

Whitepaper

Challenges and opportunities in creating consistent governance around plant genetic resources for food and agriculture and related information, knowledge and rights

Background:

- Plant genetic resources (PGR) are a critical “raw material” for plant breeders. It is rather a “green currency” than “green gold” and needs to be utilized to preserve and enhance its value. In addition to the material, the related information, data, and knowledge (incl. genotypic and phenotypical information) are necessary to enable and enhance utilization.
- The access, transfer, and use of PGR and related information are becoming increasingly complex, costly, and uncertain. Some of the existing mechanism are unnecessarily complex and/or do not achieve their expected purpose.¹ Governance structures are either missing or inconsistent. Structures are lacking which create legal certainty and support the sharing of information and knowledge. This situation is de facto creating a chilling factor and encourages avoidance of PGR especially within the private sector.
- Investment into the development of new, improved plant varieties is a costly and lengthy endeavor. Legal certainty and clarity regarding the rights and obligations associated to the used breeding material and information is of fundamental importance.
- Several projects in relation to PGR are currently under development which could either further complicating the current situation for accessing and utilizing PGR or facilitate and promote utilization for the benefit of all. These initiatives include the revision of the ITPGRFA ABS mechanism, the development of the technology and information sharing portal, and DivSeek. Of key importance would be a coordinated governance structure

How bad would look like: Lack of a consistent governance and user rules

- Already today there is legal uncertainty whether information relating to PGR utilized in DivSeek or the information portal enjoy “freedom to use”.² It is unclear whether the information can be used without prior informed consent of the related countries of origin. Resulting products are potentially encumbered. Lack of legal certainty may have a chilling effect at least on use by the private sector.
- There is lack of rules whether and how PGR related information (incl. sequence information) can be utilized to create IP rights, which could limit the unrestricted use of the information by 3rd parties. The same could occur if information is made publically available. A potential, unknown encumbrance by IP rights (especially patents) could interfere with the commercial use of products and could lead to wasted R&D investments. Lack of legal certainty may have a chilling effect at least on smaller entities with limited capability to investigate freedom-to use by the private sector.

How good would look like: Proper governance to create a mutually supportive open innovation network of material, information, and knowledge

- **Material:** There is an ongoing decision to revise the ABS regime under the treaty and to expand the scope of the MLS to enhance its functionality. One potential solution could include the following elements:

¹ For example, the benefit sharing mechanism under the ITPGGRFA on one hand creates no monetary income for the benefit sharing fund, on the other hand requires an cumbersome trace & track of materials.

² Note: Certain countries extend the ABS related obligation from use of material to use of information (e.g., Andean states)

- The scope of the IT is extended to all publically available PGRFA of all crops incl. commercial varieties publically available in the member states.³
- Simplified subscription-fee benefit-sharing mechanism: The IT provides a subscription models under which users pay a certain % (e.g., 0.1%) on their seed sales. Exception could be created for non-profit entities, or breeders working on orphan crops.⁴
- **Information & Knowledge:** Information and knowledge relating to PGRFA should only be freely available to all subscribers. This would create an additional pull-in effect to join the subscription model. Any benefits sharing in relation to the use of information & knowledge is deemed covered by the subscription fee of the user.
 - Incentives for sharing information & knowhow by subscribers could be provided by rebates to the subscription fee if the information is considered of high value. This reduction should be granted upon request by the subscriber and subsequent review by an expert committee.
- **Open Innovation: Shaping a positive “inclusive patent” system under the International Treaty**

Patents are a key incentive for investment into R&D and knowledge sharing, especially in areas which require high investment such as trait development. Especially, genetically modified crops but also other high-performing plant varieties require a substantial investment which could easily be in the \$150m range. If the use of material and / or information related to PGRFA excluded the use of patents to protect the resulting products, company or investors would use alternative sources. On the other hand in areas of sequential or combinatorial innovation like breeding patents can also slow down innovation cycle if their exclusivity character is overemphasized and unmitigated.

It is a key challenge within the current revision process of the IT to overcome the current confrontational “Yes/No” debate around patents and to find a solution which creates open innovation and especially enables broad access to breeding material but still preserves the incentives of the patent system. A possible solution for patented technology developed from PGRFA and related information could have the following elements:

- Allow patenting of PRGFA-derived trait innovations (with the exception of patents on specific plant varieties) provided that the resulting patents are accessible through a reciprocity-based clearing house. Such a clearing house has recently been established with in the vegetable industry.
- Use of the patented technology for breeding, research, or for solely humanitarian purpose should be free for all
- Commercial use of the patent technology in developed countries should result in benefit sharing (royalty payments) to the innovator. On request the amount of royalties can be reviewed by an independent expert committee.

³ Today the IT only covers a limited list of crops in Annex I and does not cover commercial varieties although they are a GR under the CBD.

⁴ A more detailed white paper on this subject can be provided.