry becomes savvier about international guidelines and assessments for synthetic biology, their presence at the UN CBD has increased. Friends of the Earth is coordinating with Friends of the Earth International and other international allies like ETC Group to increase our educational work with UN delegates and decision-makers.

III. Financial Report

Please find attached a financial report showing all expenditures made during the grant period.

IV. Conclusion

Friends of the Earth is grateful for the Nell Newman Foundation's support of this campaign, which has been essential in alerting the public, civil society, policymakers and companies about the environmental, health

and socio-economic concerns presented by the suite of emerging genetic engineering technologies. As the number of synthetic biology products entering the market and environment ahead of assessment and oversight continues to grow, Friends of the Earth needs to expand its capacity to challenge this flood with research and smart communications strategies, organizing with our NGO allies in the environmental and food movements, and collaboration with companies in the natural products industry. It is increasingly critical that we work with key stakeholders and the public to influence regulatory decisions and advocate for robust safety and environmental assessments and oversight ahead of introduction of synthetic biology organisms into our environment, food and products. And while government regulations and decisions may be slower to progress, Friends of the Earth is dedicated to addressing these emerging genetic engineering technologies via educational, organizing, communications, and market strategies. We look forward to continued success and partnership with Nell Newman Foundation.