The "Food Evolution" movie is agribusiness propaganda

We are University of Minnesota research scientists and staff who have joined a nationwide critique of "Food Evolution". We are here today to respectfully object to many of the film's major premises.

By focusing the debate almost exclusively on the consumer food safety impacts of genetically engineered or modified crops, the film omits a suite of issues that are foundational in assessing the necessity of GMO research and development in addressing agricultural problems. What scientist would omit major sources of variation in their analysis?

Even by industrial standards outside quarterly earnings, GMOs are wrought by a series of problems that call into question the immense amount of research funding they command. GMOs are an integral component of persistent and damaging effects of industrial agriculture that include: the persistence of monocrops and associated environmental impacts such as nitrate pollution and soil erosion[1], the control of crop production by agricultural input companies rather than farmers[2], widespread and worsening herbicide-resistant weed problems[3], and land grabbing by corporate farmers, agribusiness, and financial investment companies throughout the Global South[4]. Effectively, the GM safety debate acts as a Trojan Horse to legitimize a suite of industry practices that are damaging to people and the environment.

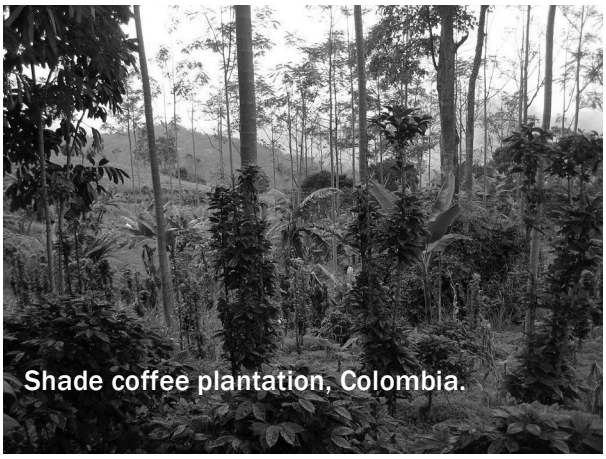
When "Food Evolution" producers employed celebrity scientist Neil de Grasse Tyson to 'logically' explain the health consequences of GMO crops, they disingenuously pulled the curtain over the major issues facing global agriculture: climate change, soil degradation, the accumulation of wealth in the hands of agribusiness, and the eradication of smallholder farmers throughout the globe. Why isn't Tyson speaking about these issues? Disembodying a solitary concern—GMO's putative impacts on individual health—from the vast historical and societal contexts of crop development may be understandable for a laboratory

scientist but is unconscionable for a mainstream movie claiming to dispel myths about food systems.

Who funded the movie? The movie was backed by the Institute of Food Technologists, an advocacy organization that has long endorsed the biotech industry. IFT president Cindy Stewart has spent her career working for agribusiness corporations such as DuPont and PepsiCo. It is entirely reasonable to ask whether the movie's conclusions are wrapped up in industry needs and expectations. The film's purpose, to discuss how "we're going to feed the 9 billion people expected worldwide by 2050," plays into food security approaches built on faulty yield estimates[5, 6] and a notion that "us"—U.S. industrial grain—are going to feed "them"—the rest of the world—despite the fact that the vast majority of GM crops are grown for animal feed, ethanol, processed foods[7] and smallholder farmers produce ~70% of total food consumed[8].

There are many alternative approaches to agricultural problems that GMOs not only don't address but also help to bring about in the first place. We scientists are in opposition to GMOs because they are a fundamental part of the technological machinery of neocolonialism, peasant dispossession, and agribusiness control of biology that places so many millions into food insecurity. We see *these* issues as the source of the problems of food security. We identify the major source of variation here.

Learn more and get involved in agroecological alternatives that achieve *high yields* and *environmental benefits* while also promoting food sovereignty, farmer control of resources, and the preservation of cultural traditions throughout the world[9]. Now *that's* the next in food evolution.



Shade coffee plantation, Colombia.

Agroecology front-line organizations
La Via Campesina
National Family Farm Coalition
Open Source Seed Initiative
Rural Coalition
U.S. Food Sovereignty Alliance

Science policy organizations/think tanks
Food First
Union of Concerned Scientists
Pesticide Action Network

Popular education
Glenn Davis Stone's blog, "Field Questions"
Jahi Chappell's blog, "Beginning to End Hunger: AgroEcoPeople

1. Magdoff, F., L. Lanyon, and B. Liebhardt, *Nutrient Cycling, Transformations, and Flows: Implications for A More Sustainable Agriculture.* 1997. **60**: p. 1-73.
2. Qualman, D. *"Agribusiness takes all: 90 years of Canadian net farm income"*. 2017 February 28, 2017]; Source: Statistics Canada, CANSIM matrices, and Statistics Canada, Agricultural Economic Statistics, Catalogue No. 21-603-XPE]. Available from: http://www.darrinqualman.com/canadian-net-farm-income/.
3. Harker, K.N., et al., *Another view.* Weed Science, 2017. **65**(02): p. 203-205.
4. White, B., et al., *The new enclosures: critical perspectives on corporate land deals.* Journal of Peasant Studies, 2012. **39**(3-4): p. 619-647.
5. Tomlinson, I., *Doubling food production to feed the 9 billion: A critical perspective on a key discourse of food security in the UK*. Journal of Rural Studies, 2013. **29**: p. 81-90.
6. Hunter, M.C., et al., *Agriculture in 2050: Recalibrating Targets for Sustainable Intensification.* BioScience, 2017. **67**(4): p. 386-391.
7. NCGA, *World of Corn: Unlimited Possibilities*. 2013, National Corn Growers Association: Chesterfield, MO.
8. FAO, *The State of Food and Agriculture: Innovation in Family Farming*. 2014, Food and Agriculture Organization of the United Nations: Rome.
9. Altieri, M.A., F.R. Funes-Monzote, and P. Peterson, *Agroecologically efficient agricultural systems for smallholder farmers: contributions to food sovereignty.* Agronomy for Sustainable Development, 2011. **32**(1): p. 1-13.