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MAGAZINE

08 January | 2026

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Growing Together Towards a Greener Future

» Welcome to the Delphy International Soft Fruit Conference 2026! It's great to see our industry come together again to share knowledge, ideas, and inspiration. The soft fruit sector continues to evolve, rapidly driven by consumer demand for quality and sustainability, and by the challenges of climate change and stricter regulations.

> "Together, we can turn challenges into opportunities for a resilient industry

This year's program reflects those realities. From energy-efficient cultivation and climate-smart strategies to pest and disease management and cutting-edge technology, today's sessions will give us plenty to think about. One theme stands out: the move toward greener solutions. With fewer chemical options available, we need to rethink how we grow—focusing on timing, integration, and smarter use of biological and technological tools. It's not always easy, but innovation and collaboration are opening new doors.

As you read this magazine and join the discussions, we hope you leave with fresh ideas and practical tools to make your production more resilient and sustainable. Together, we can shape a future where soft fruit thrives—responsibly and profitably.

A big thank you to our sponsors and partners for making this event possible. On behalf of the Delphy ISFC team, we wish you an inspiring and productive conference!

Vera Theelen

Manager Delphy Innovative Soft Fruit Centre

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January 9
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ISFC 2026

08.00 – 09.15 **Arrival of Guests & Visit Exibition**

09.15 – 10.20 CONFERENCE SESSION 1

09.15 – 09.20 

Opening
Vera Theelen | Manager Delphy Innovative Soft Fruit Centre

09.20 – 09.40 

Strategies to flatten labour peaks in strawberry cultivation 14
Simon Craeye | Researcher strawberry and fruit vegetable cultivation, Inagro

09.40 – 10.00 

Driving Genetic Gain in Berry Breeding through Genomics and Digital Phenotyping 18
Alfonso Lopez | New products launching manager, Planasa

10.00 – 10.20 

The underestimated importance of climate screens and control-led vertical air movement through the canopy, for more active, more healthy and more sustainable soft fruit crops 24
Dominique Blok | Accountmanager, Climaflow &
Ton Habraken | Greenhouse climate specialist, Svensson

10.20 – 11.30 BREAK & VISIT EXHIBITION

11.30 – 12.30 CONFERENCE SESSION 2

11.30 – 11.50 

Breaking the mold: Innovative and sustainable mildew control in strawberry cultivation 28
Vera Theelen | Manager Delphy Innovative Soft Fruit Centre

11.50 – 12.10 

Shaping the future of Blueberries in EMEA: The Fall Creek® Approach 34
Teun Leenders | Commercial Manager EMEA, Fall Creek

12.10 – 12.30 

Sweet news from Bayer: Introducing De Ruiter's first Strawberry Variety 38
Will Roberts | Business Development Manager Strawberry, Bayer &
Alin Borleanu | Market Development Representative Strawberry, Bayer

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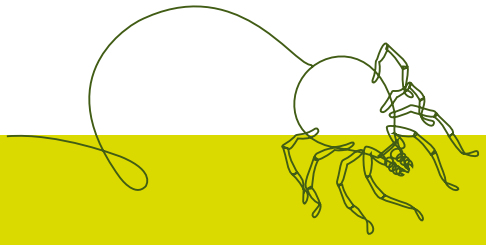

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12.30 – 14.15 LUNCH & VISIT EXHIBITION

14.15 – 15.15 CONFERENCE SESSION 3

14.15 - 14.35 
Rubin: a new future for raspberries 44
Hans Puijk | Owner PuijkFruit/Brightberries, in cooperation with Fruitmasters

14.35 - 14.55 
Energy-saving strategies for early-season strawberry production in North-West European greenhouses 48
Stef Laurijssen | Researcher, Research Centre Hoogstraten

14.55 - 15.15 
Concluding two years of growing blackberry with reduced inputs 54
Pim Kleeven | Researcher soft fruit, Delphy Innovative Soft Fruit Centre

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16.45 - 17.05 
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Jakob Aubell | CEO, Moleda

17.05 - 17.25 
Using sensor technology for irrigation of substrate Berries 64
Dennis Wilson | Senior Agronomist & Managing Director, Delphy (UK)

17.25 - 17.30 
Announcements & closing
Vera Theelen | Manager Delphy Innovative Soft Fruit Centre

EXHIBITION IS OPEN TILL 18.00

19.30 CONFERENCE DINNER, VAN DER VALK HOTEL IN VUGHT (REGISTRATION REQUIRED)

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Strategies to flatten labour peaks in strawberry cultivation

» A variable workload makes it difficult to deploy labour efficiently in strawberry production. Growers therefore strive for a stable production profile and increasingly explore the potential of everbearers to reach that goal. Plant propagation itself also creates variability: the propagation strategy strongly influences crop balance and overall workload. Within the Interreg 'PlantGoed' project, various plant types were propagated and tested in multiple greenhouse systems. Fresh plants in particular show potential to achieve more stable production patterns. This presentation summarises the most notable results, focusing on production profiles and yield potential.

Simon Craeye | Researcher strawberry and fruit vegetable cultivation, Inagro

Labour as important production cost

Strawberry cultivation is labour-intensive. All production systems in Belgium, from open field to lighted greenhouses, depend heavily on seasonal labour. Two challenges are becoming more pressing: skilled labour is becoming scarcer, and labour costs have risen sharply over the past decade. In heated greenhouses, labour represents an estimated 20–25% of total production costs. To remain competitive, growers must optimise their

> Predictability of the workload is crucial

Active engagement of key stakeholders in the workshops gave the PlantGoed partners crucial insights into market demand and strawberry growers' vision.

operations, including staffing and labour efficiency. Predictability of the workload is crucial, making a stable, high-level production curve the preferred scenario.

Co-creative idea collection

The PlantGoed project focuses on year-round greenhouse strawberry production. To identify which growing systems offer the highest potential, project partners gathered input from growers, propagators, advisors and sector organisations. During two workshops in Antwerp and West Flanders, systems involving everbearers, high-chill and low-chill June-bearers, or combinations of these, were discussed. Through a series of co-creative exercises, a list was developed of cultivation systems requiring optimisation or in need of validation.

Freshly made beats cold storage

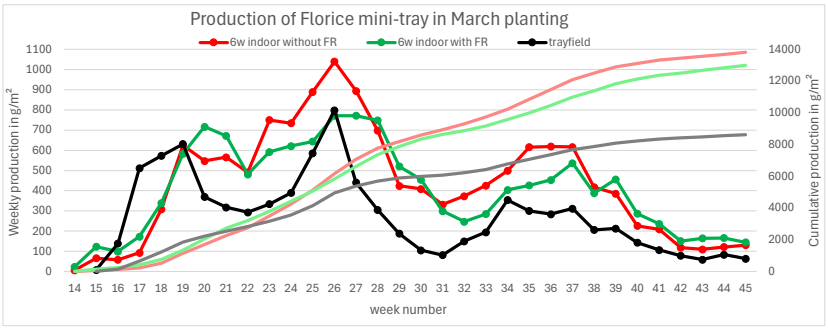
Because growers aim for a flat harvest curve, two systems with a central role for everbearers emerged as particularly promising: planting in March after a winter production of June-bearers, and planting in May following an early spring crop. In both cases, growers seek a balanced crop with continuous flower initiation and steady production of high-quality fruit.

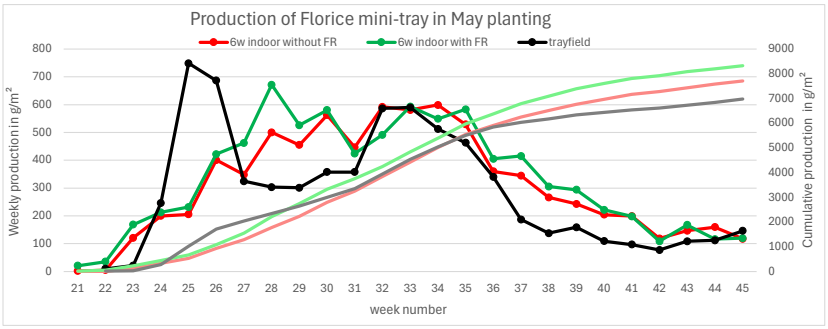
Achieving this balance is not solely a matter of climate control. The conditions during the propagation phase and, consequently, the plant type used at the start of cultivation have a major influence on further crop development. In the project,

the cultivar Florice was propagated in three ways: on autumn tray fields followed by cold storage, and in a vertical farming (VF) facility with or without far-red (FR) light.

At both planting moments, tray-field plants displayed a pronounced first production peak, whereas VF plants showed a more gradual rise. Five weeks after the first ripe fruit, cold-stored plants already showed declining production, while VF plants maintained their fruit load. During the second production peak of cold plants, yields almost matched those of fresh plants, but later in the season the fresh plants increased their lead again.

Applying FR light during propagation resulted in slightly higher yields in weeks 6 and 7 after planting, without causing a production drop beyond the level seen in VF plants without FR. The March planting with fresh plants produced 14–15 weeks above 500 g/week, compared with only 6 weeks for cold-stored plants. The May planting showed 8–9 weeks above that threshold for fresh plants and again only 6 weeks for cold plants.





Indoor propagation has the potential to deliver plants on demand and right in time

Influence of substrate volume

Everbearers are traditionally propagated as mini-tray plants, a process requiring at least 12 weeks and often followed by months of cold storage. Controlled-environment propagation can significantly shorten the propagation time and deliver plants “just in time.” At Inagro, fresh Karima tray, mini-tray and plug plants were produced within 8, 6 and 4 weeks respectively, both in VF and in greenhouse conditions.

For March plantings, smaller substrate volumes perform well because early-season crop development is slow and light levels are limited. Plug plants can continue to develop on the gutter and, 7–8 weeks after the first harvest, achieve production levels comparable to larger plant types. Effects of substrate volume on peak formation were limited.

In May plantings, however, larger plants clearly have an advantage. Their stronger early development allows them to reach higher production peaks more quickly. Smaller plants create a flatter production profile but remain at a lower overall production level, while larger plants achieve higher total yields thanks to stronger peak performance.

To be continued

Optimising both total production and production stability requires further refinement. In 2026, new trials will be carried out by Inagro, PCH and Delphy to expand these insights. A next major step involves economic analyses: how do shorter indoor propagation cycles and modified production profiles affect profitability compared with traditional tray-field plants and fluctuating yields?

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Driving Genetic Gain in Berry Breeding through Genomics and Digital Phenotyping

» Berry breeding is evolving rapidly with the integration of genomic and digital tools that accelerate the discovery of key traits and the development of superior varieties. At Planasa, a structured breeding process combines germplasm management, genotyping, digital phenotyping and data-driven selection to increase consistently the genetic gain. Through genome-wide association studies (GWAS), marker-assisted selection, and machine learning, the breeding team can identify valuable genetic resources, predict performance earlier, and respond to growers' and consumers' evolving needs. These innovations are shaping a new generation of strawberry varieties designed for sustainability, productivity, and resilience under diverse growing conditions.

Alfonso Lopez de la Calzada | Head of agri-food products, Planasa

Structured breeding process

Planasa is one of the world's leading berry breeding companies, with a strong focus on innovation and sustainability. Its global network of research stations and partners allows the continuous development and validation of new varieties under different climatic conditions. Creating a new strawberry variety typically requires eight to ten years, moving through dis-

tinct phases from cross selection to commercial launch. The process integrates breeding, development, and market validation, ensuring that each new release meets the agronomic, environmental, and sensory expectations of the market.

Managing genetic diversity

The foundation of genetic progress lies in a broad and well-characterized germplasm. Planasa's breeders manage a large genetic base that includes historic collections such as the 'Professor Staudt Collection,' interspecific hybrids, and mutation breeding lines. The company also performs fingerprinting and diversity analyses to monitor genetic structure, purity, and to secure intellectual property protection of its elite materials. All parentals and commercial varieties are genotyped and classified into genetic groups. This approach enables better pair-mating decisions and facilitates the creation of new combinations that bring novel alleles into the breeding pool.

Genomic tools and selection

The use of high-throughput molecular tools is accelerating selection decisions. Planasa employs a complete genotyping toolbox ranging from low- to high-density SNP arrays and de novo sequencing platforms. Genome-wide association studies (GWAS) and QTL mapping are used to identify regions linked to

quantitative and qualitative traits such as fruit firmness, flavor, or disease resistance. Marker-assisted and genomic selection strategies allow the identification of superior seedlings at an early stage, improving efficiency and accuracy in the breeding pipeline. These technologies help breeders to focus resources on the most promising candidates.

Digital phenotyping

Phenotyping remains one of the main bottlenecks in breeding. To overcome this, Planasa is implementing digital phenotyping systems that convert visual or subjective assessments into quantitative data. Machine learning algorithms process thousands of images to extract objective descriptors of fruit color, size, shape, or texture. This digitalization of phenotyping enhances prediction models and reduces human bias. Combining genomic and phenotypic data increases selection accuracy and enables faster genetic gain, a key driver for competitiveness in modern berry breeding.

Designing for growers and consumers

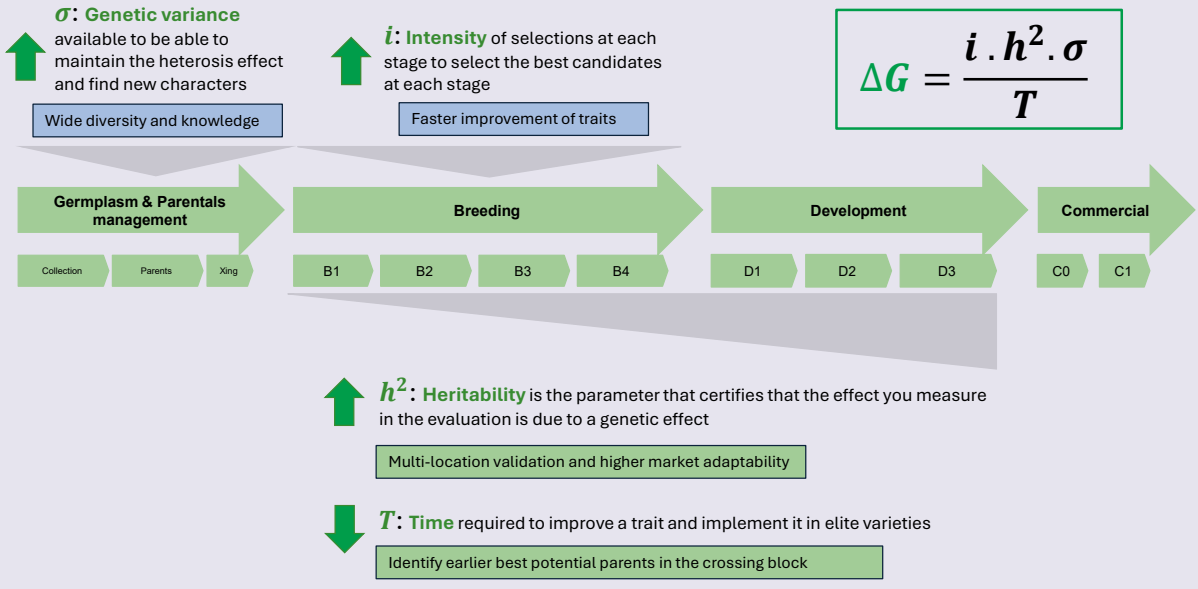
The success of a new variety depends on its ability to satisfy both growers' needs and consumer expectations. Planasa builds product profiles that integrate agronomic performance, disease tolerance, fruit firmness, sweetness, and shelf life. Sustainability criteria such as low water use, reduced chemical inputs, and energy efficiency are also incorporated into the selection process. This dual focus—technical and environmental—ensures that each new variety contributes to a more sustainable berry industry.

Impact for growers

The ultimate objective of breeding innovation is to deliver varieties that provide real value in commercial production. Improvements in genetic gain translate into higher yield per hectare, more stable

GENETIC GAIN: MAIN DRIVERS AND METRICS

The Genetic Gain increase (ΔG) is the key indicator to evaluate the success of an R&D strategy and is based in 4 different variables: intensity, heritability, genetic variance and time required to reintroduce germplasm.



production curves, and reduced risk under variable climatic and disease conditions. The integration of disease resistance genes lowers dependency on chemical control, improving sustainability and reducing production costs.

Enhanced fruit firmness, shelf life, and uniformity support improved harvest efficiency and reduce post-harvest losses, allowing growers to optimize labor resources—one of the most critical cost drivers in modern berry farming.

By accelerating selection and validation, new varieties reach growers faster, enabling earlier adoption of material adapted to substrate systems, protected cropping, or everbearer production models. This science-driven approach strengthens grower competitiveness, improves predictability, and supports long-term profitability across different geographies and production models.

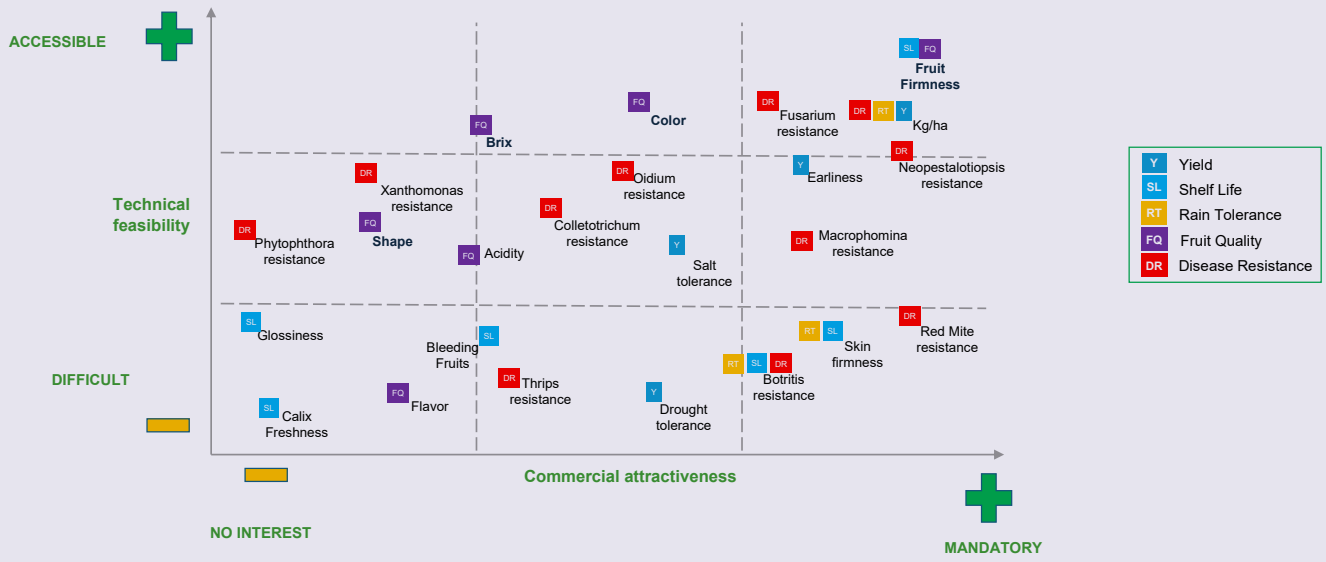
Future perspectives

The integration of genomics, digital phenotyping, and advanced data analytics is reshaping the future of berry breeding. The next step will involve fully predictive models that integrate genotype, phenotype, and environmental data to forecast performance in diverse growing systems. Expanding multi-location trials, improving phenotyping precision, and exploring new sources of resistance will continue to strengthen the breeding pipeline. Through continuous innovation and scientific rigor, Planasa aims to drive measurable genetic gain and deliver varieties that combine productivity, quality, and sustainability for growers worldwide.

Editorial note: This article was written with the assistance of an AI-based writing tool under the full supervision, structure, and prompted by Alfonso Lopez. Scientific content provided by Michael Forneau.

KEY TRAIT ANALYSIS : EXEMPLE OF PRIORITY MATRIX

Strategic analysis to determine priority traits for USA market based on technical feasibility and commercial attractiveness



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The underestimated importance of climate screens and controlled vertical air movement through the canopy

More active, more healthy and more sustainable soft fruit crops

» Growers face significant challenges while trying to create the perfect, "active" growing climate throughout their greenhouse. Reaching an even temperature and the ideal humidity levels, both horizontally and vertically inside a growing area, is a complex task. An "active greenhouse climate" to stimulate plant growth is what most growers strive for. Both climate screens and vertical airflow fans (VAF) have an significant impact on achieving this so much desired "active" climate. Installing the tools is one thing, knowing how to use them is even way more important.

Dominique Blok | Accountmanager, ClimaFlow & Ton Habraken, Greenhouse climate specialist, Svensson

A homogenous greenhouse climate

Greenhouses have by definition a heterogeneous climate, both horizontally and vertically. This also applies to modern, well insulated greenhouses. The temperature differences increase as the heating becomes more intensive and horizontally this can easily reach more than 5ºC. As a consequence of the temperature difference the relative humidity (RH) can also vary

from place to place by 15%, with possibly well-known adverse effects on fungal diseases in your crop.

The use of screen gaps, to discharge humidity or excessive heat, are one of the main causes of a heterogeneous climate. General laws of physics tells us that warm air is so to say “lazy”, choosing the way of least resistance, and has the tendency to rise to the highest point of the growing area. On that point warm air will rise through the screen gaps, to the attic. Where at one point air escapes the growing area, at an other point, cold air will enter the growing area, causing cold fall on the crop.

So besides that to big screen gaps cost a lot of (expensive) energy, they are also a major cause of horizontal temperature differences in the growing area. The best way to battle these temperature differences is to stop applying screen gaps. Furthermore the installation of apex-seals in the attic of the greenhouse can help to create more homogenous greenhouse circumstances.

A active greenhouse climate

While keeping the screens more closed, we have to make sure that the greenhouse climate remains “active”. Keeping the greenhouse climate active is a way of growers

to say that they want the crop to remain sufficiently evaporating.

In the past we used the 'minimum pipe' setting to create a the "active" climate. The constant minimum pipe temperature causes warm air to rise along the crop, removing moisture out of the canopy, stimulating the evaporation of the crop.

Most of the time the minimum pipe temperature is applied while there is no real need for heating the greenhouse, especially with relatively cold soft fruit crops. The minimum pipe is just there to create the vertical air movement around the crop.

There are more energy efficient ways of creating the so desired air movement through the canopy, to keep both the climate "active", and therewith mainly the crop actively evaporating. Especially as we do not really want the heat from the pipes in our growing area.

By the use of vertical Clima-Flow-fans, the same air movement around the crop can be created, under fully closed energy saving climate screens, without adding unneeded heat into the growing area. This way evaporation of the crop can be stimulated by convection and the diffusion process will be stimulated.

Diffusion process

Diffusion is the physical process whereby particles move from a location with higher concentration to a location with lower concentration. The diffusion process of water molecules in air is very slow and plays only a minor role in the transport of water vapor from one place to another. From example from plant leaves to the greenhouse roof.

Most of the transfer occurs by air movement. Water vapor "Goes with the Flow" you might say. To give a rough idea of ratios: if air speed equals 0.1 cm/s, more than 99% of the total water vapor transport in

the greenhouse is due to air movement and less than 1% is attributable to diffusion.

So the air movement along the canopy does not have to be strong to create an “active” climate, a soft breeze through the canopy is more than enough.

ClimaFlow fans

Svensson’s ClimaFlow fans can create this soft air movement against a very low energy input because of the use of modern and highly efficient EC-motors.

Electronically commutated (EC) motors are a type of brushless DC motor that use electronic controls to manage their operation, providing higher efficiency and lower maintenance compared to traditional AC-motors.

So the modern way of keeping your greenhouse climate and your soft fruit crop active, healthy and more sustainable is by keeping your Svensson energy saving climate screens fully closed and create a homogenous and active climate underneath them, with sufficient vertical air movement created by the application of vertical ClimaFlow fans. Grow with the Flow!

> “Create the perfect, ‘active’ growing climate

Breaking the mold: Innovative and sustainable mildew control in strawberry cultivation

» Powdery mildew has become one of the most persistent challenges in strawberry and soft fruit production. Disease pressure appears to be more pronounced in outdoor cultivation, but even in greenhouses, mildew can persist well into the later part of the season. The problem is further amplified by the withdrawal of key chemical crop protection products and the susceptibility of popular varieties. Growers are under pressure to maintain yield and quality while meeting sustainability goals. At the Delphy ISFC, we are exploring innovative strategies to tackle this issue. This article highlights recent trials, promising solutions, and a forward-looking perspective for a resilient future.

Vera Theelen | Manager, Delphy ISFC

> “Sustainable approaches that combine biological and technological innovations

The Powdery Mildew Challenge

Powdery mildew (Podosphaera aphanis) is a fungal disease that thrives under warm, humid conditions, causing significant economic losses. Its impact is particularly severe in strawberry cultivation, where infection can reduce fruit quality, shelf life, and overall yield. The challenge has intensified over the last few years due to multiple main factors namely, regulatory changes, some varietal susceptibility and a climate that is generally changing to more extreme and with that mildew favourable conditions. In the Netherlands, but also in many other countries, the rules and regulations concerning applying chemical crop protection products and MRL’s (maximum residue levels) have become a lot stricter. The market has shown an increasing demand in fruit and vegetables with less residues. A lot of well-known products that growers use and have used have been or being phased out. This has left growers with fewer effective tools and has increased the reliance on alternative strategies. The current strategies focus on more integrated pest management (IPM), sustainable approaches that combine for example biological, and technological innovations. Beside the phasing-out of many products, breeding fully resistant varieties remains a challenge. Although more breeders and with them their new varieties have made this more of a priority.

At Delphy ISFC Trials and exploring solutions

At Delphy ISFC, we have conducted a series of trials over the years, not only to evaluate different strategies for controlling mildew but also to explore how mildew management can be integrated into a system that relies entirely on green products. This past summer, we carried out a trial on tabletops at Delphy ISFC to assess various strategies provided by different companies. The trial was deliberately conducted during the peak mildew pressure period and focused on a highly susceptible cultivar, Elsanta. Products were applied weekly (see table 1), and the mildew incidence was also assessed weekly on a 0-5 scale. The results demonstrated that several of these strategies were effective in significantly reducing mildew incidence and with that increasing plant resilience (see figure 1), highlighting the potential of IPM-based approaches as part of a sustainable disease management system. Building on these findings, ISFC is also running a trial called

Towards a Sustainable Unlit Strawberry Cultivation. This project aims to secure the future of strawberry production by developing a system that is 100% green (fully chemical-free) and as fossilfree and emissionfree as possible. While the trial covers a lot more than mildew, reducing mildew pressure is a key component. The approach includes the exclusive use of green products combined with biological pest control, alongside innovative solutions such as UV-C robots and optimized use of sulphur burners in combination with biological strategies. By integrating these methods, we strive to make strawberry cultivation both viable and more sustainable for the years ahead.

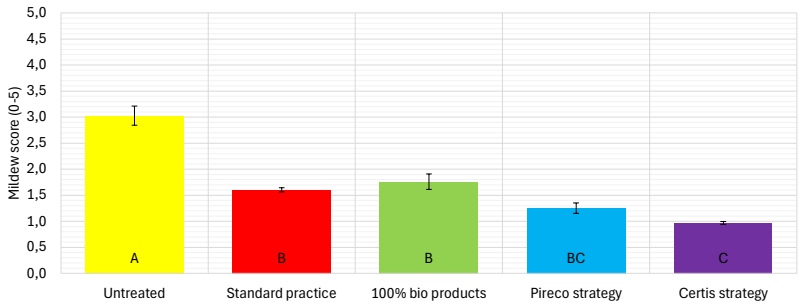

Figure 1: Mildew score avearage over whole trial (0=0% infection of leaf, 5=>50% infection of leave)

With the withdrawal of chemical crop protection products, the industry is experiencing rapid innovation and the adoption of alternative tools. Technologies such as UV-C treatment—both via autonomous robots and overhead lighting systems—are becoming increasingly relevant, alongside air purification systems designed to reduce airborne spores. Although air purification and overhead UV-C lighting are not yet widely implemented and are still in early adoption phase, the number of UV-C robots in greenhouses and outdoor cultivation continues to grow. These innovations offer promising support, but effective mildew control requires more than technology alone. Cultivation practices remain critical: maintaining optimal humidity, preventing drafts in greenhouses, and applying precise irrigation are essential to limit disease pressure. Variety choice also plays a

Week	Standard practice	100% bio products	Pireco	Certis
1	Signum[1] + Vitisan[2]	Fado[2,6] + Serenade[7] + Hi-Wett[3]	Herfomyc-Horti + Karma[2]	Karma[2]
2	Signum[1] + Vitisan[2]	Fado[2,6] + Serenade[7] + Vitisan + Hi-Wett[3]	Herfomyc-Horti + Fado[2,6] + EVR	Takumi[8] + Karma[2]
3	Nimrod[4]	Fado[2,6] + Serenade[7] + Vitisan[2] + Hi-Wett[3]	Herfomyc-Horti + Karma[2] + Takumi[8]	Takumi[8] + Karma[2]
4	Bifasto[5] + Karma[2]	Serenade[7] + Karma [2]	Herfomyc-Horti + Fado[2,6] + EVR	Amylo- X[9] + Karma[2]
5	Bifasto[5] + Karma[2]	Fado[2,6] + Serenade[7] + Karma[2]	Herfomyc-Horti + Karma[2] + (Takumi[8])	Amylo- X[9] + Karma[2]

1. Boscalid /Pyraclostrobin
2. Potassium Bicarbonate
3. Trisiloxaan
4. Bupirimaat
5. Difenoconazool/fluxapyroxad
6. COS-OGA
7. Bacillus amyloliquefaciens strain QST 713
8. Cyflufenamid
9. Bacillus amyloliquefaciens subsp. plantarum strain D7

key role, as less susceptible cultivars provide a strong foundation for integrated strategies. Furthermore, plant resilience must be supported through balanced fertilization. Trials indicate that lower nitrogen levels, particularly reduced nitrate, can help suppress mildew development; however, excessively low fertilization can lead to poor growth and reduced yields, while too little nitrate may even increase mildew risk due to weakened plant vigor. Achieving the right balance is therefore key to sustainable mildew management.

Looking Ahead

The challenge of powdery mildew is far from over. The withdrawal of chemical crop protection products has undoubtedly raised the stakes, but it has also accelerated innovation. New tools are emerging to support growers in managing disease pressure. However, moving toward fully green cultivation requires more than adopting new technologies—it demands a shift in how and when products are applied, and in the integration of multiple strategies. This transition brings new complexities, as many factors influence each other, from variety choice and irrigation to climate control and fertilization. While this makes mildew management more challenging, it is not impossible. By working together as a sector and embracing innovation, we can build resilient, sustainable systems that keep strawberry production viable for the future.

21 kg of strawberries!

Grodan, Limgroup, Gipmans and Delphy ISFC achieved a record total harvest of over 21 kg/m² (incl. 1,5 kg waste) using F1 hybrid seeds sown directly on Grodan stone wool. This method replaces tray propagation with direct seeding on steerable stone wool, producing cleaner, healthier and more uniform plants while extending the production window and improving taste, shelf life and consistency.

Collaboration over the full chain

Combining Gipmans' young plants, Limgroup's variety Limore One, Delphy ISFC's research and Grodan's steerable substrates shows the future of indoor strawberry production: data driven, sustainable and high value.

Grodan´s solutions

Grodan stone wool enables precise control of root zone water content (WC%) and electrical conductivity (EC) throughout the crop cycle. Starting on a clean substrate reduces soil borne disease risk and gives seedlings a uniform, healthy start. With GroSens real time monitoring we can steer irrigation to protect root health. This data driven steering results in more consistent quality, higher Brix and better production efficiency than traditional systems.

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Planasa

INNOVATION IN PLANT VARIETIES

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Shaping the Future of Blueberries in EMEA: The Fall Creek® Approach

» Fall Creek® has long been recognised as a pioneer in the blueberry industry. With decades of experience, a strong track record in genetics and nursery excellence, and an unwavering focus on grower partnership, we continue to lead the way in helping blueberry producers succeed, today and into the future.

Teun Leenders | Commercial Manager EMEA, Fall Creek

Across EMEA (Europe, Middle East & Africa), where climates, markets and production models are as diverse as the fruit itself, Fall Creek® is working closely with growers to deliver not only world-class plants, but dependable support and regional insight. From premium genetics to nursery reliability and expert guidance, everything we do is rooted in one goal: building a world with better blueberries™.

Global Vision, Local Commitment

From its origins in Oregon, USA, Fall Creek® has grown into a global

leader in blueberry genetics, nursery operations and technical support. Our work extends far beyond supplying plants we are long-term partners, committed to helping growers meet challenges and seize opportunities in a fast-evolving market. Nowhere is this more important than in the EMEA region. With climates ranging from high chill in Northern and Eastern Europe to low chill and subtropical zones across North Africa and the Middle East, EMEA represents one of the most complex and promising blueberry-growing regions in the world.

Fall Creek®'s local commercial and technical teams work alongside growers every day, bringing the latest global innovations into local fields. This regional presence ensures our solutions are relevant, timely and adapted to the specific needs of each operation, whether the focus is shelf life, mechanical harvesting, labour efficiency or consumer preference.

EMEA: A Region with Strategic Importance

The EMEA region is central to Fall Creek®'s global strategy, not only because of its current production strength but also because of its long-term potential. To support this, we are investing in local nursery capacity, strengthening our grower service network and trialling new genetics across multiple sites.

The High Chill segment has long been a cornerstone of blueberry production in the northern Hemisphere. However, it now faces pressure from the rapid progress seen in Southern Highbush genetics. As climate conditions change and labour availability becomes more constrained, the

industry must evolve to remain competitive.
Fall Creek® is responding with a focused breeding effort, combining decades of genetic expertise with insights from commercial growers to bring better, more resilient varieties to market.

Breeding for the Future

Fall Creek®'s breeding programme is designed to meet the real-world needs of modern blueberry growers. From improved post-harvest performance to suitability for mechanical harvesting, our new varieties are created to ensure that farms remain productive and profitable.

Key Fall Creek®'s High Chill selections include:

- ArabellaBlue® 'FC14-062': A robust variety offering excellent shelf life, strong yield and high suitability for mechanical harvest.
- LoretoBlue® 'FC11-118': Consistent in size and quality, this variety supports efficiency from farm to market.
- LunaBlue® 'FC12-205': Notable for its firmness, bloom and flavour, LunaBlue® 'FC12-205' offers a premium experience for consumers and confidence for retailers.

Our SEKOYA® platform continues to provide commercial growers with high-performing options built for scale:

- Sekoya Crunch® 'FC13-083'
- Sekoya Grande® 'FC13-122'
- Sekoya Fiesta® 'FC13-113'

These varieties combine visual appeal, strong texture and post-harvest durability—essential traits for modern retail environments and for streamlining harvest operations. Meanwhile, FCM14-057, a standout Southern Highbush variety, is gaining attention across EMEA for its adaptability, excellent fruit quality and proven success in a range of chill zones. It reflects how Southern Highbush genetics are redefining expectations in both traditional and transitional regions.

A System That Supports Growers at Every Step

At Fall Creek®, breeding is only part of the solution. Our commitment to growers includes ensuring access to premium-quality plants and delivering tailored support throughout the production cycle.

We support growers in EMEA with:

- Locally grown plants that meet high production standards
- In-field support from technical teams who understand regional needs
- Ongoing training, field visits and grower resources that keep partners informed and empowered

This service-first approach is built on relationships. By listening carefully and responding practically, we help growers make informed decisions that suit their local environment, labour capacity and market goals.

Innovation That Continues

The next generation of Fall Creek® varieties is already in development. Our breeding pipeline is shaped by continuous feedback from growers and the needs of a shifting marketplace.
Current priorities in our breeding programme include:

- Greater suitability for mechanical harvesting
- Improved shelf life and firmness
- Adaptability to changing chill requirements
- •Strong flavour and consumer appeal

With extensive trial sites in EMEA, we ensure that every selection is thoroughly tested in real-world conditions before commercial release.

A Long-Term Partner for a Growing Industry

Fall Creek®'s history is built on innovation, integrity and a deep respect for growers. In EMEA, we are building on this legacy by delivering solutions that meet the region's unique challenges and opportunities. We are not simply reacting to industry changes we are helping shape them. With trusted plants, premium genetics and a commitment to service, Fall Creek® continues to support the growth of a stronger, more sustainable blueberry industry across EMEA and beyond. Together, we are building a world with better blueberries™.

Sweet news from Bayer: introducing De Ruiter's first strawberry variety

» A strategic move into strawberries marks an exciting new chapter for Bayer De Ruiter. With Baya Solara (EM2836), their first commercial strawberry variety, the company brings decades of vegetable breeding expertise to the berry market. This early-mid season June-bearer combines high yield potential with disease resistance and labor efficiency. Qualities that address today's most pressing production challenges. Set for launch in January 2026, Baya Solara (EM2836) targets Northern Europe's rapidly growing protected cropping sector.

Will Roberts | Business Development Manager Strawberry, Bayer &
Alin Borleanu | Market Development Representative Strawberry, Bayer

> “Baya Solara (EM2836) offers good programmability

Strategic portfolio expansion

Bayer's entry into strawberries is far from random. "Strawberry is a fast-growing fruit crop that offers significant global opportunities," explains Will Roberts, Business Development Manager for Strawberry at Bayer. The synergies with the existing portfolio are clear. “Strawberry production in Northern Europe continues to shift into protected cropping. Bayer’s focus on professional protected culture growers under its De Ruiter portfolio allows the growing consumer and retail demand for year-round, high-quality produce to be met.

Beyond production synergies, Bayer brings formidable breeding expertise. "We're a global leader in vegetable breeding, through the development and implementation of advanced breeding technologies, but also our expertise that's been developed over many, many years," Will points out. “By bringing these precision breeding approaches into strawberries not only enables us to accelerate breeding, but also to breed better varieties for our growers and the value chain.

Meeting market demands

With the new variety Baya Solara (EM2836) Bayer meets market demands. “Growers today face mounting pressure. Production costs are rising. Labor is scarce and costly. Disease challenges intensify. Baya Solara (EM2836) addresses these realities head-on. The variety delivers impressive productivity, not just through yield

but through efficiency. The large, uniform and well-presented fruits of Baya Solara (EM2836) mean harvest efficiency can be maximised. A crucial advantage when labor represents 40-60% of production costs across Northern Europe. Picking speed improvements can contribute significantly to reduced costs of production," Will emphasizes.

Disease resistance has become equally critical. "There's increasing disease pressure," Will states. "New varieties that come to the market need to take a step on and improve on current varieties and historic varieties." Baya Solara (EM2836) delivers on this front. "The variety shows significant improvement against Phytophthora cactorum, crown rot. With available herbicides declining and sustainability demands increasing, greater genetic resistance becomes increasingly vital."

Distinctive characteristics

Baya Solara (EM2836) consistently presents uniform fruits of large to very large size. Will: "This consistency gives growers and retailers confidence in reliable performance. The orange-red coloring preserves shelf life by avoiding the darkening that occurs with some varieties post-harvest. Firmness testing, conducted both internally and with research partners, consistently ranks Baya Solara (EM2836) among leading varieties. The fruit withstands the handling demands of modern retail supply chains, helping to reduce waste. Furthermore, taste delivers pleasant sweetness with balanced sugar-acid ratio."

Protected cropping focus

With Baya Solara (EM2836) geography and production systems are carefully targeted. "In terms of regions, we see this as a key variety for territories of Northern Europe, primarily the UK, Benelux and Germany," Will states. "The variety excels in protected systems, such as plastic tunnels and glasshouses, where the market continues to shift away from open field production."

As a June-bearer, Baya Solara (EM2836) offers good programmability. "Growers can expect harvest to begin typically 60 days from planting, with 90% of production completed within five weeks. This predictability allows precise planning to meet retail demands and capture optimal supply windows."

Comprehensive support

Bringing a new variety to market requires patience. From seedling to commercialization typically spans eight years in Bayer's breeding program. “Baya Solara (EM2836) progressed through multiple trial stages: initial R&D plots, larger on-site trials, then multiple years of off-site grower trials across Europe with research centres and chosen partners. January 2026 marks Baya Solara's official launch. After years of development and trialling, the variety becomes openly available," Will announces.

Growers receive detailed recommendations based on years of trial data. Many retailers across Northern Europe have already sampled the fruit, establishing familiarity ahead of commercial production. “This groundwork supports growers in securing their market channels. Also, our learning continues beyond launch as experience accumulates. Critical knowledge that becomes growing recommendations for growers.”

A clear ambition

"This introduction means a lot to us as a company," Will emphasizes. "It's the first variety released under Bayer De Ruiter for strawberries. We want to make sure we get it right. For growers, the value chain, and ultimately consumers."

The development program behind Baya Solara has produced top varieties before. Bayer's ambition is clear. Will states: “Baya Solara (EM2836) should join the ranks of those great varieties, delivering success across the entire value chain.”

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- Exceptional eating qualities and shelf-life.
- Flexible cropping profiles. High yield with large berry size.

Summer remontant variety:

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- Large, visually appealing, premium fruits. Breeding for AI robotic harvesting.

Southern Winter remontant variety:

- Winter production for southern Europe as a complement to Victory.
- High fruit quality, good shipping potential.
- Resistance to soil diseases.

Primocane Blackberry variety:

- High yielding, thornless canes.
- Large premium fruits.
- Outstanding flavour and shelf life.

Primocane Raspberry variety:

- Double crop: Long cane, green cane.
- Excellent shelf life. Highly regarded eating qualities and fast picking speed.
- Early production with high yield.

As a global leader in berry breeding, Plant Sciences Genetics (PSG) offers a diverse range of competitive berry varieties developed through 40 years of careful selection and advanced breeding techniques. PSG, and our international network of licensed nurseries, propagate and distribute premium plants with exceptional quality, setting the standard for excellence across the global berry industry.

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AT THE FOUNDATION OF GROWTH

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BVB Substrates provides substrates for both traditional and organic cultivation. Our experts are available to guide and support you in finding the optimal solutions tailored to your crop requirements, water quality, cultivation and irrigation methods and the preferences of the grower.

More information
on our website!

BVB SUBSTRATES

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Kekkilä BVB

Rubin: a new future for raspberries

» The Dutch raspberry sector has been under pressure for years. Rising costs, strict regulations and unstable markets have reduced growers' margins. Rubin, a new Dutch-bred raspberry variety, offers a turning point. Early results show 25–30 tonnes per hectare, compared with 15–20 tonnes for standard varieties. The berries remain fresh for up to three weeks, dramatically improving shelf life and reducing waste in retail. Growers need less than half the usual number of plants, lowering costs while increasing output. Rubin combines exceptional shelf life, high yield and simple cultivation. Together with FruitMasters, Hans is leading the controlled introduction of the variety to secure quality, value and long-term sustainability for growers and retailers.

Hans Puijk | Owner PuijkFruit/BrightBerries, in cooperation with FruitMasters

Practice as foundation

The development of Rubin started out of necessity. New varieties with real improvements were lacking. Costs increased, while yields stagnated. PuijkFruit therefore decided to start breeding and so BrightBerries was born. Not under controlled laboratory conditions, but in the full reality of a commercial Dutch soft-fruit farm. Trial plants were deliberately exposed to stress: excess water, disease pressure and extreme weather events. Only the

strongest plants survived. This rigorous field-first approach resulted in a robust and resilient variety. Rubin is not a theoretical breeding outcome, but a raspberry that has already proven itself under real-life cultivation conditions.

Breakthrough in shelf life

Raspberries are known as a fragile product. Rubin breaks that pattern. Tests showed that Rubin berries remained sellable even after more than 2 weeks. This long shelf life reduces waste throughout the value chain. Retailers have less waste in the supply chain and are able to maintain more stable prices. Consumers benefit too: a purchased punnet remains fresh for days, increasing trust in soft fruit. Remarkably, the first commercial cycles at PuijkFruit were grown residue-free. Despite the absence of crop protection, the berries remained firm and clean for a long period. Practical conditions may differ, but the potential is clear.

Higher and consistent yields

Rubin delivers structurally higher yields. While common varieties reach 15–20 tonnes per hectare, Rubin easily reaches 25–30 tonnes or more. And it does so with fewer plants, sometimes less than half of a normal planting density. This reduces plant costs while raising output. Labour needs also decrease. The conical berry shape allows easy picking without tearing. This improves shelf life and accelerates

harvest. The high fruit load reduces walking distance for pickers. In a sector where labour costs are rising sharply, this advantage is crucial.

Easy and robust cultivation

According to cultivation specialists, Rubin is an unusually easy plant to grow. The variety is robust, develops uniformly and remains vital under diverse conditions. This simplifies farm management. It reduces risks and increases predictability – two essential conditions for a sustainable business model in soft fruit. Rubin is suitable for both small-scale and large-scale growers.

Taste that convinces

High yield alone is not enough. Taste remains decisive. Rubin scored consistently well in tasting panels. The variety has a fresh and full raspberry flavour and a firm structure. You can hold and squeeze the berry without it breaking or losing juice. The combination of flavour, firmness and durability makes Rubin attractive for premium programmes as well as mainstream retail channels.

Controlled introduction

FruitMasters is responsible for market strategy and brand development. Rubin will receive an official brand name, to be introduced at the beginning of 2026. The market rollout is deliberately controlled. Quality is prioritised over volume. A select group of growers and partners is involved to safeguard

consistency and reputation. International interest is strong. Rubin performs well in Southern Europe and can complement local seasons. This creates the potential for year-round supply of a single consistent variety — something special in the raspberry category.

Renewed perspective

With Rubin, the raspberry sector gains new perspective. The variety brings higher yields, lower costs, stronger chain performance and reduced waste. It offers benefits for every link in the chain. For Hans Puijk, Rubin feels like a long-term passion project now reaching maturity. If this variety contributes to the continuity and competitiveness of raspberry production, its development has achieved its purpose.

> “With Rubin, the raspberry sector gains new perspective

Energy-saving strategies for early-season strawberry production in North-West European greenhouses

» Energy costs represent a significant portion of the production costs in early-season strawberry production. During two trials Research Centre Hoogstraten tried to save energy during a spring cultivation. In the first trial 7% of energy was saved by intensifying the use of a single thermal screen. In a second trial 54% of energy was saved by combining a connected heating-radiation strategy with intensified use of a single thermal screen and vertical ventilation to promote plant transpiration.

Stef Laurijssen | Researcher, Research Centre Hoogstraten

Intensifying the use of a single thermal screen

In the first trial, a connected heating-radiation strategy was combined with an intensified use of the screen. We compared two compartments in which heating is strongly connected with radiation: day/night temperatures of 12/8°C with a radiation-related temperature increase of 7°C. Crop activation is supported by a heating pipe (35°C). Both compartments are equipped with vertical fans. In the control compartment, the thermal screen is closed when the outside temperature drops below 5°C and solar radiation drops below 30 W/m^2. This radiation threshold is increased linearly by

Spring cultivation with Sonsation in a heated glasshouse

50 W/m² along the gradient ranging from an outside temperature of 5°C to -5°C. In the energy-saving compartment is tried to save energy by keeping the screen longer closed. The screen remain closed until the outside temperature reaches 10°C and radiation exceeds 50 W/m². The radiation threshold is increased linearly by 30 W/m² along the gradient ranging from an outside temperature of 5°C to -5°C.

Average daily temperatures and relative humidity levels were similar in both compartments. The thermal screen was closed 11% more hours in the energy-saving compartment leading to less heat loss and an energy saving of 7%. Differences in crop elongation, fruit quality and fruit shelf-life were negligible.

In the energy-saving compartment harvest started one week later. However, the peak production period lasted longer. A yield of 6,79 kg/m² was realised in the control compartment. 69% of the production was classified as large fruit. In this trial increased screen use raised production to 7,44 kg/m². Also grading of the fruits was more favourable (74% large fruits).

Based on the prices obtained at Coöperatie Hoogstraten, turnover was determined. In the control compartment a turnover of 29,65 €/m² was obtained. In the energy-saving compartment the delayed harvest was more than compensated by the higher yield and improved fruit grading, resulting in a turnover of 34,59 €/m². Combined with the 7% energy saving, this led to a 26% improvement in energy-efficiency.

Combination of connected heating-radiation, intensified use of screen and vertical ventilation

In this second trial the standard compartment is heated with day/night temperatures of 16/8°C and a radiation-related temperature increase of 3°C. Crop activation

is supported by a heating pipe (35°C). The thermal screen is used in the same way as in the control compartment of the first trial. The standard compartment uses horizontal fans. In the energy-efficient compartment the heating and screening strategy is used in the same way as in the energy-saving compartment of the first trial. The extra heating pipe is eliminated and vertical fans are used in the energy-efficient compartment.

In the energy-efficient compartment the average daily temperature was 1°C lower compared to the standard compartment. This difference was primarily observed during dark days. On these days, relative humidity was approximately 5% higher in the energy-efficient compartment. By using the 7°C radiation-related temperature increase, intensified screen use (+8%) and particularly by eliminating the extra heating pipe, an energy saving of 54% was realised. Differences in crop elongation, fruit quality and fruit shelf-life were negligible.

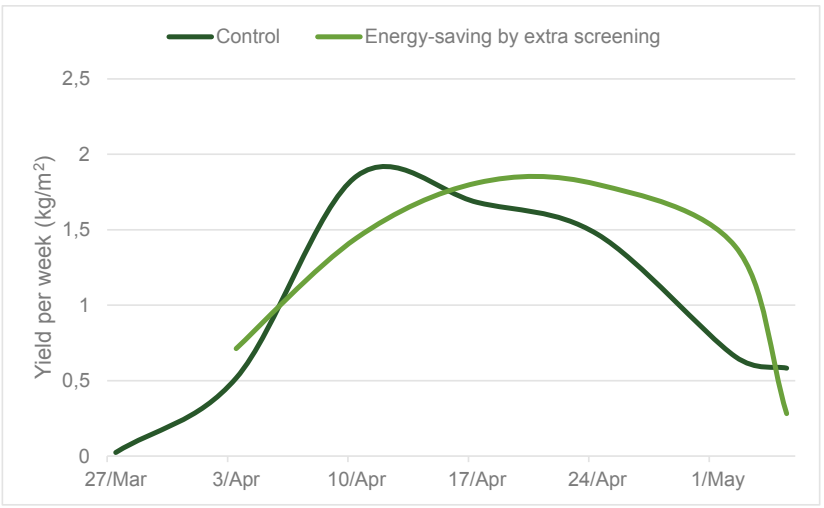
During the first two months of cultivation flower appearance was noticeably delayed in the energy-efficient compartment. However, due to sunny weather in March, much of this delay was compensated. But due to the lower temperature, the peak production period was delayed. Despite this, no yield was lost, in the standard compartment 6,90 kg/m^2 and in the energy-efficient compartment 6,86 kg/m^2 was harvested. No differences in grading of the fruits were observed between the compartments.

In the standard compartment a turnover of 33,08 €/m^2 was obtained. Due to the delayed peak production in the energy-efficient compartment, the turnover was slightly lower (30,34 €/m^2). However the combined energy saving measures resulted in significantly lower energy consumption and so doubled (+100%) the energy-efficiency of the production.

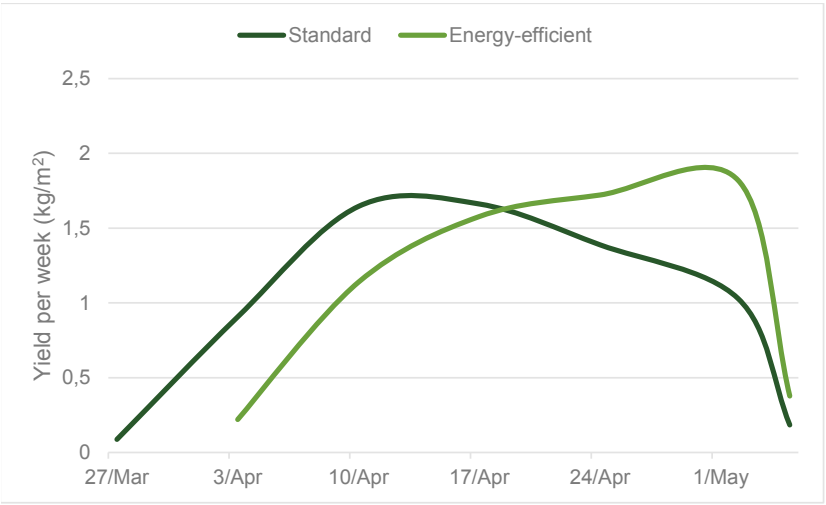
> “Natural activation by sunlight is extremely important

Vertical (left) and horizontal (right) fan.

Use of single thermal screen to reduce heat loss



Harvest pattern in kg/m² for trial with extra screening



Trial with combination of strategies

Natural activation by sunlight

In both trials energy was saved without loss of production or decrease in grading. Important to know, the spring of 2025 was the 3th most sunniest spring ever measured in Belgium. In a trial performed in 2024 Research Centre Hoogstraten saved 21% of energy by strongly connecting heating with radiation, leading to an energy-efficiency increase of 8%. But 10% of production was lost and 14% more fruits were graded as small in comparison with standard practices. Opposite to 2025, the spring of 2024 was in Belgium extremely dark. So natural activation by sunlight is extremely important for a good outgrowth of the plants.

Concluding two years of growing blackberry with reduced inputs

On 5 July 2023, Delphy ISFC initiated its first blackberry trial, aiming to reduce gas inputs and build fundamental knowledge for an optimized cultivation. Since then, two autumn and two spring crops have been completed using flavour varieties Sweet Royalla and Von. Trials explored different planting densities and climate strategies to improve energy efficiency and yield. The results indicate that year-round blackberry production is possible with significantly lower energy inputs, while planting density and CO_2 management remain key factors for maximizing performance.

Pim Kleeven | Researcher Soft Fruit, Delphy ISFC

Climate steering

Steering and planning using RTR-steering (ratio of temperature and radiation) in a more efficiently grown blackberry cultivation has been proven to be a good methodology. It provides guidance as a steering tool for 24-hour temperatures. In practical terms, it means that ventilation limits are increased based on the total light sum and on incident radiation on that same day. By doing so, free solar energy is used to raise the 24-hour temperature and consequently accelerate crop development.

In combination with RTR, energy from the previous day can be used to

limit heating requirements. In this trial, two screens were used to 'trap' heat from the previous day as much as possible, thereby limiting the need for heating during the night. During heating in the morning, the improved insulation allows to gradually build up the greenhouse temperature and heat with lower pipe temperatures (35-40 °C). Lastly, vertical fans maintained air movement, which eliminated the use of a minimum pipe temperature.

The combined measures resulted in a more closed greenhouse system, where high humidity levels were allowed to build up. During the first trial we reached a limit. Plant temperatures often reached condensation point at night, but also humidity deficits were relatively low in late autumn. Both led to a decline in fruit quality and faster mold formation during storage compared to the heated cultivation reference. In the following trial, lower setpoints for relative humidity (86% at day, 88% at night, and 82% before sunrise) resulted in fruit quality comparable to standard practice.

Further improvements

To prevent unnecessary screening and to optimally intercept light, our partner Plant Lighting performed measurements to assess possible stomatal closure under high light levels. These showed that blackberry did not close its stomata at high radiation levels (700-800 W/m^2) when combined with the use of high-pressure fogging. However, the data indicated lower light use efficiencies at these light intensities (1000 µmol/m^2/s). If these high light levels were to persist for multiple consecutive days, the light driven part of the photosynthesis system could potentially be damaged.

In addition, leaf photosynthesis measurements were performed. Overall, figures were comparable to photosynthetic responses of strawberry. It is important to note that CO_2 is a critical factor in blackberry

greenhouse cultivation. Increasing CO_2 concentrations from 450-800 ppm cause an average increase of 20-30% in photosynthesis rate. Lower concentrations than outside (~420 ppm) rapidly decrease photosynthetic rate. This shows the importance of CO_2 dosing in blackberry and requires optimized CO_2 dosing strategies to further improve yields.

In both 2023 and 2024, autumn trials delivered similar results: Sweet Royalla and Von produced 4.5 and 5 kg/m² respectively at 60 cm spacing, with comparable yields at 40 cm for both varieties. This consistency suggests that lower light levels in autumn equalized light interception across planting densities. For growers, this offers potential savings on planting and possibly harvesting costs, as Von also produced smaller fruit at higher density. In spring, however, higher density did increase yields, with both varieties producing about 500 g/m² more at 40 cm spacing.

Assimilate balance

Using the combined measurements from this trial—realized climate data and plant characteristics such as LAI, photosynthesis, dry matter measurements, and more—a mathematical assimilate balance can be developed. This provides insights into how many sugars were made by the plants and how many were actually spent. From the calculations of the autumn cropping, it appears that blackberry is well capable of managing its reserves. If only direct sunlight from late autumn was used to meet demand of sugars by fruits, there was simply not enough light available to match the realised fruit yield. It seems that blackberry builds up a reserve in between the vegetative growth period and harvest, possibly in its cane, which later is used to 'fill' the fruits. In spring, there is a calculated assimilate surplus before and after the peak harvest. If this surplus was fully utilized by fruits, roughly 2 kg/m² could have potentially been picked. This would require a plant with a higher harvest potential. Whether this is possible and how to reach this full potential is not yet understood for blackberry. It does give meaningful insights into further developments for a blackberry cultivation.

Concluding

Blackberry has proven to be suited for a cultivation with reduced energy inputs. As we have succeeded in growing a year-round blackberry cultivation with less than 5 gas m^3/m^2, compared to the 20-25 gas m^3/m^2 traditionally needed. We learned that there are limits in terms of climate steering, which can relatively easy be prevented. More importantly, we learned that there are opportunities to further increase yields in the cultivation. Improving plant potential by higher plant densities, improved bud break, or higher number of flowers per lateral are possible examples of these opportunities.

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Innovation Partners
collaboration as a driving force for soft fruit innovation

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Preventive plant health: how risk control drives profit in modern strawberry production

» Strawberry growers are entering a phase where traditional crop protection no longer guarantees success. Pathogens such as Botrytis cinerea and Phytophthora species have become resistant to key fungicides, while stricter residue limits reduce the list of available products.

Jakob Aubell | CEO Moleda

From crisis management to proactive profit

The solution is to mitigate problems before they start. Preventive plant health replaces crisis management with control. The Plantsauna, developed by Moleda, disinfects plant material safely and evenly using aerated steam. It avoids the damage and cross-contamination risks of older hot-water systems. Each treatment begins with a 37 °C preheat phase that activates natural heat-shock proteins, improving plant tolerance before a higher-temperature phase eliminates various pathogens and mites. Starting the season with

clean propagation material gives growers lower disease pressure, fewer sprays, and a more predictable crop.

Experience from Ekeberg Myhrene AS in Norway shows how a clear focus on risk reduction can build both stability and profitability. Their strategy is not about eliminating chemicals at any cost, residue reduction is simply a by-product of a preventive system built on clean propagation, strict hygiene, and biological control. By controlling risk at every stage, they secure consistent yields and fruit quality while keeping inputs to a minimum.

Controlling risk = controlling profit

Prevention starts in choosing your propagators. Large-scale nurseries already treat up to 30 million mother plants per year, proving that preventive thermotherapy is feasible and profitable at scale. It is therefore advisory to choose a nursery that uses Plantsauna to eliminate this risk long before the symptoms show.

Diversifying Plant sources helps strawberry growers reduce dependency and production risk, but it also raises the probability of introducing pathogens from different sites and climates. Treating all incoming plants in the Plantsauna effectively neutralizes that risk, guaranteeing that every plant enters production clean before planting them. This gives growers the freedom to source broadly while maintaining full control over disease pressure and yield stability. Hall Hunter and Ekeberg Myhrene took control and started with sterilizing their incoming plants before their plantings and are seeing the positive effect on their strawberry yield.

Inside the Plantsauna, temperature is maintained within ±0.5 °C accurate enough to kill pathogens with-

out harming the crop. A standard cycle preheats at 37 °C and treats for four hours at 44 °C.

The technology delivers broad-spectrum control:

- Powdery mildew eradication.
- Grey mould *(Botrytis)* strongly reduced.
- Crown rot *(Phytophthora cactorum)* cut to 2.5–5 % incidence versus 17–80 % in untreated controls.

Mites and nematodes effectively eliminated, including *Phytonemus pallidus and Pratylenchus* species

Tools of prevention during cultivation

Once planted, growers can use beneficials, predatory mites, microbial products such as *Bacillus subtilis* (Serenade), and careful climate control. These beneficials establish early, preventing pest outbreaks before they start. Fewer fungicide sprays mean less disruption to their populations and lower residue levels on fruit.

UVC light is another preventive tool used by strawberry growers like Ekeberg Myhrene. It kills mildew spores and spider-mite eggs, offering a non-chemical solution during high-pressure periods. However, it must be applied with care, as it can also harm beneficial insects. Botrytis remains the most persistent challenge. UVC helps reduce spore load, but true prevention still depends on starting with pathogen-free plants.

Future-proofing production

Preventive hygiene continues through harvest. Growers such as Ekeberg Myhrene enforce strict picker hygiene, handwashing, and tool disinfection to prevent disease spread between tunnels. These small steps close the preventive loop, what starts clean stays clean.

Growers using Agro-Pure steam containers, for example, treat materials at 75 °C to destroy pathogens and weed seeds. Trays and pots can then be reused for up to ten years. This extends asset life, reduces waste, and supports sustainability targets demanded by retailers. Substrate can also be sterilized and reused safely after steaming, lowering costs. Every intervention must be paid back.

Replacing contaminated trays or pots used to be normal in nurseries, often costing tens of thousands of euros. Steam sterilization has changed that equation, extending the lifespan of assets while maintaining biosecurity.

The future is preventive

Residue monitoring across Europe shows that more than 60 % of strawberry samples still contain multiple fungicide residues. Retail buyers and consumers are demanding cleaner fruit and more sustainable production methods.

Steam-based prevention directly answers that call. By eliminating resistant strains and removing chemical residues, the Plantsauna reduces spray frequency and protects the effectiveness of the remaining crop protection tools.

Preventive plant health is now a proven profit driver, not an experiment. By combining clean propagation, steam sterilization, hygiene, beneficials, and climate management, growers can take full control of disease risk while optimizing production costs.

Every euro invested in prevention returns multiple benefits: fewer losses, more predictable harvests, longer asset life, less chemical dependency, and better access to premium residue-free markets. Sustainability and profitability now go hand in hand.

For modern strawberry producers whether in Norway, the UK, or the Netherlands the message is clear: start clean, stay clean, and let prevention drive your profit.

Contact us

We are happy to share information at www.moleda.nl and help you explore how much there is to gain in your farm operations.

We also support you in getting the most out of your plants and achieving the highest yields through sustainable plant-health strategies.

> “Preventive plant health replaces crisis management

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Using sensor technology for irrigation of substrate berries

» Sensor technology has been an integral part of irrigation control systems in substrate-grown greenhouse crops for many years. Light Sensors (Solarimeters) may be used to link irrigation cycles to Solar Radiation, or Weigh scales may be used to link irrigation to water loss by the container. Drain sensors are used to measure the volume of excess (drain) water applied on each drip cycle, so more precise adjustments can be made to irrigation frequency and volume, using the growers chosen scheduling method.

Dennis Wilson | Senior agronomist and managing director, Delphy UK

> “Match irrigation supply to plant requirements

Similarly, in soil grown crops, sensor technologies such as Tensiometers and Capacitance Probes have been deployed to help manage irrigation requirements. With the rapid global expansion of field grown substrate berries and a parallel evolution of new, affordable sensors, adoption of this technology is now taking place on a global scale. It affords growers opportunities to match irrigation supply to plant requirements with greater precision, leading to savings in water and fertilizer, improved root health, better plant growth, and better fruit quality.

Sensor technologies for substrate

Until recently, substrate berry growers also relied heavily on Light Sensors (Solarimeters) to determine irrigation frequency. This works well for unheated crops, due to the close alignment between Solar Radiation, Temperature/ Humidity (Air VPD) and Plant Water Use (E-T). But in heated crops, a significant proportion of the energy received by plants can be from radiated and convected heat. Thus, solar radiation is less dominant in determining plant water use. Even in unheated crops, influences such

as airflow (windspeed), deployment of shading or misting systems, or use of Infra-Red reflecting film can distort the close relationship between Solar Radiation and Plant water Use.

This has provoked interest in using both plant and substrate sensors, to more closely align irrigation with changes in plant water use during the irrigation day. An increasingly popular option is to use sensors that measure Volumetric Moisture Content (% VMC) in the substrate. Like weight scales, this is considered to be a more direct indication of plant water uptake. The grower can set a % VMC operating range, between the full point (Container Capacity) of the substrate and a predetermined refill (dry-down) point, to maintain the plant roots in the optimal state of hydration.

There are many devices available, but the 2 main technologies used to measure % VMC:
• **Capacitance Probes** – plastic tubes with sensors inside, permanently installed in a container to provide live data on % VMC at different positions.
• **TDR/FDR Sensors** – devices with metal spikes that can be inserted into the substrate for instant % VMC readings, plus Pore Water EC and Temperature.
Both devices provide accurate information on % VMC and improve irrigation monitoring and scheduling. Capacitance probes are bulkier and static. TDR/FDR sensors are portable, flexible, and can be used for roving or permanent monitoring. Some devices also come with substrate-specific calibrations.

Some growers use Micro-tensiometers instead of % VMC sensors. Their advantage is measuring Tension, closely related to the suction force plants need to absorb water, reflecting water availability more accurately than % VMC.

Understanding Tension & % VMC

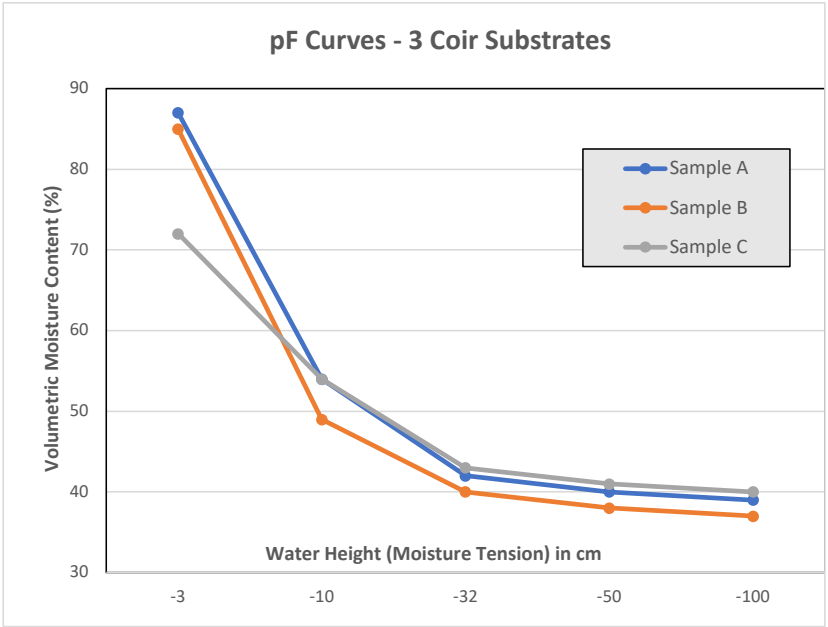
Plants absorb water by exerting suction force to extract water molecules held in pores between substrate particles. The force needed depends on pore diameter. Optimal growth and fruit yield occur when plants have easy access to water but are not saturated. Research shows this generally equates to a moisture tension between -1 kPa and -4 kPa.

Horticultural substrates consist of particles of Peat/Coir/Perlite with various sizes. Smaller pores hold water more strongly, so substrates with many fine particles retain water at Container Capacity, but much of it is unavailable to plants.

Manufacturers adjust water holding capacity (% VMC) and plant water availability (Tension) by mixing materials with different particle sizes. The relationship between % VMC and Tension is shown by a pF curve, illustrating how moisture retention changes under varying suction.

The % VMC required to keep Tension in the optimal range (-1 to -4 kPa) varies with pore size distribution and other factors. Pore size changes over time as roots grow and particles degrade. Measurement height also matters (10 cm = 1 kPa), and sensors differ in calibration, giving different readings in the same situation.

Therefore, unlike micro-tensiometers, there is no universal % VMC range for substrate growing. Users must calibrate to determine % VMC at full point in their specific situation, then estimate the dry-down needed to reach the optimal refill point (around -3 to -4 kPa).



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Delphy 3-days Training Greenhouse Softfruit Cultivation

The 3-days training Greenhouse Softfruit Cultivation will focus on strawberry in greenhouses. Optimizing yield and quality by focusing on climate and cultivation methods. Theoretical classes will be alternated with assignments and field trips. The training will be held at the Delphy International Softfruit Research Centre (ISFC).

When	November 2026 (with reservation)
Location	Delphy ISFC, Horst, the Netherlands
Price	€ 2.495,- (excl VAT) including lunch
Hotel	Not included. We can recommend Parkhotel Horst, which is close to the course location.

Programme (preliminary)

Day 1	Plant physiology; Greenhouse climate Cultivation systems crop strategy Tour Research facility (ISFC)
Day 2	Water & Nutrients; Fertilization Field trip to commercial grower
Day 3	Crop Protection; Pest & Disease management; scouting theory and practice Fieldtrip to supplier

When you are interested to participate in this training, please send an email to **academy@delphy.nl** or subscribe directly at our website.

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Delphy Innovative Soft Fruit Centre

'Delphy ISFC' at Horst in The Netherlands, is the hotspot of the international soft fruit industry. As initiator and accelerator knowledge is developed and innovations are trialled. Besides that, it is a central meeting place of the international soft fruit sector. Knowledge dissemination and practical implementation is organized in a unique way, on international scale. Delphy ISFC connects research, innovations and practice in the main soft fruit crops: strawberry, raspberry, blackberry and blueberry.

Together with the Delphy Soft Fruit consultancy team, clients and the Delpy ISFC Innovation Partners, multiple trials are initiated. We are grateful for all support, efforts and contribution of the involved companies and colleagues. This is very motivational to continue our contribution towards an innovative, profitable, sustainable and future-proof soft fruit cultivation.

Knowledge Development

Delphy ISFC is an incubator for knowledge in soft fruit. By performing research, demonstrating innovations and developing practical and fundamental knowledge. These activities contribute to an innovative soft fruit sector and optimizes the soft fruit cultivation systems. At a modern high-tech greenhouse complex, under rain shelters and on table tops and at a modern propagation field a very broad spectrum of trials are performed. The investigations are done for individuals clients, at public-private project approaches and self-initiated research-topics in coordination with the Delphy ISFC Innovation Partners.

The six modern greenhouse compartments specific for trial purposes have facilities steer on an optimal climate, have different irrigation/fertigation possibilities, are dynamic in growing structure and are high-tech involved. Some examples of current trials in the greenhouse compartments are: 100% green and fossil-free double cropping with Junebearers, fossil free cultivation of blackberry, lighted winter cultivation with strawberries and strawberry growing on rockwool.

Knowledge Implementation

Delphy ISFC develops new knowledge regarding soft fruit cultivation together with various partners. Sharing the gained knowledge, discussing with growers about the results and showcasing innovations makes a strong connection between Delphy ISFC and the international practical soft fruit industry. The knowledge is shared often: at the International soft Fruit conference (in January) amd at the Knowledge Events (in spring and in autumn). The main visitors are growers, Delphy ISFC Innovation partners, clients in research and other soft fruit industry related interested parties of multiple nationalities. Workshops are given in the greenhouse departments and also at the trial field outside and at the Meet & Connect room with a very nice view into the trial compartments in the greenhouse. This approach provides an opportunity to share knowledge and work together on specific topics in a practical and informal way.

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We Grow Knowledge

Your knowledge partner in soft fruit

Events 2026

March 26 (13:00 - 18:00) | Delphy ISFC Knowledge event

Knowledge events are organised at Delphy ISFC. Various topics are discussed during a workshop programme. Registration for this event is mandatory.

October 28 (13:00 - 18:00) | Delphy ISFC Knowledge event

Knowledge events are organised at Delphy ISFC. Various topics are discussed during a workshop programme. Registration for this event is mandatory.

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Innovation Partners

collaboration as a driving force for soft fruit innovation

The structure with Delphy ISFC Innovation Partners is an important part of our research centre. Besides private research and public-private research we work with Innovation Partners. This is a unique initiative to boost innovation in the soft fruit sector. Innovation Partners are the innovators of the soft fruit sector because they invest together in projects that contribute to an innovative soft fruit sector!

Proud on the impact

Projects like the everbearer project with the three growing concepts (winter production with everbearers, fresh cropping with everbearers and double cropping with fresh everbearers) or Next Generation Growing of blackberries would not exist without our Delphy ISFC Innovation Partners. One of the new developments we created together is the growing concept with continuous production with low chill Junebearers under LED. We are proud on the impact we have made together over the years!

Actively involved

Innovation Partners are actively involved in the projects by regular meetings, newsletters and are free to visit Delphy ISFC. Together we create the focus of the research projects and the Innovation Partners are on the front row of the developments.

"Innovation Partners: a unique initiative to boost innovation in the soft fruit sector"

Interested in

Joining the Delphy ISFC Innovation Partners? Conducting research? Contact Vera Theelen (v.theelen@delphy.nl), Manager Delphy ISFC, for more information.

A big ‘thank you’

We thank our Delphy ISFC Innovation Partners for their contribution towards an innovative soft fruit industry and proudly introduce our Delphy ISFC Innovation Partners: