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SCRIPTURE

HOPE FOR THE FUTURE

Jeremiah 29:11

For I know the plans I have for you, declares the Lord, plans for welfare and not for evil, to give you a future and a hope.

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Vegtech Netafin donates hydrophonic greenhouse tunnel
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Greenhouse, Aquaponics and shade net covered farming still stay an important way to produce fresh produce, flowers, seedlings and some other crops. During the past summer season we experienced extra ordinary climate conditions which seriously affected agriculture in several parts of the country. Major open land crops like maize, sunflower and sorghum were affected and made a dent in our exports. Talking about exports; intensified delays and inefficiencies at the ports, deteriorating rail and road infrastructure, worsening municipal service delivery, increased geopolitical uncertainty and persistent episodes of load-shedding are all hurdles to be crossed for agriculture, but also many other locally manufactured export products. We are forced to import much of our agricultural requirements, which in turn inflate the producer's expense and thus harm food prices. Meaningful information was conveyed at the recent Undercover Farming Conference in Pretoria (read more in this edition). There is a definite need for proper training, young entrants and continuous information flow on market trends, innovative thinking and news on new systems to ensure quality and quantity of produce in the undercover farming trade in South Africa. This publication, being made available on different platforms with latest weekly news snippets, offers an essential service to all interested in cover protected agriculture. Readers are advised to obtain structural materials and services, electrical gear and pumps, seed and seedlings from reputable companies. All too many small start-ups fail due to poor service or over-night disappearance of fly by nights. We do not have the funds to loose through this. Winter approaches, therefore take heed, double check climate systems in greenhouses and consult your service providers regularly. Be productive, but be wise!

Barbara Botes was speaking at the Connect South Africa event, held on 19 September at Fall Creek's Paarl facilities near Cape Town. She emphasised the growing demand for the region's blueberries.

BLUEBERRIES GAIN IMPORTANCE AS A CROP – FALL CREEK REPORTS

South African blueberries, in its seasonal window gains increasingly significance in international markets. According to Barbara Botes, Fall Creek® Area Manager for Southern Africa, "Our region is making a mark in the market with exceptional fruit quality, and retailers are actively seeking our produce. Good genetics are key to this success."

Visitors enjoyed the tasting of a wide variety of Fall Creek blueberry selections.

Fall Creeks' event attracted growers, exporters, and industry stakeholders from South Africa, Namibia, and as far afield as Kenya. Attendees participated in berry tastings, including the popular Sekoya Pop® 'FCM14-052', Sekoya Beauty® 'FCM12-097', and AzraBlue™ 'FCM14-031', which is performing well across Southern Africa.

Fall Creek also introduced new selections, FCM14-057 and FCM17-132, which are yielding promising results in Zimbabwe and Namibia.

Burgert van Dyk, Fall Creek Regional Director for EMEA, opened the programme, discussing the company's commitment to serving EMEA growers and future nursery developments.

Attendees also benefited from a demonstration tour and technical pruning session led by Jean Kotze, Fall Creek Grower Support Representative.

Antonio Alamo Bermudo, Fall Creek Operations Manager based in Spain, highlighted the company's focus on water management. "With the heat in Spain, we are focusing on precision irrigation and other methods to manage water more effectively," he said.

Bermudo also noted that Fall Creek

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operates nurseries in South Africa, Spain, and the Netherlands, with a new nursery set to open in Morocco.

Mark David, Sekoya General Manager based in the U.S., shared a video message about the company's mission to supply quality blueberries year-round.

"The consumption potential is significant. We project an increase from 12,000 to 29,000 hectares by 2030, with new markets in Argentina, Azerbaijan, Brazil, and Taiwan joining the programme," said David.

Draper blueberries have a compact habit, ripens early to mid-season, is highly productive as a young plant, and has outstanding quality fruit. The Draper blueberry has exceptionally firm berries and concentrated ripening periods.

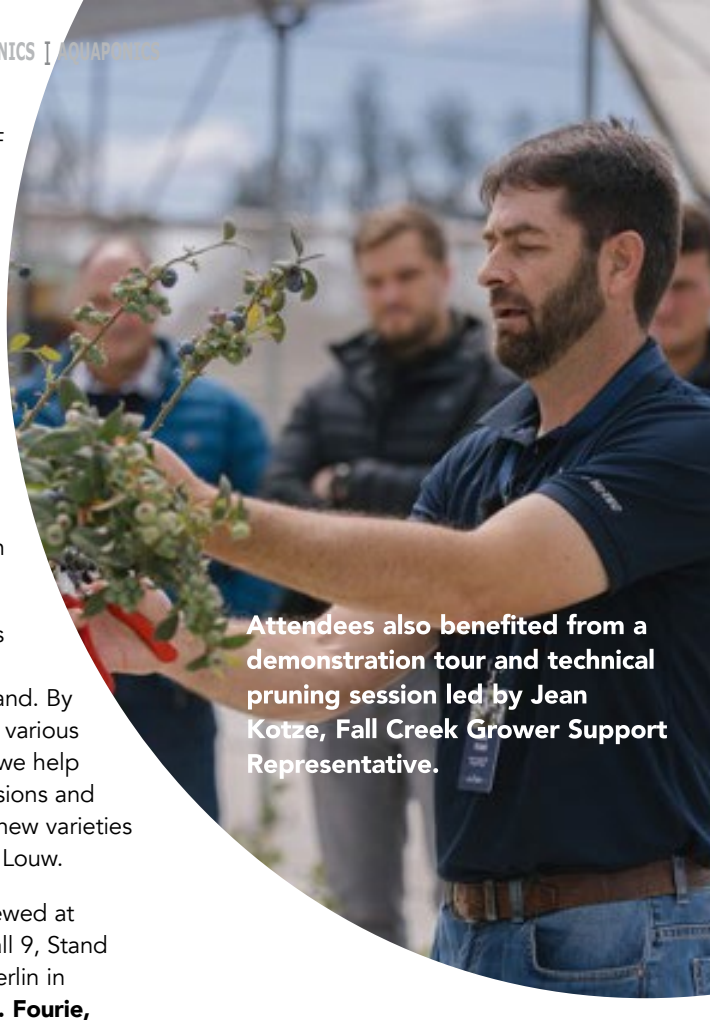
The berries have excellent post-harvest colour retention and superior shelf life. It is extremely fast to hand-pick and also has potential to be harvested by machine.

After several years in the marketplace, Draper fruit continues to be a leading choice for both fresh and IQF markets.

Herman Louw, Fall Creek South Africa General Manager, also addressed the audience, stressing the role of genetics in boosting blueberry consumption and showcasing the two new varieties added to the programme, noting that some are well-suited for colder areas such as Ceres, in South Africa.

"New and improved genetics will deliver a better eating experience, stimulating demand. By testing new selections across various locations in Southern Africa, we help growers make informed decisions and mitigate risks when planting new varieties on a commercial scale," said Louw.

Fall Creek Exhibits can be viewed at Fruit Attraction in Madrid, Hall 9, Stand 9F08 and Fruit Logistica in Berlin in February 2025. **Source: E. Fourie, Fall Creek.**



Attendees also benefited from a demonstration tour and technical pruning session led by Jean Kotze, Fall Creek Grower Support Representative.

Fall Creeks' event attracted growers, exporters, and industry stakeholders from South Africa,

DIGITIZING TOMATO PRODUCTION: Transforming Tomato Processing

In today's fast-paced world, the demand for high-quality, efficiently processed food products is greater than ever.

Digital Tomato is a performance monitoring and improvement package, which represents a significant leap forward in the food and beverage machinery industry, particularly in the processing of tomatoes. This initiative is designed to address the critical challenges faced by our customers while optimizing efficiency and reducing energy consumption.

Challenges

The tomato processing industry is characterized by several inherent challenges. It is a highly energy-intensive sector with complex production processes that are concentrated over short periods.

This seasonal nature of production necessitates reliable and efficient performance to maximize output and ensure the quality of high-value products like tomato paste, puree, diced, peeled, and sauce.

Producers have expressed significant pain points, including the high costs associated with energy consumption and the need for dependable performance during peak production seasons.

Addressing these issues is critical not only for reducing operational costs but also for maintaining competitiveness in a rapidly evolving market.

Digital Tomato: an end-to-end IoT solution

Digital Tomato offers a solution to these challenges. It is an end-to-end Internet of Things (IoT) solution that integrates advanced hardware and software, expert support and tailored solutions to monitor, predict, and optimize the entire tomato processing line.

This sophisticated system transforms traditional reactive maintenance models into predictive maintenance, ensuring that equipment operates at peak efficiency throughout the production cycle.

Processing time

Your processing line will feature state-of-the-art edge devices and IoT technology, providing immediate access to key production metrics and equipment status via cloud-based dashboards on various devices, 24/7.

All data are collected in a single management dashboard, offering a three-tiered view of operations: overall, line-specific and equipment-specific.

In this way, Digital Tomato turns raw data into actionable insights, offering weekly reports and feedback from technical experts to continuously improve performance.

Customized analytics help identify areas for improvement, facilitating strategic decision-making and long-term operational efficiency.

The Five Strengths of Digital Tomato

Extraction Yield: Optimizing extraction yield for maximum efficiency with potential gains of +0.5%-2%. It measures equipment performance (waste humidity and mass yield). It automatically adjusts process parameters to maximize performance.

It monitors final product quality to maintain yield within allowable levels and lastly, ensures stability of the incoming mass flow.

Final Brix Accuracy: Enhancing precision of Brix degree regulation.

Precise Brix level adjustments lead to more efficient product processing and better match with customer specifications. Potential savings of 0.1-0.5 Brix on average.

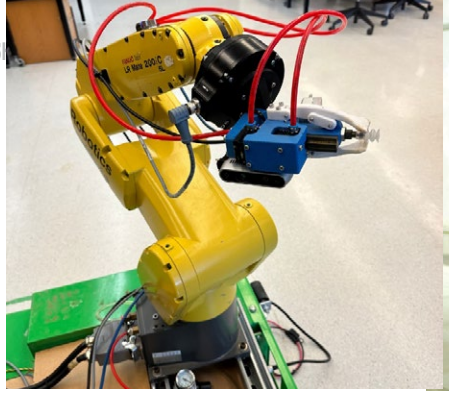
Product Quality: Unified data collection and management system to correlate cause and effect (e.g., product temperature and hold time with colour). Improvement in product quality. Potential yield improvement (e.g., use of more green tomatoes when colour specs allow).

The Financial Impact

Adopting Digital Tomato can lead to significant financial benefits for our customers. The system's ability to minimize downtime and enhance yield translates into substantial revenue gains.

For instance, the energy savings, increased extraction yield, and improved final product yield can collectively result in an average recurring savings of up to 500.000 euros per season for a single tomato processing line.

By: François-Xavier Branthôme


INNOVATIVE TECHNOLOGIES TO NEW DEVELOPMENTS IN GREENHOUSES

In greenhouse horticulture the production process and control are still often done manually. A lot of labour is used in processes like crop sensing, crop maintenance, harvesting and packaging of vegetables, flowers and pot plants.

Human intelligence for repetitive tasks at a high-capacity level is required for these processes. Tasks in the greenhouse are often performed by foreigners since they are more cost effective.

Transporting and accommodating low cost labour to a high level production site turns out to be more effective than transporting a high level production site to an area where low cost labour is available, especially when the volume per unit is large compared to the price and consumption is local. This evolution is changing the idea that growing systems, sensors, mechanization and robotics should only replace labour in highly developed areas.

New technologies should also improve the reproducibility of quality, reliability to deliver in the requested amount, reducing the time to market and reducing costs in the entire production chain.

Continuous improvement is difficult to realise when manpower is replaced frequently resulting in a continuous management effort to acquire human resources of the appropriate quality and productivity at the right moment. New technologies should add value to the product and open ways to continuous improvement. New technologies that reduce human interference will stimulate a process of continuous improvement.

New technologies that can replace and improve the human sensors and actuators and can support human interpretation and decision-making will change greenhouse horticulture in the future.

DRIVING FORCES FOR INNOVATION

Cost reduction is one of the most important driving forces for innovation in greenhouse horticulture. If we look at the Dutch situation of greenhouse produce of vegetables and flowers, around one third of the total cost are labour cost, one third are investments in energy-systems, other installations and machinery and one third are other variable cost, mainly energy cost (20%).

Low-cost engineering of greenhouses and installations, mechanization with reasonable pay back times or choosing cultivars that require less labour and climate integration strategies to reduce energy costs are important. Other reasons to innovate are to add value to the product. Due to chain shortening and increasing scale of companies, growers play a more important role to meet the consumer needs.

The position in the chain improves the marketing of the product. Not only excellent quality will generate more value, also speed and reliability of the deliveries are key factors to become successful.

A lot of effort is needed to adapt the production process to the dynamic market demands. There is a growing demand that products should be safe, clean and healthy. Products that are free of chemical residues have a higher market value.

Quality loss and waste

Quality loss and waste production are common in current greenhouse operation. First, quality is very poorly defined. The quality assessment is often done by workers. The quality requirements are not very well defined, and people are not able to concentrate with a constant quality standard in mind.

Poor quality products slip through the chain until they reach the consumer, but also accepted quality products become waste or second class due to labour assessment. Second, it is very difficult to produce close to 100% first class natural products.

Due to pests and diseases, extreme climate events (extreme sunlight, cold nights, high humidity), and differences in providing a constant quality of water and nutrients the loss in quality and production waste is huge.

Sensors

Technology and standards that can objectify quality (e.g., sensor systems) and can decrease waste or second-class production are important due to improved process control. More sensors become available to support production management and improve quality. In time human sensors will be replaced with digital ones. More data will be available for interpretation and decision making. Software is available for interpretation,

With your smartphone running on iOS or Android the number of apps is increasing, also in agriculture. Even in horticulture one can use the smartphone and download apps that can register the location of a pest or disease and it is a matter of time that you can determine the pest or disease based on computer vision software with your smartphone.

GROWING SYSTEMS

Development and ideas are now focussing on optimising the conditions of the ndividual crop in its local area, furthermore on a maximum yield with a minimum of costs by using intelligent systems (precision horticulture). The new idea is to introduce intelligent technologies to plant production by local sensing, (real time) interpretation and local actions.

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MSC ADDS GRAPE SERVICE from Southern Africa to Europe

News has it that Eastern Cape Express is to link Namibia and South Africa with Benelux and UK ports from first week of January 2025

Shipping company MSC is to launch a new service from southern Africa to Europe from the start of 2025, as it looks to support the northbound trade in table grapes, among other products.

The Eastern Cape Express Service will connect South Africa and Namibia to northern Europe from the first week of January, when the region's grape export gets into full swing.

It will operate out of Port Elizabeth (Gqeberha) and Walvis Bay, sailing directly to Rotterdam, London Gateway, and Antwerp.

Those three European stops are scheduled to take place 21 days, 22 days, and 24 days respectively after departure from Gqeberha.

"This new route offers an express service from the Eastern Cape region and Namibia to major commercial centres in Europe without a stop in Cape Town, enhancing transit times and giving our customers more direct options," the group said in a statement.

It added that the service will complement its Namibia Grape Express service and offer broader coverage for exporters in Southern Africa.

Commenting on the news, Steve Alaerts of Antwerp-based logistics specialist Foodcareplus said: "It is positive to see that shipping lines are setting up services, temporarily or otherwise, to support specific fruit and vegetable flows."

He added: "As part of our broad Supply Chain of the Future project at the Supply Chain Council of the International Fresh Produce Association, we will focus on even better communication between the market and shipping lines, which will benefit both parties." **Fruit News**

Innovative Technologies from page 7

Sensor networks and moving sensor platforms can be expected soon as also more machinery in the greenhouse and robotic systems for precision spraying, harvest systems and crop maintenance will occur.

ENERGY SOLUTIONS

The starting point for energy saving in greenhouse horticulture is in decreased heat demand, increased coverage of heat demand by sustainable energy (preferably solar energy) and maximal efficiency of the still needed fossil energy.

Screens in greenhouses

Investment cost is still high though, compared to thermal screens which can be used more intensively. The screen is closed during more hours of the year, thereby saving energy.

Research showed production losses are minimal when the screen is not opened when light levels are low. Also, with a new method of dehumidification, humidity can be controlled in the greenhouse. Traditionally the humidity is controlled by opening the screens in combination with the vents allowing moist greenhouse air to be exchanged with cold dry outside air. This method is not well controlled, and the distribution is poor.

By introducing ventilators and air ducts, outside air is distributed over the greenhouse equally and the amount of air can be adjusted according to the transpiration of the crop. Misting and thereby reducing ventilation is a way to save on carbon dioxide.

Misting transforms sensible heat into latent heat increasing the enthalpy of the air. In this way more energy is transferred when exchanged with outside air allowing a reduction of the total amount of air being exchanged. With the air exchange almost no carbon dioxide is lost when carbon dioxide enrichment is applied and the concentration in the greenhouse is higher than outside. This method reduces carbon dioxide use.

MECHANIZATION AND PACKAGING

Automated guided vehicles (AGVs) are common in greenhouse horticulture. In general, they are used to carry harvest trollies from the central lane to the sorting and packaging area. In the last five years the harvest trollies have also been equipped with motors, sensors and intelligence for automated guidance through the entire greenhouse.

These systems are controlled by central computing, knowing the precise location of all the AGVs. On-going development combines load-cells with these AGVs to measure the weight of every fruit that is put into the container and the yield per square metre is calculated by central computing.

The workforce can also register (manually) pests and diseases through a small interface on the AGV and this can automatically be combined with location and time. Central computing can display interesting 2D layout pictures from the greenhouse with all the pests and diseases and its development. The next step to implement is automatic detection of pests and diseases with sensors combined with these carriers and automated action with spraying machines. Research in this direction has started a few years ago. **By: E.J. Pekkerieta, E.J. van Henten and J.B. Campen, Wageningen UR Greenhouse Technology, Wageningen UR**

"Rosy Glow" Orchard of the Future at Paardekloof, Witzenberg Valley, under shade netting, shortly before harvest.

HOW MUCH WATER DOES APPLE TREES USE under Shade Netting?

During an earlier research project by Hortgro, changes in microclimate, yield and fruit quality of "Rosy Glow" were measured under a fixed white net.

The four-year research project was launched in April 2018, to compare the water use of high producing open and netted (fixed and draped) full bearing apple orchards, under optimal management and optimal irrigation. The aim was to determine water savings per hectare and per ton.

Measurements for the first year have now been completed by the research team at the "Rosy Glow" Orchard of the Future, at Paardekloof, Witzenberg Valley. This orchard was planted in 2010 on MM109 rootstock, with an M9 interstem, on sandy soil, at a spacing of 3.5 m x 1.25 m. The flat white 20% net was installed over a portion of the orchard in December 2014, with irrigation of the netted and open areas being managed separately.

This research project update serves to inform the apple industry of the early results. We focus on the changes in microclimate under the net, compared to the adjacent open block, preliminary results on whole tree transpiration through the season, differences in stomatal conductance and stem water potential, and the yield and fruit quality achieved under the net and in the open.

Open-sided white net

Most studies of protective netting over fruit orchards have reported reductions in direct solar radiation, air temperature and wind speed, and sometimes increases in air relative humidity, so that the microclimate under shade netting is often milder.

In the current study, at midday (12:00 to 14:00) peak solar radiation was on average 15% lower under the nets than in the open, and the daily total solar radiation was 12% lower, at most, under the nets than in the open treatment.

These figures are very similar to what is known about the percentage reduction in radiation under flat 20% white nets. Mean and maximum daily air temperature under the net followed those in the open very closely, as measured at a similar height above the orchard floor.

In published studies elsewhere, temperature of the air, canopy and soil under netting compared to the open can vary widely, and can be both lower and higher, or the same.

This is because temperature is the outcome of a complex interacting set of factors, including solar radiation and the shading factor of the net, position of the sensor in the canopy or soil, changes in air circulation, and the local climate.

Nevertheless, air and leaf temperatures

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Samples taken during the first pick on 17 April 2019, showing (left) apples grown in the open, and (right) apples grown under white net.

◀ How much water does apple trees us from page 9

are frequently reduced. Differences in air temperature between covered and open orchards are, however, less pronounced on windy days, and air temperature may even increase where wind is significantly reduced.

In this study there was a clear and significant reduction in the wind speed, by up to 56%, under the net compared to the open.

No difference occurred in the air relative humidity (RH) measured inside and outside the nets. The results for air temperature and RH imply that the vapour pressure deficit (VPD) of the air was also similar in the two treatments.

Calculation of the reference evapotranspiration (ETo) showed that the net reduced ETo by around 14%, al-though the figure may be as high as 20% under some conditions.

The data suggests that the reduction in atmospheric evaporative demand is primarily driven by the reduced radiation levels and wind speed under nets.

The preliminary results also show a 12% reduction in whole tree water use under the nets, partly attributed to the lower ETo.

Transpiration is, however, not only influenced by climatic factors, but also by the regulation of the opening and closing of the stomata, and thus the flux of water vapour through these pores in the leaves.

When protective netting reduces atmospheric stress relative to an open orchard, it can lead to higher stomatal conductance and leaf-level transpiration rate.

Yield and fruit quality under net and open

One of the main objectives of the project was to quantify the physical water productivity and the economic water productivity of apple orchards under net, compared to the open. Water Use Efficiency is defined as CO2 gained per unit H2O lost.

Physical water productivity is defined as the kilograms of fruit produced per cubic meter of water used by the tree, while the economic water productivity represents the gross income achieved per cubic meter of water consumed.

Harvest increase under net

The potential differences in fruit production and fruit quality are, therefore, critical parameters and a comprehensive assessment of yield and quality was performed at harvest in April 2019. At a whole orchard level, yield under the net was 139 t ha-1 compared to 132 t ha-1 in the open.

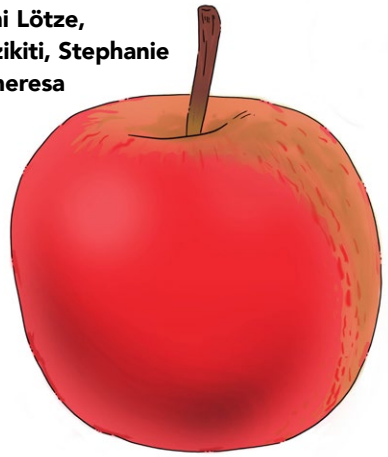
In the open orchard, average fruit mass was 171 g. At first pick, the netted fruit had a slightly lower percentage red colour than the control fruit, a common response in red apples.

But overall, the red colour was good and a high proportion of fruit from both treatments met the colour requirements for marketing as Pink Lady®.

The mild season meant that sunburn was low (5%) even in the open orchard, and almost absent (<1%) under the net. Hail damage in the open was 4%, and 1% under the net.

Final pack-out and price data was used to calculate the water productivity of apple trees in the two treatments.

Source: Authors: Edward Lulane, Elmi Lötze, Sebinasi Dzikiti, Stephanie Midgley, Theresa Volschenk (Hortgro)



BOOSTING CROP PRODUCTIVITY WITH GROLITE: THE SMART CHOICE FOR MODERN HORTICULTURE

In the evolving world of modern agriculture, the need for innovative solutions that enhance crop yields and promote sustainable farming practices has never been greater. Grolite, an expanded perlite product from Pratley Minerals, offers a game-changing solution for horticulturists and farmers looking to optimize their growing conditions. This lightweight, versatile material is not just an enhancement to soil, but a catalyst for healthier plants, more efficient water use, and ultimately, improved harvests.

What is Grolite?
Grolite is a naturally occurring volcanic glass that has been expanded through a high-heat process to create a highly porous, lightweight material. Its primary function in horticulture is to improve soil aeration, water retention, and drainage, making it an indispensable addition to any grower's toolkit. It is particularly beneficial for plants that require well-drained, yet moisture-retentive soil, and can be used in a variety of applications, from potting mixes to hydroponics systems.

Key Benefits for Growers Improved Soil Structure: Grolite's unique physical properties allow it to enhance the structure of the soil by preventing compaction and promoting root development. This results in healthier plants with stronger root systems that are better equipped to absorb nutrients and water.

Water Retention and Drainage: One of Grolite's standout features is its ability to retain moisture while ensuring excellent drainage. This balance is crucial for avoiding both overwatering and underwatering, common challenges in traditional horticulture. Plants grow more efficiently when their roots have access to both water and oxygen, and Grolite helps create the perfect environment for this to occur.

Sustainability: As environmental concerns continue to shape agricultural practices, Grolite stands out for its sustainability. It is a natural, non-toxic material that requires minimal processing, making it an eco-friendly choice for growers looking to minimize their environmental footprint.

Increased Yield: When used in conjunction with other quality growing practices, Grolite can help increase crop yields by creating an optimal growing medium that supports healthier plant growth. Its lightweight nature also makes it easy to handle and mix into soil or growing substrates, ensuring consistent results across different growing conditions.

Grolite is a highly effective, environmentally responsible solution for modern horticulture. Whether you're cultivating vegetables, herbs, or ornamental plants, incorporating this expanded perlite into your growing system will provide the perfect balance of moisture retention, aeration, and drainage, resulting in healthier plants and improved yields. With its broad range of benefits and ease of use, Grolite is a must-have for any forward-thinking grower looking to boost productivity and sustainability in their operations.

GLOBALG.A.P. IN SOUTH AFRICA: EMPOWERING PRODUCERS AT FARM LEVEL

Dr. Elmé Coetzer-Boersma, Managing Director at GLOBALG.A.P.

GLOBALG.A.P. is a brand of smart farm assurance solutions, built on a portfolio of standards for production processes in agriculture, aquaculture, and floriculture.

Standards are created in collaboration with supply chain stakeholders, with the mission to foster the global adoption of safer and more responsible farming practices by providing industry-leading, cost-effective, and value-adding assurance and benchmarking solutions.

GLOBALG.A.P. activities are supported by a network of more than 440 Community Member organizations from across global value chains, while a dedicated capacity-building program equips producers around the world with practical knowledge about responsible farming practices – enabling them to achieve certification, meet evolving market requirements, and contribute to international sustainability goals.

Addressing key challenges in the agricultural sector

With more than 20 years of experience in the farm assurance sector and certificate holders in more than 135 countries worldwide, GLOBALG.A.P. has a unique perspective on some of the most pressing challenges in responsible agriculture.

A key example of this in South Africa has been the lack of registered plant protection products (PPPs). Affecting both minor and major crops, this can create barriers to efficient, sustainable production and is highlighted by the inability of producers to achieve international certification such as GLOBALG.A.P. Integrated Farm Assurance (IFA). The IFA for fruit and vegetables standard features strict criteria on farm-level aspects such as authorized PPPs, drift prevention, application records, container storage/disposal, and maximum residue level (MRL) analysis.

To address this issue, the GLOBALG.A.P. National Technical Working Group (NTWG) South Africa – featuring representation from producers, certification bodies (CBs), retailers, consultants, and supply chain stakeholders – has collaborated closely in the past with the Registrar in South Africa.

This has led to advancements in the identification of key crops where only a limited number of registered PPPs are available, and enabled a focused approach on those which are high priority, such as persimmon. Collaboration with organizations participating in the NTWG, such as CropLife SA, has also facilitated more effective action on production aspects such as the management of PPP containers across the country.

Fertile ground for capacity-building

Another core challenge in South Africa has been the lack of access to knowledge and training on the GLOBALG.A.P. IFA standard and the certification process. In response, local CBs have been increasing their training opportunities, while the GLOBALG.A.P. Registered Trainer program – a network of independent farming experts who are supported by GLOBALG.A.P. to train producers on the implementation of the standards – has also expanded to count 14 organizations and consultants offering support across the country.

Solutions are especially in demand for smallholders, who need to demonstrate compliance with local requirements to access markets but may not be ready to achieve full certification. The introduction of the Primary Farm Assurance (PFA) program – previously known as "localg.a.p." – has enabled producers to gain recognition for the implementation of basic food safety, traceability, environmental, and workers' health and safety practices through an independent third-party assessment.

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PFA is designed as a capacity-building program that contains three stepwise levels (Entry, Intermediate, and Advanced) and has a shorter list of requirements than IFA, making the solution more accessible to smallholders. It offers a stepping stone to the IFA standard and allows producers to progress at a pace that suits their daily realities on the farm.

In turn, the introduction of PFA has allowed retailers to source from a wider range of smaller producers who were not on the level of IFA certification, but who have demonstrated their commitment to safer and more responsible practices at farm level. GLOBALG.A.P. Senior Technical Expert and Team Leader Training Development, Christi Venter, has highlighted the impact of this program in the context of South Africa: "The PFA program has enabled emerging producers to adopt good agricultural practices which improve the quality of their produce and may lead to increased market access. South African retailers, on the other hand, are now able to source with confidence from these small-scale producers. It is a win-win situation for the South African food industry".

Community impact in South Africa

With local retailers adopting the PFA program, smallholders have been empowered to enter the supply chain knowing that they can meet and demonstrate compliance with requirements on food safety and good agricultural practices. Producers have also been successful in transitioning to full IFA certification thanks to this pathway, becoming long-term, trusted suppliers of South African retailers.

A key example of this in practice is the SPAR Rural Hub – an initiative that was recognized by peers from across the global value chain at the GLOBALG.A.P. SUMMIT 2024 in Poland, where SPAR South Africa won the "Changemaker Award" in the retailer category.

Established in Limpopo in 2017, the Rural Hub model is focused on supporting farmers who are not currently able – yet have the potential – to supply commercial markets by providing relevant technical and food safety training, facilitating access to input and infrastructure funding, and providing a guaranteed market and price for their fresh produce.

Activities are supported by a dedicated technical team, enabling participating producers to supply commercial volumes of crops at a quality level that is in accordance with SPAR specifications. The initiative currently supports 15 small-scale farmers, with this number expected to increase to over 60 producers and more than 1000 hectares of production in the next five years.

The Rural Hub producers have progressed through all three levels of the PFA program to reach full internationally recognized GLOBALG.A.P. IFA certification – resulting in tangible benefits to the producers and creating a more diverse and equitable supply system.

Changemaker Award ceremony

Advancing safe and responsible farming in 2025

The latest PFA version 6 was published in September 2024, featuring a range of updates including the restructuring of the three levels, alignment with the more streamlined and outcome-based principles in IFA v6, and a stronger focus on environmental requirements. This will further assist small-scale and emerging producers in progressing towards certification. Beyond South Africa, there is high potential across the wider region in countries such as Namibia, Botswana, and Mozambique.

The growth of other solutions, such as the GLOBALG.A.P. Risk Assessment on Social Practice (GRASP) and the Sustainable Program for Irrigation and Groundwater Use (SPRING) – which has seen an 80% increase in the number of audited producers since 2022 – has contributed to the development of a new culture of good agricultural practice across the country, with a larger focus on aspects such as workers' health, safety, and welfare and environmental topics.

Supporting communication to consumers, the GGN label – a cross-category consumer label that stands for certified, responsible farming and transparency – has also been adopted by the first South African retailers. The label can be applied to a wide range of fruits and vegetables, flowers and plants, and aquaculture products, and is based on international GLOBALG.A.P. standards such as IFA and GRASP. The label aims to provide relevant assurance and orientation to consumers throughout the store, with each product featuring a 13-digit tracking code that can be used to trace products back to the farm. This helps consumers to identify products which align with their values on topics such as social and environmental responsibility.

In an increasingly dynamic farming sector, the most pressing issue remains making GLOBALG.A.P. standards practical and purposeful for the producer. With a range of new solutions currently in development and public consultation, GLOBALG.A.P. invites all value chain stakeholders to take advantage of the opportunity to contribute.

For more information about GLOBALG.A.P. solutions, capacity-building activities, news, events, and much more, visit www.globalgap.org

CUCUMBER EXCELLENCE:
Why Enza Zaden Leads the Field

When it comes to cucumbers, Enza Zaden is at the forefront of innovation and quality. Our cucumber varieties are known for their exceptional characteristics that set them apart. In particular, our long English cucumbers showcase our dedication to developing top-performing varieties for both growers and consumers.

Our cucumbers are bred with a focus on achieving excellent uniformity in shape and size. Typically reaching lengths of 30 to 35 cm, these cucumbers are visually appealing and meet the highest market standards. Each cucumber not only looks great but also maintains its freshness and crunch, ensuring an attractive, long-lasting product for consumers and retailers.

Enza Zaden's advanced breeding techniques equip our cucumbers with strong resistance to common diseases. Our varieties offer high resistance to Cladosporium cucumerinum (Cca) and Pseudoperonospora cubensis (Ccu), as well as intermediate resistance to major viruses such as CMV, CVYV, CYSDV, and WMB. In addition, Enza Zaden's winter cucumber range is proven to offer outstanding resistance to Downey mildew, and most of our varieties exhibit intermediate resistance to powdery mildew. This comprehensive disease resistance reduces the need for chemical treatments, promoting healthier crops throughout the growing season.

Additionally, our cucumbers are developed to support high yields, contributing to greater productivity for growers. Whether grown in a greenhouse, tunnel, net house, or using soilless substrates, these cucumbers are designed to perform well under various growing conditions, helping farmers maximize their output.

Enza Zaden offers an exceptional cucumber range suited to various seasonal slots. These cucumbers are highly adaptable within their respective seasons, making them an ideal choice for diverse production systems. This flexibility ensures consistent success across a wide range of growing conditions.

With our commitment to continuous improvement and innovation, Enza Zaden ensures that our cucumber varieties are designed to deliver excellent performance and yield. Growers can trust our cucumbers to support outstanding results and help meet the demands of a competitive market.

Discover the excellence of Enza Zaden's cucumbers and see why we are a trusted choice for farmers who are committed to quality and success in cucumber production.

Author: Rene du Preez - Marketing Specialist at Enza Zaden Sub-Saharan Africa

ENZA ZADEN

WHY SHADE NETTING Is Beneficial to Producers

With the first glance at the headline above, many readers will immediately question its validity, remembering the recent harsh storms in areas where specifically fruit trees stand on farms. However, a closer look at the outcome of the producers who use shade net over their orchards, much less losses occurred.

There are multiple benefits that shade netting can offer farmers, that will ultimately improve their crop yield.

Benefits

Heat: By preventing a certain percentage of the UV rays from shining on the crop, the plants will have a lower chance of experiencing burn damage. The temperature will also decrease, and the ground will not dry out as quickly.

Water Usage: As the ground retains more moisture and humidity, it will be less needed to water as frequently and thus water usage will decrease. This can, of course, increase cost-efficiency in the long run.

Wind: Shade nets can also soften the blow from the wind, ensuring that the crop does not experience damage from harsh winds (think about how the winds in Cape Town could affect certain fragile plants).

Light Control: Some plants prefer a larger exposure to light whereas other plants flourish in the shade. Thus, depending on the thickness of the shade net, the preferred conditions can be created.

Pests: Pests such as bugs or locusts that feed on the crops in question can be kept away from the plants.

Diseases: Some diseases such as leaf spot and citrus canker can be prevented using shade netting.

Why Different Colours?

There are different colours of shade netting that one can choose from. One might think that this is an aesthetic choice; however, it is a practical one. Each colour has different uses, effects, and features.

Green: This is a very common shade netting colour and is a good middle ground as it does not absorb, nor reflect a large amount of heat and UV rays.

Blue: This is the colour that scatters light while generating heat for the plants below. It does, however, only let in blue light.

Black: As you might imagine, black absorbs an immense amount of heat while reflecting the UV rays away from the crop.

White: White reflects both light and heat, providing a well shaded and cool environment for its crop.

Shade Netting Density

There is a wide variety of shade netting densities, and it is important to consider which density you apply to your crop, as this can determine whether your crop is successful or not.

The different percentage densities typically available are listed here.

20%-30%: As this is the most porous variant of shade netting, it should be used on crops that flourish in heat and prefer a lot of light. This can include crops such as peppers and tomatoes.

40%-50%: This density is not typically used for food growth as it is suited to flowering plants such as orchids, begonias, and the like.

60%: This is a shade net density that is often used for crops that are quite delicate. This can include lettuce, which can wilt and burn easily.

70%-90%: This density is perfect for plants that would typically grow in shady areas and suffer from high light exposure. These can include plants such as ferns.

Best Shade Netting for Vegetables in South Africa

When deciding on shade netting that is specially manufactured for agricultural purposes it is important to choose a provider that takes your crop into consideration. PlusNet is such a shade netting provider. They focus on what a crop needs to flourish and tailor their products to improve spectral transmittance while providing the perfect amount of lighting and protection.

Source: AgrifoodsSA

GROWING TOGETHER:
Driven by innovation, dedicated to quality

In South Africa's dynamic agricultural landscape, vegetable farmers require more than just seeds—they need trusted partners who combine cutting-edge innovation with a genuine commitment to their success. That's where we come in. With decades of expertise in breeding high-quality vegetable seeds, Hazera's mission goes beyond supplying exceptional genetics. It's about empowering farmers with solutions tailored to their unique challenges, ensuring sustainability, productivity, and profitability.

Innovation at the Core: Hazera's Advanced Solutions

Our commitment to agricultural innovation is unmatched. At the heart of Hazera's success is an investment of 17% of its annual turnover in research and development (R&D). This unwavering dedication is evident in Hazera's state-of-the-art greenhouses in the Netherlands, where advanced plant breeding technologies and genomic insights drive the creation of world-class seed varieties.

Hazera's breeding techniques focus on critical traits like higher yields, longer shelf life, and robust disease resistance. From understanding plant genetics to leveraging cutting-edge technology, we ensure that our varieties are optimized for performance and productivity in diverse environments, whether it's under the South African sun or in controlled greenhouses.

FRUIT QUALITY AND DISEASE RESISTANCE: THE NON-NEGOTIABLES

We know tomatoes

Tomato farming in South Africa is both exciting and challenging, with diverse climates and disease pressures. Hazera has risen to the challenge, offering varieties that excel in yield, quality, and resilience.

Our wide portfolio of tomatoes accommodates a range of segments for the grower's needs. Mazal and Zehim are strong varieties in the indeterminate segments that showcase Hazera's expertise. These tomatoes are prized for their resistance to TYLCV, TSWV - essential traits for South African growers

MAZAL

ZEHIM F1

Our R&D efforts here are focused on bringing you high quality varieties, with resistances to Fusarium 3 and Bacterial wilt.

Whether grown indoors or outdoors, Hazera's tomatoes deliver consistent, attractive fruits that meet market standards for shape, color, and uniformity.

Hazera's cucumber: Picking the benefits

At Hazera, we have a long tradition of cucumber breeding. As one of the first companies globally to develop short cucumbers, the Beit Alpha type, we have been innovating, improving and gradually expanding into more cucumber types.

Hazera's long cucumber varieties have set a new standard in the market. With over 15 years of experience in breeding cucumbers, we focus on fruit quality and a comprehensive disease resistance package.

PasioND and IslaND varieties already lead the way with resistance to CYSDV, CVYV, and Px. Upcoming launches, like ZiMMan, promise to further revolutionize the sector with CGMMV resistance and excellent fruit-setting continuity. Importantly, these varieties are designed to withstand South Africa's temperature fluctuations, ensuring consistent performance in any season.

IslaND

PasioND

Peppers: Multicolored quality

For pepper growers, Hazera offers varieties that combine high yield potential with outstanding fruit quality. Pegasos and Ragnar stand out for their vibrant red fruits and adaptability to indoor and outdoor cultivation. Both

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GROWING TOGETHER

Hazera
Growing Together

For more than a century, our experts have been walking hand in hand with our growers. Sharing with them our long legacy of experience and expertise, helping their plants and business thrive.

Our potential comes from within. Like with our seeds, through care, expertise and support. With our intensive research and our experts care and support, we help our growers deliver the most beautiful, tasteful and healthy crops.
Because everything starts and ends with growing together.

za.hazera.com info@hazera.co.za 011 659 4961 Find us:

A BRAND OF Limagrain

OBTAINING EXCELLENT RESULTS with excellent seedlings

The producer of fresh produce largely depends on his seedling producer to supply quality seedlings in order to obtain as close to a hundred percent perfect harvest as possible. The growing of tomato seedlings, for one, mainly depends on certain factors the seedling grower needs to control.

Seed quality
In order to be successful it is most important to select quality seed from the right variety according to the client's specifications. Poor quality seed could easily make a difference in germination of between 60% and 95%. It is therefore important to know what the laboratory requirements are for a specific seed lot. Different seed lots may require temperatures of between 20°C and 26°C to germinate.

Also necessary to know is how many hours the seed needs to be kept at these temperatures – it ranges from 72 to 96 hours.

Grow media
The seedling grower needs to have in-depth knowledge of grow media before he attempts to use it for his seedling production.

For instance; just to know exactly what the status is of the pH and EC in the particular medium he chose to grow seedlings with. Also, he must know the

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◀ Growing together from page 16

beautifully red – just like our sunsets in the bushveld.

Pegasos is known for its high yields, superior fruit shape, and color, while Ragnar's compact plants boast excellent heat tolerance and a protective leaf canopy. We are continually enhancing our pepper varieties, with a focus on introducing nematode resistance in the near future—an invaluable trait for local farmers.

Beyond Seeds: A Commitment to Farmers' Success
Hazera doesn't just deliver superior genetics; it provides ongoing support to ensure farmers achieve the best results. From agrotechnical advice to hands-on assistance throughout the growing season, our after-sale service strengthens the bond between the company and our loyal customers. This close partnership allows us to stay connected to the realities of South African farming, ensuring its solutions remain relevant and effective.

PEGASOS

RAGNAR

Hazera: Growing Together with South African Farmers
With a legacy of excellence and a future driven by innovation, Hazera Seeds is more than a seed supplier—we are partners in progress for South Africa's vegetable farmers. Whether you're cultivating tomatoes, cucumbers, or peppers, we are here to help you grow not just crops, but a thriving future.

◀ Obtaining excellent results from page 18

The result of good quality seedlings (although management of growing these are important!).

AFP status, since all these factors play an important role not only to ensure proper nutrition intake by the plant but also the manner in which the seedling grower schedules his water program.

Water

With seedling growing, water quality is of primary importance. Be sure of the purity of the water and that it is absolutely pathogen-free like for instance from Pythium, Phytophtora, Fusarium, etc. The pH of the water should ideally be in between 5.5 and 5.6 and the EC not higher than 0.6 mS/m. It is essential to do regular tests of the water before it flows to the seedlings.

Nutrition program

Top quality seedlings can be grown by following a complete nutrition program. It will consist of a NPK mixture with all trace elements necessary for healthy plants.

Pest control

Chemical pest management is still used under certain circumstances, but biological pest management is taking off well. It is of most importance to implement a preventative spraying program. In the seedling production trade one cannot wait for problems to surface – one needs to pre-empt at all times.

The hardening-off of seedlings is an important issue in order to obtain a 100% plant stand. This is achieved by revising the watering schedule downwards coming closer to the planting-out date.

Some seedling growers tend to use growth inhibitors to harden-off their plants. The growing period for tomato seedlings may differ from 24 to 35 days.

Most serious greenhouse growers make use of a reputable seedling grower. The advantage is mainly that the seedling growers continuously visit seed companies' trials and can advise the producer on varieties.

The seedling grower takes the responsibility of sowing, growing and hardening off of seedlings and delivery on the right date to the producer.

This saves the producer time, space and money since, if the seed does not germinate in time, evenly and healthy, it may incur a loss which could have been avoided should he rather had a seedling grower take the responsibility.

Source: Moorland Nurseries

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