



- don't involve using genes from another species.
- One of the first applications of gene editing is likely to be in agriculture in order to enhance food production and food quality.
 - Genome or gene editing is a more efficient and precise method than conventional breeding methods for manipulating genes within an organism, but the outcome is similar. By comparison, GMO's are derived by introducing DNA from other organisms.

It is a well-known fact that foods and food products derived from GMO's have inspired and continue to inspire a strong public backlash against their presence in the human food chain. All of the above supports the stance that food and food products derived from GEC's should not be regulated with the same rigor as GMO's, nor should they be considered as "frankenfoods" by the entities that have such contempt for food and food products from GMO's. Hopefully, this new technology and the subsequent products derived from its use will be viewed by all parties as a real breakthrough in the ongoing efforts to feed a rapidly growing world population.

As stated in the editorial cited above, "The potential benefits of GEC's should not be impeded as a result of misinformation, so disclosure and education are the best ways to promote sound policies" regarding their use.

An Aug. 2018 article titled "Why Gene Editing is the Next Food Revolution" by Eric Niiler ([National Geographic, Aug 2018](#)) provides several cases of how gene editing can benefit food crops as well as its potential application toward solving human diseases and maladies. It also provides a very good narrative and pictorial presentation of the processes involved in this genetic modification technique. Of special importance is how gene editing is viewed differently by U.S. (they don't need strict regulation) and European Union (they should be regulated the same as GMO's) regulators. Additionally, the author cites two special advantages from using gene-editing vs.

GMO techniques; 1) it is simpler, cheaper, and faster, and 2) it might allow developing nations to develop and grow enhanced crops without buying expensive seeds from large seed companies.

The following articles can be accessed for further information about GMO's vs. Gene Editing.

[GMOs and gene editing: What's the difference?](#) by Nicholas Karavolias (May 2022)

[What's the Difference Between Gene Edited Foods and GMOs?](#) by Alexandra Emanuelli

[Gene-edited crops vs. GMOs: What's the difference—and why does it matter?](#) Genetic Literacy Project (April 2018)

Since finding new ways to boost food production for a growing population is imperative and should be the primary goal of all sustainability initiatives, the end result from using gene editing is that more efficient ways of improving crop productivity will be available to practitioners in all countries that will allow them to be used.

Composed by Larry G. Heatherly, Updated May 2022, larryheatherly@bellsouth.net. Thanks to Drs. Jeff Ray and Rusty Smith for their input and edits of the original article.