

Wageningen UR Greenhouse Horticulture

Research and innovation: networking with knowledge

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The Wageningen UR domain

health, lifestyle, livelihood

healthy food and living environment

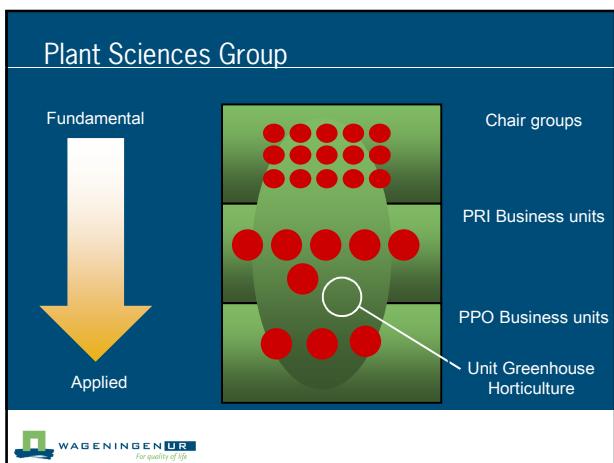
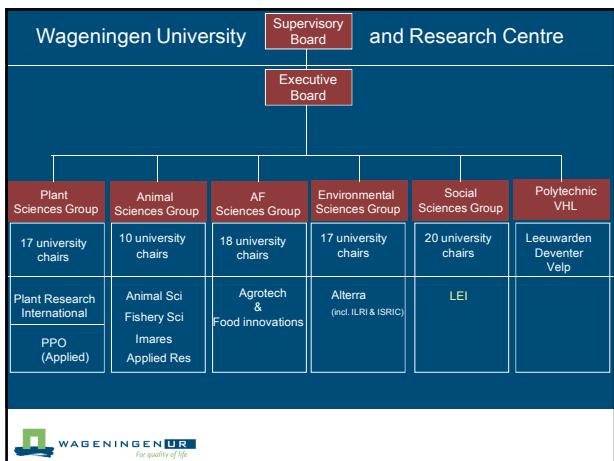
food and food production

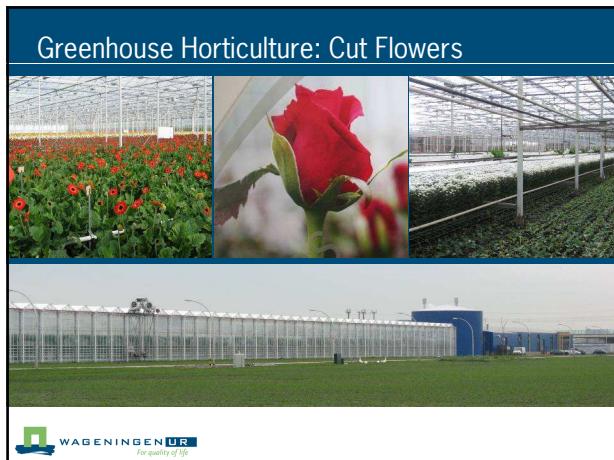
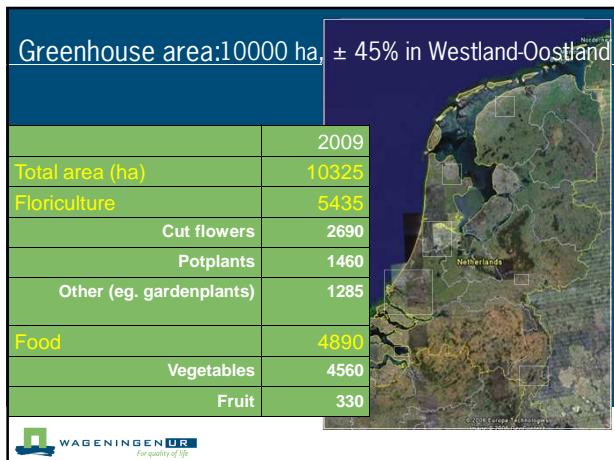
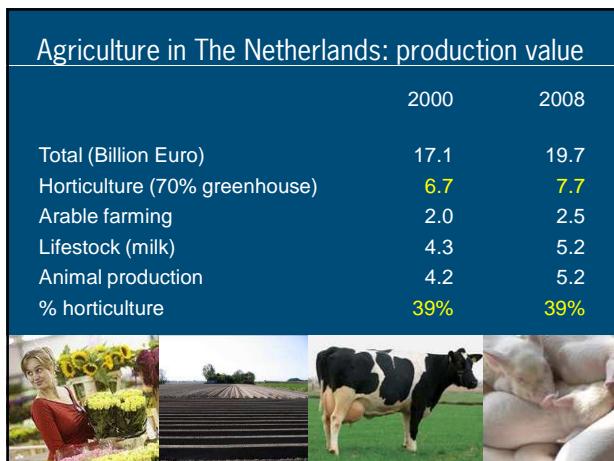
living environment



	<h2>Wageningen University and Research Centre</h2>
	Social Sciences Group
	Animal Sciences Group
	Environmental Sciences Group
	Plant Sciences Group
	Agrotechnology and Food Sciences Group









Current high priority issues in Dutch Horticulture



- Sustainability
- Production efficiency
- Costs of energy
- Labour costs and availability
- Food safety
- Economic viability

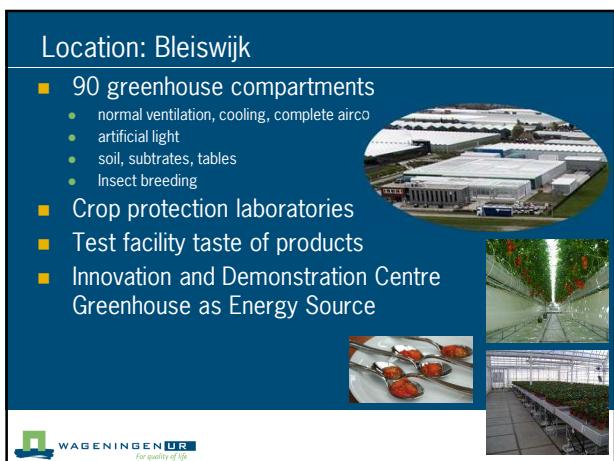
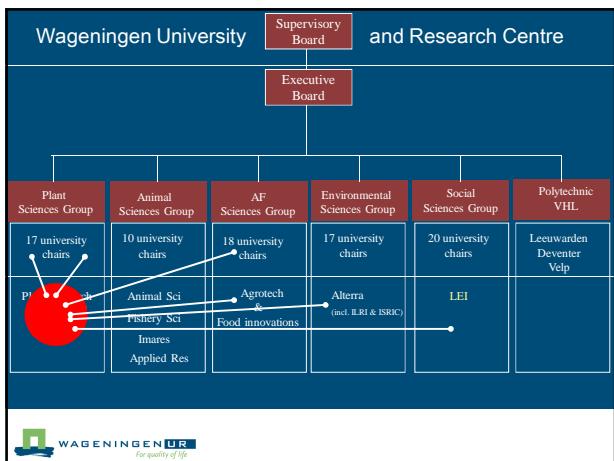


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Research funding (project based):

- Ministry of Economic Affairs, Agriculture and Innovation (50%)
- Horticultural Product board (30%)
- Other (20%):
 - European Community
 - Private companies
 - Local governments
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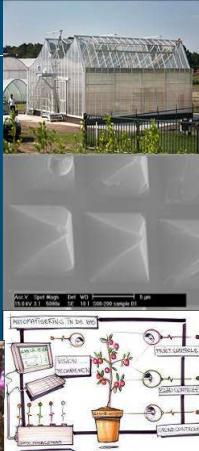
Research topics:

- Climate and energy
- Water and emission
- Advanced cropping systems
- Sustainable crop protection
- Quality of crop and product
- International (Adaptive greenhouse)



Climate and energy

- Energy producing greenhouses
- Energy efficient cropping strategies (“The new cropping”)
- High transparent covering materials (Anti Reflex, Micro V)
- (Crop)model based control
- Light (eg. LED)



Sustainable crop protection

- Integrated pest management
- Disease suppressive soils (biological horticulture)
- Induced resistance against pests
- Fungi against insects
- Reduced emission of pesticides



Water, nutrients & emission

- Emission free greenhouses: closed watercycle on farm level
- Emission reduction soil grown crops
- Decision Support System for irrigation semi-arid area's
- Watersaving greenhouses (Gulf Region)
- Possibilities of algae production
- Alternative substrates



Advanced cropping systems

- Vision applications:
 - Camera based system to measure plant size, phenotyping
 - Multiple Imaging: photosynthesis
- Robotics
- Mobile croppingsystems
- Combined greenhouse and livestock farming



Quality of crop and product

- Crop research: vegetables, cut flowers, fruits.
- Effects of environment, plant treatments, cropping systems
- Post harvest: flower life in relation cropping conditions and:
- Taste vegetables (model based and pannels)
- Virtual (3-D) plant modeling



International project examples

- Sustainable greenhouse production (Mexico)
- Design of demonstration greenhouse (Turkey)
- Water efficient greenhouse (Saudi Arabia, UAE)
- Capacity building (Uganda)
- Integrated pest management (Ethiopia)
- Greenhouse design tropical low lands (Indonesia)
- Greenhouse horticulture (Malaysia)
- EU projects: Euphorus, Spicy, Flow-Aid, Crops)



"Adaptive greenhouse": from current solutions to integral re-design



Networking: co-creation/ innovation

- Scientific
- Growers
- Supply industry
- Advisory
- Education



Scientific networks

Knowledge transfer and information

- Web site: www.glastuinbouw.wur.nl
- Publications:
 - In 2010 > 600
 - Thematic days (5)
 - Excursions
 - Ca 3000 visitors (2010)

WAGENINGEN UR
For quality of life

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