

## LETTERS

Edited by Jennifer Sills

## Plant scientists: GM technology is safe

THE AMERICAN SOCIETY of Plant Biologists (ASPB) “supports the continued responsible use of genetic engineering... as an effective tool for advancing food security and reducing the negative environmental impacts of agriculture” (1). A recent petition advocating the ASPB position collected more than 1400 signatories from the plant science community (2). The ASPB, the petition signatories, and other scientists in governmental and scientific organizations throughout the world (3, 4) demonstrate a clear consensus: Current use of genetic modification technology for crops is safe and effective, and future use should be guided by scientific evidence.

Despite such broad support for the technology, anti-genetically modified organism (GMO) advocates have had an extensive and troubling impact on policy—at the governmental level and through biasing public opinion—regarding the use of GMO-based ingredients in consumer products and food. More worrisome is that these arguments are often founded on science previously demonstrated to be unsound (5), such as the retracted Seralini *et al.* paper (6), which claimed that rats fed genetically modified corn and the herbicide RoundUp have higher rates of tumor formation.

The European Network of Scientists for Social and Environmental Responsibility (ENSSER) organized a petition signed by 313 individuals in 2013 claiming that “no consensus” exists regarding the safety of GMOs for human health and the environment (7). Commercial entities have seized upon ENSSER’s statements. The Non-GMO Project, for example, cites the ENSSER petition (8) in its efforts to verify the absence of GMOs in over 4500 branded products. The fast-food restaurant chain Chipotle cites the ENSSER petition to justify a campaign against GMO ingredients (9).

Questions about about how to best implement GM technologies, but as we move forward, we must make decisions informed by science. To meet our current and future food supply demands, without destroying our planet, we need every efficacious tool available (10). We hope that the consensus on GM technology among plant scientists is heard by policy-makers, the business community, and the general public. We invite advocates of the responsible use of such tools to make your voices heard to encourage a scientific approach in agricultural research and GMO policy.

**Noah Fahlgren,<sup>1</sup> Rebecca Bart,<sup>1</sup> Luis Herrera-Estrella,<sup>2</sup> Rubén Rellán-Álvarez,<sup>2</sup> Daniel H. Chitwood,<sup>1\*</sup> José R. Dinneny<sup>3\*</sup>**

<sup>1</sup>Donald Danforth Plant Science Center, St. Louis, MO 63132, USA. <sup>2</sup>Nacional de Genómica para la Biodiversidad, Irapuato, 36821, Mexico. <sup>3</sup>Carnegie Institution for Science, Stanford, CA 94305, USA.

\*Corresponding author.

E-mail: jdinneny@carnegiescience.edu; dchitwood@danforthcenter.org

### REFERENCES

1. American Society of Plant Biologists, “Revised position statement on plant genetic engineering” (2014);

- https://cymcdn.com/sites/aspb.site-ym.com/resource/group/6d461cb9-5b79-4571-a164-924fa0395a5/Statements/ASPB\_GE\_revision.APPROVED\_ed.pdf.
2. Cornell Alliance for Science, “Scientists in support of GMO technology for crop improvement” (<http://cas.nonprofit-soapbox.com/aspbsupportstatement>).
3. Institute of Medicine and National Research Council of the National Academies, *Safety of Genetically Engineered Foods* (National Academies Press, Washington, DC, 2004); [www.nap.edu/read/10977/chapter/1](http://www.nap.edu/read/10977/chapter/1).
4. World Health Organization, “Food, genetically modified” ([www.who.int/topics/food\\_genetically\\_modified/en/](http://www.who.int/topics/food_genetically_modified/en/)).
5. ENSSER, “Democratising Science & Decision Making” (2012); [www.ensser.org/democratising-science-decision-making/](http://www.ensser.org/democratising-science-decision-making/).
6. G.E. Seralini *et al.*, *Food Chem. Toxicol.* **50**, 4221 (2012) [RETRACTED].
7. ENSSER, “No scientific consensus on GMO safety” (2015); [www.ensser.org/fileadmin/user\\_upload/150120\\_signatories\\_no\\_consensus\\_lv.pdf](http://www.ensser.org/fileadmin/user_upload/150120_signatories_no_consensus_lv.pdf).
8. J. Fagan, M. Antoniou, C. Robinson, *GMO Myths and Truths* (Earth Open Source, London, ed. 2, 2014); [www.nongmoproject.org/wp-content/uploads/2015/03/GMO-Myths-and-Truths-edition2.pdf](http://www.nongmoproject.org/wp-content/uploads/2015/03/GMO-Myths-and-Truths-edition2.pdf).
9. Chipotle, Food with integrity: G-M-OVER IT (<https://chipotle.com/gmo>).
10. P.A. Sharp, A. Leshner, “We need a new Green Revolution,” *New York Times* (4 January 2016); [www.nytimes.com/2016/01/04/opinion/we-need-a-new-green-revolution.html](http://www.nytimes.com/2016/01/04/opinion/we-need-a-new-green-revolution.html).

## Protect the Tasmanian wilderness

AUSTRALIA’S TASMANIAN Wilderness World Heritage Area (TWWHA) is one of the three largest remaining temperate wilderness regions in the Southern Hemisphere (1). It covers about 1.6 million hectares, almost a quarter of Australia’s State of Tasmania (1). Pristine wilderness is the most important core value of the region.

In January 2014, to encourage local economic growth, the Australian federal government sought to remove 74,039 hectares of land from the TWWHA (2). Although the request was rejected by the World Heritage Committee in June 2014 (3), the Tasmanian state government still supports housing, airport, road, mining, and logging projects within the TWWHA. The World Heritage Committee urged the federal government to stop any such development within the property (4). It is unclear how the federal government will address the Committee’s demand, which leaves the values and integrity of the TWWHA at risk.

Australia is only the third country in the world, after Oman and Tanzania, to seek the delisting of its World Heritage areas (5). Australian governments, especially the federal one, should show leadership in implementing the World Heritage Convention. Local and national communities should also raise their voices to politicians and governments to make clear that the values and integrity of the



China has approved the development of genetically modified corn.