

EXECUTIVE SUMMARY

Future Proofing Policies for Products of Plant Breeding Innovation

The goal of plant breeders has always been to create new variations of plant characteristics, to provide solutions for diseases and pests, to increase tolerance to environmental stress, to improve quality and yields, and to meet consumer expectations. Plant breeding depends upon genetic variability within and across related species as a basis for developing new plant varieties with improved traits.

In 2016, the ISF developed criteria¹ for determining the scope of regulatory oversight for products of plant breeding innovation based on the premise that the application of the latest plant breeding methods can result in genetic changes that are indistinguishable from, or similar to, the changes in plants obtained through earlier breeding methods, or can result in changes that can also happen in nature.

Regulatory policies in many countries have been established based on criteria similar to those developed by ISF. These criteria also provide guidance for governments that are still in the process of reviewing their policy approaches for the regulation of innovations in plant breeding. The criteria ensure proportionate and science-based handling of innovation, and also guide discussions on future-proofing policies in the context of the growing diversification and expanded application of innovative breeding tools driven by continuously advancing scientific and technological developments.

The range of methods and applications of innovative breeding methods like genome editing continues to grow, supported by the advancements in science and technology. While such applications are often described as new when they first become available, they are used by breeders to achieve the same breeding end goals as with earlier breeding methods. The question then becomes how countries—both those that have already implemented policies and those that are in the process of developing policies—will approach the expanding range of innovative genome editing applications?

The ISF criteria remain appropriate for determining the scope of regulatory oversight for plant products produced through a broad range of applications of innovative breeding tools. For example, mutations (e.g., deletions, substitutions, as well as chromosomal rearrangements) and gene duplications achieved through genome editing can also be obtained with earlier breeding methods. Such products should not fall within the scope of GMO/biotechnology regulatory oversight in line with the ISF criteria.

It is critical that any policies/regulations that have been, or will be, put in place achieve proportionate and science-based regulation and contain an element of flexibility that considers the evolution in scientific knowledge as well as the application of that knowledge. This is often called “future proofing” government policy.

Appropriately flexible, future-proofed regulatory policies will enable advancements in plant breeding so that breeders can successfully integrate these innovations into their breeding programs. The ISF criteria for the scope of regulatory oversight for plant breeding innovations are technology agnostic, and provide the required flexibility to define when the resulting products should be excluded from the scope of existing GMO/biotechnology regulations, regardless of methods used.

¹<https://worldseed.org/document/plant-breeding-innovation-consistent-criteria-for-the-scope-of-regulatory-oversight/>