Logic for using precautionary principle with GMOs faulty

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A working paper coauthored by financier Nassim Taleb and several other scholars argues that the creation of GMOs through DNA-splicing is substantially more dangerous than producing new plant varieties through selective breeding.

This essay rebuts their three main arguments

1. The Top-Down Rebuttal: Taleb's distinction between top-down DNA-splicing versus bottom-up natural selection and selective breeding is misleading. The same top-down and bottom-up processes occur with natural selection, selective breeding, and DNA-splicing alike. In all cases, there is a top-down determinant: the environment itself "selects" which organisms are fit to survive in it and which are not. Conversely, in all three processes, the organism must "earn" its survival through adapting itself bottom-up to the environment.
2. The Fast Evolution Rebuttal: Contrary to Taleb's assumptions, there are case studies of evolution happening quickly under selective breeding, thus undermining Taleb's claim that the rapidity of DNA-splicing renders it incomparable to selective breeding.
3. The Extreme Change Rebuttal: Taking DNA from one species and splicing it into another is not extreme when one considers the nature of DNA. DNA is a sequence of four molecules — guanine, adenine, thymine, and cytosine. Every type of genetic engineering rearranges this sequence. If putting a fish DNA sequence into a tomato's DNA sequence amounts to a relatively small rearrangement of the molecules, it might not be as radical a rearrangement of DNA as what takes place when selective breeding randomly sorts thousands of genes.

For these reasons, Taleb and company fail to demonstrate that DNA-splicing techniques pose a danger to human beings or the ecosystem beyond anything that commences with selective breeding.

Read full, original post: Nassim Taleb's False Dichotomy of Top-Down and Bottom-Up Approaches to Farming With Respect to GMOs