YEALD NEAWS

YEALD BUSINESS NEAWS UPDATE **2022.2**

Innovation, the driver for long-term success

The agriculture and horticulture sectors are facing a new wave of innovation. This wave of innovation will determine long-term success, both for individual companies and the Dutch sector as a whole.

The way in which to maximize production in horticulture, under controlled conditions, is already well known, especially in the Netherlands. The next wave of innovation will focus on optimizing the input needed for this. We believe that production will ultimately be energy-neutral and largely autonomously controlled. In addition, the sector will be organized internationally and closer to end markets. The collaboration of organizations in the value chain, the scale of production, innovation, marketing and brand development are all key in securing our future success.

Breakthrough regarding energy and labor

In this version of Yeald Neaws, we will discuss innovation in the horticulture sector in more detail: How did it come about? What role do crises play in this? What do we expect in the future? We will be indicating where we think the sector is heading and what it takes to be successful as a company in the coming years. We will focus on two specific areas where a lot of development is currently taking place: innovation in the field of energy and innovation in labor. These are two areas that are facing major challenges at the moment, but where we also see enormous resilience and innovation. You will read about our interviews on such matters with Bergcamp, Duijvestijn Tomaten, Kwekerij Helderman, Porta Nova, SV.CO and Zwettulips. These are all examples of Dutch companies that have innovation at the heart of their strategy.

We will finish with a short impression of the official opening of our new office, which took place on Saturday, 4 June. Happy reading with this second edition of Yeald Neaws! <<

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OPINION

STRONGER DUE TO ADVERSITY

How do you get through a crisis? In greenhouse horticulture, there are a lot of companies that know how to do this. Why? Because greenhouse horticulture is constantly looking for improvements and has enormous innovative capabilities. The successful entrepreneurs in our sector are growing, also against head wind. Or maybe they are growing because of challenges?

"Antifragility is beyond resilience or robustness," writes Nassim Nicholas Taleb in his book Antifragile. "The resilient resists shocks and stays the same; the antifragile gets better." Companies that are robust end up facing a crisis that they cannot withstand. Companies that are antifragile will come out of every battle stronger. Stronger because of adversity. These entrepreneurs innovate, optimize and have the courage to discover new opportunities. We saw this during Covid-19, we're seeing this during the energy crisis, and we're seeing it with the increasing labor shortage.

A sector driven by innovation

The greenhouse horticulture sector is both conservative and innovative. Everything is studied carefully, with the good being preserved and the better being discovered. As a result, innovation takes place in stages, or in large waves. Cultivation went from open fields to behind glass, which increased the yield per square meter and reduced the amount of raw materials required. After that, we saw a reduction in the use of pesticides and the introduction of Integrated Pest Management. Now we are facing the next wave of data-driven growing, energy management and robotics, about which we will also hear from entrepreneurs in this edition of Yeald Neaws. In the future, we will see additional opportunities for progress in the field of marketing and thus optimizing the sales strategy, so that the price per kilo/piece can be controlled. Being conservative and innovative at the same time; that is what ensures resilience.

Heading towards fundamental change

In the long term, the sector will develop towards being energy-neutral, autonomously controlled and organized on a local market basis. How soon that will happen will depend on several factors. For example, tomato cultivation is at the forefront of energy management improvement, and the processing of products in horticulture can already be largely automated. In addition, breeders are developing new varieties of products to optimize cultivation. Existing methods are being improved, and new methods are being developed. Again, it's about finding the ideal combination of conservatism and innovation, where innovation takes place at the level of product, process and technique.

A combination of different developments

Of course, this also means that developments lead to

more complex organizations and processes, in which more and more parties are involved. Think of traditional greenhouse builders who are rapidly developing into suppliers of total solutions, optimizing processes to meet local needs, anywhere in the world; or technical suppliers who are optimizing the climate by installing smart screening and ventilation; and large Dutch growers who are using their knowledge and investment capacity to expand internationally and start activities in other climate zones. And then of course there are the many start-up ventures in the field of data-driven cultivation management and robotics.

Towards sustainability regarding energy & labor

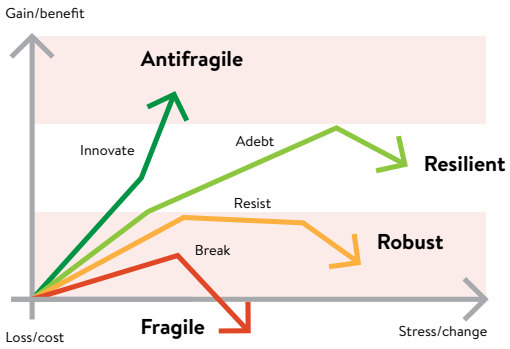
In this edition of Yeald Neaws, you can read interviews we held with entrepreneurs about innovations and new technology in the areas of energy and labor. If we look at cultivation in the Netherlands, these are the two areas where most potential can be gained. By growing sustainably in the Netherlands, we can optimize production.

> *"Now we are facing the next wave of data-driven growing, energy management and robotics."*

As a result, fewer hectares are needed for higher yield and quality, something that we can convert into margin through marketing. Not only within the Netherlands, but also by creating reach for these innovations in growth markets. The Netherlands has always played a leading role in this game, and we will continue to do so if we continue to invest in innovation.

Resilience in turbulent times, development and long-term success require organizations to adapt. We believe that the learning and innovative capacity is crucially important, both on a strategic and organizational level. As a company, you don't have to do everything on your own. As the articles in this edition of Yeald Neaws will tell you, companies that are successful often work together and bring in expertise from outside. Companies that have created such a flexible shield makes them more resilient when it comes to, for example, strategy development, organizational growth, real estate, a merger or acquisition and/or financing; aspects that have a direct impact on the growth, profitability and future-proofing of a company. Together, we can ensure preservation where necessary and growth where possible, so that we come out stronger after every crisis, not only as individual companies but also as a sector through every crisis. <<

STRONGER DUE TO ADVERSITY - ANTIFRAGILE CONCEPT

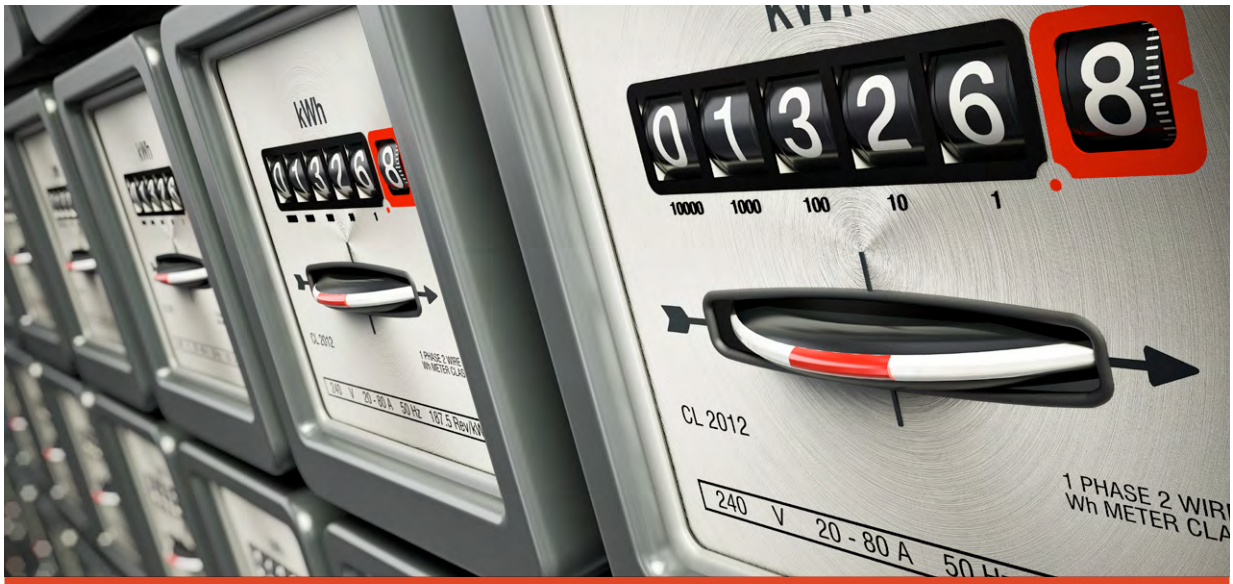


INNOVATION WAVES - HISTORICAL + FUTURE

NOW	Transition to sustainable economy
1971	Digitization, information and telecommunication
1908	Oil, automation and mass production
1875	Steel, electricity and heavy industry
1829	Steam and railways
1771	Industrial revolution

ENERGY

THIS IS HOW RESILIENCE CAN BE CREATED IN THE FIELD OF ENERGY



In the past period, greenhouse horticulture has been hit by the energy crisis. While the planet is demanding more sustainable food production and geopolitical conditions are pushing up the price of gas, it is imperative for entrepreneurs in our sector to develop and show resilience. It's good if you don't fall over during a severe crisis, but it's even better if you come out stronger than before. How do you do this in greenhouse horticulture?

"For us, it's all about smart collaboration," says Barry Helderman of Kwekerij Helderman. Since 2007 they have been growing peppers in Middenmeer. "In the field of energy, we work together with ECW Energy. This collective operates geothermal and biomass plants. We use high-quality heat, which we put in the ground in the summer and use again in the winter to heat the greenhouse. That gives you more balance." Porta Nova in Waddinxveen also uses sustainable energy facilities. "Your energy capacity is not limited to your own company," says Stefan van Vuuren, General Manager of this rose growing company. "It concerns the area and the community in which your company is located. You can optimize energy consumption, for example by passing on residual heat. We also work with a heat exchanger, which allows us to store the heat of the summer for the winter. That's how you make energy circular."

Invest during a crisis

"As a company, it is important to be flexible in your energy supply," adds Ad van Adrichem. He is the Managing Director at Duijvestijn Tomaten, where they started to invest pioneers in a geothermal energy system as early as 2009. "We have geothermal energy as a central heating system with combined heat and power systems, which are seen at a European level as a sustainable energy supply, as

a back-up. There are a few thousand solar panels on the roof of our packaging hall, which enable us to generate part of our energy supply ourselves. In addition, we only use LED lamps to illuminate our greenhouse, which is saving us a considerable amount of money. We are also connected to the CO2 grid of OCAP. We deliberately chose to invest in geothermal energy ourselves to become less dependent on political circumstances and the price of gas."

These entrepreneurs are not afraid to continue to invest in energy management during a crisis. "The fourth geothermal well is in the making," says Barry Helderman. "That is a strategic choice. The past period has once again been proving that we have to get rid of gas as much as possible. The ECW Energy collective, which allows us to work together with other companies in the area, provides more peace of mind. In times of crisis, we increase our collaboration with other companies, because it is good to exchange thoughts with others who are dealing with the same situation. It is a form of scaling up, without directly increasing our own hectares."

Combination of technologies

Porta Nova is also investing, in their case in energy reduction. "This summer there will be luminaires for LED lighting in all our greenhouses. Together with a leading party, we have conducted research into the ideal light spectrum for roses. We are now using this science to roll out LED in all our greenhouses. This will reduce our energy consumption by 25%. LED is the future. In the coming years, we will switch from hybrid to full LED. And I also see a role for alternative, sustainable energy sources in the distant future, such as hydrogen."

"In the medium term, I see how useful combined heat and power systems will be," continues Ad van Adrichem. "Certainly until 2030, these will remain profitable. Geothermal energy also fits in well, and the efficiency of that will only increase. In the long term, I also see hydrogen as an interesting source of energy, just like electric boilers. With the expanding use of renewable energy sources, such as the sun and wind, there will be times in 2030 when electricity will be virtually free. Then converting electricity into heat is of course extremely profitable. As a company, you have

Duijvestijn Tomaten

Duijvestijn Tomaten is one of the pioneers in the field of modern tomato cultivation. This company in Pijnacker is using a new way of thinking about business operations, their product and the use of raw materials. In addition, residual flows of goods are re-used as much as possible, and growing is done as sustainably as possible. Think of processing tomato surplus into oven-dried tomatoes and tomenades. Packaging is made from plant residues. The company was one of the first in the Netherlands to have its own geothermal heat source and continues to invest in sustainable innovations.

Kwekerij Helderman

After a long history in the Westland, Kwekerij Helderman settled in Middenmeer in 2007. This grower of high-quality peppers was able to handle the necessary scale-up at one location. The area is 45 hectares. Kwekerij Helderman has always been very innovative in the field of energy and labor, among other things.

Porta Nova

Porta Nova in Waddinxveen is the largest grower of Naomi roses in the world. The company grows more than 60 million Naomi roses a year, and every day the company tries to do better than the day before. This constant improvement process ensures that the roses are of the best quality and that investments are always being made in innovations in the business process.

SV.CO

SV.CO in De Lier is a service-oriented grower of a wide collection of flowering plants. With the consumer in mind, SV.CO and its partners create a healthy return every day by offering fresh and beautiful flowering plants that are grown in a traditional way but by using the latest technology. This "caterer for professional presentations" is always working on innovations that contribute to a better process, product and customer relationship.

Bergcamp

The family-run nursery Bergcamp in De Lier grows Cyclamen, Campanula and Pelargoniums at two modern cultivation sites. Bergcamp wants to flourish with its plants, taking a personal approach towards its employees, visitors and customers. By continuing to invest in their team and technology, the company has been able to scale up using internal resources.

to stay connected to all those options to maintain your resilience."

Together, more can be achieved

By creating resilience in this way, crises can be better dealt with. Jelle Strijbis of pot plant nursery SV.CO also saw this. "Covid-19 really paralyzed us for two weeks," he explains. "But such a crisis is also an opportunity. We quickly combined forces, gathered expertise from outside and studied the various possible scenarios. That gave us a starting point to weigh the pros and cons and to make choices. And then you notice that the mentality in horticulture always works in times of crisis: buckle down and go."

At Duijvestijn Tomaten, too, they see a future in which horticulture will become more connected, also with other sectors. "We can share residual heat with each other," says Ad van Adrichem. "Industry, households, horticultural companies...; everything will have to be even more connected than it is already. This also applies to CO2, for example. In addition, we continue to invest in a reliable and flexible energy mix, so that as a company we can handle any situation."

Resilience means having the courage to invest in strategic innovations; seeing possibilities, instead of impossibilities. It also means looking for economies of scale, for example through mergers or partnerships. "Doing everything yourself is not always the solution," says Barry Helderman. Stefan van Vuuren also sees the same solution. "Collaboration is essential, for example between science and commerce. You get experts from outside to help you gain knowledge. That is the basis: always continuing to learn from each other." <<

The basis of energy resilience:

- Scaling up through mergers or collaboration
- Investing in sustainable innovations
- Involving outside experts in your challenges

DUIJVESTIJN next generation growers · KWEKERIJ HELDERMAN · PORTA NOVA · SV.CO · BERGCAMP growing outstanding plants

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LABOR

TECHNOLOGY STRENGTHENS THE COMMITMENT OF PEOPLE IN THE COMPANY

Through innovation, economies of scale and optimization of business processes, in greenhouse horticulture we have been able to generate a greater return on sales. This often means that more work is involved. At the same time, it is becoming increasingly difficult to find good employees, regardless of the type of contract, and the cost of labor have increased significantly. Data and robots are being mentioned as possible solutions to this challenge. Will these innovations provide the necessary resilience with respect to labor?

When it comes to labor, Walter van den Berg of Bergcamp (specialized in bedding plants) in De Lier does not immediately start talking about introducing robots in his greenhouse. Instead, he starts talking about job satisfaction. "We work with a wide spectrum of permanent employees," says the grower enthusiastically. "Those who want to have a lot of freedom and personal responsibility. This is a family business. We want work to be fun, so we include everyone in the company in our business objectives: to be among the top three in our product groups with respect to quality, to have pleasure in our work and to be a self-managing team. Together, our employees are much smarter than management alone, so we focus on good communication and personal growth. Then you can achieve much more with a smaller team."

Technology supports quality control

Also in SV.CO, the teams at the various locations are being increasingly decentralized. "We focus a lot on process improvement and lean methods," says Jelle Strijbis, one

"Technology is becoming increasingly reliable. At the moment, vision and artificial intelligence mainly take care of optimization."

of the three directors of the pot plant nursery. "One of the most important lessons we've learned in recent years is that it's important to include employees in our vision. By self-managing teams, optimizing the processes and creating insight with the help of labor registration, we can always continue to say 'yes' to the customer, despite the size of the company, and maintain a leading position in the market in all products."
In addition to investing in people, investments are also being made in new innovations, for example, at rose grower Porta Nova in Waddinxveen, which cooperates with GearBox in the field of quality control. "Technology is becoming increasingly reliable," says Managing Director Stefan van Vuuren. "At the moment, vision and artificial intelligence mainly take care of optimization. GearRover helps our employees to cut the right roses and is therefore a tool for management to guarantee quality. We will also apply quality control in the barn with the help of cameras and intelligent software. Replacing human labor, for example with harvesting robots, is still too difficult in the rose business. But by using technology as a smart tool for humans, we can reduce man-hours without losing quality."

Implement robotics step-by-step

At SV.CO, quite a few robots are now stationed in the production facility. "We grow largely on roll containers and, at one location, in the ground. We do logistics with the help of conveyor belts," explains Jelle Strijbis . "There are now two robots there. In the past, spawning was done with forks, which was quite labor-intensive. We also have cutting robots at the main location. This project is being further optimized, together with ISO. Once this project has been optimized, we also see opportunities at our other locations. On the other side of the production line is another automatic cover machine. The future is in vision; for example, by placing cameras on a spraying robot that constantly monitors growth. Camera sorting is also something we are investing in."

Human labor deployed more effectively

Bergcamp is also investing in robotics to optimize various processes in the company. "By purchasing a hoarding and placing robot, we went from 4fte to 1fte for that specific job. This allows you to use people more effectively elsewhere in your company," says Walter van den Berg. "We have set up Oppotlijn 3.0 to help us implement automation as easily as possible. Every staff member involved can work with it, which makes us flexible and powerful as an organization. Now that our hoarding and staking process is automated, in 2026 we also want to set up a delivery system which could save us thirty percent on labor. We could then focus more on our people and our goals, and this would allow us to deliver a high quality and high volume with a small team."
At Duijvestijn Tomaten, too, they find it important that employees have a good time and that talents are used as much as possible. There is also a lot of investment in this, but that alone is not enough. For a year now, tests have been carried out in the greenhouse with a robot for harvesting vine tomatoes. "In the short and medium term, robots will not completely replace human labor, and we certainly still need people for harvesting as well as for all other crop operations," says Ad van Adrichem. "But technology is getting better and more refined, so we expect to see a reduction in the number of people needed

"In the short and medium term, robots will not completely replace human labor."

for more and more crop operations in the long term. We can then use their talents elsewhere within the company or in another way. After all, we will also need people who master this new technology."
An entrepreneur oversees both the daily operations and the long-term strategy, including human resources. "We are big enough for the next five years," says Jelle Strijbis . "This is a market of consolidation, but instead of scaling up, we could also consider collaborating more with each other. Our organization needs to professionalize so that management does not have to be operational. That is why we are investing in self-managing teams and bringing in external expertise. And of course we should always be looking for ways to work together and to find new possibilities, crisis or no crisis."
Bergcamp is also looking at a future in which man and machine increasingly work together. "You are looking for the ultimate logistics process in your company," says Walter van den Berg. "In the future, there will be fewer and fewer people in the greenhouse. The fewer people you need to handle the plants, the better, so we really need to move towards 'hands-free cultivation'. Automation is also becoming simpler and more plant-friendly, for example through the use of servo motors. These motors ensure peace and accuracy of the product and the process."
A hybrid form of optimized processes with innovative robots, real-time data and employees who can act largely autonomously; that is how the growers we have spoken to see the future. Communication is becoming increasingly important; between people, between software packages and between humans and robots. Shifting responsibility to an increasingly professional team will also keep greenhouse horticulture resilient and will ensure the efficient use of scarce labor so that we can continue to do what we do best: grow high-quality and healthy products in high-tech companies. <<

> *"The fewer people you need to handle the plants, the better, so we really need to move towards 'hands-free cultivation'."*

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CASE STUDY

ZWETTULIPS

Real estate is the basis of every horticultural business. That is where production takes place, where the staff works and where investments need to be made. Yeald helps companies with the purchase, construction and development of real estate. In this case study, we dive into the story of Zwettulips in Oude Wetering, on the border of North and South Holland. At the moment, this tulip business includes 55,000 m² of glass and 5,000 m² of barn. But that's about to change.

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"In 2019, together with Arthur Vijverberg of Yeald, we determined the strategy for the future of Zwettulips. We wanted to grow from the 85 million stems of own production to approximately 150 million and eventually create enough space to process 250 million tulips per year in a future-proof manner. All this has come together in a central plan to create of the largest growers in the Netherlands." This resulted in a first purchase of 3.2 ha of adjacent land in mid-2019 and a follow-up purchase of 2.2 ha of land in 2022. With this position, Zwettulips can grow in phases and realize its strategy. Yeald assisted people to relocate and played an important role in the awarded POP3 subsidy application.

Efficient and sustainable through scale-up

First of all, Zwettulips has now started the construction of approximately 8,000 m² of business space and 7,700 m² of processing space. This is a substantial investment, which is necessary for a closed cycle from bulb to vase to take place within the company in the coming years. At the same time, this will lead to greater efficiency and a higher return on sales. "This new building gives us a central place for our production," says Ruud van der Zwet, Director of the family business. "We are still working with various locations, including a number of locations that we are currently renting. The increase in scale will enable us to use raw materials more efficiently, to use labor better and to transport the various cultivars from bulb to flower through the chain as sustainably as possible." In addition to the new building, investments are also being made in high-quality technology in the company. "No one will have to come to the greenhouse anymore," says Ruud. "Together with our partners, we are installing smart internal transport and robotics to control the flow of the bulbs and stems through the company. Thanks to the expansion of the company, this investment will be profitable. Everything will be set up much more efficiently and processes will be optimized." In the foreseeable future, they are also looking at further expansion of the greenhouse area. From Zwettulips , hundreds of million of stems a year enter the market, with various color mixes and cultivars. "We can supply a mix of at least seven colors, but certainly on the American and Chinese market, you see this sometimes rise to ten or eleven different colors. These flowers all need to bloom at the same time, while we continue to produce all year round. Investing in real estate will enable us to deliver the required quantity and quality in the coming years."

Real estate as a foundation of your company

Yeald supports Zwettulips both in real estate matters and with partnerships. "We have known Arthur Vijverberg for years. He is the one who has been handling our purchases since 2012," says Ruud van der Zwet. "We rely on his expertise, and we have a good relationship, which is also important. In addition, Yeald helps us if we want to do business together with other companies, such as Springflora. We keep ownership of our real estate, which is the foundation of our company. It is certainly not the last time we will invest. If conditions remain as they are now, we will continue to grow in the coming years. We see this expansion as a great step, but not the end of the journey."<<

ZwettUlips

OFFICIAL OPENING

We have been in our new office for more than a year now, and on Saturday, 4 June, we finally had the pleasure of opening our doors to the wider public. We were proud to present our office, which belongs to the most sustainable building in the Netherlands. Here is a short impression of this successful day.







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