

Grodan is celebrating its 40th year. To mark this occasion the company wanted to contribute to the horticultural sector by organising the symposium:

Modern solutions for modern challenges

About the future of high-tech horticulture

Expert session for consultants and researchers, 24 September 2009

The point of departure of the expert session was the balance between the requirements of society (in particular with regard to the environment) and the profitability of high-tech horticulture, both today and in the future. The expectations and implications of high-tech horticulture in the future were discussed.

Short summary of the results

Maintain the Netherlands' leading role

The general consensus was that the Netherlands should continue to play a leading role with regard to setting the standards. Results to date are good. Horticultural products have never been so safe, but still there is an increasing demand for controls. Clear legislation (what is sustainable?) and more quantification and transparency are crucial. In general, the consensus is that sustainable innovation is limited more by the surroundings, politics, organisation and communication than by technology.

Strengths	Weaknesses
<ul style="list-style-type: none"> ▪ Knowledge and education level of the Dutch sector ▪ Position of the Netherlands in the international network ▪ Infrastructure in the Netherlands ▪ Level of high-tech 	<ul style="list-style-type: none"> ▪ High-tech innovations are insufficiently plant driven ▪ Short term thinking ▪ Too little integrated thinking in the sector; too few system innovations ▪ Lack of direction in the chain ▪ Too inwards oriented and cost driven
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Integration of plant and root zone knowledge in the growing environment ▪ Vision based innovation ▪ Ensure that the Netherlands continues to lead in setting standards ▪ Think in themes instead of crops ▪ Local for local / decentralisation ▪ Learn from the best practices of other sectors 	<ul style="list-style-type: none"> ▪ Learning = expensive ▪ A number of sub-sectors are at a halt (no investments) ▪ Education level of owners / managers of horticultural companies ▪ Lack of good legislation ▪ Quantifiability (insufficient tangible results) ▪ Sustainable innovation limited more by the surroundings, politics, organisation and communication than by technology

Themes for the future

The themes for the future were discussed on the basis of the above SWOT analysis. Energy (capture systems, CO₂ from the air, sun & wind, CO₂ separation and heat production, fuel cells, etc.) and water (recirculation, filtration, micro management) remain important research fields. Other themes are: LED lighting, emissions reduction, crop protection, biodiversity and root zone. An estimated 15-25% increase in yield can be gained from research on the root zone. *“High-tech developments are presently driven by ‘hard technology’ and not by the plant itself.”* The integration of knowledge of the plant & root zone is seen as one of the primary strategies for the future.

Possible approach

The sector is presently very cost driven. The atmosphere is defensive and too inwards oriented. Awareness of the importance of socially responsible business practices is growing with modern businesses, but is not yet sufficiently widespread. *“The chain as a whole needs to accept that it is collectively responsible for sustainability, instead of relying on a few leading companies to take this issue upon themselves.”*

On top of all that, much more integrated thinking is needed. *“We need to take pay more attention to total system innovations and take an integrated view of the horticultural sector in relation to its surroundings”.*

Preconditions

An integrated approach within the chain and within the fields of expertise is a precondition for future success: *“Nobody can make it alone.”* The present approach is not sufficiently integrated and solution-oriented, so that sub-optimum situations arise. The sector needs a long-term view and it must have a vision of innovation (instead of pressure to innovate): *“At the moment we’re going too fast and trying to get a piece of too many pies.”* An important question remains: Who will be in control?