

# Setting the Scene

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**SEMINAR ON THE INTERACTION BETWEEN PLANT  
VARIETY PROTECTION AND THE USE OF PLANT  
BREEDING TECHNOLOGIES**  
**March 22, 2023**



**UPOV**

# OVERVIEW

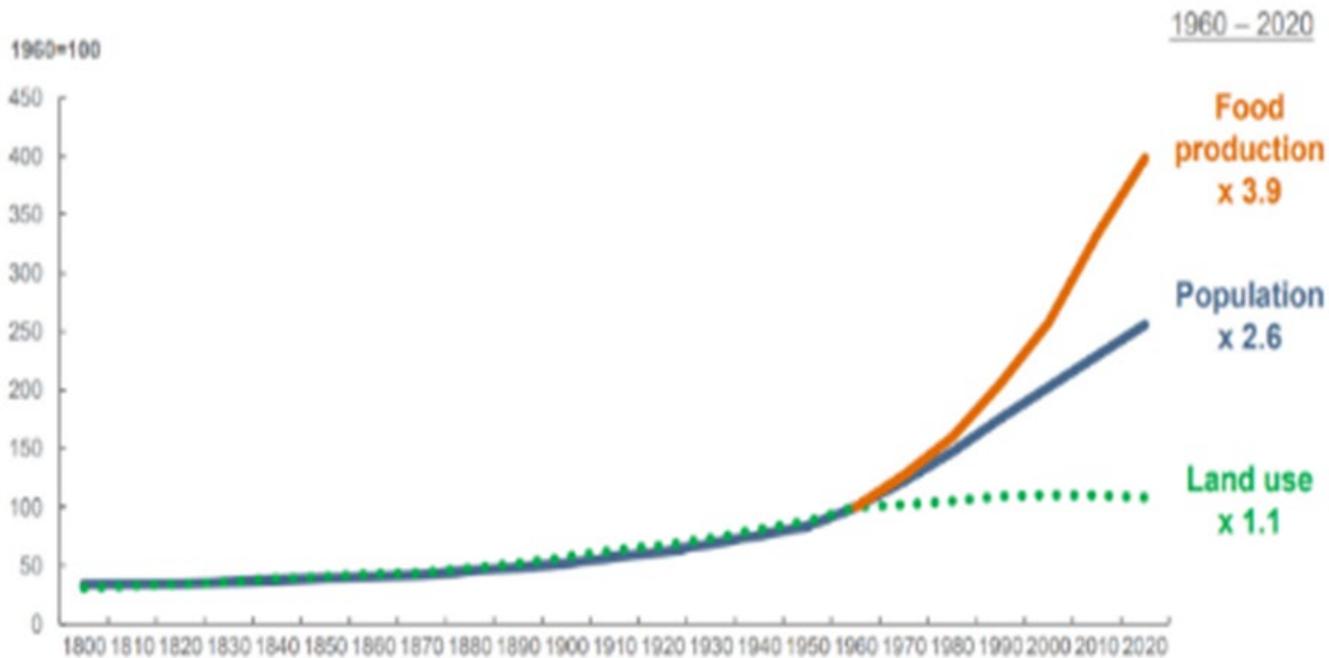
- The Context
- UPOV Convention
- UPOV guidance



# The context



Historically, greater food production meant greater land use; but there has been a “decoupling” since about 1960



Source: Population data from Maddison's historical statistics for 1825-1948; UN Population Division for 1950-2030; 1880 and 1818 extrapolated from Maddison. Agricultural (crops and pasture) land data for 1800-2010 from the History Database of the Global Environment (HYDE 3.2); Klein Goldewijk et al. (2017). Global agricultural production data for 1960-2010 from FAOSTAT (Net Agricultural Production Index); 2020 value from the OECD/FAO Agricultural Outlook.

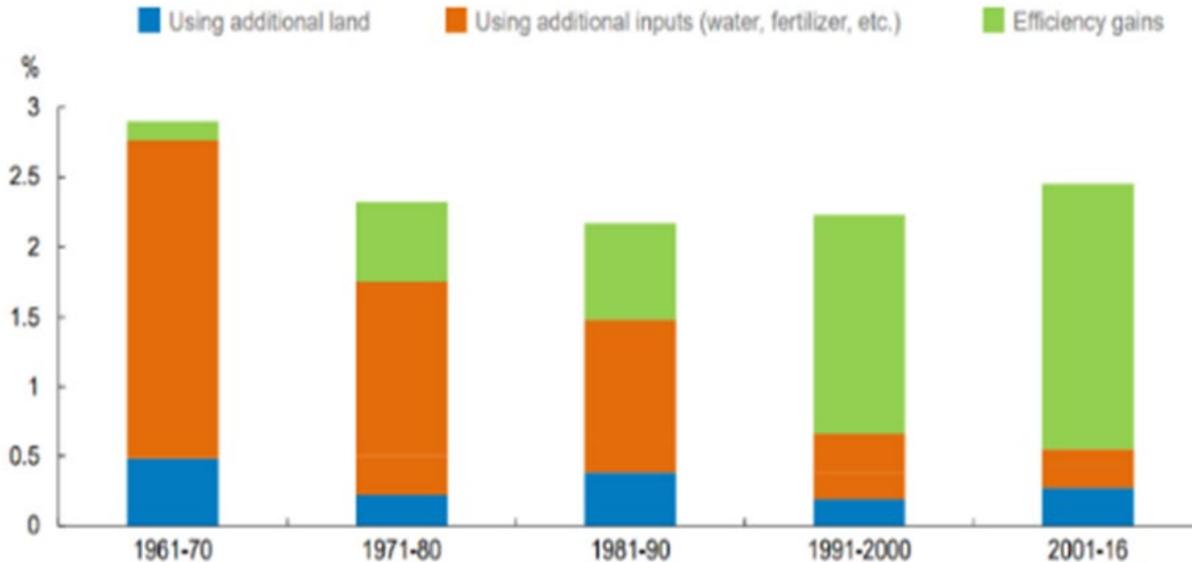
[www.oecd.org/food-systems](http://www.oecd.org/food-systems)

# How to produce more and better with less



This “decoupling” was initially driven by greater use of inputs, but production growth increasingly comes from efficiency gains

Growth of global agricultural output, by source



Source: USDA Economic Research Service, International Agricultural Productivity estimates (November 2019 revision)  
[www.oecd.org/food-systems](http://www.oecd.org/food-systems)

Source: Koen Deconinck, Food Systems Webinar, OECD Trade and Agriculture Directorate



## **UPOV MISSION STATEMENT**

**To provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society**

## What are the challenges in encouraging investment in plant breeding?

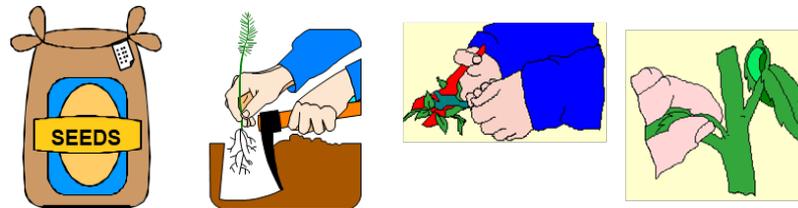
- **identify** important variety characteristics
- **secure resources to breed** varieties with those characteristics
- **deliver** them to farmers and growers

**UPOV's role:** Creating the space for policy dialogues for harmonization, enhancing cooperation, developing guidance on the UPOV Convention and its implementation, including enforcement

- Plant breeding is long and expensive

**BUT**

- Plant varieties can be easily and quickly reproduced



➔ **Breeders need effective protection and enforcement measures to recover investment**

➔ **Increased role of use of biochemical and molecular techniques for variety identification and breeders' rights enforcement**

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# EXCEPTIONS TO THE BREEDER'S RIGHT

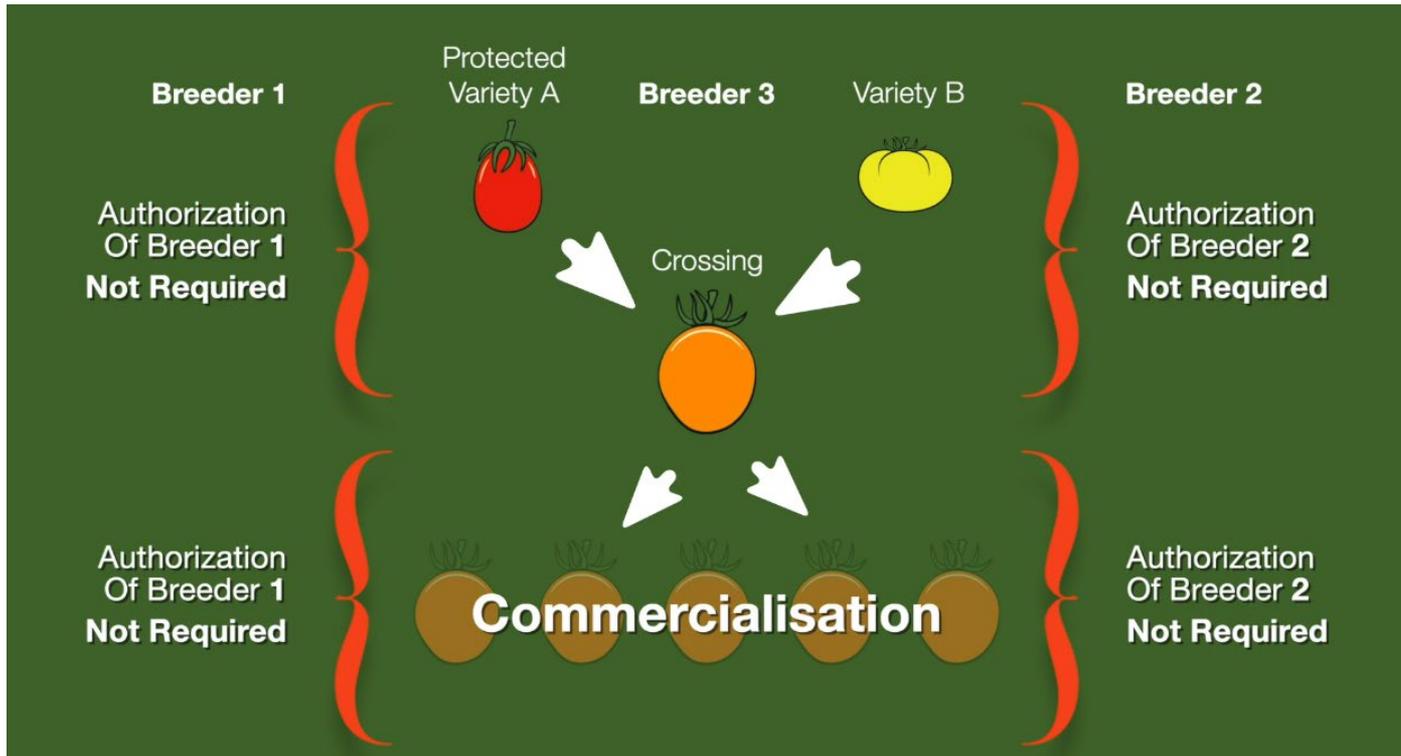
## Compulsory (1991 Act)

### Acts done:

- privately and for non-commercial purposes
- for experimental purposes
- **breeding other varieties (breeder's exemption")**

## Optional

### Farm-saved seed



**Authorization for commercialization of newly bred varieties not required except for**

(i) varieties which are essentially derived from the protected variety, where the protected variety is not itself an essentially derived variety,

(ii) varieties which are not clearly distinguishable in accordance with Article 7<sub>10</sub> from the protected variety and

(iii) varieties whose production requires the repeated use of the protected variety.

# Scope of the Breeder's Right (1991 Act)

## Article 14

### Scope of the Breeder's Right

- (1) [*Acts in respect of the propagating material*]
- (2) [*Acts in respect of the harvested material*]
- (3) [*Acts in respect of certain products*]
- (4) [*Possible additional acts*]
- (5) [*Essentially derived and certain other varieties*]**
  - (a) The provisions of paragraphs (1) to (4) shall also apply in relation to:**

# Essentially Derived Varieties

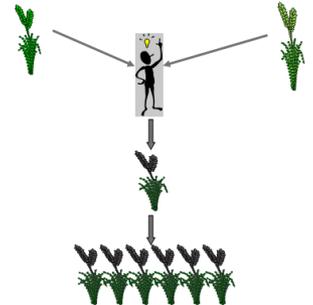
## PURPOSE:

to ensure sustainable plant breeding development by:

– providing effective protection for the breeder

and

– encouraging cooperation between breeders and developers of new technologies such as genetic modification



# Essentially Derived Varieties

## Article 14

### Scope of the Breeder's Right

(5)[*Essentially derived and certain other varieties*]

(a) [...]

(b) For the purposes of subparagraph (a)(i), a variety shall be deemed to be **essentially derived from another variety (“the initial variety”)** when

(i) it is **predominantly derived from the initial variety**, or from a variety that is itself predominantly derived from the initial variety, **while retaining the expression of the essential characteristics** that result from the genotype or combination of genotypes of the initial variety,

(ii) it is **clearly distinguishable** from the initial variety and

(iii) **except for the differences which result from the act of derivation, it conforms to the initial variety in the expression of the essential characteristics** that result from the genotype or combination of genotypes of the initial variety.

## Essentially Derived Varieties

*May be obtained for example by:*

- **selection** of a natural or induced **mutant**
- **selection** of a **somaclonal variant**
- **selection** of a **variant individual** from plants of the initial variety
- **back-crossing**
- transformation by **genetic engineering**

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# Guidance on EDV

- Resolution of the 1991 Act Diplomatic Conference

## **Resolution on Article 14(5)\***

The Diplomatic Conference for the Revision of the International Convention for the Protection of New Varieties of Plants held from March 4 to 19, 1991, requests the Secretary-General of UPOV to start work immediately after the Conference on the establishment of draft standard guidelines, for adoption by the Council of UPOV, on essentially derived varieties.

- EDV Explanatory Notes of 2009
- EDV Explanatory Notes of 2017
- Current Revision started in 2019

# Seminar on the Impact of Policy on Essentially Derived Varieties (EDVs) on Breeding Strategy in 2019



**UPOV**

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## Seminar on the Impact of Policy on Essentially Derived Varieties (EDVs) on Breeding Strategy (UPOV/SEM/GE/19)

October 30, 2019 (Geneva, Switzerland)

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## 2019 UPOV EDV Seminar - Summary

- Evidence that the current UPOV guidance does not reflect the practice amongst breeders in the understanding of essentially derived varieties (EDV).
- ***Evolution of breeding techniques has created new opportunities/incentives for predominately deriving varieties from initial varieties, more rapidly and at a lower cost.***
- Clear indication from presentations and discussions that the understanding and implementation of the EDV concept influences breeding strategy – therefore, it is ***important that UPOV guidance is tuned to maximize benefits to society in terms of maximizing progress in breeding.***