

## INTRODUCTION

- ✘ Derk Gesink 37 years old
- ✘ Married, 3 children
- ✘ Education: Wageningen University 1993-1998



## INTRODUCTION

- ✘ Seed potato's 77ha



## INTRODUCTION

- ✘ Potato Breeder 1 ha





## INTRODUCTION



## IMPORTANCE OF BREEDING

- ✘ Production of potato needs 2 times less water as pasta, 3 times less water as rice
- ✘ Rich carbohydrate source, with high nutrition value



Energie-, water- en landgebruik voor de productie van een portie aardappelen, macaroni en rijst. (Bron: Gerbens-Leenes, 2006)

	200 g aardappelen	80 g macaroni	80 g rijst
Energiegebruik (MJ)	0,4	1,1	1,8
Watergebruik (l)	69	128	183
Landgebruik (m <sup>2</sup> )	0,04	0,15	0,27

## IMPORTANCE OF BREEDING

- ✘ Breeding potato started in 19th century
  - + By School teachers, old farmers and do gooders



- + In 1930's first PVP law in the Netherlands

## IMPORTANCE OF BREEDING

- ✘ In 1950's Dutch government invested in pre-breeding programs. Food is priority no 1!
  - + The golden triangle
  
- ✘ 1990's cooperatives takes over pre-breeding programs. Government withdraws. Food no longer priority.

## IMPORTANCE OF BREEDING

✦ 8 Billion people in 2025

✦ *World Population Prospects: The 2010 Revision*

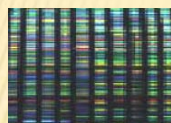
✦ Development of a new variety still takes 12 years

✦ Let's start today!

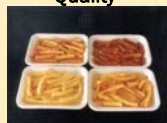


## HOW CAN WE MAKE BETTER VARIETIES?

MOLECULAR  
BIOLOGY



Quality



"PRE - BREEDING"



RESISTANCE

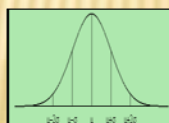


Breeding



AGRONOMICS

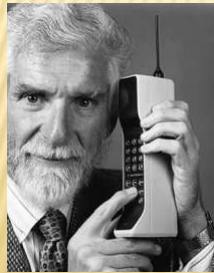
BIOMETRICS





## BREEDING BROUGHT US

- ✘ Better resistances
- ✘ Higher Yield's
- ✘ Lower inputs
  - + Minerals, water, energy



## IMPORTANCE OF PVP

- ✘ Best way for developing agriculture is better food prices
  - ✘ Lack of investments in '90 are the base of today's food crisis
  - ✘ More resources available for research
  - ✘ Eventually because of new investments food prices will become lower



## IMPORTANCE OF PVP

- ✘ In-vitro techniques
  - + potato can be reproduced much easier
  - + Varieties can be exported to countries that have very strict phytosanitary demands



## IMPORTANCE OF PVP

- ✘ Internet generation:
  - ✘ Why should we pay for intellectual property?



- ✘ Patent Wars : Innovation or Monopoly



## IMPORTANCE OF PVP

- ✘ Innovation is the key!
  - + “Very small things I don’t really call that innovative. I wish everybody would just agree to exchange all the patents and everybody can build the best forms they want to use everybody’s technologies.”

✘ Steve Wozniak, co-founder of Apple

