Symposium on
the Benefits of Plant Variety Protection for Farmers and Growers

The Role of PVP in Improving Incomes for Farmers and Growers

Peter Button
Vice Secretary-General, UPOV

Geneva, November 2, 2012

1

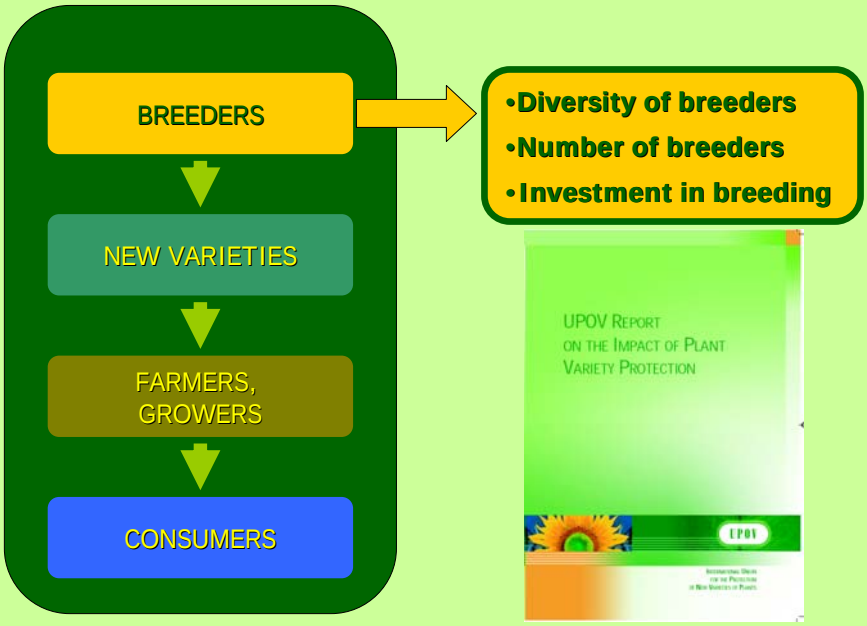
Plant Variety Protection:
Improving Income for Farmers and Growers

variety **CHOICE**
+ **INFORMATION** on performance
+ **DELIVERY** of good quality planting material
= Opportunities for
ADDED VALUE

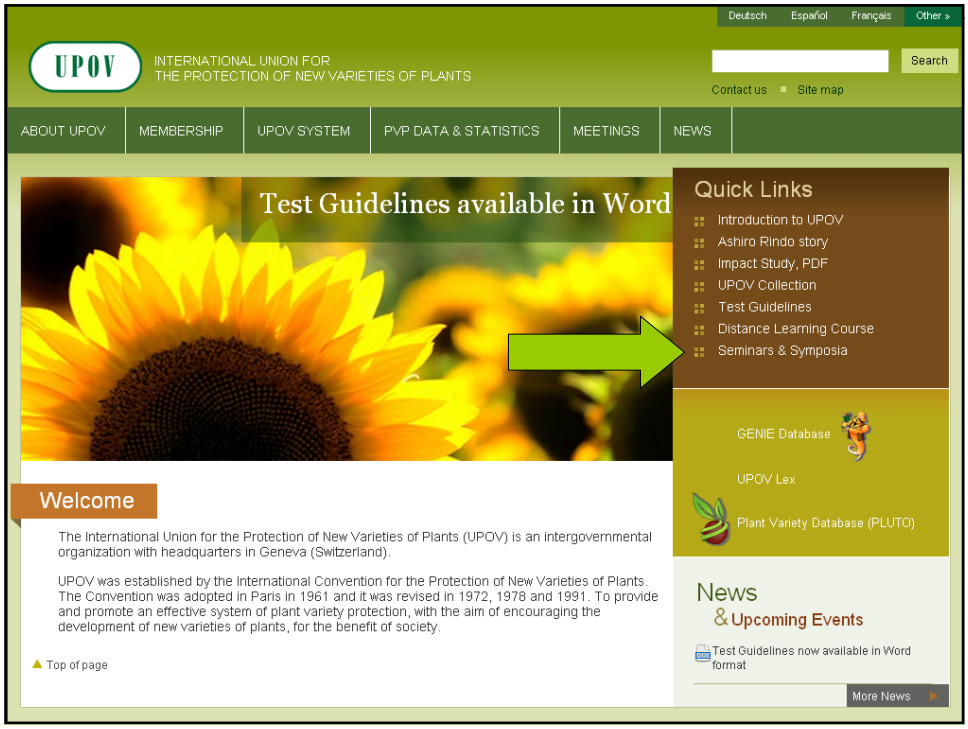
2

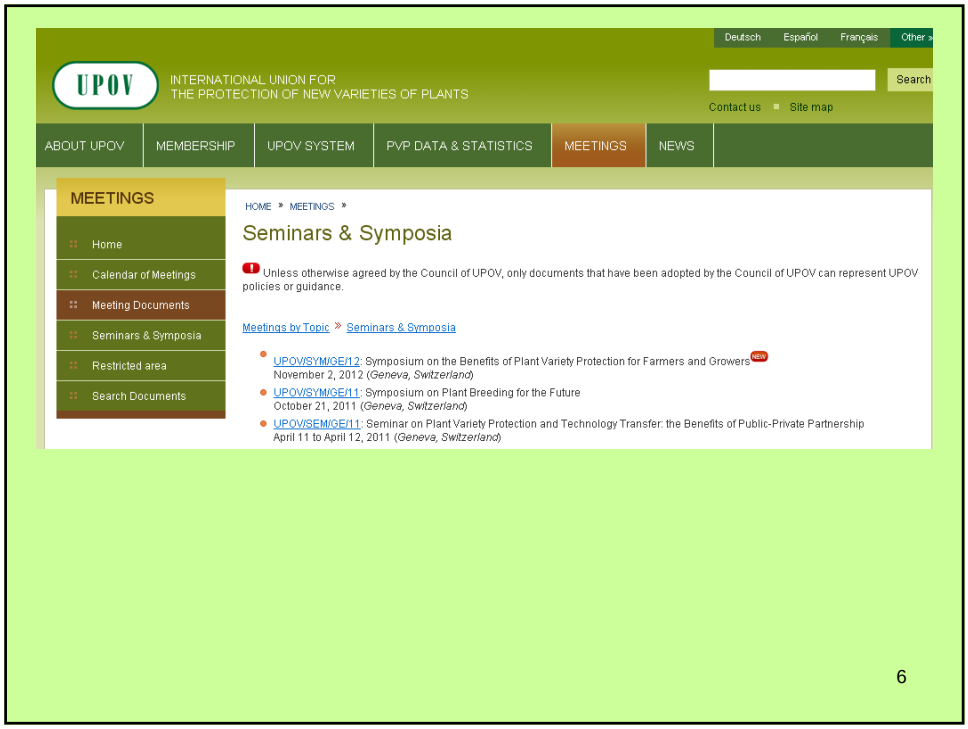
- Choice:
  - –New varieties
  - –Old varieties
  - –Diversity

3

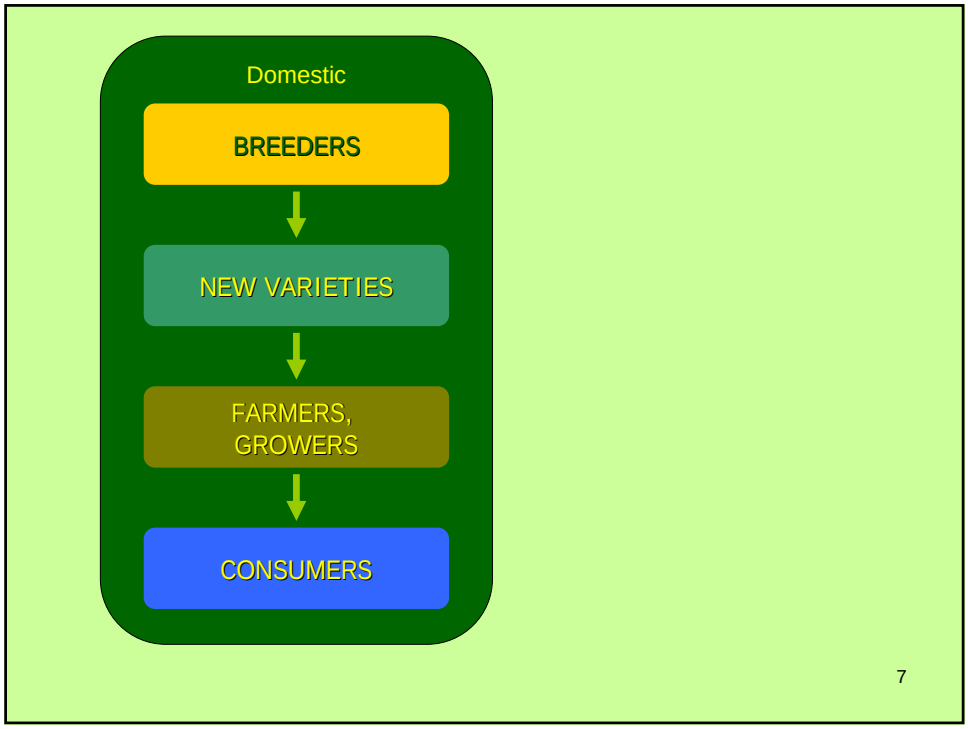


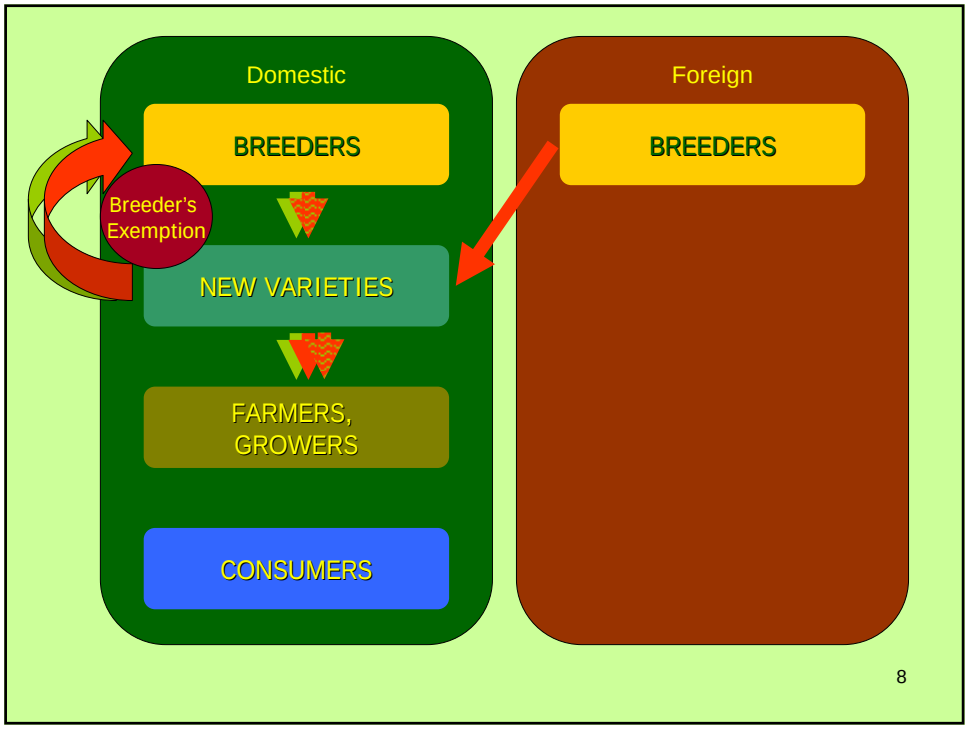
4


Deutsch
Español
Français
Other »
UPOV
INTERNATIONAL UNION FOR
THE PROTECTION OF NEW VARIETIES OF PLANTS
Search
Contact us
Site map
ABOUT UPOV
MEMBERSHIP
UPOV SYSTEM
PVP DATA & STATISTICS
MEETINGS
NEWS
Test Guidelines available in Word
Quick Links
Introduction to UPOV
Ashiro Rindo story
Impact Study, PDF
UPOV Collection
Test Guidelines
Distance Learning Course
Seminars & Symposia
GENIE Database
UPOV Lex
Plant Variety Database (PLUTO)
Welcome
The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland).
UPOV was established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991. 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.
Top of page
News
& Upcoming Events
Test Guidelines now available in Word format
More News


Deutsch
Español
Français
Other »
UPOV
INTERNATIONAL UNION FOR
THE PROTECTION OF NEW VARIETIES OF PLANTS
Search
Contact us
Site map
ABOUT UPOV
MEMBERSHIP
UPOV SYSTEM
PVP DATA & STATISTICS
MEETINGS
NEWS
MEETINGS
Home
Calendar of Meetings
Meeting Documents
Seminars & Symposia
Restricted area
Search Documents
HOME » MEETINGS »
Seminars & Symposia
Unless otherwise agreed by the Council of UPOV, only documents that have been adopted by the Council of UPOV can represent UPOV policies or guidance.
Meetings by Topic » Seminars & Symposia
UPOV/SYM/GE/12: Symposium on the Benefits of Plant Variety Protection for Farmers and Growers
November 2, 2012 (Geneva, Switzerland)
UPOV/SYM/GE/11: Symposium on Plant Breeding for the Future
October 21, 2011 (Geneva, Switzerland)
UPOV/SEM/GE/11: Seminar on Plant Variety Protection and Technology Transfer: the Benefits of Public-Private Partnership
April 11 to April 12, 2011 (Geneva, Switzerland)

6


Domestic
BREEDERS
NEW VARIETIES
FARMERS, GROWERS
CONSUMERS
7


Domestic
Foreign
BREEDERS
BREEDERS
Breeder's Exemption
NEW VARIETIES
FARMERS, GROWERS
CONSUMERS
8

- Choice:
  - –New varieties
  - –Old varieties
  - –Diversity

9

Old Varieties

- Access to old, unprotected varieties is not governed by plant breeders' rights
- A variety must be **NEW** to be eligible for protection
- Only the **BREEDER** of a new variety is entitled to protection

10

- Choice:
  - –New varieties
  - –Old varieties
  - –Diversity

11

GENETIC DIVERSITY IN AGRICULTURE:
TEMPORAL FLUX, SUSTAINABLE PRODUCTIVITY AND FOOD SECURITY **(GEDIFLUX)**

- Project to determine any changes to genetic diversity in past 50 years: barley, wheat, maize, and potato
- Over 500 European winter wheat varieties originating from 1940's through to 2000 from ten northern European countries.

An EU funded project carried out by the following:

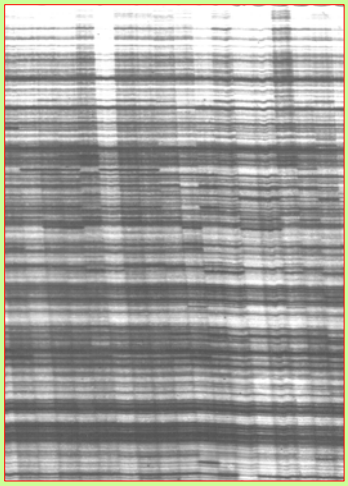
F Leigh1, E Chiapparino1, P Donini1, M Ganal4, J Guiard2, S Hamrit3, M Heckenberger3, X-Q Huang5, M van Kaauwen8, E Kochieva8, R Koebner6, J R Law1, V Lea1, V Le Clerc2, T van der Lee8, G van der Linden8, L Malysheva5, A E Melchinger3, S Orford6, D O'Sullivan1 J C Reif3, M Röder5, A Schulman7, B Vosman8, C van der Wiel8, M Wolf4, D Zhang2, J C Reeves1

1NIAB, 2GEVES, 3University of Hohenheim., 4TraitGenetics GmbH, 5Institut für Pflanzengenetik und Kulturpflanzenforschung (IPK), 6John Innes Centre, 7University of Helsinki (UH) and MTT Agrifood Research Finland, 8Plant Research International (PRI).

12

Techniques for Assessing Diversity (1)

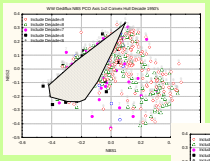
- **Nucleotide Binding Site - Leucine Rich Repeat (NBS-LRR)**
- A DNA profiling approach relying on conserved sequence domains targeting disease resistance (R) genes and analogues (RGA)
- More functional than random markers due to the tight linkage of markers to R genes and R gene clusters which can lead to the mining of novel alleles and resistance



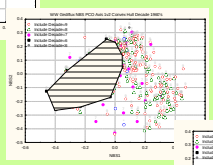
13

Principle Coordinate Analysis (PCO) was deemed the best graphical representation of the data

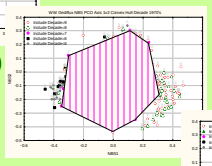
Convex hulls then show the extent of divergence



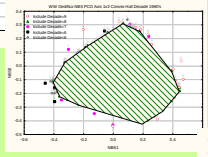
Pre 1960s



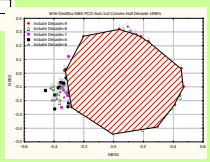
1960 - 1970



1970 - 1980



1980 - 1990



1990 - 2000

14

GENETIC DIVERSITY IN AGRICULTURE:
TEMPORAL FLUX, SUSTAINABLE PRODUCTIVITY AND FOOD SECURITY **(GEDIFLUX)**

- No significant loss in wheat genetic diversity […]

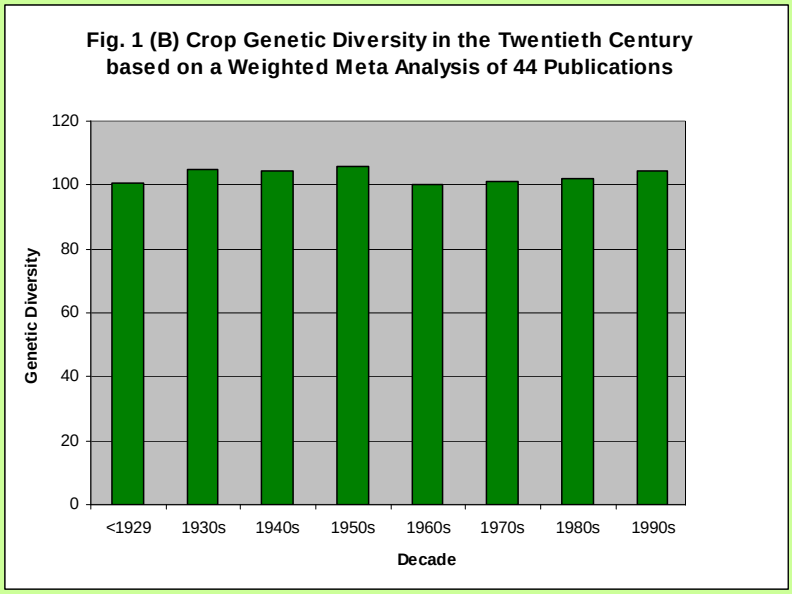
15

GENETIC DIVERSITY TRENDS IN TWENTIETH CENTURY CROP CULTIVARS: **A META ANALYSIS**

- Meta analysis of 44 published papers
- Barley, Flax, Maize, Oat, Pea, Rice, Soybean, Wheat
- Argentina, Brazil, Bulgaria, Canada, Central Europe, China, Czech Republic & Slovakia, Developing countries, Europe, France, Italy, Italy & Spain, Nordic countries, Nordic & Baltic countries, Serbia, Siberia, Spain, Republic of Korea, Russian Federation, UK, UK & Europe, USA, Yugoslavia

Genetic diversity trends in twentieth century crop cultivars: a meta analysis
Mark van de Wouw • Theo van Hintum • Chris Kik • Rob van Treuren • Bert Visser
Theor Appl Genet (2010) 120:1241–1252

16



17

GENETIC DIVERSITY TRENDS IN TWENTIETH CENTURY CROP CULTIVARS: **A META ANALYSIS**

Abstract

[…] The meta analysis demonstrated that overall in the long run no substantial reduction in the regional diversity of crop varieties released by plant breeders has taken place. A significant reduction of 6% in diversity in the 1960s as compared with the diversity in the 1950s was observed. Indications are that after the 1960s and 1970s breeders have been able to again increase the diversity in released varieties. Thus, a gradual narrowing of the genetic base of the varieties released by breeders could not be observed. Separate analyses for wheat and the group of other field crops and separate analyses on the basis of regions all showed similar trends in diversity.

Genetic diversity trends in twentieth century crop cultivars: a meta analysis
Mark van de Wouw • Theo van Hintum • Chris Kik • Rob van Treuren • Bert Visser
Theor Appl Genet (2010) 120:1241–1252)

18

Dok-Ya-Cheong-Cheong
Resistant to phytophthora blight/virus

Phytophthora blight (Fungal disease):
- above : **Resistant variety**
- below: **Susceptible variety**

Chang Hyun Kim, Second World Seed Conference

19

Figure 15. Argentina: Proportion of certified seed arising from new, protected varieties (wheat)

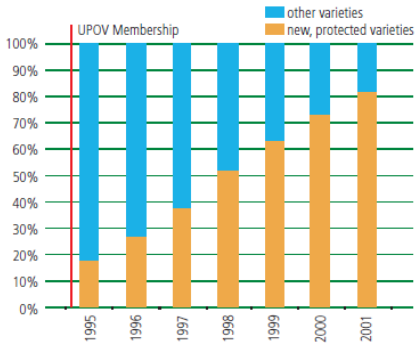
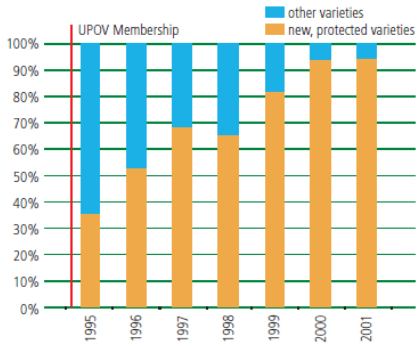


Figure 16. Argentina: Proportion of certified seed arising from new, protected varieties (soybean)

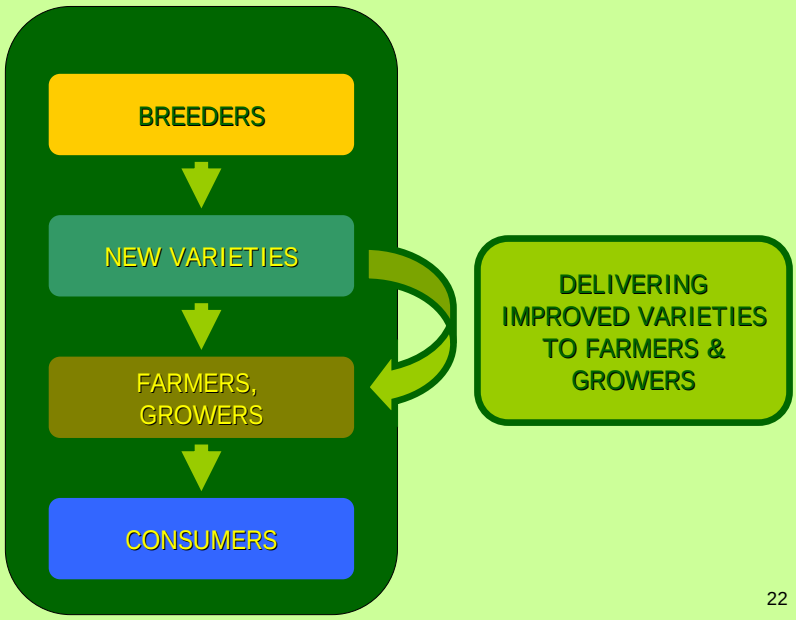


20

- Choice
- Information & Delivery
- Opportunities for Added Value

21

Information & Delivery



22

UPOV

Seminar on PVP & Technology Transfer: the Benefits of Public-Private Partnership

April 11-12, 2011

23

Technology Transfer by the Private Sector

Chair: Kitisri Sukhapinda Conclusions – Session 2

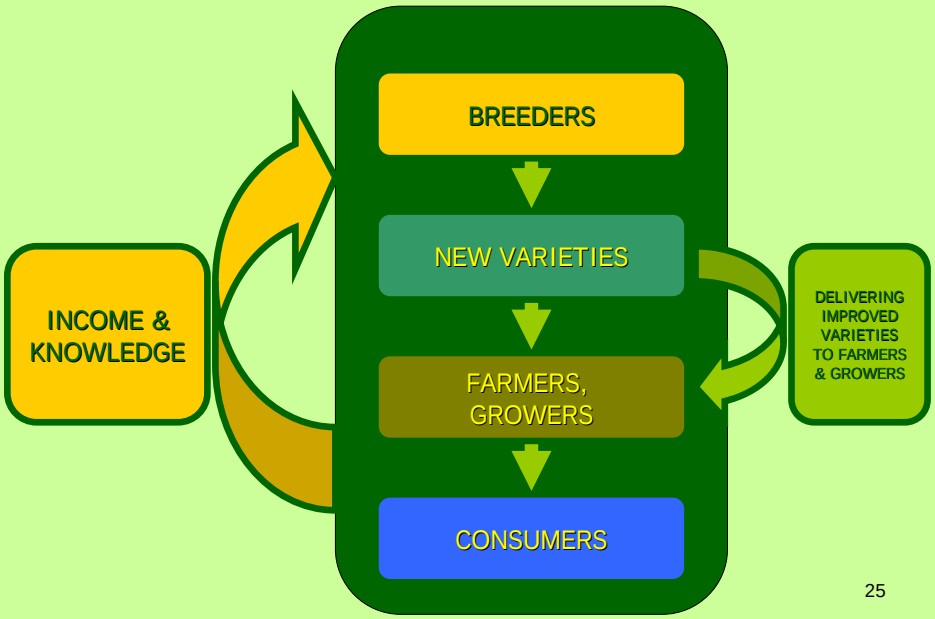
Private sector:

- An effective means of delivering varieties to farmers
- Assessment of the market potential of varieties
- Link between public research and the needs of farmers
- Provides a channel for income for public sector research
- Facilitates strategic associations and coordinated technology transfer

1. Willi Wicki , DSP
2. Barry Barker, Masstock Arable
3. Diego Risso, URUPOV
4. Evans Sikinyi, KY

Chair: Kitisri Sukhapinda

Information & Delivery



25

- Choice
- Information & Delivery

Stephen Smith

•Investing to deliver the varieties that farmers and growers need

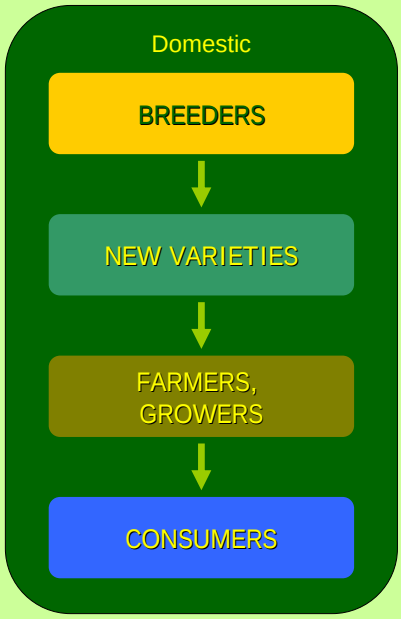
Vuyisile Phehane

•Delivering high performance varieties to subsistence/small-holder farmers

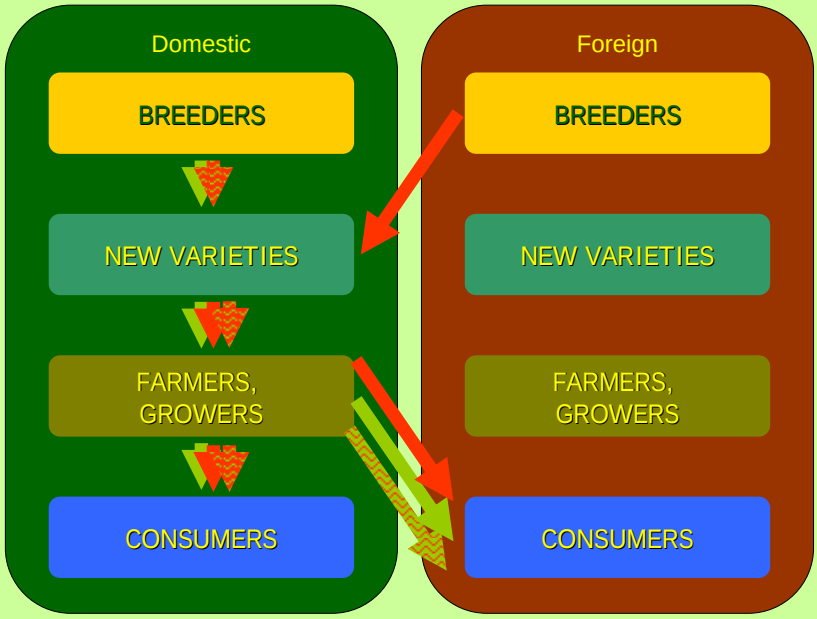
26

- Choice
- Information & Delivery
- Opportunities for Added Value

27



28



29

Opportunities for Added Value

Stephen Mbithi

•The experience of small-holder flower growers in Kenya

Philippe Toulemonde

•The use of plant variety protection to add value for fruit growers

Eduardo Baamonde

•Adding value for grower cooperatives

Oscar Stroschon

•The use of plant variety protection to add value for farmers in Brazil

30

Plant Variety Protection:
Improving Income for Farmers and Growers

variety **CHOICE**
+ **INFORMATION** on performance
+ **DELIVERY** of good quality planting material
= Opportunities for
ADDED VALUE

31

THANK YOU

32