

# The Dutch model of cooperation between market - research- education

INDAGRA Bucharest

28 October 2015 Henk van Reuler



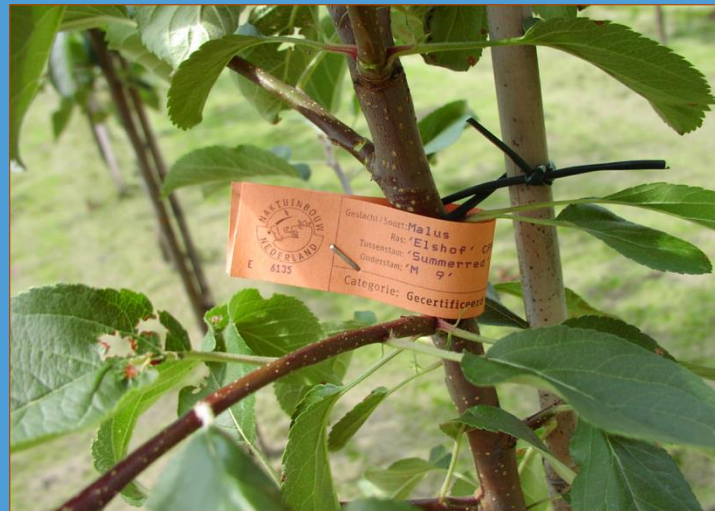
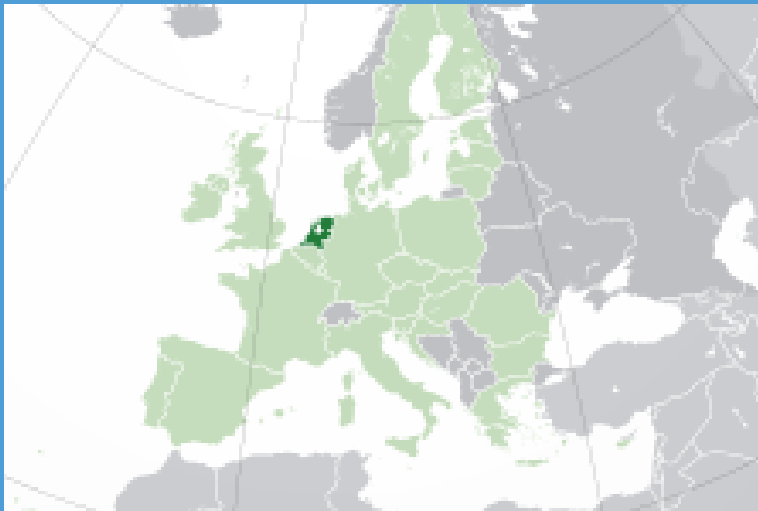
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# Introduction

- Netherlands 16.8 million inhabitants
- Population density 498/km<sup>2</sup>
- Agriculture is very important
  - After US 2<sup>e</sup> exporter
- One Agricultural University



# Introduction

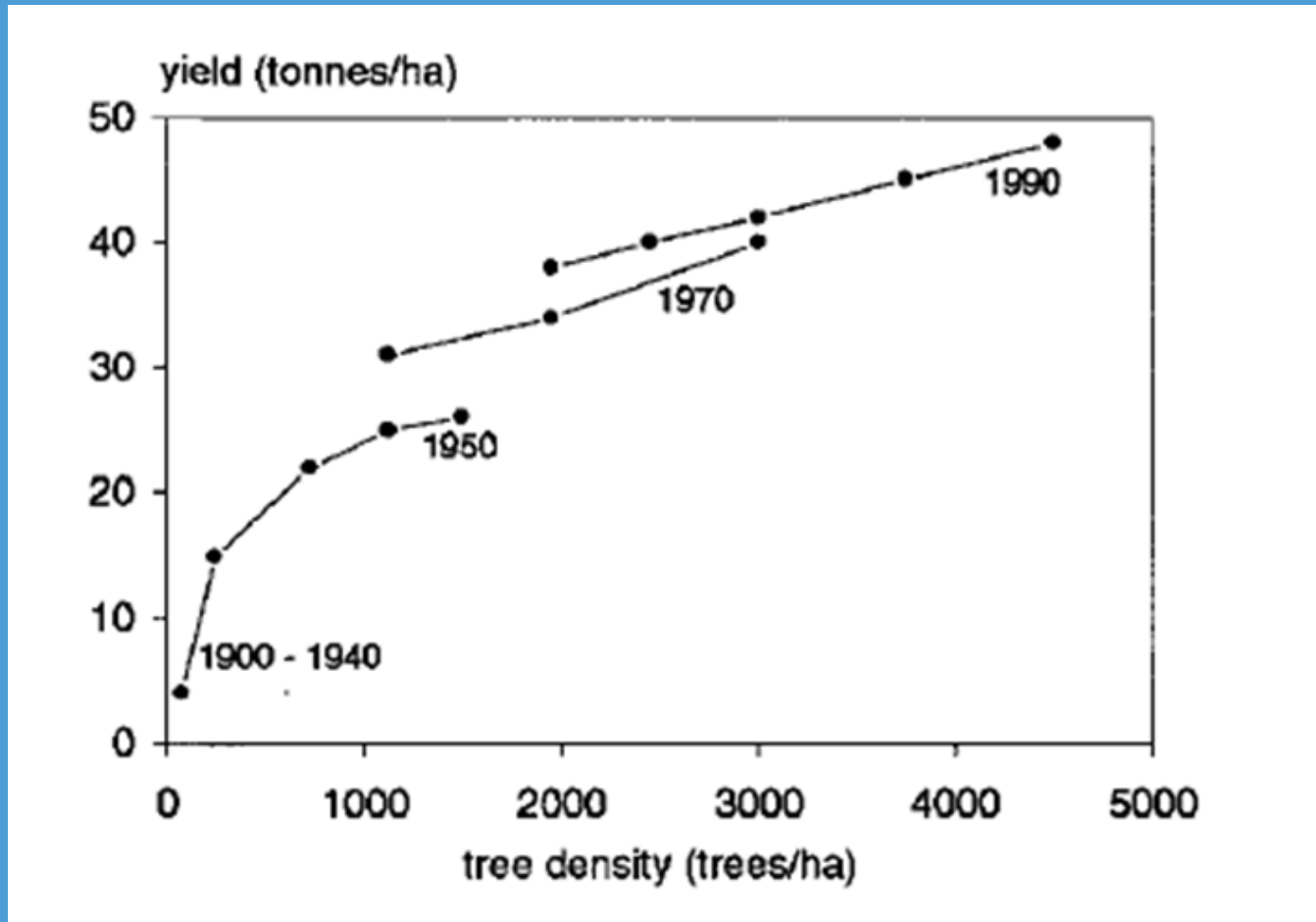
## Surface area development (ha)

Year	Apple	Pear	Other fruit	Fruit trees	Total
2000	12834	6019	1747	1251	21851
2005	9737	6692	2138	1257	19825
2010	8681	7995	2800	1375	20851
2013	7906	8509	2647	1589	20651



# Introduction

## Intensification



(Wagenmakers, 1995)



*nak! tuinbouw*



# Production in the Netherlands

## Annual production Fruit trees:

- 40 million rootstocks (99% certified Virus Free)
- 9 million fruit trees, of which:
  - 75 % certified Virus Free (orange label)
  - 25 % not certified, so CAC-material

# Production in the Netherlands

## Annual production Fruit trees :

- +/- 250 nurseries
  - 20 nurseries with 80% of the production
- +/- 1250 hectares, of which:
  - 800 ha fruit trees
  - 50 ha soft fruitplants (excl. strawberry)
  - 400 ha rootstocks



# Varieties in NL, rootstocks

- Rootstock apple
  - M 9
  - M 26
  - MM 106
- Rootstock pear
  - Quince MC
  - Quince MA
  - Quince Adams

All varieties are available in the Netherlands

# Varieties in NL, fruits

- Apple
  - Jonagold group
  - Elstar group
  - Golden delicious group
- Pear
  - Conference
  - Doyenné du Comice

Almost all varieties are VF available in NL

# Basic inspection procedures

- All nurseries are registered and under supervision of inspection service Naktuinbouw
- Field inspections (identity, health, quality) 2 times a year (specialized inspector)
- Plant passport issued (authorisation to use or make plant passports by suppliers)
- Material sold with suppliers document (CAC)
- An annual check of administration

# Zona Protecta

- In NL 10 Buffer zones (minimum area 50 km<sup>2</sup>)
- Two inspections production locations, one inspection in surrounding zone
- Production locations are tested on Erwinia
- Whole zone is kept free from Erwinia (immediate removal infected plants when identified)
- Zp,b2 plantpassport issued.

# Elements fruit tree certification

- Identity: pomological control, variety description, registration required
- Virus free: found free of all relevant (EPPO) viruses
- Grown separated from non certified plants
- Virus checks during phases of production
- Labelling of individual plants at marketing

# Types of material

- Certified virus free (VF) (official orange label)
- Non certified CAC : no official label

Qualification Virus tested (VT) is not used in NL system





# Challenges for Romania

- Development/access to Virus free material
- True to type (labelling and certified)
- All varieties available as VF
- Free from Q organisms (PPV)
- Extra controlled for Erwinia
- Substantially free from harmful diseases
- Nurseries fully controlled by inspection body
- Full traceability

# Wageningen University & Research Centre

- One Agricultural University
- Wageningen location of many institutes
- Wageningen University & Research Centre
  - 5.000 staff
  - 10.000 students
  - 107 nationalities

# Wageningen University & Research centre



# Wageningen University & Research centre

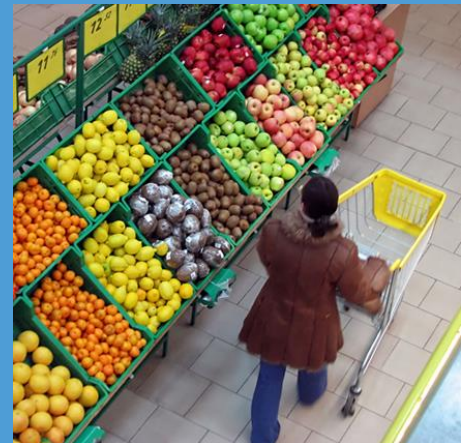


# Fruit Knowledge Centre Randwijk

- Wageningen UR – Applied Research
  - Independent
  - Project based
- Advisory service (Fruitconsult) a.o. responsible for garden
- Advisory service (DLV)
- Fruit grower (Vernooij)
- NFO (Dutch Fruit growers Association)

# Characteristics of applied research

- Entire chain from plant production till consumer
- Applicable knowledge through co-operation of science and practice
- Integrated approach with different research disciplines
- Networks in industry and science
- Sustainable solutions to improve output and innovative strength of individual companies





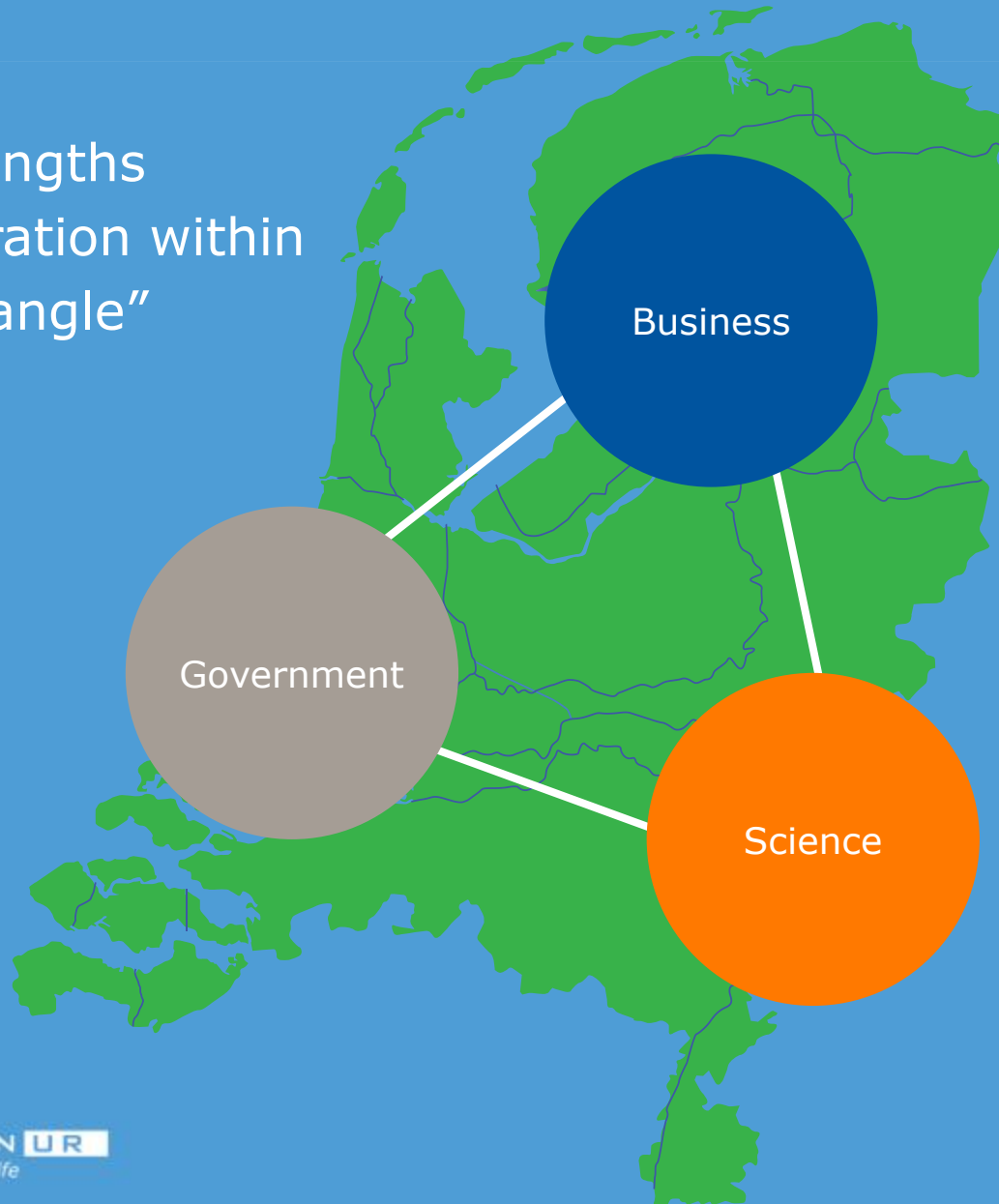
# Our research topics

- Soil
- Plant health
- Sustainable fruit production systems
- Optimisation of fruit cultivation
- Quality in the chain, incl. post harvest
- Innovations in European co-operation
  - EUFRIN
  - European projects



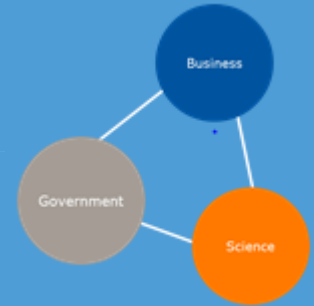
# The Golden Triangle

Combining strengths  
through cooperation within  
the 'Golden Triangle'



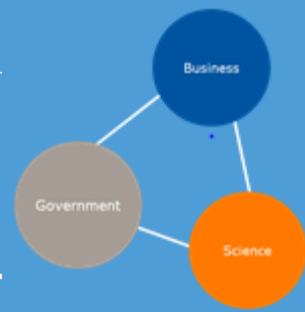
# The Golden Triangle

- Funding
  - (Regional) Government, EU
  - Companies
  - Private Public Partnerships
- Shift from on-station to on-farm research

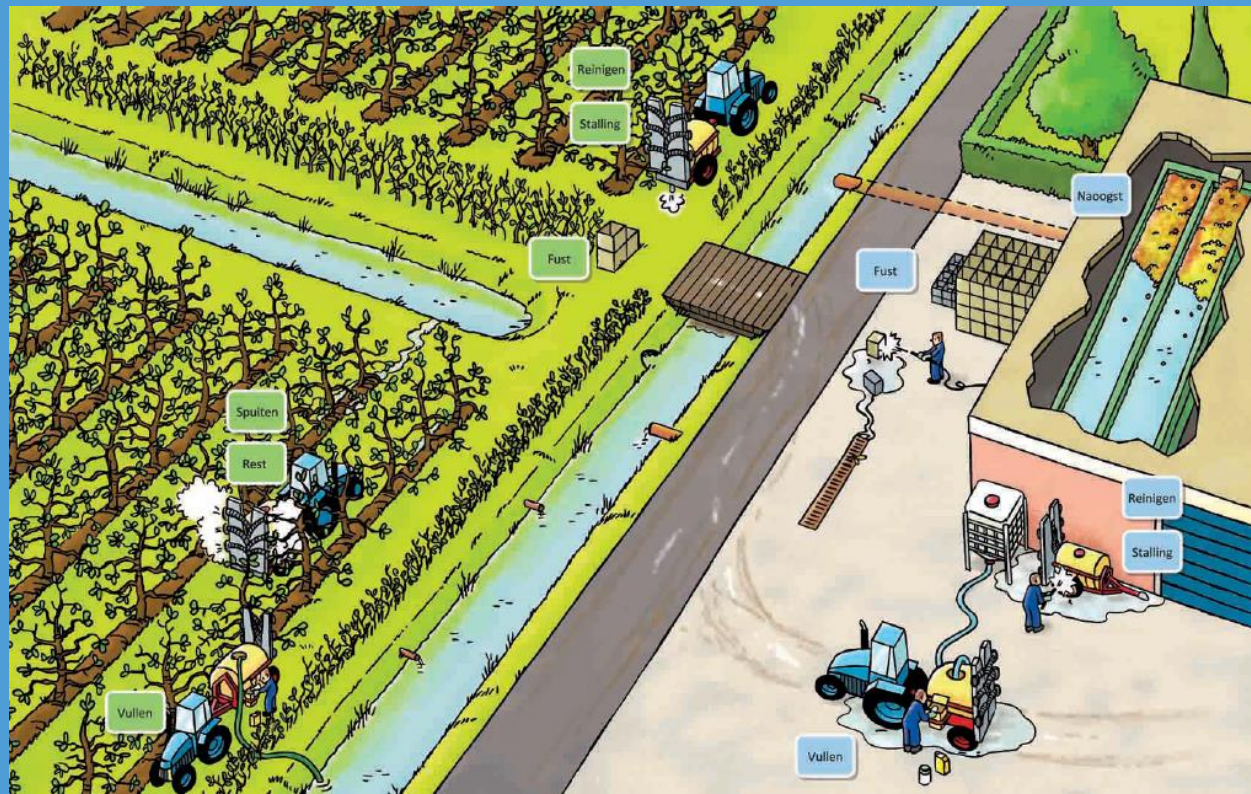


# Plant health – reducing emission

From calendar spraying to Integrated Pest Manager



- Use of disease resistant varieties
- Mechanization
- Warning systems
- Trapping
- Sanitation
- ....





# Plant health

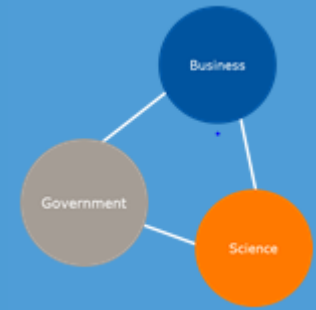
## Reducing emission project

### Partners

- Waterboards
- Agrochemical industries (e.g. Syngenta, Bayer)
- Producers of spraying machines
- Dutch Fruit growers Association



# Variety testing – New approach



- The consortium for variety testing of apple and pear consists of participants from the whole production chain:

- Nurseries
- Variety owners
- Fruit growers association
- Advisors
- Trade companies
- Market organisations
- Retailers





# Variety testing - New approach

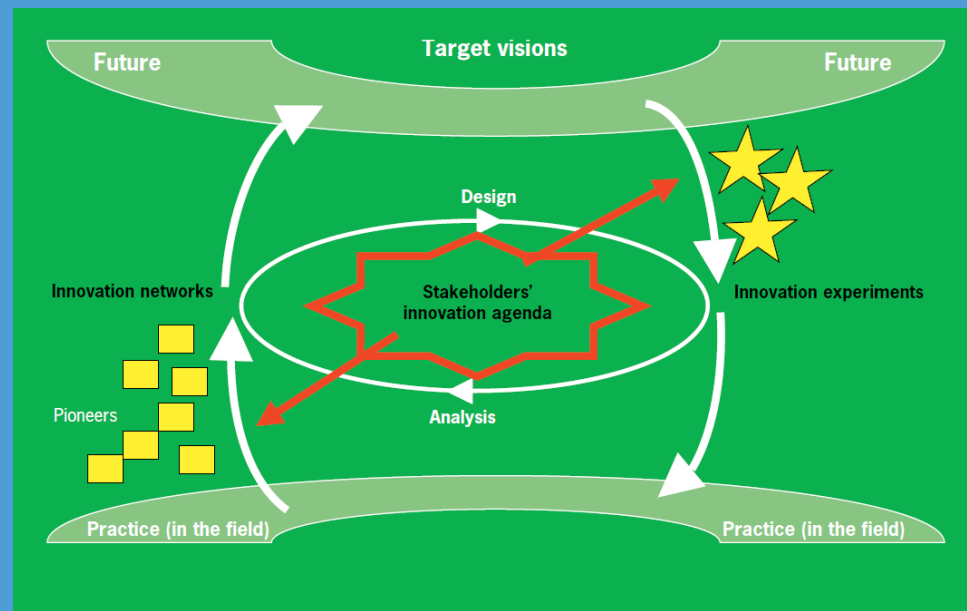


- Participants can see and taste the most promising selections during harvest time
- Participants receive every season a report with the results of the most promising selections
- The participants decide on the working method
- PPO is the broker between the consortium partners and the variety owner

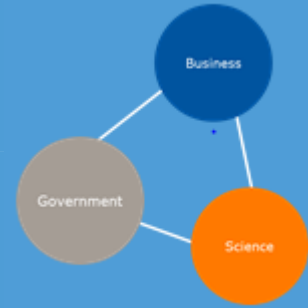


# Knowledge transfer

- Co-innovation
- Interaction
- Articles in technical journals
- Courses, presentations etc.
- Short films
- Students internships
- .....



# Concluding remarks



- Public Private Partnerships
  - System is new
  - Strong fruit growers association
  - Short- and long term research
  
- WUR – Applied Research and NAK-T
  - Privatized independent institutes
  - Both are foundations and self-supporting
  - Export of knowledge and planting material



# Vă mulțumesc pentru atenție



23-08-2001



WAGENINGEN **UR**  
For quality of life

nak  tuinbouw