

The Centre of Expertise Greenports is a partnership between four universities of applied sciences. The Centre was founded in response to demand for innovative products and applications from businesses operating in the Dutch Greenport regions. Knowledge development and diffusion are central to all Centre of Expertise activities with the purpose of reinvesting this knowledge in the education given by the participating institutions.

## OUR KNOWLEDGE HELPS YOU MOVE FORWARD

The Centre of Expertise Greenports has in-house expertise on new growing systems, health, market and logistics, and strengthening export and import positions. The advantage of the Centre is reflected in the mutual collaboration and joined forces to find solutions on:

## NEW GROWING SYSTEMS

Within the theme New Growing Systems the focus is on the application of innovative technologies in crops to achieve sustainable production (zero emission) over time. Technology development on all areas opens new opportunities for intensive horticulture, on the question of reducing negative environmental aspects in particular. The actual application of these techniques in practice, in different crops, end up repeatedly in major issues. Every crop has a balanced network in which crop selection, hardware with the associated technology and the required knowledge, experience and methods are closely intertwined.



The research group of the New Growing Systems will try to develop a methodology through field study to achieve little by little the total innovation system. In 2013 the research group started a number of projects which are globally set up according to this cycle.

In the first year a climate chamber was built and tested. The prototype was produced to cultivate a variation of crops on water. Within another project a Light Salad Bar was realized. This is a converted fridge with a glass door in which herbs and leafy crops, in a conditioned environment, can be grown. Suitable for companies, such as restaurants, who want to provide customers with more experience of the product.

Thus besides a usable, general methodology, projects deliver a number of actual applications, that may lead to market launch!



There is much to explore in climate chambers. During one of our projects we did a study on the technical feasibility to maintain a crop vegetative in a climate chamber. In order to allow year-round plant production. The results are promising!



Research is being conducted in many areas. From a large scaled climate chamber to a miniature growing system with LED lights. But also research is done into soil quality and development (and other growth medium) and plant-soil interaction for certain crops. Which is of great importance, since plant growth and development largely depend on the combination of mineral nutrients available in the substrate. In order to optimize the cultivation, it is essential to execute more research into this field.

In addition, different types of organic fertilizers are tested. For instance, there will be looked at the use of valorised waste products as nutrients. The usability of the nutrients recovered from urine will be tested on various crops.

Moreover, there is research executed on ways to provide crops with nutrients. For instance the new growing system which is a closed greenhouse system with leaf and root fertilization.

Next to that we are working closer together with the technical field (high-tech). Currently, we are exploring which optimizations could be made in crop monitoring in greenhouses and how these challenges can be resolved technological.

In summary, we are doing research into a wide range of interesting subjects. These are as follows:

- different types of (organic) fertilizers;
- all kind of (technical) growing systems;
- influencing bioactive compounds in plants;
- growing without daylight;
- plant-soil interaction.

To strengthen our expertise, we focus on partnerships between, universities, industry and government.

Are you interested in more information or a consult with one of our partners?  
Please fill in your contactdetails below and send this card in an envelope to:

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