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Citrus

ALMARAI SIGNS FIVE AGREEMENTS WITH INTERNATIONAL COMPANIES WORTH MORE THAN 500 MILLION SR

As part of its expansion investment strategy, Almarai has signed five agreements with five leading global poultry companies worth over 500 million Saudi riyals. The aim is to expand poultry production and increase the company's market share in the sector, which currently stands at over 250 million birds annually, with plans to increase production capacity to over 450 million birds annually by 2027.

This was announced during the opening of the third edition of the Middle East Poultry Exhibition, inaugurated by His Excellency the Minister of Environment, Water, and Agriculture Eng. Abdulrahman bin Abdulmohsen Al-Fadhli,

held from (13-15 May 2024) at the Riyadh International Convention and Exhibition Center, under the slogan "Value Engineering", with the participation of more than 300 companies from 40 countries around the world.

Almarai's signing of the five agreements with global companies is part of the company's investment plan for the next five years, during which the company will invest 7 billion riyals to expand poultry production and contribute in achieving local self-sufficiency. This is also part of the sector's contribution to the growth of the national economy and confirms Almarai's growing role in achieving the Kingdom's

Vision 2030 in all fields.

Following the signing of the agreements, the Minister honored Almarai for its participation as a diamond sponsor. He then visited Almarai's booth at the exhibition, where he was briefed by Mr. Abdullah bin Nasser Albader, the CEO of Almarai, on the company's future projects to expand poultry production, which received his appreciation. These projects come in line with the company's rapid growth direction and its aim to increase local content in the Kingdom by investing more in the poultry sector, making Almarai the largest food manufacturing company in the region.

ADAFSA ISSUES CONDITION AND CONTROLS FOR SMALLHOLDER PLANT PRODUCTION FARMS

The Abu Dhabi Agriculture and Food Safety Authority (ADAFSA) has issued a decision to regulate small-scale plant production farms in Abu Dhabi. This decision complements the decision of the Chairman of the Board of Directors of ADAFSA No. (3) of 2020 issuing the Agricultural Requirements System for the Farms of Abu Dhabi.

The decision is an important step towards regulating the practice of plant production in small-scale farms and achieving sustainable

agricultural development. This will be achieved by maintaining the sustainability of the natural resources on the farms, improving the income of the farmers and supporting the local produce, which will contribute to strengthening the food security system in the emirate.

The decision sets clear rules for the practice of plant production on farms, which contributes to improving the quality of local agricultural products and increasing the competitiveness of local agricultural products on the market. This will help to increase the return on investment in agriculture.

The decision provides smallholders with a clear regulatory environment for plant production and improves marketing opportunities for local products. It also provides technical and training support to farmers and encourages

the consumption of local products, contributing to the development of the agricultural sector.

The decision lays down conditions and controls for the practice of plant production on small farms. These include maintaining general hygiene in the farm and its facilities and obtaining official approvals before setting up packing houses. The decision also requires the use of materials approved for food use in the processing of plant products. It also regulates the use of the farm's trade name, the documentation of agricultural operations carried out on the plant product and the provision of records showing the quantities of production that have been disposed of. It also requires the establishment of a traceability system to ensure the identification of the plant product.



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SHARJAH RULER INAUGURATES FIRST PHASE OF MLEIHA DAIRY FARM

H.H. Dr. Sheikh Sultan bin Muhammad Al Qasimi, Supreme Council Member and Ruler of Sharjah, inaugurated the first phase of Mleiha Dairy Farm and launched its visual identity.

The event took place in the presence of H.H. Sheikh Abdullah bin Salem bin Sultan Al Qasimi, Deputy Ruler of Sharjah.

In his speech on this



occasion, the Ruler of Sharjah emphasised the integration of productive projects in the emirate to provide healthy food for all family members. These projects include vegetable production, wheat farming, dairy farming, and poultry farming, which is set to open soon. In addition, specialised education is being provided to support these projects with qualified scientific personnel through the establishment of the University of Al Dhaid. This aims to ensure a dignified life for citizens, thereby achieving social stability and fulfilling the objectives of raising healthy children.

His Highness expressed his happiness with the success of the two projects: The vegetable production project and the wheat project in

Mleiha. The wheat project started with approximately 450 hectares, and for the first time, it achieved the highest and finest protein percentage of 18 percent in the first year. In the second year, with an increase in the cultivated area to 1400 hectares, the protein percentage further rose to 19.1 percent.

His Highness expressed his happiness with the success of the two projects: The vegetable production project and the wheat project in Mleiha. The wheat project started with approximately 450 hectares, and for the first time, it achieved the highest and finest protein percentage of 18 percent in the first year. In the second year, with an increase in the cultivated area to 1400 hectares, the protein percentage further rose to 19.1 percent.

AVIAGEN RUSTIC GOLD RECEIVES RSPCA APPROVAL

Aviagen® is proud to announce that its Rustic Gold™ bird has been accepted for use under the highly respected RSPCA Assured animal welfare scheme. The Rustic Gold is the latest addition to Aviagen's Rowan Range® of slower-growing and colored breed options to be awarded the accreditation, alongside the previously approved Ranger Gold® and Ranger Classic®.

With a mix of brown and white plumage, the slower-growing Rustic Gold brings a balance of outstanding welfare and performance, combined with strong feed efficiency.

To be accepted under the widely recognized RSPCA Assured standard, chicken breeds are evaluated by an independent organization. Various welfare outcomes are assessed to ensure

breeds demonstrate the highest welfare outcomes.

Aviagen European Director of Research and Development, Dr Brendan Duggan explains: "Both our conventional and slower-growing breeds are selected for health, welfare and sustainability characteristics as part of our balanced breeding approach."

"Aviagen continues to work closely with the RSPCA and other organizations across Europe as we continue to enhance welfare across our entire choice of breeds."

Aviagen offers a diverse range of breeds to give customers choice in the markets in which they serve.

Aviagen European President Patrick Claeys comments: "We are delighted that the Rustic Gold is being recognized within the RSPCA Assured standard."



ICBA STRENGTHENS AGRICULTURAL RESEARCH AND DEVELOPMENT COLLABORATIONS IN UZBEKISTAN

The International Center for Biosaline Agriculture (ICBA) is strengthening agricultural research and development collaborations in Uzbekistan to support and advance initiatives aimed at sustainable agricultural development in the country.

During a partnership-building mission to Uzbekistan, ICBA's senior delegation, including Dr. Tarifa Alzaabi, Director General; Dr. Charbel Tarraf, Chief Operations and Development; and Dr. Aziz Karimov, Head of ICBA's Regional Office for Central Asia and South Caucasus, held a series of meetings with senior government officials and other partners to discuss ways to expand existing collaborations.

The delegation was accompanied by H.E. Mohammad AlDaheri, Head of Economic, Political, and Media Affairs Section at the Embassy of the UAE in Tashkent, Uzbekistan.

Dr. Tarifa Alzaabi said: "Building on our long-term partnerships with different stakeholders in Uzbekistan, we are working to explore new opportunities for collaboration in a range of areas, including agricultural science and innovation, capacity development and technology transfer. We have had many success stories in the country over the years and are currently implementing a major project in Karakalpakstan to support rural farming communities. We look forward to

contributing to Uzbekistan's efforts towards sustainable agricultural development, food security, and climate resilience."

During a meeting with H.E. Aziz Abdulkhakimov, Minister of Ecology, Environmental Protection and Climate Change of Uzbekistan, the delegation reviewed avenues for enhancing the existing partnership. In particular, the meeting discussed ICBA's current projects in Uzbekistan, specifically the project targeting the Aral Sea region, and capacity development opportunities for the staff of the International Innovation Center for the Aral Sea Basin in such areas as land preservation and restoration, and scientific research.

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MUNTERS INVESTS IN AGRIWEBB

Munters is investing in AgriWebb a leading beef cattle production software provider. The move is part of the strategy to build an ecosystem of digital solutions to support a more responsible food production value chain.

The food industry is facing massive challenges, such as population growth, climate change and increased regulations. On top of this, the food production value chain is highly inefficient.

To help food producers tackle these challenges, Munters is building a comprehensive portfolio of IoT, sensors and

controllers. Last year, InoBram was acquired, and the year before, investments were made in BarnTools and FarmSee. The investment in AgriWebb is a further commitment to support a more responsible and efficient food production value chain.

"AgriWebb's cloud-based solution for livestock management complements our portfolio of digital solutions well," says Pia Brantgärde Linder, President of business area FoodTech at Munters. "It supports our vision to monitor and optimize the entire value chain to

improve sustainability and animal welfare."

AgriWebb gives meat packers and retailers alike access to critical data for reducing emissions in the supply chain. The software provides features such as farm mapping, grazing management, and inventory tracking. It can even be used by aqua farming and greenhouses, positioning it as a compressive solution for many segments.

Australian AgriWebb currently manages over 23 million head of livestock across more than 150 million acres in 18 countries, mainly in Australia, UK, United States and Brazil.

BAYER PILOTS UNIQUE GENERATIVE AI TOOL FOR AGRICULTURE



Bayer announced the pilot of an expert GenAI system to benefit farmers and up-level agronomists in their daily work. The company has been using proprietary agronomic data to train a large language model (LLM) with years of internal data, insights from thousands of trials within its vast testing network, and centuries of aggregated experience from Bayer agronomists around the world.

The result is an expert system that quickly and accurately answers questions related to agronomy, farm management, and Bayer agricultural products. Instead of a time-consuming process, the intuitive system responds to natural language and can generate

expert information within seconds. Validated by agronomists, the pilot is already unlocking productivity for Bayer teams in the United States while significantly outperforming out-of-the-box LLMs currently serving the agricultural market.

The future benefit in comparison to today's reality: A farmer asks their agronomic advisor a series of detailed questions about a product's characteristics, performance under specific conditions, and application rates. Today, the advisor searches online materials, sends text messages to colleagues, gathers information from multiple sources, and puts together a response, all while the farmer waits hours or days for urgently needed information. Bayer's expert GenAI system is changing the game, making better information more quickly and readily available.

"Our unique GenAI system has the potential to serve agronomists and benefit farmers all over the world, further advancing AI as an

indispensable technology for agriculture," said Amanda McClerren, CIO and Head of Digital Transformation & Information Technology for Bayer's Crop Science Division. "We'll continue to use traditional AI to develop better products, and we're also committed to harnessing new GenAI technology in a thoughtful way that augments and supports knowledgeable experts across the industry, bringing value to farmers and those who serve them."

Developed in collaboration with Microsoft as leading technology partner and Ernst & Young (EY) as an industry partner, Bayer is exploring ways to integrate the expert GenAI system into its digital offerings, and the company anticipates broad opportunities for collaboration with other agricultural offerings and partners. Designed as a global capability, the tool will benefit millions of smallholder farmers in the future by democratizing access to agronomic advice and product information critical to feeding communities and improving global food security.

AGCO LAUNCHES PTx, A PRECISION AG PORTFOLIO TO ACCELERATE TECHNOLOGY TRANSFORMATION

AGCO Corporation, a global leader in the design, manufacture and distribution of agricultural machinery and precision ag technology, announced the launch of PTx, a new brand representing its precision ag portfolio. PTx combines precision ag technologies from the cornerstones of AGCO's tech stack: Precision Planting and its newest joint venture (JV), PTxTrimble.

The strategic alignment of these brands will facilitate the rapid growth of AGCO's technology transformation and will support the future development and distribution of next-generation ag technologies for farmers and original equipment manufacturers (OEMs).

PTx will serve farmers around the world through three go-to-market approaches. Specialized precision ag dealers will help farmers retrofit

almost any make or vintage of equipment they already own with the latest technologies. PTx will also expand its relationships with more than 100 OEM partners that can integrate products from the PTx portfolio directly at the factory. Similarly, new machines from AGCO's leading brands – Fendt, Massey Ferguson and Valtra – will also offer factory-fit technology from the PTx portfolio.

CHA UK GROUP AT GREENTECH ANNOUNCED

The Commercial Horticultural Association (CHA) has announced its exhibitor line-up for GreenTech Amsterdam 11 to 13 June at RAI Amsterdam.

The UK exhibitors are set to meet global growers and breeders, who attend to learn more about how to grow and optimise production in vegetable, floriculture, glass and open field horticulture.

GreenTech is the number one international horticulture technology platform, where industry professionals from across the world come to connect, network and share knowledge. In 2023, the event attracted 11,500 visitors to see the 540 exhibitors from over 128 countries.

"We are delighted to bring a group of British exporters to this innovative event once more. Our companies demonstrate the creativity and ingenuity, for which UK agri-tech is renowned the world over," commented Emma Brazier, Event Manager for the CHA. "The UK exhibitors and the CHA team are looking forward to meeting a diversity of growers and breeders."

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INTERNATIONAL BIOECONOMY AND AGROTECHNOLOGY STARTUPS APPLY ACTIVELY IN BIOBOOSTERS ACCELERATOR PROGRAMME

Startup companies around the world are interested in joining international bioeconomy accelerator programme BioBoosters. It is launched by Jamk University of Applied Sciences, together with Valtra, AGCO Power, Neste and Innovestor, and is targeted for growth-oriented startups in the fields of bioeconomy and agritech. The programme is part of the activities of BioBoosters by Jamk Business Accelerator.

BioBoosters accelerator programme connects agritech and bioeconomy startups and

growth companies with end users, investors and corporations. The network of partners includes leading corporations, such as Valtra, AGCO Power and Neste, as well as investors who are ready to support the innovations promoted in the accelerator.

Valtra and AGCO Power are part of the US listed company AGCO Corporation, which is one of the world's largest manufacturer of tractors and agricultural machinery. In the soon-to-start programme AGCO power and Valtra want to build partnerships with

startup teams developing the agritech industry.

"At Valtra we aim to be at the top of data driven agriculture, because we need to be able to offer new solutions to our clients in this fast-changing world. We are eagerly looking forward to building collaboration with the startups and innovations to be discovered via the accelerator programme, to improve the productivity, effectivity, and sustainability of agriculture with the help of technology", says Managing Director Mikko Lehtikainen, Valtra.

GREENERATION INTRODUCES NEW VARIETIES OF PREMIUM GREENS AND EDIBLE FLOWERS

Greeneration, a modern vertical farm in Dubai, announces the addition of new locally grown premium customisable edible flowers, leaves, microgreens and rare products to its supplies, providing the HoReCa industry with access to high-quality and flavourful ingredients straight from the farm.

The fresh lineup includes Wood Sorrel (Oxalis leaves), Shiso Green, Red Shiso, Lemon Verbena, Golden Pea, Huacatay, Balsamina, and Torenia. Each variety is carefully selected for its distinct flavours, textures, and culinary versatility, offering hotels, restaurants, bars and caterers in the UAE limitless opportunities for culinary exploration and exceptional dining experiences.

Roman Ulyanov, Founder and Managing Partner of Greeneration, explains the inspiration behind the new additions. "We were inspired by the cultural significance of these crops in various cuisines around the world. Shiso is very popular in

Japan and Korea, Huacatay in Peru and oxalis in Slavic in North European countries. Our goal is to localize production and increase the quality of these globally beloved ingredients by bringing these closer to home," explains Roman Ulyanov, Founder and Managing Partner.

The new varieties boast a spectrum of flavours and textures, catering to diverse culinary preferences. Shiso, an Asian classic, offers fragrances reminiscent of cumin with mint while Oxalis leaves provide a tangy sweetness, ideal for desserts or savoury fish or red meat dishes. Lemon Verbena imparts a refreshing citrus flavour perfect for cold drinks. The flowers, like Balsamina with its golden glow, are perfect for visual decoration while



Torenia, shaped like bells, doubles as an elegant vessel for creams or sauces for a delightful presentation.

"At Greeneration, we are committed to delivering the highest standards of quality and freshness. Our vertical farms maximize space and resources, ensuring a constant supply of fresh, high-quality products year-round. This sustainable approach reduces the impact of seasonal variations and with no pesticides used in our productions, consumers can enjoy our greens straight from the farm," adds Ulyanov.

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XFARM TECHNOLOGIES ANNOUNCES INTEGRATION OF GREENFIELD TECHNOLOGIES (SPAIN) AND SPACESENSE (FRANCE) TO ESTABLISH ITSELF AS A EUROPEAN AGTECH LEADER

xFarm Technologies, a leading tech company in the digitalisation of agriculture that supports 340,000 farms every day, together with an ecosystem of more than a hundred large companies on a total area of four million hectares tracked, continues its growth path in Europe and announces two operations in Spain and France - namely the integration of Greenfield Technologies and SpaceSense - to establish itself as a leader in the key areas of regenerative agriculture and geospatial AI. Greenfield Technologies is a company based in Badajoz that specialises in soil characterisation to optimise the management of crops, making

them more sustainable and resilient, while SpaceSense is a pioneering company based in Paris that provides climate intelligence services using satellite data and artificial intelligence to help companies and organisations perform better and large-scale sustainability analysis, enabling actions such as carbon monitoring over large areas.

"Through these operations with such top players that are active not only in two countries that are key to agriculture in Europe but also in other areas of the world, we aim to strengthen our position in regenerative agriculture and geospatial AI, reinforcing ourselves at a pan-European

level to create new value and make a comprehensive contribution to the global agri-food industry," said Matteo Vanotti, CEO of xFarm Technologies. "Thanks to the complementarity of technology and expertise between xFarm Technologies and the teams at SpaceSense and Greenfield Technologies, we will work to provide our customers with new services related to climate intelligence and artificial intelligence-based agronomic support. Together with our ecosystem of partners, our goal remains to accompany farms around the world on their digital transition to a more sustainable and resilient agriculture."

COLIMA F1: THE HYBRID PAPAYA REVOLUTIONISING GREENHOUSE GROWING

CapGen Seeds is tirelessly dedicated to leading the way in the research and development of innovative agricultural varieties that redefine the agricultural landscape and they introduced Colima F1, a low-growing hybrid papaya that marks a significant milestone in greenhouse cultivation and represents the culmination of years of dedication and hard work by our

team of plant genetics experts.

Colima F1 emerges as a natural evolution of our successful Caballero papaya, which has been recognised for its quality and yield in different regions of the world. With Colima, we have pushed the boundaries of convention to offer a variety that not only retains the outstanding qualities of its predecessor, but also introduces

significant improvements in terms of fruit size, flavour and shelf life.

Colima fruits have an optimum size, ranging from 0.8 kg to 1.2 kg, which makes them an ideal choice for markets. Moreover, their average soluble solids content of 14 – 15° Brix guarantees a sweet and exquisite taste

that delights the most demanding palates. But Colima's qualities do not stop here. Its remarkable hardness confers an excellent post-harvest capacity, which allows for more efficient handling and transport, and widens the marketing window for producers.

One of the most outstanding features of Colima F1 is its genetics, with 90% of the genetics of our Caballero variety. This genetic continuity ensures consistency in terms of quality and yield, while offering significant improvements in fruit size and resistance. In addition, the Colima plant has a low growth habit, which facilitates a higher planting density in greenhouses. This translates into higher production per square metre, thus optimising space and increasing the profitability of the crop.



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DLG FELDTAGE 2024 FIELD EXHIBITION ATTRACTS VISITORS WITH A BROAD TECHNICAL PROGRAM

The DLG Feldtage exhibition 2024, from 11 to 13 June 2024, a biennial field at alternating locations in Germany, will this year take place in Erwitte, Germany at the Brockhof Estate. More than 340 companies from 17 countries will be exhibiting their solutions at the field event. Under this year's guiding theme of 'Crop production out of the box', visitors will have access to a broad technical program covering current topics from the crop cultivation, crop breeding, plant protection, agricultural technology and fertilizer

management sectors. Current challenges and opportunities in modern crop production will be explored, from the use of Photovoltaic (PV) systems in the field to resilient agricultural systems. The live machinery demonstrations will feature 77 machinery combinations. This makes the DLG Feldtage 2024 Europe's largest event for machine demonstrations, which include live commentary. FarmRobotix, the new platform for the transfer of knowledge on digital innovations such as Artificial Intelligence (AI), automation and robotics, will

be launched at the DLG Feldtage exhibition. The DLG Plaza, the DLG CropNight and the camping facility for visitors will also premieres.

The theme of this year's DLG Feldtage is 'Crop production out of the box'. The venue is Brockhof Estate in Erwitte near Lippstadt, Germany. Visitors will join more than 340 exhibitors from 17 countries at the venue for crop cultivation professionals. On an area of some 55 hectares, farmers will have access to the exhibition's comprehensive technical program.

INTRACO COLLABORATES WITH TRINAMIX TO INCLUDE MOBILE FEED ANALYSIS IN THEIR PORTFOLIO

Intraco Ltd, a leading exporter of premixes and concentrates from Belgium and part of Group DC, and trinamiX GmbH, a leading provider of mobile spectroscopy solutions and subsidiary of BASF, announced their collaboration for mobile feed analysis. The aim of this partnership is to give Intraco and its distribution partners the opportunity to analyze the nutrient composition of feed with trinamiX Mobile NIR Spectroscopy Solution - a robust, handheld spectrometer, which comes together with a mobile app and customer portal. This solution enables the feed advisors of Intraco's distributors to assess raw materials and final feed in real time and advise local farmers to ensure that livestock is fed nutritionally balanced and cost-effectively.

Having a comprehensive understanding of the nutrient content in animal feed is essential for ensuring the quality of animal diets. This is particularly crucial due to the varying

nutritional needs of livestock at different stages of life and health conditions. Moreover, as raw materials change, it becomes necessary to regularly modify the diet. Traditionally, feed advisors and farmers had to depend on standard nutritional values or undergo time-consuming laboratory analyses. However, with trinamiX mobile NIR spectrometer, a wide range of finished feeds, cereals, oilseed and expeller meals, extraction meals and byproducts, as well as forage, can be analyzed within seconds.

Intraco Ltd. is specialized in manufacturing and marketing of animal feed concentrates, premixes, protein meals and additives. With

distribution partners across the globe, they are the trusted feed producer for poultry, ruminant and pig farmers as well as a partner for local feed mills when it comes to premium quality feed and corresponding solutions. trinamiX Mobile NIR Spectroscopy Solution offers valuable insights on moisture, protein, fat, and energy content, among other factors, without requiring samples to be sent to the lab. As a result, Intraco can conduct nutritional analyses of the local raw materials on site more quickly, enabling them to provide customized feed formulations directly to their clients.



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ADAFSA MAKES GLOBAL SCIENTIFIC BREAKTHROUGH BY IMPLANTING LIVE CELLS FROM CAMEL EMBRYOS FOR FIRST TIME

Abu Dhabi Agriculture and Food Safety Authority (ADAFSA) laboratories, represented by the Collaborating Centre for Camel Diseases, accredited by the World Organisation for Animal Health (WOAH), have achieved a scientific breakthrough by successfully culturing cells from the kidney, liver and muscle tissue of embryos from a group of camels. The cells were multiplied for the first time under ideal growth conditions in ADAFSA laboratories.

This achievement opens the door to a wide range of applications including in the diagnosis of camel viral diseases, the isolation of camel viruses, the study of viral infection mechanisms, the development of improved diagnostic methods and the production of proteins and vaccines. In addition, these cells will allow further study of the basic cell biology of camel tissues, the interactions of drugs, antivirals and other chemicals with these cells, as well as pathological studies and

advances in biotechnology. This achievement enhances ADAFSA's position as a scientific institution in camel research and enhances medical and veterinary sciences in the UAE.

The UAE is home to the WOAH-accredited Collaborating Centre

for Camel Diseases. This centre plays a significant role in promoting animal health and biosecurity locally and globally. It contributes significantly to enabling the diagnosis of animal diseases, promoting the development of national expertise in the field of camel diseases and filling knowledge gaps by intensifying and deepening scientific research, particularly in relation to obscure pathological phenomena.

The ADAFSA reference centre is equipped with the latest technology and modern diagnostic techniques such as molecular biology techniques, gene sequencing, bioinformatics and the cultivation of dangerous bacteria. This advanced technology enables early detection and identification of obscure, epidemic or emerging pathogens, strengthening the UAE's biosecurity and food safety



J. HUETE GREENHOUSES WILL BE AT GREENTECH AMSTERDAM 2024

As usual, J. Huete Greenhouses will be present at stand 01.418 At Greentech 2024, near the main entrance, to meet the demands of suppliers, customers and farmers who wish to increase their productivity by incorporating new greenhouses, or cutting-edge technology and equipment.

At the next edition of GreenTech Amsterdam 2024, J. Huete Greenhouses will present one of its most recent innovations: a semi-closed plastic greenhouse that promises to revolutionize protected cultivation. This new model, known as Opticlimate, is

designed to offer the same advantages of semi-closed glass greenhouses, but with a significantly lower investment and a faster return.

The Opticlimate model by J. Huete Greenhouses is presented as an advanced installation that combines high technology and efficiency. This semi-closed plastic greenhouse uses innovative equipment in the characteristic annex corridor to improve growing conditions and prevent the appearance of pests, maintaining the appropriate temperature both in countries with arid and dry climates, as well as in

countries with cold climates.

The semi-closed design of the Opticlimate thus minimizes temperature variations and allows for efficient distribution of cooling and heating from the adjacent hallway. This translates into better efficiency and better results.

In addition, and like every year, the company will place its meeting point at stand 01.418 to discuss new technology-enabled greenhouse projects, similar to those recently built by J. Huete Greenhouses in South America, Portugal, Spain, the United Kingdom, Australia or Senegal.

FLOWERTRIALS® 2024 OPENS ITS DOORS FROM 11TH TO 14TH JUNE

Over the past two decades, FlowerTrials® has evolved from a joint promotion initiative set up by a handful of breeders into a key event within the global horticultural community. No less than 59 companies will be exhibiting this year in week 24 for the 20th Anniversary edition.

FlowerTrials® brings together leading breeders, growers, retailers and industry stakeholders to discover the newest varieties and trends in pot and bedding plant breeding. From vibrant annuals to resilient perennials, FlowerTrials® is the place to discover ongoing innovation and creativity within the industry. This is reflected in assortments which continue to meet consumer requirements for colour and garden performance, while addressing the evolving demands of the market, including sustainability, disease resistance, and adaptability to changing environmental conditions.

Marjolein Kuyucu-Lodder, International Product Marketeer at Florensis and new Chairwoman of the FlowerTrials® Committee:

“Over the past twenty years, FlowerTrials® has evolved from a joint open days’ initiative to a cornerstone trade event in the horticultural calendar. In addition to plants that brighten up the garden, the modern consumer is looking for plants that are heat-resistant, drought-tolerant, or attractive to pollinators. The exhibiting breeders at FlowerTrials® are increasingly responding to these societal trends by showing the latest plant innovations in inspiring ways, helping retail to successfully bring the story across to their customers.”

FlowerTrials® serves as a vital hub for industry professionals to exchange ideas, discover current trends, and shape the future of ornamental horticulture. This year the exhibitors will showcase their latest innovations at 30 locations in the Middle and South areas of the Netherlands, as well as in Germany. With its focus on presenting the latest breeding achievements, the event is a driving force showing the ongoing evolution in the pot and bedding plant market.

FAO DISCUSSES ESTABLISHMENT OF COMMUNICATION AND COORDINATION NETWORK IN OMAN'S AGRICULTURAL, WATER, AND CLIMATE CHANGE SECTORS

As part of the agreement between the Food and Agriculture Organization of the United Nations (FAO) and the Ministry of Agriculture, Fisheries, and Water Resources in the Sultanate of Oman, a consultative meeting was convened recently with Omani authorities overseeing agriculture, water, environment, and climate change.

The meeting, held under the GCF-funded project "Building Resilient Environment and Sustainable Agriculture and Water in Oman," addressed several key aspects, foremost among them the establishment of a communication and coordination network encompassing government institutions and private sector stakeholders involved in agriculture, water, and climate change. The network's primary goal

is to foster better collaboration among these entities in adapting to climate change challenges.

Discussions during the meeting encompassed objectives, work plans, study scope, implementation phases, anticipated outcomes, timelines, and other pertinent details.

Following this, a dialogue session allowed participants to exchange visions and ideas regarding proposed program developments.

Additionally, deliberations centered on crafting a comprehensive work plan for the network and identifying essential training areas to enhance the capacities of network-affiliated personnel in addressing current and future climate change impacts on Oman's agricultural and water sectors.

Organisers



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GREENTECH AMSTERDAM 2024: UNVEILING THE FUTURE OF HORTICULTURE

Greentech Amsterdam is the gateway to the latest horticultural technology and a unique opportunity to connect with the pioneers around the world who are shaping the future of the sector. The show will take place from Tuesday June 11 to Thursday 13 at the RAI Amsterdam Convention Centre and expects to host 12,000 horticultural professionals and 510 exhibitors from all over the world. During the three days, the show offers multiple knowledge sessions on different stages on topics such as 'Tools and vision in Data and AI', 'Greenhouse: The road to a zero footprint?', and 'Future vision: A valuable tasty and healthy horticulture'. Visitors will find various country pavilions, but also pavilions with exhibitors specialized in industrial fields such as Vertical Farming, Medicinal Plants (Cannabis) and AI & Robotics, and a Start-Up Pavilion for newcomers to the horticulture industry. Live demonstrations and the latest innovations are showcased in the Robot Dome, Renewable Energy Demo and Drone Cage. Once again, the GreenTech Innovations & Concepts Awards will be presented on Tuesday. Furthermore, there are various side events such as 'Power Day' on Wednesday, where progressive growers & breeders,

engineers, advisors, investors, and solution providers discuss the topic 'Human skills make the difference'. 'Research meets innovator', also on the 2nd day, brings research pioneers together to exchange knowledge, collaborate and highlight innovations. On Thursday GreenTech in cooperation with Partner AVAG gives students the opportunity to meet the horticulture industry and discuss possible career options during 'HortiTalent Day'. On the exhibition floor, visitors can follow the routes of exhibitors with the following themes: Organic, Vertical Farming, Robotics, Renewable Energy, Medicinal Plants and AI. Dive into the forefront of the horticultural chain and explore the solutions for the challenges growers face.

More information on the programme, other side events and registration at www.greentech.nl/amsterdam



Discover the inspiring global horticulture community

AMSTERDAM
11 - 13 JUNE 2024



WHY GREENTECH?

- Join thousands of **horticulture professionals** including industry leaders and innovators
- Gain insights from inspiring speakers during more than **80 knowledge sessions**
- Learn more about emerging trends in **AI & Robotics**, **Renewable Energy** and **Medicinal Plants**
- Plan your visit and appointments through our **matchmaking tool**
- Make **spontaneous meetings** happen in a **great atmosphere**

Register now for free (until 7 June) and visit **GreenTech Amsterdam** from 11 - 13 June!

GreenTech Amsterdam is your gateway to the latest horticultural technology and an unique opportunity to connect with the pioneers around the world who are shaping the future of the sector.

Dive into the forefront of the horticultural chain and explore the solutions for the challenges growers face.

MACFRUT, THE INTERNATIONAL EVENT FOR THE FRUIT AND VEGETABLE SUPPLY CHAIN, RECEIVES ENTHUSIASTIC RESPONSE FROM EXHIBITORS

Macfrut, the international event for the fruit and vegetable supply chain, has once again received an enthusiastic response from exhibitors. A total of 56,200 people attended the three-day trade fair at the Rimini Expo Centre, an increase of 13% on last year. This was the most exciting edition yet, and it is clear that the sector is

dynamic and confident about the future. There are many reasons to be satisfied with how well this event went. Attendance was higher on the first day: the calibre of visitors, sector professionals and foreign buyers was outstanding, and there were more of them, partly because Italian products are attracting more interest, with high-profile scientific events





featuring the world's leading experts.

'I can only agree with what one exhibitor told me at the trade fair: Macfrut has become a must-attend event to get an idea of where

the sector is headed,' says Renzo Piraccini, President of Macfrut. 'This was our aim and the fact that the exhibitors have understood this shows that we are on the right track. Teamwork throughout the supply chain is the key to Macfrut's success and

this year's results are proof of that. This achievement marks the beginning of a new chapter in which we will face new challenges. We believe that Italy is worthy of hosting an event of international importance.

The next edition of Macfrut will take place from 7 to 9 May 2025. The official presentation will be held in Cairo on Wednesday 11 September.

DPD REVOLUTIONIZES DATE PALM PRODUCTION WITH ADVANCED BIOTECHNOLOGY AND GLOBAL REACH

D.P.D. Ltd (Date Palm Developments) is the market leader for production of Date Palm plants by tissue culture. Pioneers in the field, DPD has nearly 40 years' experience in the production of high quality, disease-free, true-to-type micro-propagated Date Palm plants. We produce the highest quality Date Palms available on the market today, and have so far supplied over 3 million plants to 40

countries all across the Date growing world. Production takes place in our high technology, state of the art laboratories and greenhouses near Glastonbury, in Somerset, U.K.

We carry out rigorous screening using the latest biotechnology methods to check for all possible disease-causing agents at the UK Government's Central Science Laboratories (FERA) in York. All of our production clones are DNA

fingerprinted to certify the variety using the latest PCR-based AFLP technique at Eurofins Scientific Analytics, world leading independent laboratory and testing service in France. Variety is confirmed by comparison against externally verified records of each individual fingerprint with that obtained from a known reference tree of proven variety and known location, as well as

our own large AFLP-based DNA-fingerprint database of varieties and clones.

Each part of our production process from raw chemical to final plant is accurately recorded and governed by our standard operating procedures with regard to quality, reproducibility and traceability. All plants are fully traceable throughout the laboratory and greenhouse production stages. This gives us the essential mechanism for control, monitoring and management of the production process.

We can arrange worldwide delivery by air-freight, with all shipments being accompanied by full shipping documentation. Prior to despatch all plants are carefully prepared and inspected by the UK's plant health authorities for a UK Phytosanitary Certificate, confirming their disease-free status and ensuring compliance with individual countries importing regulations.

We are able to offer year-round availability of a range of elite varieties, and have an established history of supplying to a wide range of customers, including Nurseries, Distributors, FAO programmes, various Ministry of Agriculture and individual projects. DPD is part of the Atul group of companies.

For more information, visit
www.date-palm.co.uk



HARNESSING PRODUCTIVITY AND QUALITY: THE ART OF GROWING CITRUS FRUIT IN GROW BAGS

In the realm of gardening and horticulture, there's an increase trend that's capturing the imagination of both seasoned gardeners and novices alike: cultivating citrus fruit in grow bags. This innovative approach not only offers a practical solution for limited space but also unlocks a realm of productivity and exceptional quality that surprises even the most discerning cultivators.

Unleashing Potential in Limited Space

In urban environments or areas with restricted outdoor space, the traditional notion of growing fruit trees may seem like a distant dream. However, the advent of grow bags has transformed this perception entirely.

These flexible, portable grow bags offer a versatile alternative, allowing citrus trees to flourish even in the most confined spaces like balconies, patios, or small backyards.

Optimal Growing Conditions

The magic of grow bags lies in their ability to mimic the natural environment of citrus trees while offering superior control over growing conditions.

These bags are designed to provide adequate aeration, drainage, and root insulation, fostering healthy root development and minimizing the risk of waterlogging or root rot—the bane of many citrus growers.

Furthermore, the absorbent nature of grow bags facilitates air pruning, preventing roots from becoming root-bound and promoting the growth of a robust, fibrous root system. This enhanced root structure translates to better nutrient absorption and overall plant health, leading to an abundant fruit production.

Enhanced Productivity

Contrary to conventional wisdom, citrus trees grown in grow bags often outperform their counterparts in traditional soil beds. The controlled



environment offered by grow bags enables growers to optimize factors such as soil composition, watering schedule, and microclimate, leading to accelerated growth rates and earlier fruiting.

Moreover, the portability of grow bags allows for strategic placement based on sunlight exposure and microclimate variations, further maximizing productivity. Whether it's a sunny spot on the balcony or a sheltered corner in the garden, citrus trees in grow bags can adapt and thrive, yielding a bounty of juicy fruits season after season.

Superior Fruit Quality

One of the most compelling aspects of growing citrus in grow bags is the exceptional quality of the fruits produced. The controlled growing environment, coupled with optimal nutrient uptake and root health, contributes to the development of fruits that are

not only abundant but also bursting with flavor and essential nutrients.

Furthermore, the ability to monitor and adjust growing conditions throughout the plant's life cycle allows growers to fine-tune factors such as soil pH, nutrient levels, and water availability, resulting in fruits that are consistently sweet, juicy, and free from common blemishes or defects.

Eco-Friendly and Sustainable

Beyond the realm of productivity and quality, growing citrus in grow bags offers environmental benefits as well. By utilizing space more efficiently and minimizing resource wastage, this method promotes sustainability and reduces the ecological footprint associated with traditional gardening

practices.

Additionally, the use of organic growing mediums and natural fertilizers in grow bags further enhances their eco-friendly credentials, ensuring that the fruits produced are not only delicious but also environmentally responsible.

In the pursuit of cultivating citrus fruit, the adoption of grow bags represents a paradigm shift in horticultural practices. By harnessing the power of innovation and technology, growers can unlock a world of productivity, quality, and sustainability that transcends the limitations of traditional gardening methods.

For more information, visit
www.growinnovate.com.au

TECHNOLOGY TO CHANGE THE FARMING & FERTILIZER INDUSTRY FOREVER



Dr. Natalia Faragoova,
Chief Soil Microbiologist

BIOR Biotech has launched a technology designed to be implemented on every farm, revitalizing soil health and rapidly reducing the use of synthetic fertilizers by 25-75%.

After more than seven years of research, development, engineering, and testing, BIOR Biotech is launching a unique, first-of-its-kind technology that every farmer worldwide can benefit from. 'BIOR' stands for 'BIO Reactor,' a pioneering technology that enables the continuous cultivation of soil microorganisms essential for soil health and optimal plant growth. This innovation allows farmers to produce biofertilizer (microorganisms) directly on their farms with minimal operational costs, as the technology automates all preparation, cultivation, and both ongoing and final quality inspections of the biofertilizer, powered by AI. During operation, the machine monitors and controls over 15 essential process parameters.

To mention just a few benefits:

- Up to a 75% reduction in nitrogen fertilizer costs and usage.
- Reducing CO₂ emissions to

nearly zero.

- A return on investment of up to less than one year (depending on farm size).
- Fully automated and AI powered machine.
- 15 additional key benefits, including enhanced growth, improved resilience to disease, drought, and various stresses, among others.
- Minimal operational costs and very low energy consumption.
- A unique autonomous microscopy system for qualitative and quantitative quality control.

There are around 650 million farms in the world, and for approximately 13 million of them, the investment in BIOR technology can pay for itself within two years. BIOR Biotech is set to reach the market at the end of 2024, and we aim to

deliver at least 1,000 units to the market in 2025.

Every piece of soil on planet Earth contains all the nutrients plants need to grow. The problem is that these nutrients are not directly available to the plants; they need microorganisms to assist in making them accessible.

For more information, visit
www.biorbiotech.com





ROOTED IN EXCELLENCE: MARISHA COCO'S PATH TO HYDROPONIC SUCCESS

Introduction to hydroponic substrates:

In the ever-evolving realm of agriculture, hydroponic substrates have emerged as a game-changer, offering a revolutionary approach to cultivation. By eschewing traditional soil-based methods in favor of nutrient-rich mediums, hydroponics allows for precise control over plant growth and yields, all while conserving water and space. At the forefront of this green revolution stands Marisha Coco, a beacon of excellence in the realm of coco coir products.

Unveiling Marisha Coco's commitment to excellence:

Established in 2007, Marisha Coco has carved a niche for itself as a leading manufacturer and exporter of premium coco coir products. Armed with ISO 9001:2015 and GMP certifications, the company boasts a formidable reputation for delivering nothing short of excellence. Their

journey spans two decades, marked by an unwavering dedication to quality and innovation.

A testament to quality:

Marisha Coco's success hinges on its unwavering commitment to sourcing the finest raw materials, ensuring every product meets the highest standards of quality. Renowned in the South Korean greenhouse industry, Marisha Coco's substrates have garnered acclaim for their superior performance and reliability.

Empowering growth through innovation:

Central to Marisha Coco's ethos is its dedicated labor force, whose expertise and diligence drive the company's success. With clients spanning more than 10 countries, Marisha Coco has cemented its position as a global leader in the industry.

Introducing greenwall:

Among Marisha Coco's stellar lineup

of products, GreenWall stands out as a biodegradable vertical gardening solution. Engineered to perfection, GreenWall boasts root-friendly EC and pH levels, ensuring optimal plant health and vitality. With its unmatched water-holding capacity and air-filled porosity, GreenWall offers a sustainable and efficient alternative for urban farming enthusiasts as well as architecture expertise

A vision for the future:

As Marisha Coco continues to push the boundaries of innovation, the company remains steadfast in its mission to empower farmers and gardeners worldwide. With a keen eye on sustainability and a passion for excellence, Marisha Coco stands poised to shape the future of agriculture, one coco coir substrate at a time.

For more information, visit
www.marishacoco.com



GENIUS: DISCOVER THE FERTILIZERS THAT MAKE PLANTS CLEVER IN NUTRIENT ABSORPTION

Made in Greece by Humofert SA

Genius series of fertilizers contain water soluble macronutrients (N, P, K) combined with trace elements and an organic agent. The organic agent contained in Genius helps in the chelation of trace elements and the better absorption of macronutrients. Genius fertilizers are made of high purity raw materials, which do not contain impurities and heavy metals. When diluted in water, they are perfectly dissolved and they do not create sediment in the tank. They are available in various N-P-K formulations, in order to cover the nutritional needs of all crops and to offer growers the possibility to choose the most suitable fertilizer for their crop.

Benefits of Genius fertilizers:

- They give plants exactly the nutrients they need to grow
- Help each plant assimilate the right quantity of nutrients necessary for it, on the best time
- Maximize the use of nutrients in plant cells and tissues
- Achieve the maximum yield potential

For more information, visit
www.humofert.gr

Genius

totally water-soluble fertilizers develop plants that

Absorb the nutrients they need to grow

Assimilate the quantity of nutrients it is necessary for them

Maximize the use of nutrients in their cells and tissues

Uptake the nutrients when they need them

Achieve their maximum yield potential

Make your plants clever!
Fertilize them with **Genius fertilizers** •



Available NPK formulations:

20-20-20
10-48-8
19-19-19
5-10-40
30-10-10
6-6-43
15-30-15
15-5-30+2%MgO
18-18-18+2%MgO

(Tailor made formulations upon request)

- Produced by raw materials of high purity
- Chloride free
- Ideal combination of Nitrate, Ammonium and Urea Nitrogen
- High charge of trace elements
- Fortified with organic elicitors

with the guarantee of:

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INNOVATION & AUTOMATION IN WEED CONTROL



German Firm Mantis ULV-Sprühgeräte GmbH, the recognized manufacturer of MANKAR ULV-systems and in addition known for environmentally friendly weed control with hot water under the name BioMant, continues to be innovative!

The latest development is based on a successful collaboration with Abemec from the Netherlands, a dealer for e.g. the French agricultural robots from Naïo Technologies. Oz, the smallest robot from Naïo, but also larger Robot-models, can now be equipped with a specially designed MANKAR ULV-spraying system. This pressure-less ULV system efficiently and economically sprays conventional herbicides, mixtures, and biological herbicides. Different models exist, such as with one or two spray shields and different spray widths and these machines are ideal for weed control in row crops.

"Through deepening our cooperation with dealers and

manufacturers of autonomous vehicles, MANKAR ULV-technology is making its way into the latest generation of 'Smart Farming Systems,'" says Hiske Weissmann, Managing Director of Mantis ULV-Sprühgeräte GmbH. "The ULV-spraying systems are perfectly suited for economical and targeted spraying of most liquid preparations, as much less product and hardly any water need to be transported compared to conventional spraying technology. The MANKAR-spraying systems are thus not only an ideal complement for robots but also for drones," Weissmann adds.

With 50 years' experience in the development, production, and sales of professional spraying systems for

a variety of application areas and industries, Mantis offers high quality sprayers for the most efficient and user-

friendly application of liquid preparations. As a specialist in professional weed control, Mantis provides spraying systems for herbicides, bio-herbicides, and hot water.

In addition to devices for weed control, Mantis also offers MAFEX® ULV spraying systems for crop protection (e.g. for potatoes, fruit and silage), ROFA spraying devices for insect control and disinfection, as well as various MANTIS ULV® spraying systems and components for the health sector and other industries like prefab concrete or food processing.

For more information, visit
www.mantis-ulv.com
or by email: mantis@mantis-ulv.com

NEW WEAPON IN THRIPS CONTROL WITH VESPIFORMIS-SYSTEM

In the ongoing battle against invasive leaf-dwelling thrips species,

Biobest is launching Vespiformis-System.

Containing Frankliniopsis vespiformis, this predatory thrips actively searches for prey on the leaf improving control strategies.

Challenging leaf-dwelling thrips

"Invasive leaf-dwelling thrips species have become a major challenge in sweet pepper and ornamental crops," says Ines De Craecker, product manager for beneficials. "Originating in South-East Asia, they can infiltrate crops on imported cuttings as eggs – which can be difficult to detect. Once established, the adults inflict damage by piercing and scraping leaf surfaces, reducing its photosynthetic ability and causing cosmetic damage to ornamentals such as Gerbera. Moreover, their potential to transmit plant

viruses further emphasises the urgency for effective control measures."

Traditionally, thrips control strategies have primarily targeted flower-dwelling species, such as Western Flower Thrips (*Frankliniella occidentalis*), employing natural enemies like *Orius laevigatus* and *Amblyseius cucumeris*. However, the unique traits of invasive leaf-dwelling thrips – larger size, hairy bodies, and preference for leaf habitat – render current solutions insufficient, which often results in growers resorting to broad-spectrum sprays.

Targets thrips on leaves

"Vespiformis-System targets invasive thrips where they reside - on the leaf," explains Koen Merkus, IPM and pollination specialist. "Unlike existing commercial beneficials, that are limited to specific thrips stages or habitat preferences,

Frankliniopsis vespiformis actively seeks out and consumes all developmental stages of thrips."

Biobest has applied its knowledge and experience to develop a large-scale rearing system giving reliable and high-quality supply of this predatory thrips. Supplied as 1000 adults in a sustainable, biodegradable carton, Vespiformis-System is advised as a curative measure for thrips.

Effective sustainable control

"Vespiformis-System is a valuable tool in combating leaf-dwelling thrips infestations, ensuring crop health and productivity," says Ines. "Compatible with other biological solutions, its unique features make it a reliable and effective solution for sustainable thrips control."

For more information, visit
www.biobestgroup.com





Greenhouse ■



BASF expands its offering for sustainable food production: Its certified compostable biopolymer ecovio® can now also be used to manufacture black twines used to grow annual fruit and vegetables in commercial greenhouses. The grade ecovio® T 2206 is certified industrial compostable according to EN13432. This means that after harvesting the twines can be collected together with the plant residues and transported to industrial composting facilities (depending on local regulations) where they biodegrade. With this new end-of-life option for twines, persistent microplastics in organic waste can be avoided while at the same time more green waste can be turned into valuable compost. The industrial compostable ecovio® thus supports organic recycling and helps to close the nutrient loop to achieve a circular economy.

Twines made of ecovio® T 2206 can be used to help creepers like tomatoes and

cucumbers to climb upwards in greenhouse structures in many climates from Europe, South America to Asia and Canada: Tests show the twines' excellent performance until the end of the crop cycle. After harvesting farmers do not have to laboriously separate the twines from the plants but simply collect them together for composting. The certified industrial compostable twines do not only show benefits for farmers but also for manufacturers: ecovio® T 2206 can be produced on standard polypropylene (PP) machinery for twines.

More BASF biopolymers for agricultural applications

BASF's biopolymers portfolio for sustainable agriculture and food production also includes the certified soil-biodegradable grade ecovio® M 2351 (according to EN 17033). It was especially developed for mulch films used in agriculture and horticulture to increase the yield, speed up harvesting as well as to save water and herbicides. Mulch films made of

INDUSTRIAL COMPOSTABLE BIOPOLYMER FOR GREENHOUSE TWINES

ecovio® M 2351 are completely and biologically degraded by microorganisms like bacteria and fungi that exist naturally in the soil. Farmers can simply plough the mulch films made of ecovio® M 2351 back into the ground after harvest. This saves time and money - and it helps to avoid persistent microplastics in agricultural soil which would occur, if farmers used conventional mulch films made of non-biodegradable polyethylene (PE).

**For more information, visit
www.ecovio.basf.com and
www.biopolymers.basf.com**

SIGNIFY FORESEES A BRIGHT FUTURE FOR VERTICAL FARMING

The rise of vertical farming is a striking development in plant cultivation around the world. Until now, the emphasis has often been on producers developing their “own” cultivation concepts for herbs and leafy crops. However, Anne Jancic, segment marketer for vertical farming for the Philips LED solutions for horticulture at Signify, expects vertical farming will develop in the next decade into a strong, full-fledged sector, in which producers, suppliers and supply chain partners work together more closely. According to her, such collaboration is needed to add momentum to two things: the development of digital, intelligent and automated cultivation and the introduction of new product/market combinations with special added value.

Optimization through automation and digitization

Vertical farming is capital and energy intensive compared to outdoor or greenhouse cultivation. As a result, the cost price of the product is usually higher. Innovative automation and digitization technologies are increasingly helping to make cultivation more productive and efficient, and to improve the interaction between hardware and software. This gives the grower the opportunity to gain better insight into processes,

coordinate them and improve the entire farm. From sowing seed to packaging and from orders to stock management. In this optimization process, the input of technology and knowledge by strategic partners from the supply industry and the sales chain is given more space and impact than in the past. This means that successful concepts and possibly other business models will be scaled up at an accelerated pace.

New product/market combinations

The long-term perspective for vertical farming remains positive. The number of consumers who are willing to pay a little more for fresh, tasty and vitamin-rich food that fits into a healthy diet is growing every year. Complete control over the growing conditions, independent of the location, including the light spectrum and intensity that is offered, allows to affect the growth rate, plant architecture and shelf life of crops, and also to emphasize specific elements, such as vitamins, minerals and flavor components, to a greater or lesser extent. “For example, with Philips LED lighting, we have already succeeded in growing arugula with twice as much vitamin C, bok choy with more vitamin K and dietary fiber, and strawberries with a higher sugar content. Cultivating to generate certain compounds is not only of interest for

the food industry, but also for other applications, such as the biochemical and cosmetic industries,” Jancic adds. “There are numerous opportunities for product range and market expansion, including in market segments that don’t necessarily revolve around edible crops. For example, growing crops with compounds that have special health, medicinal, aromatic or cosmetic properties.”

Long-term knowledge partner

Jancic: “As a global market leader in horticultural lighting, we invest structurally in researching crop optimization using Philips LED technology. This is done in the Philips GrowWise Research Center in Eindhoven, at independent research institutes such as Wageningen University & Research, and in practical settings at our customers’ locations. We enjoy sharing the knowledge, insights and experiences we have gained with our business partners. It facilitates faster refinement of autonomous cultivation concepts and business models, efficient cooperation within the chain, and makes scaling up easier and less risky. As a market leader and pioneer in crop and variety-specific light and growth recipes, this makes us a valuable long-term partner.”

CERTHON LAUNCHES LETTUCE YIELD FORECASTING SOFTWARE WITH 95% ACCURACY

Thevi, a revolutionary yield forecasting software package, gives lettuce growers the certainty to plan effectively, make informed decisions and optimize pricing strategies. Certhon has developed Thevi specifically for lettuce growers and it is applicable to all types of lettuce. With Thevi, lettuce growers can forecast future crop yields with unprecedented accuracy to ultimately achieve the best yield for produce. This harvest forecasting software gives the grower the ability to control output and thus ensure their supply reliability.

In today's dynamic market, with fluctuating energy prices and large acreages to manage, green fingers alone are often no longer enough. Moreover, the strong position of retail demands high delivery reliability. That is why agronomists and engineers within Certhon started researching crop forecasting in the Certhon Innovation Centre in 2022. This was done, among other things, using installed cameras that

continuously take images of the crop.

With the knowledge gained from crop surveys and images, Certhon has developed Thevi. Thevi features advanced software with deep learning technology that analyzes and compares images from the greenhouse. With that data, Thevi can then make extremely accurate yield predictions, with up to 95% accuracy. These predictions take into account influences from both inside and outside the greenhouse, such as the amount of LED lighting and the weather. All harvest predictions are accessible to the grower through a user-friendly dashboard.

Mark Delissen, Founder and Managing Director at Deliscious, and one of the first users of Thevi, emphasizes the positive impact of the software on their operations, "We use Thevi on a weekly basis and have gained significant benefits. The dynamic forecasts of our lettuce weights are remarkably accurate. Even with changes both inside and outside the greenhouse, the

forecasts remain reliable. As a result, we have been able to communicate better forecasts, allowing us to serve our customers even better."

"As Certhon, we see the special relationship between plants, technology and growers," says Lotte van Rijn, CEO of Certhon. "With Thevi, we have created something that brings exactly that together, by integrating our plant knowledge with innovative technology. Our ability to translate knowledge into concrete solutions like Thevi shows our commitment to support growers with resources and tools tailored to their needs and challenges."

Certhon will share more about this advanced lettuce crop forecasting software during GreenTech Amsterdam, from June 11 - 13 at the Rai. Interested parties unable to attend the event can request a demo and more information by contacting Certhon directly.

For more information, visit www.certhon.com



The TWINPACT design splits the plunger into upper and lower sections connected via a triangle rod.

1 0 years ago, KUHN introduced its revolutionary TWINPACT double plunger technology for

large square balers. Available on the SB 1290 iD model, the patented design generates compact and well-shaped bales without increasing the load on the machine. This results in up to 25% higher bale densities in dry crops compared to conventional balers.

High-density bales, low power requirement

The KUHN patented TWINPACT double plunger system is an intelligent way to reach extremely high bale densities. As a result, in dry straw conditions, SB 1290 iD balers produce up to 25% heavier bales compared to conventional balers. In the meantime, excessive peak loads on the machine are avoided, resulting in a low power requirement. This brings profitability to the baling enterprise, in both

conventional crop production and the most challenging environments where energy crops are grown for biomass operations.

TWINPACT double plunger explained

The TWINPACT plunger is divided into an upper and lower section connected with a triangle rod. With each plunger cycle, the bale is hit twice. By working on a smaller area, the impact force can be kept equal to increase bale density. Despite the heavier bales, the load on the machine is comparable with a conventional 120 x 90 (4 x 3) baler, eliminating the need for an oversized driveline, flywheel and main frame.

For more information, visit www.kuhn.com

TWINPACT DOUBLE PLUNGER TECHNOLOGY CELEBRATES 10 YEARS

KUHN's TWINPACT double plunger technology was introduced 10 years ago and is available on its flagship SB 1290 iD baler.



COST-EFFECTIVE AND SAFE WATER REUSE EMPOWERS GROWERS TO ACHIEVE MORE WITH LESS



improves disease resistance in plants. Importantly, GOgen™ achieves this without introducing harmful residues like salts or heavy metals.

Thirdly, GOgen™ translates to operational efficiency and reduced costs. A lower organic load in the water means less biofilm buildup, resulting in less frequent maintenance needs for irrigation systems. Additionally, on-site generation of hydrogen peroxide eliminates the need for transporting and storing hazardous chemicals, streamlining operations and reducing costs.

Healthy crops, healthy environment

Improved water quality and reduced disease pressure, facilitated by GOgen™, contribute to a healthier root zone for plants. This translates to improved crop performance and potentially increased yields, all while promoting sustainable water management practices.

Finally, GOgen™ ensures a safe environment for both growers and the surrounding ecosystem. Peroxide UltraPure™, the core element of GOgen™ systems, breaks down into oxygen and water, leaving no harmful byproducts behind. Additionally, GOgen™ requires minimal user intervention and seamlessly integrates with existing irrigation systems. The system's chemical-free operation fosters a safer work environment for growers.

For more information, visit www.hpnow.com

Global water scarcity presents a significant challenge for the horticulture industry.

Balancing efficient water use with optimal crop production requires innovative solutions. On-site green oxidation can address these challenges by enabling cost-effective, safe and sustainable water reuse in greenhouse operations.

Balancing water use with healthy crops

Recirculating irrigation water offers a method for water conservation, but it can harbor pathogens that threaten crops that quickly spread to the whole operation through recirculated water. Traditional disinfection methods often leave harmful residues, impacting crop and substrate health.

A safe and sustainable solution

On-site green oxidant generation offers a safe and sustainable solution. GOgen™ systems generate such a green oxidant, Peroxide UltraPure™,

an ultra-pure form of hydrogen peroxide, to effectively eliminate waterborne pathogens and enhance plant health.

Protecting plants against pathogens

GOgen™ effectively eliminates waterborne pathogens in recirculated water, fostering a healthier growing environment by protecting plants from a variety of harmful diseases.

The system also maintains clean water, free from algae, biofilm, and organic matter. This, combined with a boost in oxygen levels, promotes healthier root development and



DUBAI FARMS INITIATIVE GAINS MOMENTUM WITH BUMBLEBEE FARM'S COMMITMENT TO LOCAL AGRICULTURE

A movement to support local agriculture and foster sustainability, H.H. Sheikh Hamdan has launched 'Dubai Farm', an initiative aimed at supporting Emirati farmers and enhancing the region's agricultural landscape. Embracing this noble cause, Bumblebee Food, a leading provider of ready-made meal plans for babies and toddlers, have partnered with different farms in Dubai to align with the goals to meet the vision.

The vision for Dubai Farms is to revolutionise Dubai's agricultural landscape, Bumblebee Food stands at the forefront of this transformative journey, by supporting local farms and making environmentally conscious practices by reducing carbon footprints. Bumblebee Food has a small family-run farm, which produces a modest array of vegetables and fruits. The produce is entirely pesticide-free, chemical-free, non-GMO and clean, they aim to boost

their production to meet growing demand.

Aligned with the Dubai Social Agenda 33 objectives, Bumblebee Food is dedicated to promoting local farming and sourcing ingredients exclusively from local farms. This partnership supports the development of the agriculture sector and enhances the sustainability of crops, all leading to making Dubai's agriculture more productive and sustainable.

In an era dominated by imported goods, which is now changing due to technological advancements in agriculture, the emphasis now rests on the importance of local agriculture in Dubai, and the need to develop and sustain it. Bumblebee Food has already taken the lead by sourcing all its ingredients from local farms. Not only are they championing the cause of local farmers, but they are also adhering to the ethos of sustainable production.

Bumblebee will continue to support local farms as they aim to support the agricultural sector into becoming a key strategic pillar for the government of Dubai to achieve self-sufficiency.

For consumers seeking the finest quality ingredients for their little ones, explore Bumblebee's diverse range of products and learn more about their commitment to local agriculture by visiting their website at www.bumblebeefood.com.





CAN COMPOSTING SUCCEED IN HOT, DRY CLIMATES?

At Kohshin Engineering, we often receive inquiries about the possibility to compost in regions with minimal rainfall and high temperatures. What is our answer? Yes, not only is it possible, but it's also the optimal method for converting manure and organic waste into a valuable resource that nurtures crops. While many farmers traditionally opt for drying manure as a means of disposal and enhancing yield, Kohshin offers a different approach. Let's explore the difference between drying and composting.

Dried manure, due to its high salt concentration and potential for nitrogen leaching, can be detrimental to plants. As moisture evaporates during drying, salts like sodium chloride and potassium chloride become more concentrated, leading

to soil salinity buildup over time. Excessive salinity can deprive plant roots of water, causing dehydration and damage, and interfere with nutrient absorption, even if the manure initially contains beneficial nutrients. Additionally, dried manure can release nitrogen too rapidly upon application, risking leaching and groundwater contamination.

In contrast, composting is a controlled process where organic materials, including manure, decompose. Microorganisms break down the organic matter, producing stable compost rich in humus-like material. Composting stabilizes nitrogen, providing plants with nutrients gradually and minimizing environmental risks. Furthermore, composting enhances the water retention capacity of arid soils,

making it particularly beneficial for regions with low precipitation levels. This not only promotes plant growth but also helps to conserve water resources.

With our composting machines, transforming manure and biowaste into premium, pathogen-free fertilizer is simple. We've designed our equipment to assist farmers in transitioning from low-quality, soil-damaging practices to producing high-quality fertilizer, boosting yields and income.

In summary, while dried manure may harm or damage plants and soil health, composted manure serves as a valuable soil amendment, fostering robust plant growth and soil fertility.

For more information, visit www.kohshin-s.jp



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MYCOTOXICOSIS: A BIG THREAT TO POULTRY

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Mycotoxin is hidden enemy for poultry farming. Mycotoxin become worldwide problem due to high incidence and level of occurrence in animal feed. Increase in feed cost has just aggravated this problem. Mycotoxin have high potential risk to public health as well. According to the FAO approximately 25% of the world's agricultural products is contaminated with mycotoxins, and this contamination maybe due to saprophytic fungi before harvest of these crops while they are still in the field, during the process of harvest, and even after harvest during the storage of these. The most common poultry feed

ingredients contaminated by mycotoxins include - Maize, Wheat and wheat by-products and Soybean meal. Storage condition of grains and environment factors are major factors for development of mycotoxicosis. Aflatoxins (AF), zearalenone (ZEN), ochratoxin A (OTA), fumonisin (FUM), trichothecenes such as deoxynivalenol (DON), and T-2 toxin are some of the mycotoxins that can significantly impact the health

and productivity of poultry. In general, contaminated feeds usually contain more than one mycotoxin.

Extreme weather conditions, heavy rain and drought lead to plant stress making them more susceptible to fungal infections. Mycotoxins are small and stable metabolites produced by fungi which can contaminate a wide variety of crops. The contamination of food and feed by mycotoxins is a global safety issue due to their adverse effects on human and animal health. In livestock & poultry, mycotoxins lead to important decreases in performance (growth, feed efficiency or reproduction issues) and consequently losses of revenue for farmers. Common effects mycotoxin in poultry are reduced feed intake, poor weight gain, poor feed efficiency, poor growth performance,





Mycotoxins vary in their chemical structures, which results in vast differences regarding their chemical, physical, and biochemical properties. While considering the great variety of mycotoxin structures there is no single method, which can be used to deactivate mycotoxins in feed. Therefore, different strategies have to be combined in order to specifically target individual mycotoxins without impacting the quality of feed. The best-known method for mycotoxin deactivation is "binding" with the use of binding agents, which are referred to as mycotoxin binders, adsorbents.

immunosuppression and poor hatchability along with increased mortality.

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Prevention and Control of toxin in feed by :- [TOXX/L](#)

Being an industry pioneer,

GLOCREST & its peers, has more than half a century of combined expertise in the development and manufacturing of nutrition products - developed broad spectrum economical toxin binder – [TOXX/L](#). It counteracts mycotoxins in three ways – By silicate binding, Mycotoxin destruction and by Liver protection.

[TOXX/L](#) contains – MOS, PVPP, Copper oxime, Choline chloride and Sodium butyrate, Humic acid, Activated charcoal and HSCAS. It binds polar and non-Polar mycotoxins e.g., Aflatoxins, ochratoxins, Ergot poisoning, Deoxynivalenol, zearalenone, T2 toxin, Fumonisin, etc. [TOXX/L](#) is safe and efficient and economical toxin binder.

Role of Humic Acid in [TOXX/L](#) – It helps to stabilise the intestinal microflora to helps

nutrients absorption. It acts as antibiotic like substance as alternative to growth promotor. It is one of most safe organic acids. It has unique action to bind moulds and fungus outside body as well as when feed is under storage. It acts as synergistic with other essential nutrients.





KLAREMELK: YOUR PARTNER FOR YOUNG ANIMAL NUTRITION

As a family business, Klaremelk has been at home in nutrition for young animals for more than 60 years. Together with our national and international customers and partners, we always strive for better. We think from the point of view of the animal, so that we can make maximum use of the genetic potential of the young animal, with an eye for animal welfare.

We continuously improve based on knowledge and innovation, so that we can deliver constant top quality products to ensure optimal returns for the future. Because we keep calves and also trade in calves, we know what is going on in practice and we can test everything extensively.

Fit for future

As a family business, we find sustainable relationships extremely

important and we want to be next to our customers and partners in the chain. We always offer customization and can deliver specific compositions, in smaller quantities, perfectly tailored to every situation. The farmer or customer can contribute ideas about compositions. We go for a personal approach, short lines and fast response time. National and international. We are always available, whoever in the company and prefer to stand next to our customers and partners, wherever they are, in order to give the best possible advice. Our focus areas include:

- Production of milk replacers for calves, piglets and lambs
 - production of milk replacers for veal calves and rosé beef
- Veal meat production at own and contracted farms
- National and international sales of nutrition for young animals
- National and international purchase and sale calves

- Intensive guidance and counselling services with regard to nutrition and rearing of young animals

- Continuous research and development in the field of nutrition and market developments

The history of Klaremelk dates back to the 1960s. H. Klarenbeek, Baker of profession chose at that time, because of penchant for calves and his extensive knowledge of high quality ingredients, to switch his production into producing milk replacer for calves. Passion and perfection combined. Key ingredients for success and satisfied customers. Klaremelk is nowadays a medium-sized company where the third generation shares the same passion and perfection, like their grandfather. Custom made young animal nutrition with the flexibility for individual wishes, needs and circumstances.

For more information, visit
www.klaremelk.nl



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