Reply

Reply to Arbenz, M. Comment on Ryffel, G.U. I Have a Dream: Organic Movements Include Gene Manipulation to Improve Sustainable Farming. *Sustainability* 2017, 9, 392

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To the Editor:

Markus Arbenz and David Gould, two representatives of IFOAM—Organics International, criticize my recent editorial "I Have a Dream: Organic Movements Include Gene Manipulation to Improve Sustainable Farming" [1], as in their view I misinterpreted and misrepresented the definition of genetic engineering given in the draft version of IFOAM's position on genetic engineering [2]. My interpretation is fundamentally based on the sentence: "Genetic Engineering (GE)—A set of techniques from molecular biology (such as recombinant DNA and RNA) by which the genetic material of plants, animals, microorganisms, cells and other biological units are altered in ways and results that could not be obtained by methods of natural mating and reproduction or natural recombination". The same statement is made in the final position paper "Genetic Engineering and Genetically Modified Organism" published online on 30 November 2016 [3]. For me, the notion " . . . in ways and results that could not be obtained by methods of natural mating and reproduction or natural recombination" means that any gene manipulation altering the genome to an already existing variant or a variant that could evolve naturally does not constitute genetic engineering. Consequently, cisgenesis and genome editing without adding a foreign gene, for example, should not be considered as genetic engineering. Obviously, Arbenz and Gould have a different view and seem to exclude gene manipulation for organic breeding under all circumstances. If this interpretation is preferred and represents the intention of the definition of IFOAM, I wonder why the IFOAM definition of genetic engineering includes this notion. To represent the view of Arbenz and Gould, the sentence should be shortened as follows: "Genetic Engineering (GE)—A set of techniques from molecular biology (such as recombinant DNA and RNA) by which the genetic material of plants, animals, microorganisms, cells and other biological units are altered". This would clarify the absolute ban of any gene manipulation in organic farming. This strict position is puzzling, as it cannot explain why a plant developed by classical breeding such as the late blight resistant potato Bionica is acceptable for organic farming, while its cisgenic cousin with the same genetic alteration is not compatible [4]. The common argument made by IFOAM that the organic sector's values are process and not product based is in conflict with the fact that genetic techniques are welcome by organic breeders for marker assisted selection. It seems that my dream [1] has not yet reached organic movements.

References

1. Ryffel, G. I Have a Dream: Organic Movements Include Gene Manipulation to Improve Sustainable Farming. *Sustainability* **2017**, *9*, 392. [CrossRef]

2. IFOAM. IFOAM—Organics International Position on Genetic Engineering and Genetically Modified Organisms. Available online: http://www.ifoam.bio/en/news/2016/02/26/public-consultation-position-ifoam-organics-international-genetic-engineering-and (accessed on 22 April 2017).

3. IFOAM. Position Paper Genetic Engineering and Genetically Modified Organisms. Available online: http://www.ifoam.bio/sites/default/files/position_genetic_engineering_and_gmos.pdf (accessed on 22 April 2017).

4. Gheysen, G.; Custers, R. Why Organic Farming Should Embrace Co-Existence with Cisgenic Late Blight–Resistant Potato. *Sustainability* **2017**, *9*, 172. [CrossRef]