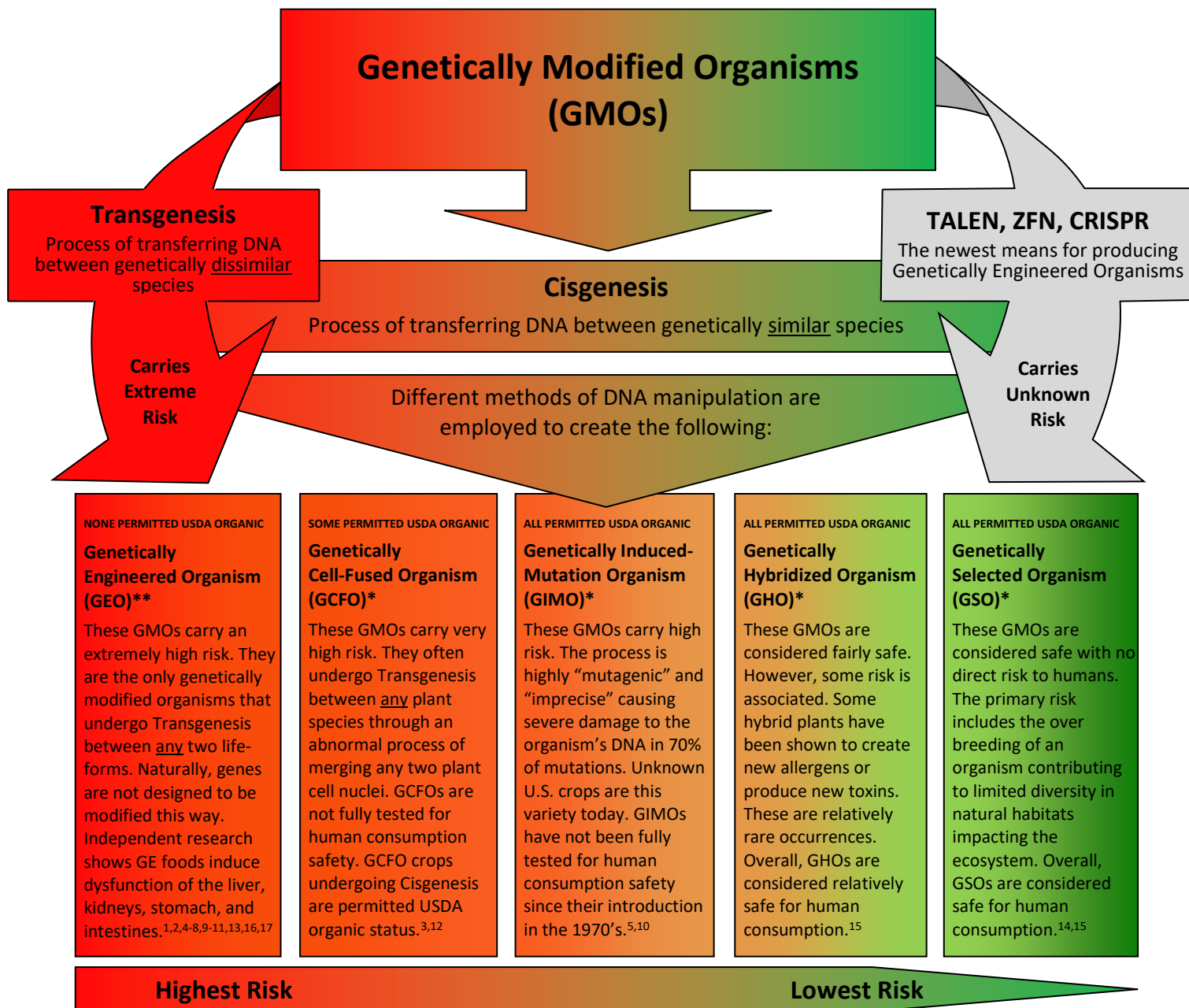


*"Humanity's lack of knowledge of extreme risk is not the same as the absence of extreme risk."*

— Seth R. Ferreira, MPH, CPH, CHES

## The Genetic Modification of Organisms

### Risk Assessment Flowchart



Below is a segment of DNA representing a transferred new "trait" (e.g., *tolerances*, *Bt toxin*) from another organism.

.....  
 | A-T | G-C | T-A | A-T | T-A | C-G | C-G | T-A | G-C | T-A | A-T | T-A | G-C | C-G | T-A | C-G | T-A | G-C | A-T | T-A | C-G | C-G | T-A | G-C | T-A | C-G |  
 .....

This new DNA "trait" is transferred or manipulated into another organism's DNA using various methods:

**GEO:** Transferred DNA between any life-forms using a "gene gun," *A. tumefaciens*, creating the new "trait."<sup>5</sup>

**GCFO:** Transferred DNA between any two plant species using nuclei fusion producing the desired new "trait."<sup>3</sup>

**GIMO:** Manipulated DNA with ionizing radiation or sodium azide to induce random mutations creating the new "trait."<sup>5</sup>

**GHO:** Transferred DNA by extensively cross-breeding organisms of similar genotypes to produce the new "trait."<sup>5</sup>

**GSO:** Transferred DNA by cross-breeding organisms of same genotypes to produce the desired new "trait."<sup>15</sup>

**TALEN, ZFR, CRISPR:** Technology to add or remove DNA via enzyme genome scissors to produce the desired new "trait."<sup>5</sup>

## **“Humanity's lack of knowledge of extreme risk is not the same as the absence of extreme risk.”**

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\* GCFOs, GIMOs, GHOs, and GSOs are all GMOs and allowed the USDA organic certification. GIMOs, GHOs, and GSOs use natural process pathways to accelerate DNA modification through human intervention from thousands, millions, or billions of years to only a few months or a few years. On the other hand, the GCFO modification processes use completely abnormal methods of DNA transfer that have never occurred naturally in plant evolution. It is a process that takes a matter of weeks to complete.<sup>3,12,15</sup>

\*\* GEOs are GMOs that are restricted from the USDA organic certification. They are produced by employing completely unnatural modification processes that manipulate DNA and allow for “Transgenesis” to occur between any genetics of any species which has never occurred in the 4 billion years since life began on earth. Life employs highly complex systematic processes for transferring genes. While humans experiment, we are interfering with these processes creating a new kind of pollution called “genetic pollution.” The tremendous danger lies in the scientific community’s enormous lack of knowledge of the complexities surrounding safely “engineering” genetics due to DNA’s multifaceted networks of intricate interactions, interconnections, interrelations, and intercommunications. Simplistically, our scientific understanding of genetics is comparable to a young child’s understanding of quantum mechanics, computational science, or metabolomics. The danger involved is likened to a person designing a skyscraper with very basic knowledge and poor understanding of the technology, advanced mathematics, infrastructure, and skill-sets required. The building would surely collapse causing mass devastation. Genetics are the basis for all life on earth and are far beyond humanity’s current technological comprehension. DNA will inevitably always be the most intricate and complex form of technology humans will ever encounter. While life’s origin and method of creation are completely unknown scientifically, we do understand that DNA structures somehow transform inert elements into a living, self-sustaining, breathing, and feeling ecosystem of organisms we call life. DNA is inevitably the very inherent foundation and purest material to what makes humans who we are and the existential reality we experience in everyday life. If we continue to ignorantly experiment with and profit from life’s informational storehouse before completely understanding and respecting its complexities, our immensely reckless, hasty, foolish, and dangerous actions (primarily with financial motives) will likely come with even more severe consequences in the years to come.<sup>1,8-10,13-16</sup>

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