

Molecular Techniques in DUS examination Argentine position



Secretaría de Agricultura,
Ganadería y Pesca



Ministerio de Economía
Argentina

- **Argentine Mission and Vision.**
- **Argentine position on the use of molecular markers for DUS testing and enforcement of plant breeder's rights**
- **Use of other marker's type**
- **Case of study**

MISSION

Promote and implement policies that ensure the development, production, protection, innovation, trade, availability of high quality seeds to strengthen agro-productive chains for the benefit of the entire society, allowing food security and taking care of the environment.

VISION

Become a national and international reference for seed certification, seed quality and seed identity, for the protection of the intellectual property right's for every phytogenetic creation and for the seed production and seed trade.

Breeding techniques turn to be more complex, adding new tools and specialized scientific knowledge.

10.000 years ago – breeding was based on phenotype through the selection of better plants and crosses between related species.

- .
- .
- .
- .

1800 – scientific breeding based on genotype.

End of XX century beginning of XXI century – breeding is based on phenotype and genotype, using biotechnological tools like MAS, transgenic crops and NBTs like gene editing.

Aim: improve yield using the same cultivated area.

This activity is the result of the work of an interdisciplinary group with the use of high knowledge, technology, training and investment.

Argentine position on the use of molecular markers for DUS and reinforcement of plant breeder's rights

- Active for adopting new technologies: CONABIA (1991), GMO (1996), no tilling (starting on 1989 formally with the), NBT (gene editing tools - 2015)
- Model for the Latin-American region in new technologies' regulation: FAO recognition in 2014 and renewed in 2019.
- 1998 first project in relation to plant breeder's rights (maize): INASE Molecular Markers Lab
- In 2019: first time using SNP for new variety's applications by means of UPOV Model 2
- 2022: novel tool for variety traceability for breeder's rights enforcement using SNPs

Argentine position on the use of molecular markers for DUS and reinforcement of plant breeder's rights (cont.)

- Development of tools for saving the data generated
- Confidentiality of the data: safeguards for the applicants
- Compulsory public data: give the farmer the possibility to initiate legal actions
- Legal framework: regulations and agreement with breeder's
- Continuously evolving techniques

Use of other marker's type

- Adoption of optical markers as a tool for variety traceability for breeder's rights reinforcement
- Confidentiality of results
- Risks associated: software managed by third parties
- Regulations and the possibility to initiate legal actions

Case of study

- Soybean as the initial project based on SNP
- Wheat and barley: first crops with optical markers
- Near finalization: cotton + rice
- Other crops: cannabis, pecan nut, peach, grape



Secretaría de Agricultura,
Ganadería y Pesca



Ministerio de Economía
Argentina