

Research centres on vegetables



PROEFSTATION
VOOR DE GROENTETEELT

Centre name:

Proefstation voor de Groenteteelt VZW

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The research programmes of your centre

Species: greenhouse tomato

Person of contact for this programme: Lieve Wittemans

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Vegetal material	Technical itinerary	Integrated protection	Agrobiolology	Other subjects
Variety trials: productivity, quality, shelf life, etc.	Techniques for energy savings: covering materials, ventilated greenhouse, innovative thermal screens, compression heat pump and vapour heat pump for active dehumidification with heat recovery	IPM with emphasis on biological control e.g. Botrytis, mites, PepMV, <i>Tuta absoluta</i> , excessive root growth, whiteflies, etc.	Crop fertilisation	Food safety: microbial safety, residue management, contaminant management
Rootstock testing				
(Young) Plant type testing	Artificial lighting	Hygiene measures		Water management (water sources, water disinfection and recycling & end of pipe solutions). FERTINNOWA-project
Plant/shoot density				
Pruning systems	Growing media	Climate control		Ripening: ethefon, ethylene
		New plant protection products trials under Good Experimental Practice (GEP)		Waste management: biodegradable materials
				Economics of specific topics

Species: greenhouse sweet pepper

Person of contact for this programme: Liesbet Van Herck

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Vegetal material	Technical itinerary	Integrated protection	Agrobiolology	Other subjects
Variety trials: productivity, quality, shelf life, etc.	Techniques for energy savings: innovative thermal screens	IPM with emphasis on biological control e.g. Internal fruit rot caused by <i>Fusarium spp.</i> , etc.	Crop fertilisation	Food safety: microbial safety, residue management, contaminant management
(Young) Plant type testing	Artificial lighting: LED and steering light			
Plant/shoot density	Irrigation	Monitoring and decision support systems		Water management (water sources, water recycling & end of pipe solutions).
Pruning systems	Production systems (row density)	Climate control		Waste management: biodegradable materials

	Fruit harvesting robot	New plant protection products trials under Good Experimental Practice (GEP)		Economics of specific topics
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Species: greenhouse cucumber

Person of contact for this programme: Martine Wuytack

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Vegetal material	Technical itinerary	Integrated protection	Agrobiolgy	Other subjects
Variety trials: productivity, quality, shelf life, etc. (Young) Plant type testing Plant/shoot density Plant growth/pruning management systems	Techniques for energy savings: energetic screens Artificial lighting Growing media	IPM with emphasis on biological control e.g. <i>Didymella bryoniae</i> , cucumber green mottle mosaic virus (CGMMV), etc. Hygiene measures Monitoring and decision support systems Climate control New plant protection products trials under Good Experimental Practice (GEP)	Crop fertilisation and effect on quality	Food safety: microbial safety, residue management, contaminant management Water management (water sources, water recycling & end of pipe solutions). Waste management: biodegradable materials Economics of specific topics

Species: greenhouse lettuce, leafy vegetables and small crops in greenhouse

Person of contact for this programme: Isabel Vandevelde

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Vegetal material	Technical itinerary	Integrated protection	Agrobiolgy	Other subjects
Variety trials: productivity, quality, shelf life, etc.in soil bound and soilless production systems	Techniques for energy savings: energetic screens Development of the Mobile gully system, floating system Artificial lighting: SON-T, LED Covering materials: innovative glass for better colouring of red types Management of tip burn: climate control e.g. humidification	IPM of soil-borne disease as <i>Botritis</i> , <i>Sclerotinia</i> , <i>Rhizoctonia</i> , <i>Pythium</i> , <i>Fusarium</i> and air-borne diseases: <i>Bremia</i> ; Root nematodes Hygiene measures Monitoring and decision support systems Climate control Soil disinfestation for the control of diseases and nematodes New plant protection products trials under Good Experimental Practice (GEP)	Root environment: plant exudates in hydroponic systems Crop fertilisation and irrigation management to guarantee productivity quality and minimise lixiviation	Food safety: microbial safety, residue management, contaminant management Water management (water sources, water recycling & end of pipe solutions). FERTINNOWA-project Economics of specific topics

Species: field vegetables: cabbages, cauliflower, leafy, fruit and root vegetables,...

Person of contact for this programme: Luc De Rooster (general), Joris De Nies (fertilisation)

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Vegetal material	Technical itinerary	Integrated protection	Agrobiology	Other subjects
Variety trials: productivity, quality, shelf life, etc. for the fresh market and the industry of 4 th gamma	<p>Development of Precision agriculture through the use of GPS and sensor technology for optimal space use and the reduction of the input of labour, plant protection products, fertilisation, etc.</p> <p>Development of specific machinery to apply plant protection products</p> <p>Covering materials for frost protection and pest management</p>	<p>Development of crops specific IPM programmes for diseases and pest E.g. <i>Phytophthora porri</i>, <i>Puccinia allium</i> and integration with other leek diseases, virus diseases in zucchini, flies in brassicas,</p> <p>Emphasis on the integration of biological products in the IPM systems.</p> <p>Monitoring and decision support systems with alert for the growers.</p> <p>New plant protection products trials under Good Experimental Practice (GEP)</p>	<p>Management of soil fertility using composts and green manure, optimal management of crop residues, etc.</p> <p>Management of N-fertilisation: modelling of crop needs and mineralisation to optimize fertilisation recommendation based on the KNS-system (N-expert)</p>	<p>Food safety: microbial safety, residue management, contaminant management</p> <p>Water management (water sources, water recycling & end of pipe solutions). Use of fertigation in certain crops. FERTINNOWA-project</p> <p>Economics of specific topics</p>

Species: asparagus.

Person of contact for this programme: Liesbeth Wachters

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Vegetal material	Technical itinerary	Integrated protection	Agrobiology	Other subjects
Variety trials: productivity, quality, shelf life, etc.	<p>Covering materials and (mini) tunnel systems for management of crop precocity</p> <p>Temperature monitoring system for the management of covers and tunnels</p> <p>Development of the greenhouse production of asparagus</p> <p>Development of Precision agriculture through the use of GPS and sensor technology for optimal space use and the reduction of the input of labour, plant protection products, fertilisation, etc.</p>	<p>New plant protection products trials under Good Experimental Practice (GEP)</p>	<p>Management of soil fertility using composts and green manure, optimal management of crop residues, etc.</p> <p>Management of N-fertilisation: modelling of crop needs and mineralization to optimize fertilization recommendation based on the KNS-system (N-expert)</p>	<p>Food safety: microbial safety, residue management, contaminant management</p> <p>Water management (water sources, water recycling & end of pipe solutions). Use of fertigation. FERTINNOWA-project</p> <p>Economics of specific topics</p>

Current partnership with other research centres (national or international)**Flemish institute for the innovation through science and technology (IWT).**

Cooperation projects on specific topics. Almost all colleague research centres and universities and private research centres of Flanders are involved in at least one project. With the cofinancing of the sector (through auctions) and the relevant industry. Current project (topics and crops): artificial lighting in tomato and lettuce, pollination in Zucchini, *Didymella bryoniae* in cucumber, management of soil bound diseases and nematodes in Lettuce, monitoring and

decision support systems for tomato pests, Fusarium fruit rot in sweet pepper, fruit ripening in tomato, phosphorous management in field vegetable crops, Excessive root growth in greenhouse fruit vegetables, nitrogen management in greenhouse lettuce and field vegetables, residue management in vegetables, improvement of shelf-life in lettuce crops, virus management in zucchini, management of bacterial diseases in cabbages and leek, Verticillium-management in cauliflower, management of Tuta absoluta in tomato.

Federal government

Management of the contaminant perchlorate in leafy vegetable crops. Colleague research centres in Flanders

Horizon 2020.

SWEEPER: Research project on the development of a sweet pepper harvesting robot. Coordinated by WUR, partners in Sweden, Israel, Belgium. See website: <http://www.sweeper-robot.eu>

FERTINNOWA: thematic network on water management of fertigated horticultural crops in open field and greenhouses. 23 partners from 10 countries. See upcoming website.

ERA-net on excessive root growth with French and Swiss partners.

Are you searching for more European partnerships with other research centres?

On what species:

- Greenhouse and field vegetables

What kind of projects are you searching for:

- Research projects:
 - IPM-development. Low residue farming.
 - Soil bound disease management in (leafy) soil bound (greenhouse) crops
 - Precision agriculture in field vegetables and greenhouse vegetables
 - Nitrogen and phosphorous management soil bound crops
 - Energy management in greenhouses
 - Artificial lightning in greenhouse crops
- Thematic network: any network relevant for vegetable crops

What kind of partners are you searching for? From which countries?

Colleague practical research centres and universities/research centres of regions with vegetable production in Europe.