

Opening



WAGENINGEN UR
For quality of life

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To explore the potential of nature to improve the quality of life

Society and well-being



Food and
biobased
production



Natural resources
and living
environment



Innovations to meet sustainability challenges

Technological
innovations

Social
innovations

Socio-technical innovations

Transdisciplinary
socio-technical innovations

....with farmers, citizens, consumers,
policy-makers, business

- Agricultural systems
- Food systems
- Energy systems
- Urban systems
- Ecological systems
- Water systems
- Mobility/logistics
- Information systems
- Health systems
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Goal: sustainable agricultural production

- Resource use efficiency
- Circular economy
- Climate smart agriculture
- Precision farming
- Cellular agriculture
- Vertical agriculture
- Low external input agriculture

Precision & Circularity

- Maximizing resource efficiency
 - Nutrients, water, land, energy
- Minimizing wastage
 - Collecting waste for re-use
 - Precision dosing: quantity, location, time, effect
- Maximizing re-use in agriculture
 - On-farm 'waste'
 - Off-farm 'waste'
- Minimizing external effects
 - Environment
 - Social

Precision farming



Sensors take over



Precision farming research: multiple levels



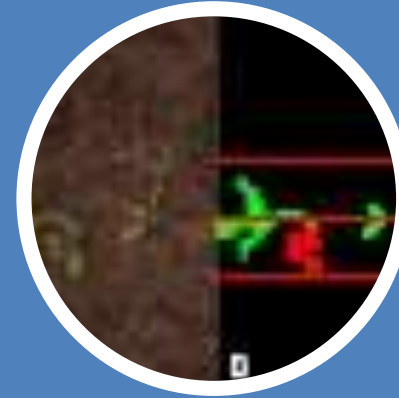
Grid

- In practice



Plant

- On station research



Leaf

- On institute research



Disease

- On institute and university research



Challenges

- Cost effectiveness?
- Overall environmental performance?
- Fitting agricultural practices?
 - Context dependent (farming style, size, etc)
- Acceptance: farmers, customers, consumers
- Availability technology (data systems, support services)
- Social effects (competition; scales; labor exclusion)

*Join us in
pursuing our
ambitions...*

