



# Benefits of a PVP system

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# Outline

1. Role of Plant Breeding
2. Importance of Plant Breeders Rights for breeders
3. Benefits of a Plant Breeders Rights system for farmers and society



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## 1. Role of Plant Breeding

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# 1. Role of Plant Breeding

## Agricultural challenges in the next 50 Years

- World population will reach 9 billion people
- requires a significant increase in food production
- sustainable increase in agricultural productivity is essential
- there are risks linked to Climate change
- maximize effective use of available water becomes important
- decrease net CO<sub>2</sub> emissions and other greenhouse gases
- .....

➔ Genetic contributions from plant breeding are critically important



# 1. Role of Plant Breeding

- PB is part of the innovation chain from fundamental research through to the production and marketing of seeds
- PB is the basis for propagation material in agriculture and horticulture
  - Contributes to a continuous increase of yield
  - Important contribution to food security
  - Contributes to sustainability in agriculture
  - Contributes to ecological policy objectives
- PB is a relevant technology for the adaptation of food production to climate change

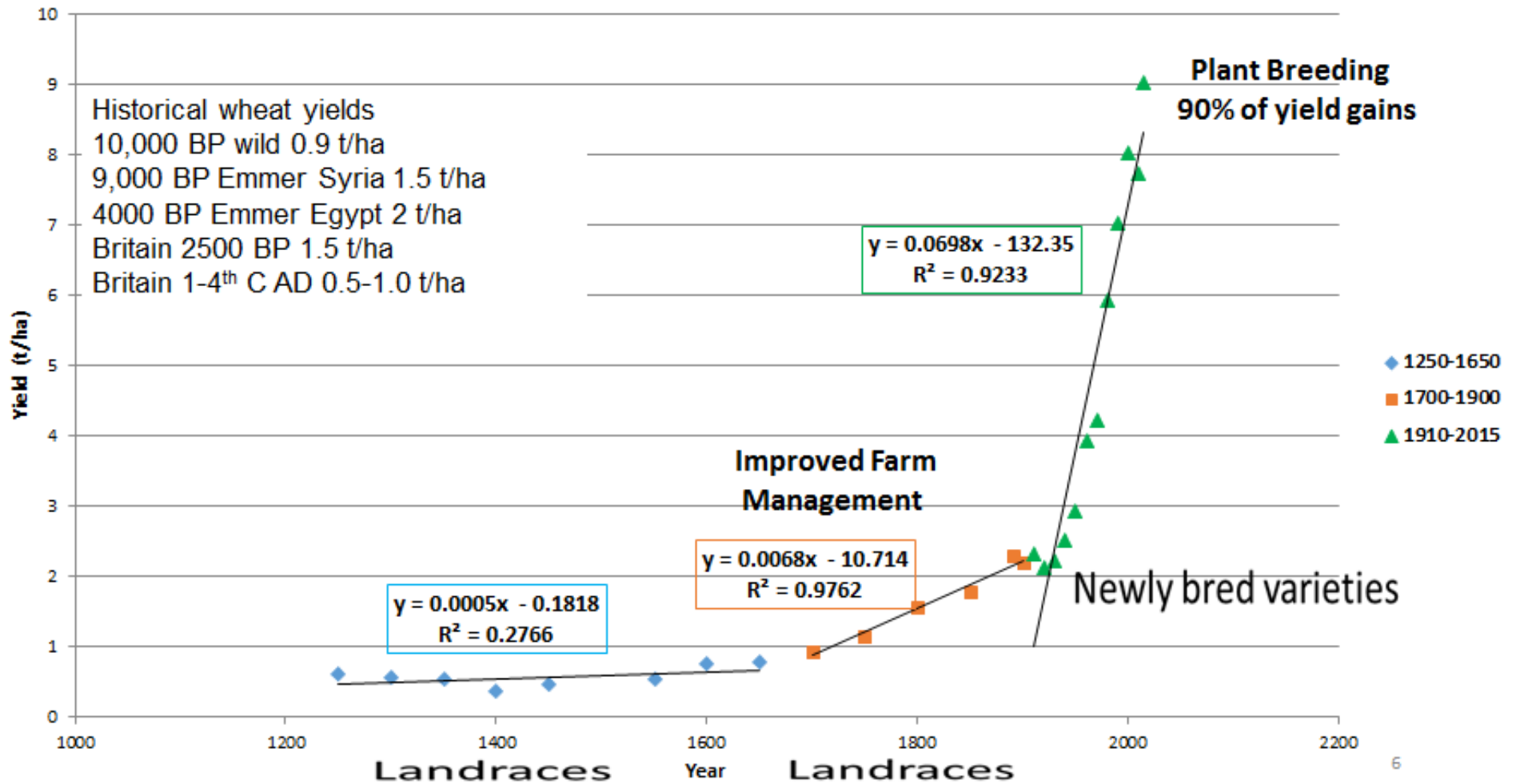


# 1. Role of Plant Breeding

- PB is a long term and costly activity
- Investment in R&D is very high, 15-25% of turnover of companies
- PB is a cutting edge technology - more research intensive than the pharmaceutical industry
- Investments in R&D have increased over years
- The duration for the development of varieties has decreased in the recent past – high turnover of varieties



# Historical and UK Wheat Yields 500BC-2015AD



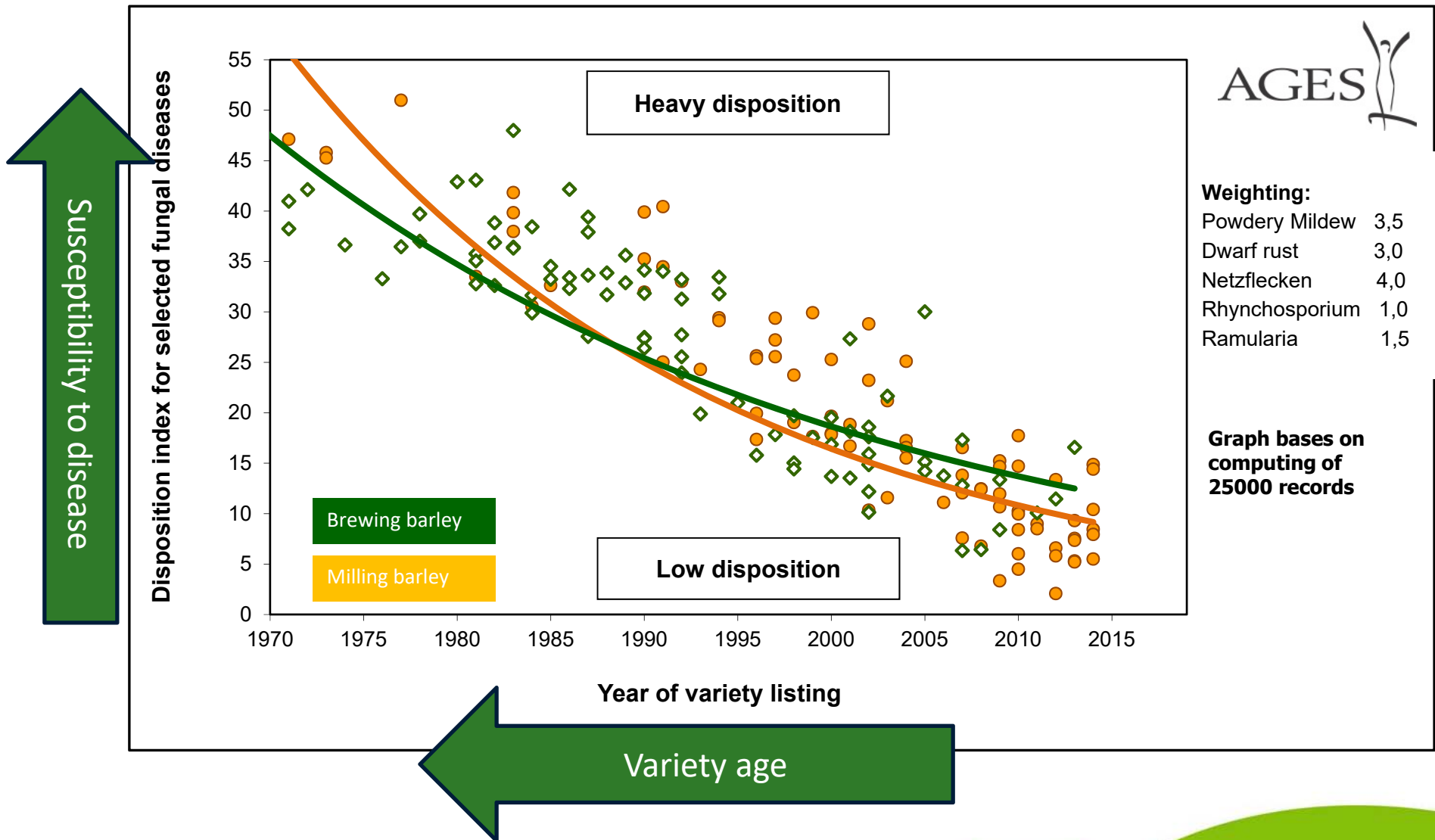
“Analysis of the Interrelations between Farmers’ Rights and Plant Breeders’ Rights Under the ITPGRFA and the UPOV Convention” Prepared by: Mr. Stephen Smith Professor in Agronomy, Iowa State University, United States of America

Symposium on Possible Interrelations between the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the International Convention for the Protection of New Varieties of Plants (UPOV Convention) Geneva October 26, 2016

Seminar Tartu March 04 2020



# Disposition for selected diseases on varieties on summer barley Pannonic (dry) climate zone of eastern Austria



Source: Austrian Agency for Health and Food Safety, 2015: Austrian descriptive list of varieties of agricultural

Crop species, Issue 21/2015, ISSN 1560-635X.

Mr. Clemens Flamm





## Glucosinolate content

from 100  $\mu$ moles ('Jetneuf') to 12  $\mu$ moles ('Samouraï')

LEAR: Low Erucic Acid



HOLLI: High Oleic and Low Linolenic



# 1. Role of Plant Breeding

## Economic Study 2000-2013



### Without plant breeding:

- ✓ EU would have moved from being net EXPORTER to net IMPORTER in all major agricultural crops (including wheat and barley)
- ✓ European farmers would be 30% worse off
- ✓ Europe would need an extra 19 million hectares of farmland to produce the same amount of food

### Plant breeding has increased wheat harvest by 15%



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## 2. Importance of plant breeders rights for breeders

- A UPOV style PBR system is specifically designed for the breeding of new varieties
- PBRs protect the result of breeding and assures an adequate return on investment for the breeder
- The breeders exemption provides access to the newest genetic material for further breeding
- Breeders continue to develop new varieties if there is insurance of a good return on investment



encouragement for the development of new varieties



## 2. Importance of plant breeders rights for breeders

### Plant breeders rights:

- create an incentive to stimulate **new breeders** and new breeding work;
- create positive effects equally to the **private breeding** sector, the **public breeding** sector or to **partnerships** between the two;
- provide important benefits in an international context by **removing barriers to trade in varieties**;
- as a consequence of the breeder's exemption domestic breeders also gain **access to valuable varieties** for use in their breeding programs.



## 2. Importance of plant breeders rights for breeders



### Importance of a solid protection:

- An imperfect, non solid protection of newly bred varieties can lead to the erosion of incentives to further investments in breeding
- One factor of erosion is the incapacity of breeders to collect royalties
- In addition to the license fee for certified seed, the fee for farm saved seed is a decisive income factor for private breeding
- the absence (or non-payment) of this fee reduces breeding activities and, as a consequence, limits genetic progress



## 2. Importance of plant breeders rights for breeders

Introduction of a PVP system in a territory has led to:

- increase in the number of applications for variety protection;
- increase in the number of applications from breeders not based in the territory;
- an increasing availability of improved varieties for farmers;
- increased access to foreign varieties/germplasm,
- increased number of commercial breeding entities



## 2. Importance of plant breeders rights for breeders

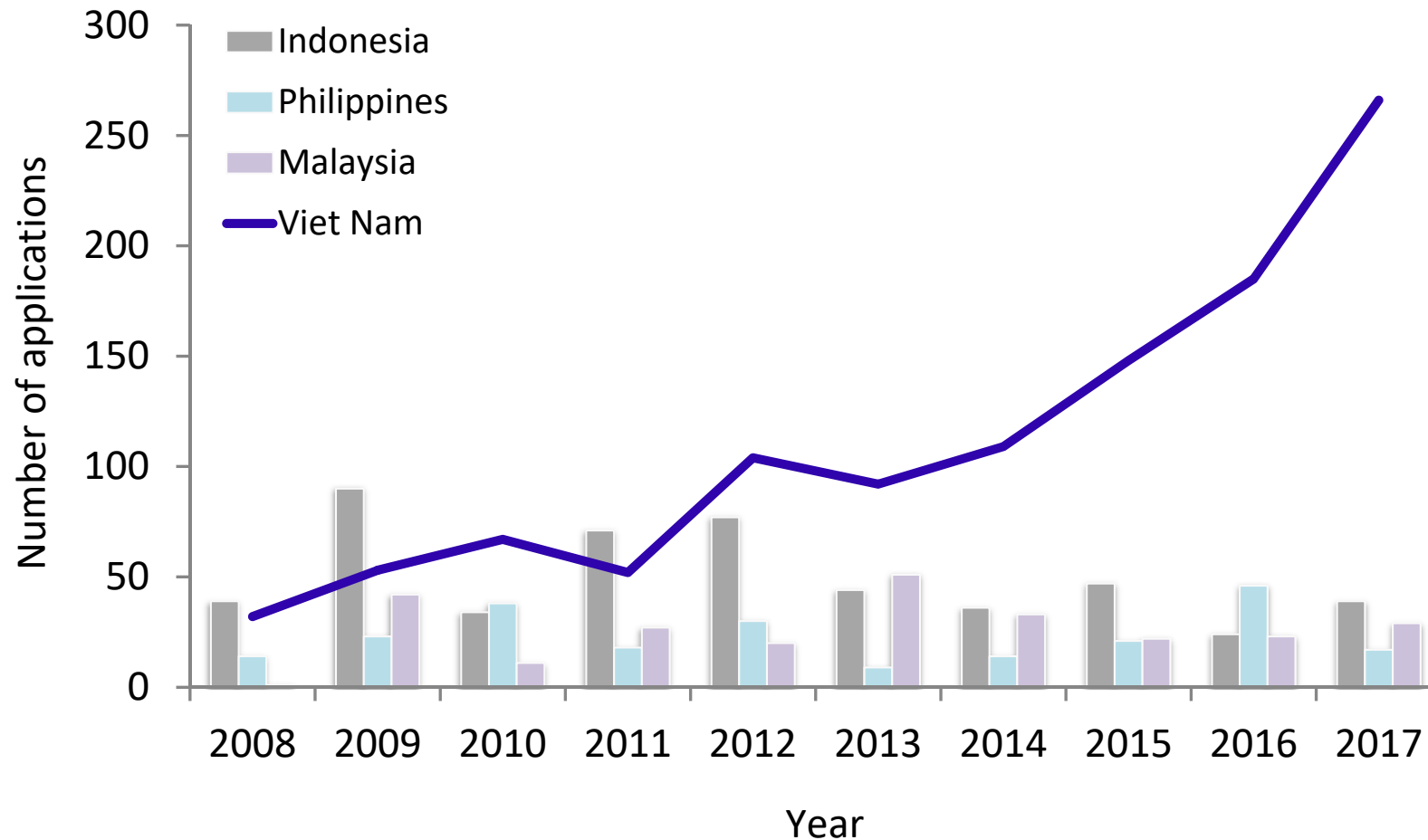
### Canada's Experience Moving to UPOV'91

- Bayer Crop Science **new investments** in wheat breeding
- Limagrain/Canterra Seeds **partnership** – cereal breeding
- **New PBR applicants** in the agriculture sector





## 2. Importance of plant breeders rights for breeders



1. Erizal Jamal, Director, Center for Plant Variety Protection & Agriculture Permits, Indonesia. 10<sup>th</sup> East Asia Plant Variety Protection Forum Meeting
2. Dr. Mary Ann P. Sayoc, President, Philippine Seed Industry Association. National Seminar on Benefit of The Plant Variety Protection System, Philippines (11<sup>th</sup> EAPVP ), August 2, 2018
3. Sri Ikarostika Rahayu Binti Muhammad Ghazi. Department Of Agriculture, Malaysia. National Seminar on Benefit of The Plant Variety Protection System, Philippines (11<sup>th</sup> EAPVP ), August 2, 2018
4. Nguyen Thanh Minh, PVPO, Mard/Viet Nam. National Seminar on Benefit of The Plant Variety Protection System, Philippines (11<sup>th</sup> EAPVP ), August 2, 2018

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### 3. Benefits of a Plant Breeders Rights system for farmers and society

- incentive to stimulate new breeders and new breeding work
  - Bigger choice of varieties
- providing a basis for more effective breeding work at the domestic level.
  - Better performing varieties
- provide important benefits in an international context by removing barriers to trade in varieties
  - Access to a wider scope of varieties



### 3. Benefits of a Plant Breeders Rights system for farmers and society

- as a consequence of the breeder's exemption domestic breeders also gain access to valuable varieties for use in their breeding programs.
  - Local economy benefits
- the international aspect is an important means of technology transfer and effective utilization of genetic resources.
  - Local economy benefits



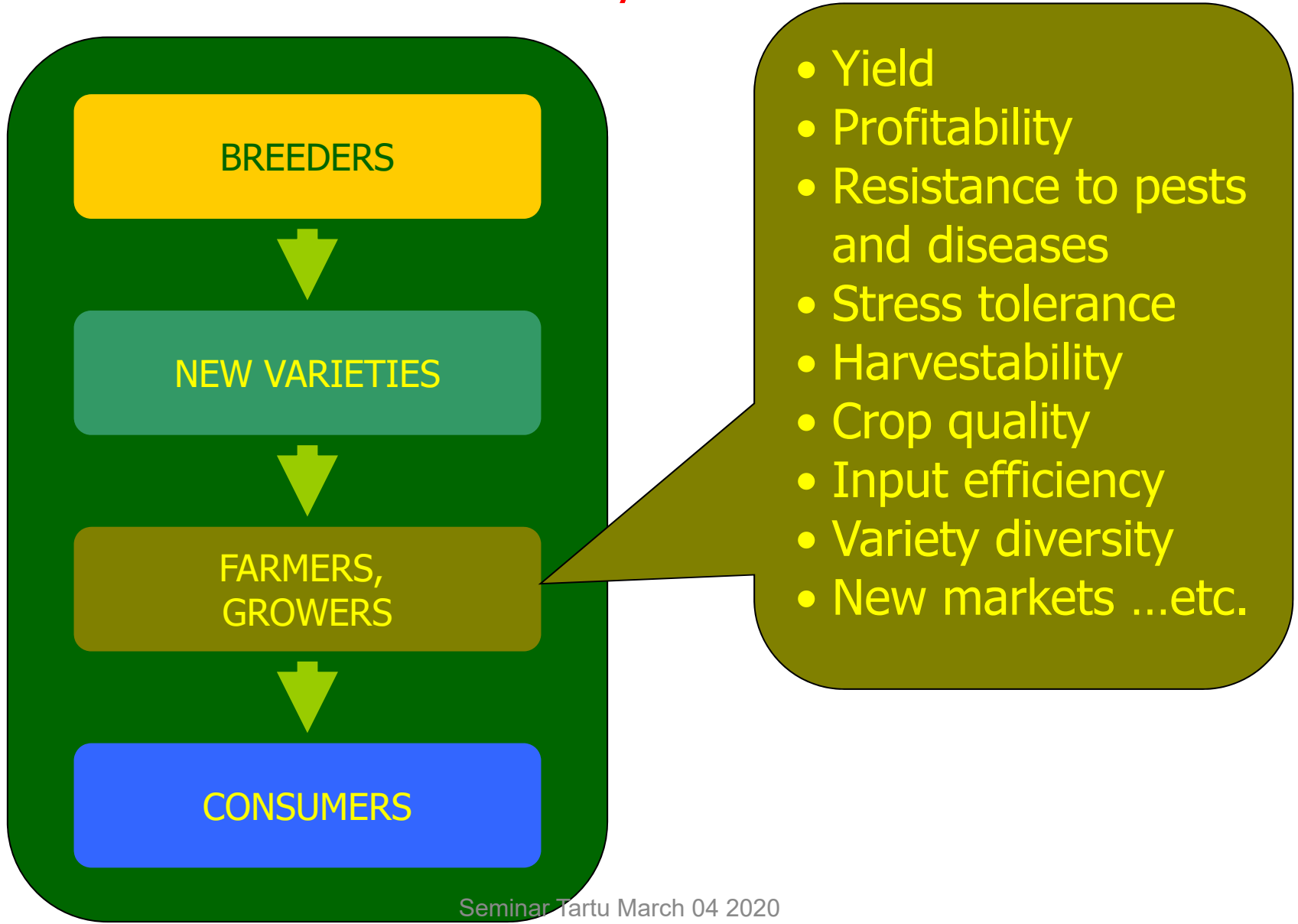
### 3. Benefits of a Plant Breeders Rights system for farmers and society

#### Lack of payment of royalties:

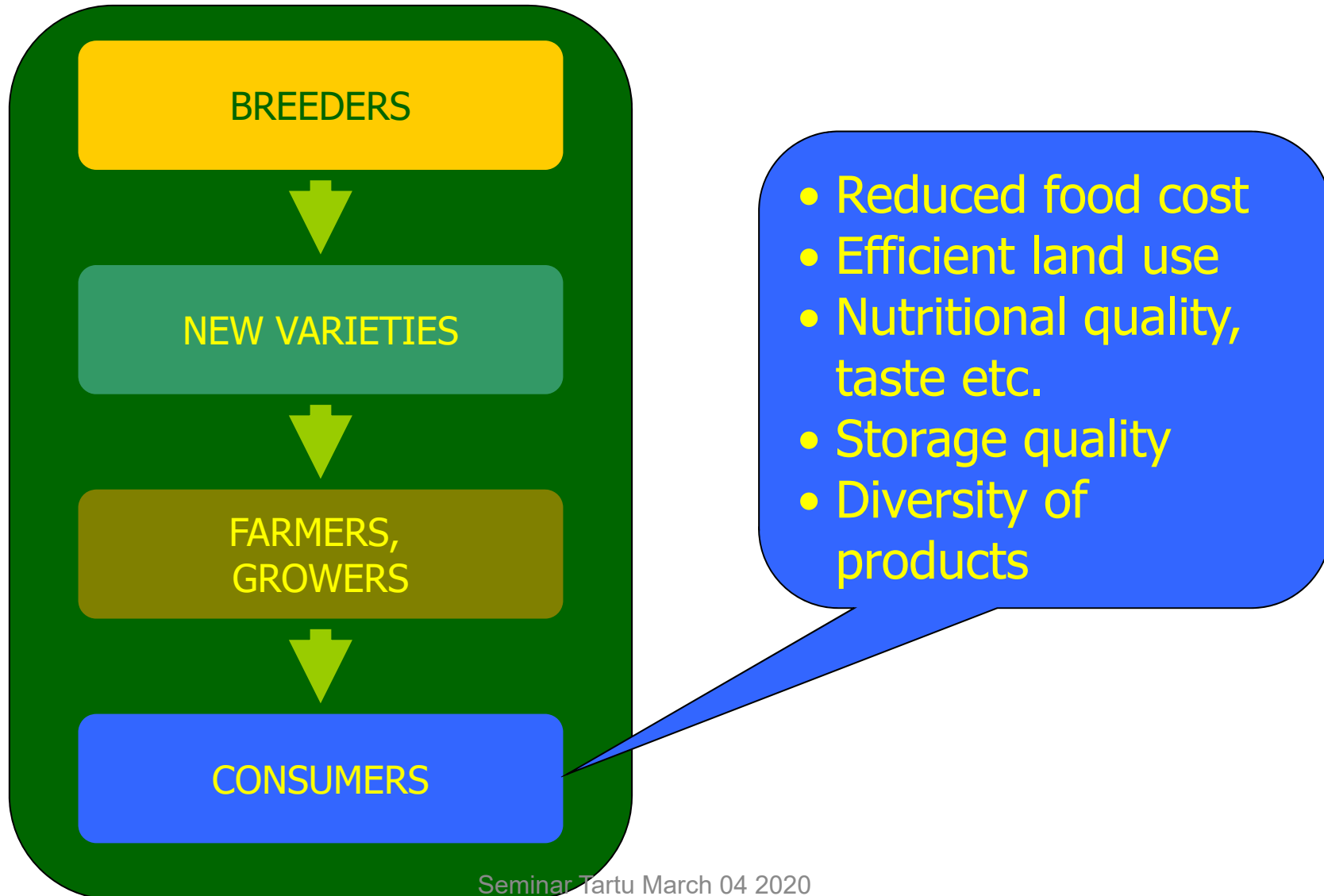
- For an individual farmer  
In the short term, may seem economically expedient, in the long term the economic prospects are fatal
- Affects the competitive position of breeders
- In a next step also the position of farmers will be weakened,  
short-term profits of individual farmers will become long-term losses for the agricultural community and society as a whole



### 3. Benefits of a Plant Breeders Rights system for farmers and society



### 3. Benefits of a Plant Breeders Rights system for farmers and society





# Questions?



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