

# *The role of family farms in precision agriculture*

Experiences from the Netherlands

12-2-2021, Jan Kamp



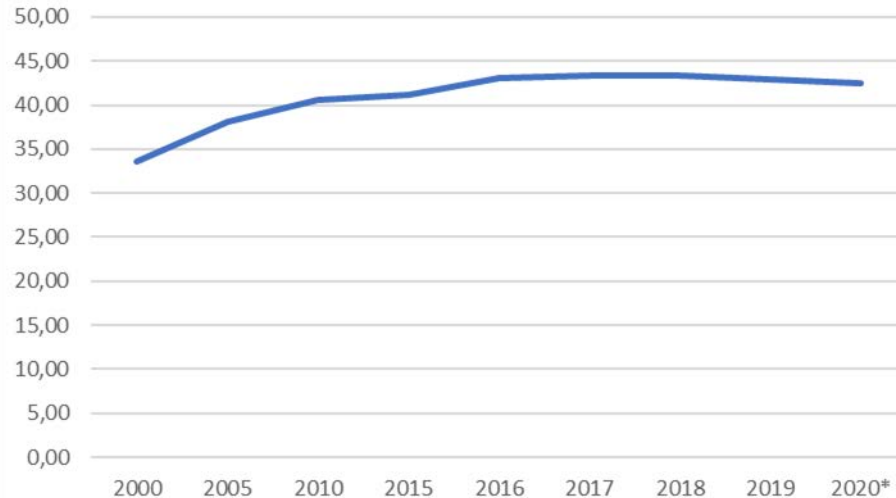
# My background

- Master in Ag engineering
- 5 years – Authority for Land Reclamation (building the polder)
- 10 years – introduction ICT in the Arable Sector (1988-1997)
- 10 years – Food chain development – food safety & certification
- 12,5 years – Innovation & Applied research in the Arable sector
  - part of Wageningen University & Research
  - research manager → includes a team in Prec. Agriculture

# Family farms in the Netherlands

- 99% of the farms are family farms – 7500 farms
- average farm size = 43, but:

areaal per bedrijf



# Typology of Dutch farms

- Much specialization in the farms
  - Many farms rent extra land
- all crops are high yielding
- Narrow rotation because of cash crops: potatoes, onions, sugarbeet, carrots,..... and cereals (as a “filling” crop)
- good **entrepreneurs**: farms are profitable, but: relatively low earnings
- And of course: profit is needed for new investments

# What is an entrepreneur? My definition:

a person who:

- is constantly looking around for new opportunities
- is able to change to new routines (= open mind)
- is looking for profit – reduce cost or improve yields by using new technologies.
- is willing to invest and take some risks.
- is constantly balancing of cost and benefits.
  - AND: cost include: actual €€ but also time consumption.

# When adopt new technology?

Figuur 3: Belangrijkste nadelen van precisielandbouw volgens respondenten



Source: Rabobank

- Most farmers go for change in case of:
  - financial benefit
  - have a perceived problem – feel the need to solve it.

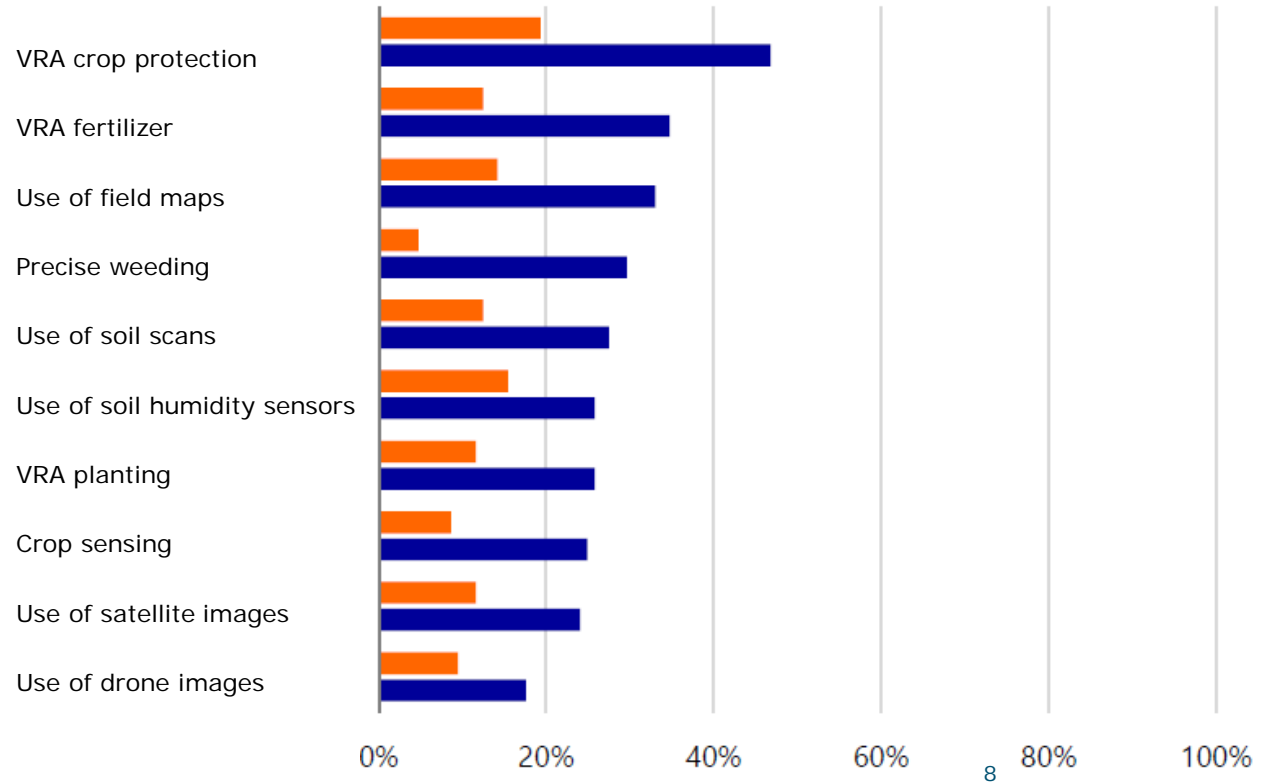
What problems? Some examples:

- high investments e.g. in sprayer that can handle VRA
  - low cost reduction – 15-50 euro/ha
- pressure to reduce crop protection → Variable Rate Applications
- availability of labour -> interest for automated weeding solutions

# Current plans of farmers regarding Prec. Ag

- orange: now
- Blue: in 5 years

(source: Rabobank)

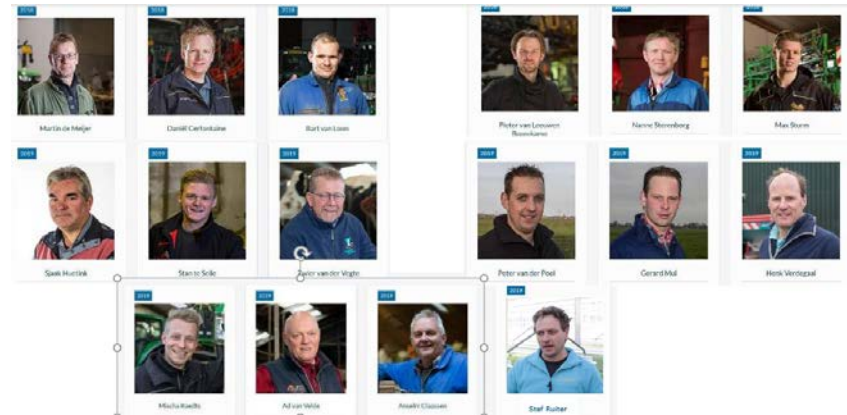


# Uptake of PA is going slow



NPPL project:

- started to experience problems when adopting PA technology – share them – learn - solve
- Experiences after 3 years:
  - many problems to concur in the first year, BUT:
  - second year most applications run smooth
  - farmers learn quickly





# Conclusions

- Much depends on the focus of the farmer:
  - Is he able and willing to invest time and money? **it takes both!!**
- No killer applications yet
- Environmental and societal push to reduce (optimize) inputs
- Traditional farms with only own labour are getting scarcer...
- Labour shortage will push towards robot type of solutions

**Are you an entrepreneur: that's what counts!!**

# Full screen image with title



Specifiek bekalken



Plaatsspecifiek granulaat



Variabel bemesten



Specifiek bodemherbiciden



Variabel loofdoden



Variabel poten aardappelen

# Thank you for your attention

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