



Topics

1. Conservation
2. Access
3. Sustainable use
4. Benefit sharing

2

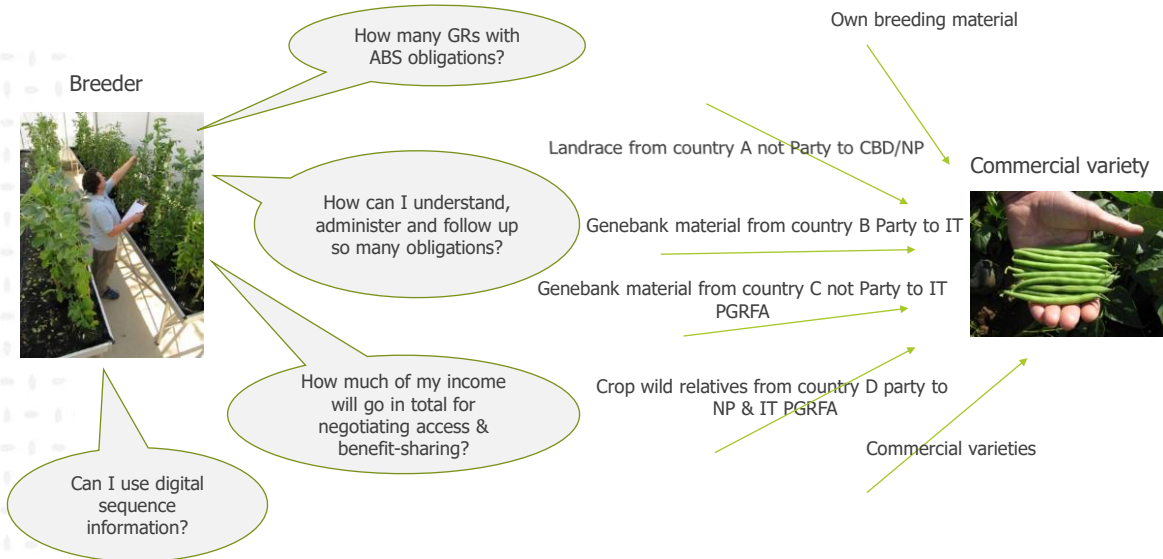
1. Conservation of genetic resources (GRs)

- Conservation:
 - key for plant breeders – GRs are the basis for plant breeding
 - breeders invest efforts in conservation – both *in situ* & *ex situ* through several means: financial contribution; regeneration of material; evaluation & characterization; various *in situ* projects
 - not a goal in itself – conservation should serve the purpose of making material available for use
- NB: GRs from *in situ* or *ex situ* might be needed from time to time BUT over 90% of material used in commercial breeding is commercial varieties/elite lines



3

2. Access to genetic resources (GRs)



2. Access to genetic resources

CONVENTION ON BIOLOGICAL DIVERSITY

NAGOYA PROTOCOL ON ACCESS TO GENETIC RESOURCES AND THE FAIR AND EQUITABLE SHARING OF BENEFITS ARISING FROM THEIR UTILIZATION

International Treaty on Plant Genetic Resources for Food and Agriculture

REGULATION (EU) No 511/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union

Multiple legal frameworks

High complexity

New obligations to comply with

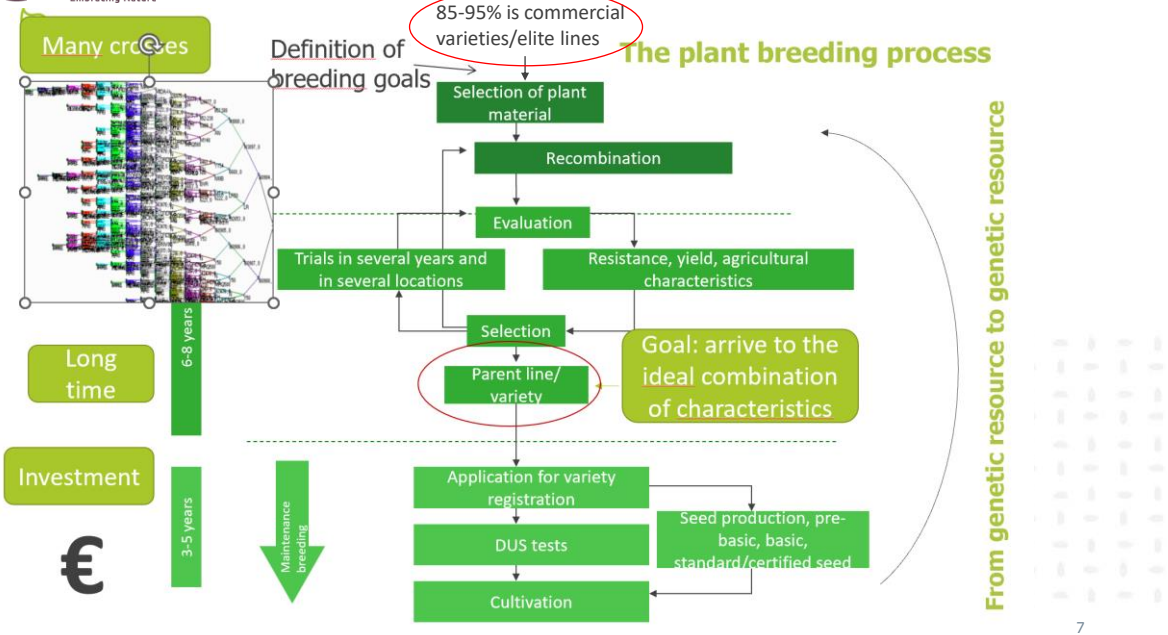
Digital Sequence Information

National ABS laws

2. Access to genetic resources

6

3. Sustainable use of genetic resources



7

3. Sustainable use of genetic resources



Results of plant breeding:

- New varieties with improved characteristics for the benefit of farmers & society
- **3,500 new varieties** authorized for marketing within the European Union each year
- **45,000 different varieties** of agricultural and vegetable species are available to farmers in the European Union

Euroseeds number

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8

IP considerations regarding genetic resources

The importance of IP protection for the breeding sector

- Products of plant breeding are of **HIGH VALUE**



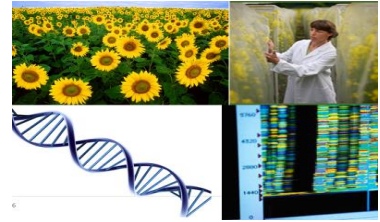
- Need to be able to re-invest in innovation in the future to meet the challenges & continue improving yields
- BUT seeds are in an easy to copy form (self-reproducing)
- IP → allows a fair return on investment → stimulates innovation

What's inside a wheat seed?



9

9



What can be protected by plant breeder's rights?

- A plant variety (i.e. a specific combination of phenotypic characteristics) that is new, distinct, uniform and stable.



What can be protected by patents?

- Inventions in any field of technology that are new; inventive; have an industrial application and have been sufficiently disclosed
- In the field of plants & seeds: gene sequences; plant characteristics; technically obtained plants; molecular markers; use of identification methods; technical breeding methods; end products obtained from plants etc.

10

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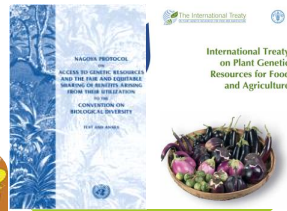
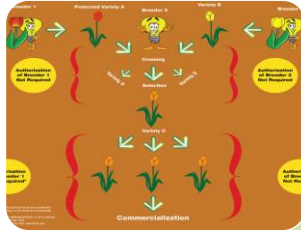
- Best & most effective IP right for plant varieties *per se* is plant breeder's rights as in UPOV 1991
- Patents might be needed to protect certain plant-related inventions that cannot be protected by plant breeder's rights
- BUT: patents also come with problems for FTO
 - Lack of transparency - PINTO
 - No breeder's exemption – in some national laws a limited breeder's exemption
 - Licenses come with high transaction costs etc. – licensing platforms
- Legislative landscape has been dynamically changing in the past years – maybe there is more to come

11

4. Benefit-sharing

Monetary benefit-sharing

Breeder's exemption



In kind efforts



Benefit sharing

Summary on breeders give & take

- What do breeders contribute to conservation and sustainable use/management of GRs?
 - Contribution to conservation of genetic resources – various efforts
 - Contribution to sustainable use – plant breeding is sustainable use per se – GRs are being used, not unused and also not overused
 - Creation of new diversity through recombination of characteristics
- Breeders have to:
 - Spend a lot of time and efforts (personnel, financial etc.) on complying with ABS legislation
 - Share benefits arising from utilisation of GRs
 - Still face a lot of unjustified criticism