SEN(SE)SATIONAL,
sensors serving our potato farmers

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APPLIED PLANT RESEARCH
WAGENINGEN UR

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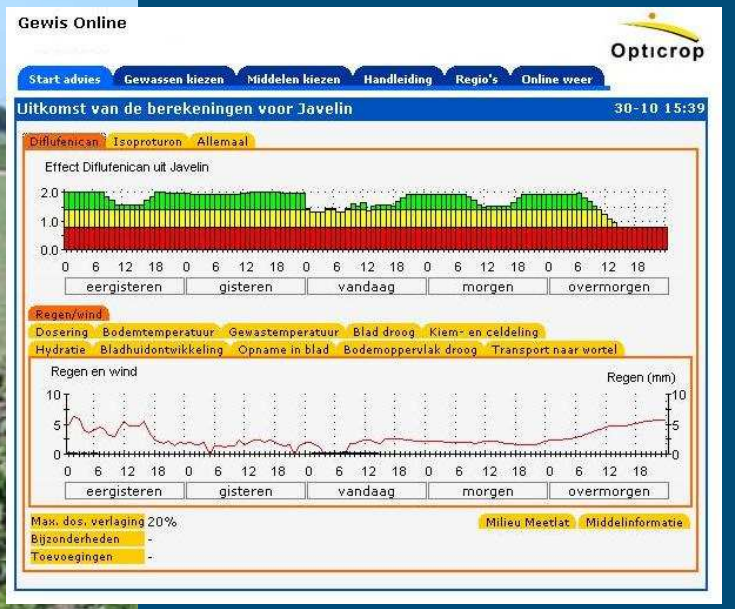
Decision Support System



Picture: www.weerpaallelystad.nl

Vario ploughing

Picture: geometius

Picture: SBG

Machine guidance

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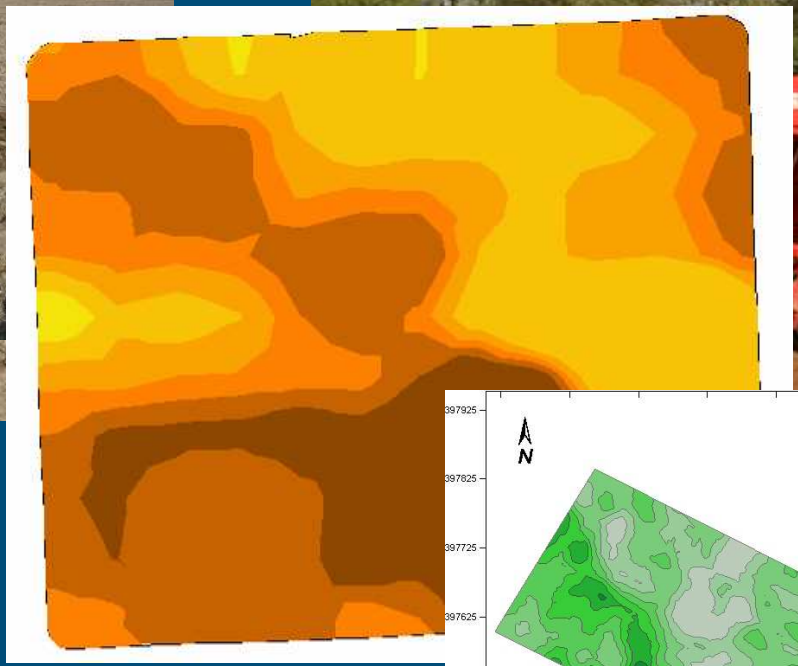
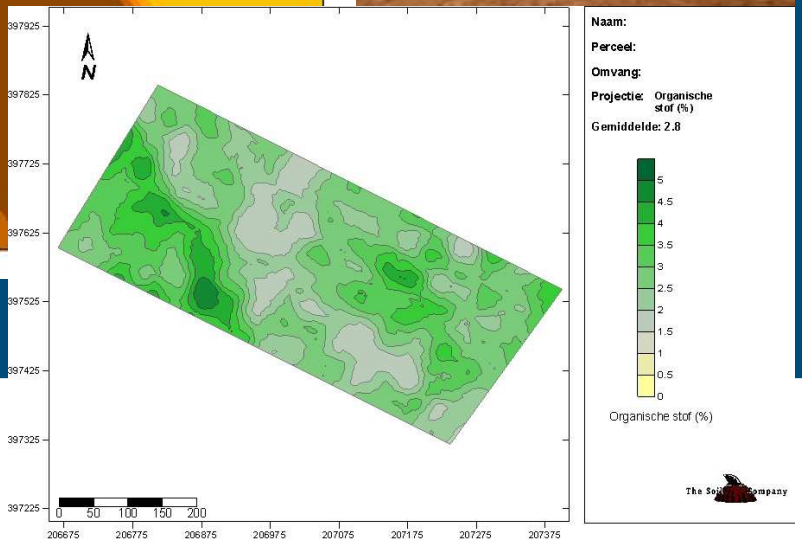
Variable rate application planting potatoes





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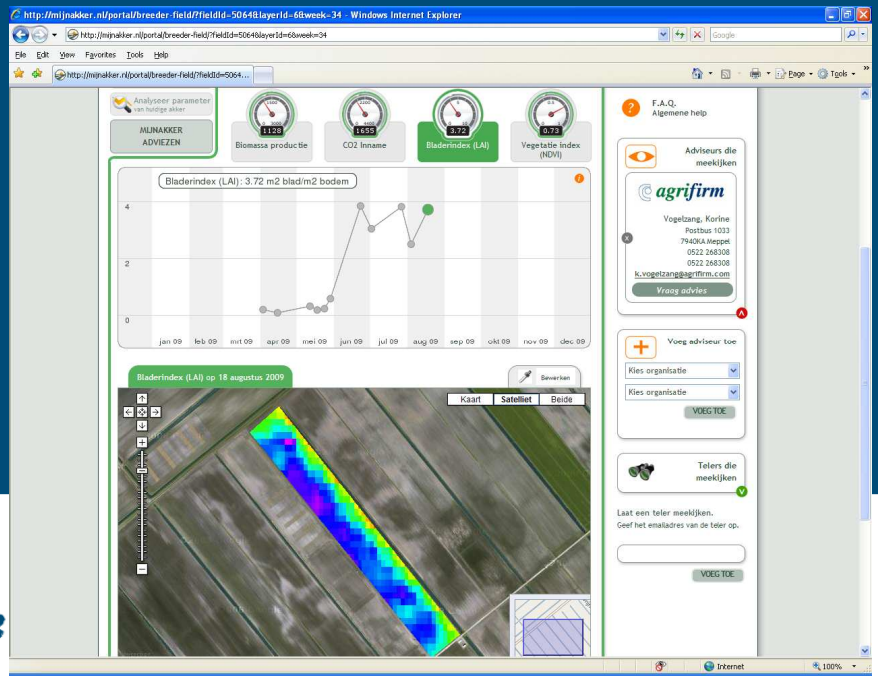
Machine guidance (2)

Deviation of the installed guideline (AB line) (mm)

System	Tractor	Disc	Side shift
Bumpily 8 km/hr	58	31	32
Plane 8 km/hr	30	19	21
Bumpily 4km/hr	35	29	26
Plane 4 km/hr	27	18	21

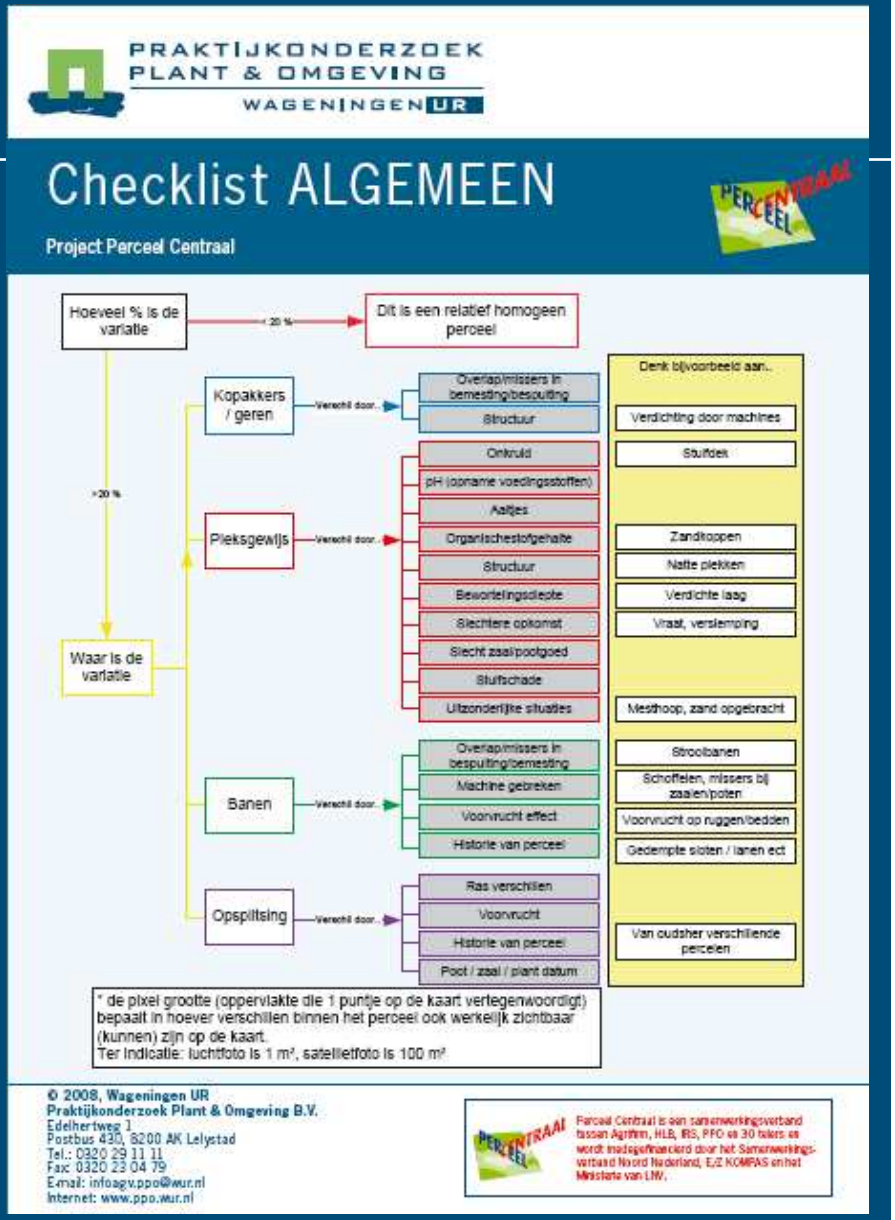
Sensing crop growth

- **Yara N sensor**
- **Green seeker**
- **Crop circle**
- **Satellite information**

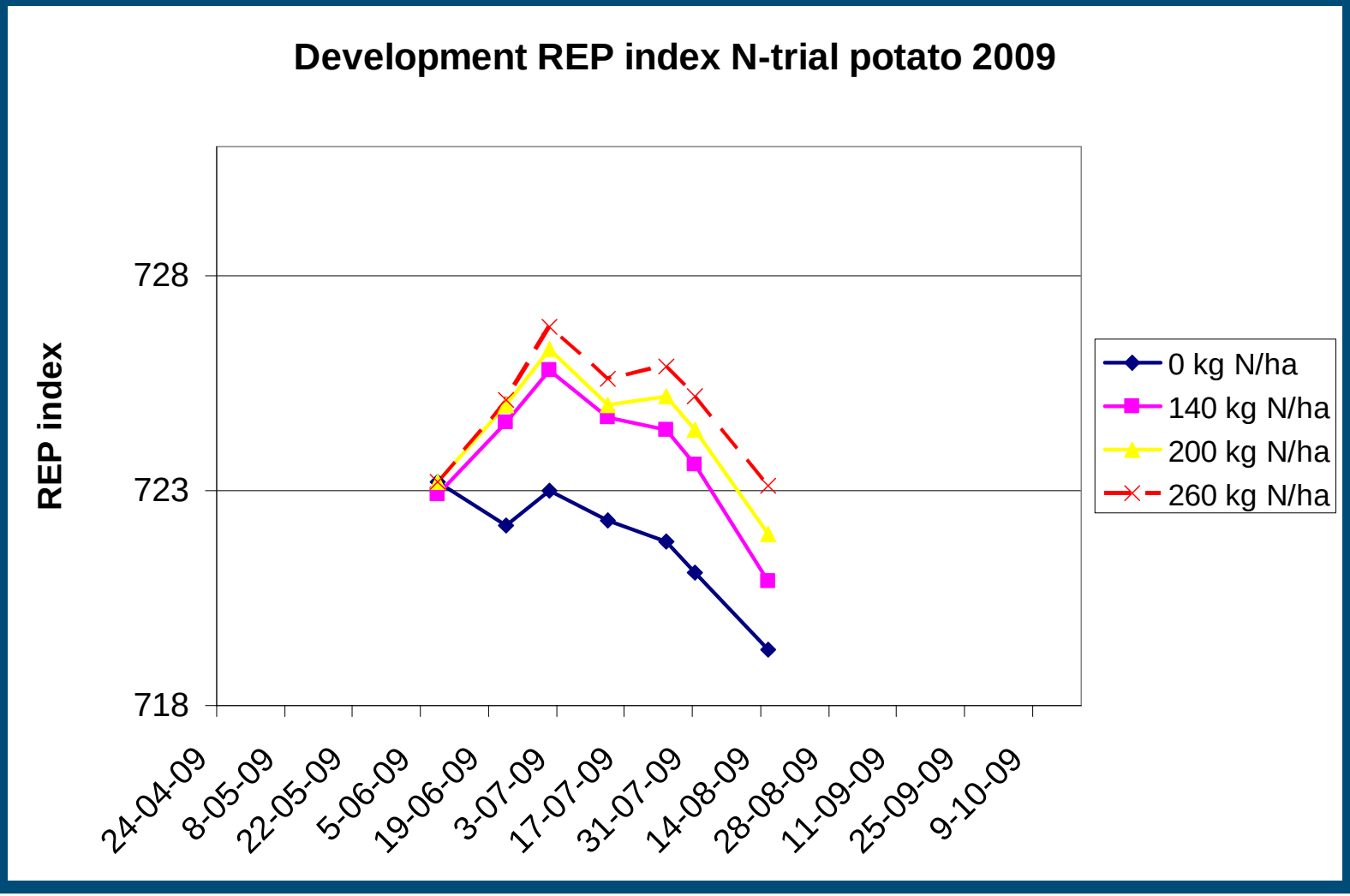


Fieldinspection

- Find cause of variability
  - Visual inspection
  - Soil sampling
  - Soil structure
  - Rooth dept
  - Nematodes
  - Etc.



Development REP index Nitrogen trial potato



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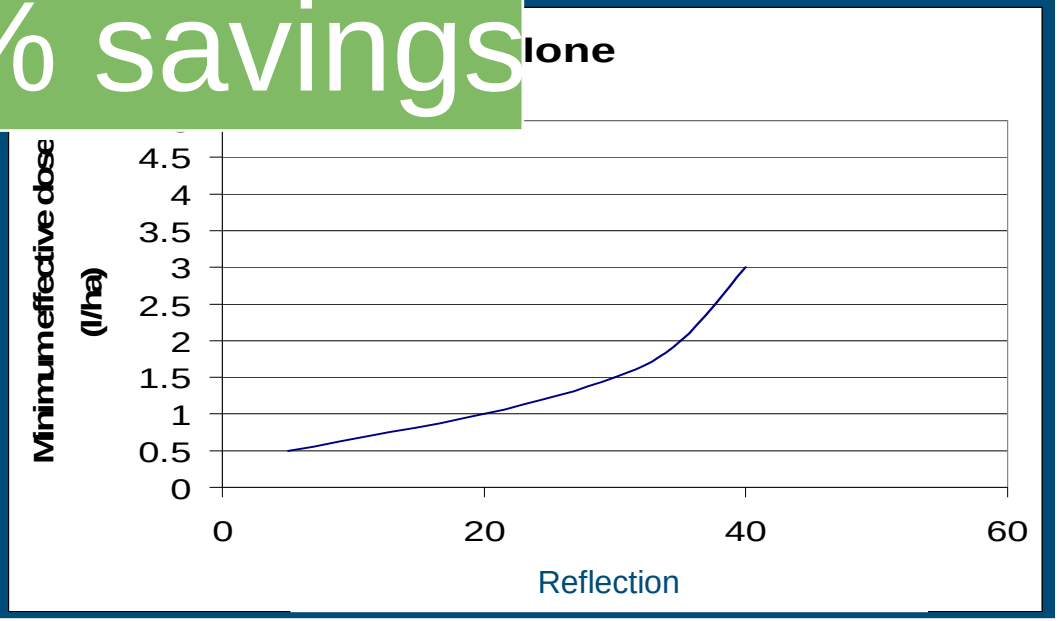
Potato haulm killing application

40 – 60% savings



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Yield mapping during harvest

File HM5 Help

weed tare tram plot

rows 2	field	Hold
actual:	0.0	T/ha
average:	0.0	T/ha
total:	0.00	ton
area:	0.000	ha
speed:	0.0	km/h
Truck 0	0.00	ton
gps:	000000 0 0	0.0

SYS LOAD -row- +ROW+

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Hits

- Machinery
  - Auto guidance
  - Variable Rate Applications (e.g. Haulm killing)
- Advisory
  - Decision Support Systems
  - Site specific crop growth information
  - Site specific soil information

Gaps and challenges

- Trend lines still “under construction”
  - Nitrogen VRA, Irrigation VRA, Plant distance VRA, …
- Tremendous amount of data exchange
  - How and where to store it?
- Communication
  - Can’t be developed under one roof
- Quality of the data
  - Measured information

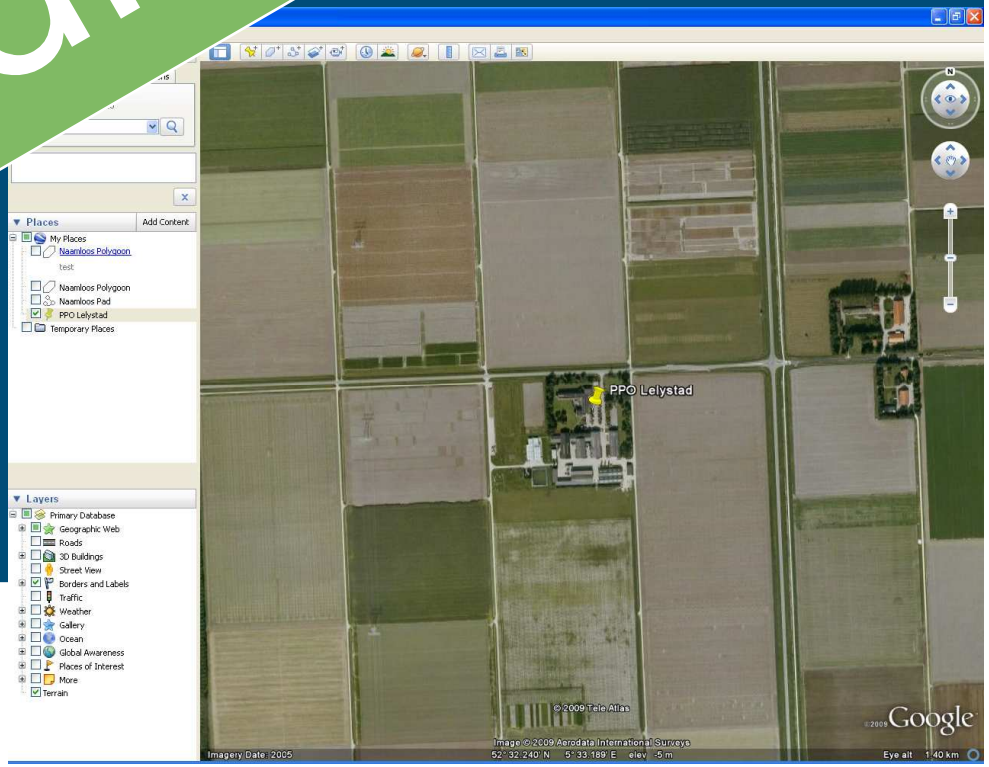
Quality of the data

- Format
  - *.csv, *.xls, *.shp, …
- Coordinate system (WGS84, I
  - Degrees, decimal degrees (5
  - Degrees, minutes, deci
  - Degrees, minutes
    5°33'45.35"E)
- GPS, DG
- Mea

33.756'E)

2°32' 22.13"N,

Standardization!!!



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Conclusions

- A lot of “stand alone” technology is available
- Information exchange is getting important
  - Arrangements have to be made about standardization
  - More and better consultation between advisors, ICT, machinery manufacturers and research to speed up innovations
- Sensor technology will conquer the world, like computers and the internet already have done.

Thanks for your attention, any questions?

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