

# Germany : all the latest on asparagus

**The ExpoSE trade fair, which took place in November in Karlsruhe (Germany), welcomed more than 6,000 visitors. The pressures of rising production costs and the need to add value to asparagus were perceptible during this international meeting of the sector, especially at the first International Asparagus Meeting.**

BY GUY DUBON

**M**ore than 400 exhibitors showed off their products at the ExpoSE asparagus and berry fairs and at the ExpoDirekt fair for direct sales. Despite concerns about the show, Simon Schumacher, General Manager of VSSE, Association of Asparagus and Strawberry Producers of the South, said he was satisfied with this edition, which saw a higher attendance than expected in a positive and dynamic atmosphere,

**The Dutch manufacturer Engel has received one of the “Innovation-Best of 2022” of ExpoSE from Simon Schumacher, organiser of the fair, for their asparagus ridger EcoSpader 2030.**



**Eight specialists presented their country's asparagus production at the 1<sup>st</sup> International Asparagus Meeting co-organised by VSSE and Asparagus World magazine.**

and with some exhibitors forging unexpected links with Egyptian and Swedish visitors.

## **Production cost & difficulty of recruiting labour**

The ExpoSE fair also hosted the first IAM (International Asparagus Meeting) co-organised with Asparagus World magazine. In a European market totalling about 300,000 tons, major player Germany (120,000 tons) has experienced a 15% drop in production and consumption. German technicians are finding the increased production and

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of **International Asparagus Meeting** on:  
<https://www.expo-se.de/forums-lectures/international-asparagus-meeting>



**6,000 visitors participated in the ExpoSE exhibition, specialised in asparagus and berries which brings together 400 exhibitors.**

labour costs are making some farming methods no longer profitable. In the first half of the last decade, Germany experienced a large increase in output, followed by a sharp drop in production since 2017. It was also in 2017 that asparagus consumption started to fall significantly in a country which had previously been Europe's asparagus capital. The same is true for all of the eight IAM stakeholders. Common concerns are mainly focused on the difficulty of recruiting labour for harvesting, which has led to several prototypes of harvesting

robots, such as one for green asparagus made by Muddy Machines currently under development in the United Kingdom (see next page). However, the labour costs highlighted by the speakers show marked differences: ranging from €35 per day in Greece to €17.63 per hour in the Netherlands. Given the difficult 2022 campaign, Christian Befve, international consultant at IAM, is leading a project for a European observatory of asparagus production. *"The 33<sup>rd</sup> Spargeltag - asparagus day - addressed multiple technical issues, such as the use of plastic films, the prevention of browning of the spear, and the robotisation of harvests,"* said Isabelle Kokula, asparagus advisor and organiser of the IAM event.



# Innovations for asparagus and strawberries

**The German exhibition ExpoSE, specialising in techniques for the production, harvesting and packaging of asparagus and strawberries, welcomed more than 400 exhibitors and some innovations concerning in particular harvesting assistance and even robotisation. New innovations were also seen, to address concerns about agroecology, sustainability of systems and recycling. Part of the exhibition, expo Direkt is also dedicated to direct sales.**

BY GUY DUBON



## Engels

*a ridger for agroecology*

Designed by the Dutch manufacturer Engels, the EcoSpader 2030 asparagus ridger was awarded one of the "Innovation-Best of 2022" at ExpoSE. More than a ridger, the EcoSpader preserves the plant cover of the inter-row and allows an agroecological approach by promoting the improvement of soil quality. To do this, the machine groups the volume of soil available for the mound using disks. It works the soil in depth without touching the crown in order to form a mound with a homogeneous soil to facilitate asparagus growth. The height of the mound is fixed, only its width can vary thanks to sensors and cylinders integrated into the machine. The machine can be used in plantations with an inter-row starting from 2.20 m.



## Strauss

*prototype of a harvesting robot*

Strauss, a specialist in asparagus harvesting and packaging, presented a prototype of a robot for the harvesting of green asparagus. The harvesting arm is placed in a controlled light environment (covered cell) where asparagus (location + size) is detected using cameras. A picking arm, suspended and mobile thanks to pulleys, picks and deposits the asparagus on a conveyor tray. According to the manufacturer, the system is intended to be "rustic and efficient" and to harvest 2,000 to 3,000 asparagus per hour and facilitate the maintenance of the machine. The machine works autonomously on the plot and can change row by itself. By analysing the images, the forecast of the next day's harvest may be ensured. Finalisation of development and demonstrations to take place in 2023 with availability in 2024.



## Böckenhoff Folien

*recycled plastic films*

This supplier ensures the recycling of plastic sheeting, covering films and pocket films used in asparagus cultivation. After collection, the plastic films are shredded, washed and cleaned to remove all dirt and then baled for recycling. The service is charged at 110 € per ton of films.



## Hermeler

*56 tines for a bedformer*

Hermeler, specialist in all the mechanisation of asparagus production, from the bed to the bunch, presented its new Leofan 56 bedformer, the latest in a range of 6 bedformers for white and green asparagus. This powerful bedformer makes it possible to make mounds with large distances between rows. It is also suitable for double-row plantations or older asparagus fields. The Leofan 56 is equipped with a rotor of 100 cm in diameter of 56 tines (while the other bedformers have 24 to 32) requiring tractor power of 160 hp.



## Daios

*tunnel ventilation*

Daios, the plastic film manufacturer presented a new tunnel cover film. The cover, made of polyethylene of from 90 to 150 microns, designed for covering an 8.40 m tunnel, is equipped with a 1.20 m wide ventilation "box". It consists of a perforated film and a cover film, placed at the ridge of the tunnel. This box ensures both the seal of the tunnel and its superior ventilation. According to the manufacturer, it is possible to reduce excessive summer temperatures by 5°C. The film is already available in Spain, Italy, Germany and Mexico.



## Tenrit

*peel your asparagus yourself*

"Faites-le vous-même" = "do it yourself", this is what Tenrit offers with this adaptation to the direct sale of its automatic asparagus peeler. The basic peeler element is equipped with an automatic asparagus feeding conveyor that starts when the first asparagus is placed on it and it has a recovery tray reduced to the size of an asparagus bunch. It will take the customer/consumer 20 seconds to peel his one-kilo bunch of asparagus.





## Christiaens

*total harvesting of green asparagus*

“Christian” is a harvester for green asparagus designed on the concept of “total harvest” already used by this manufacturer for white asparagus with his “Chris” harvester. The machine is equipped with a cutting bar, a conveyor belt and distribution for crating and sorting asparagus. All asparagus is harvested every 5 days. According to the manufacturer, the waste rate (particularly asparagus which is too short) is 20%. The loss is compensated by a harvesting yield (2 hours per hectare) and a very low harvest cost. The machine is also equipped with claws to ensure mechanical weeding.



## Ringo Plast

*refrigerated boxes*

The Ringo Plast Company offers insulated crates of different sizes that can contain from 5 to 10 kg of asparagus (or other produce) in order to maintain the temperature for 6 to 8 hours and preserve the freshness of the product. They can also be equipped with additional freezing plates that improve shelf life.



## Bejo

*new late variety*

Bejo 3199 F1 is a new variety from the breeding program that gave rise to Cumulus, Prius and Cygnus. Bejo 3199 F1 is a late variety that comes in the April-June production window with a medium calibre and more than 50% asparagus being 22–26 mm. According to the breeder, the taste quality of Bejo 3199 F1 comes second just after the Cumulus reference.



## Kesse Böhner

*self-service micro-marketplace*

This micro market designed in a container is the commercial evolution of self-service in a small space. The customer enters this micro store, under video surveillance, using a bank card. Once inside, the customer weighs out and pays for the products installed on the shelves and in refrigerated cabinets. Several modules exist, the 18 m<sup>2</sup> (6x3 m) one costs 60,000 € all inclusive.



## Coming soon – **a herd of green asparagus harvesting robots**

### **The UK's Muddy Machines to use new funding round to build a small fleet of Sprout robots for the 2023 asparagus harvest season**

BY JULIE BUTLER

**D**emonstrating how a small herd of robots can work together to harvest asparagus is on the horizon next season for Muddy Machines. That's one way the AgTech and robotics company plans to use a new round of seed funding totalling £1.5 million (over €1.7m) announced in August for its Sprout harvesting robot. The company's technology allows farmers to precision harvest crops like asparagus. It says Sprout – now on its 3<sup>rd</sup> prototype – can already drive through fields harvesting accurately for up to 16 hours a day before needing a recharge,

therefore hugely increasing the picking window. The new round of funding will be used to strengthen the company's engineering team and build capacity to cope with more widespread adoption of its technology. It will specifically focus on building a small herd of Sprout robots for the 2023 asparagus harvest season – all communicating with each other to autonomously harvest whole fields of asparagus – as well as generating initial revenues; continuing with the development of different crop harvesting capabilities; and planning production of the next





generation of lightweight, battery-powered Sprout robots. Muddy Machines was founded in 2020 by Christopher Chavasse and Florian Richter with a vision to use robots to sustainably solve pressing labour issues in farming. The company has previously won nearly £2.5m in grants from Innovate UK and DEFRA.

### **Sprout has the support of UK's largest asparagus grower Cobrey Farms**

Muddy Machines has been developing its Sprout robot through trials this year on Redhill Farm, in South West England. Part of Cobrey Farms, the UK's largest growers of asparagus, the startup has been provided with a portacabin office and barn to use as a workshop there. John Chinn of Cobrey Farms said it's generally believed that robotic selective harvesting of fruit and vegetables, such as asparagus, is still a few years away from being commercially available and viable. *"However, I believe Muddy Machines may well be the first to market with their asparagus harvest robot,"* he said, with harvesting of Tenderstem and cour-

gette likely to follow a few years later. In return for its collaboration, Cobrey Farms has been promised first right of refusal on the robots for asparagus harvesting for the first two years of their commercial availability. While there's been remarkable progress with machine learning and the ability to recognise harvestable asparagus spears – leaving young spears for another day and not trying to harvest a weed – the next challenge is to improve the mechanics of cutting them, Chinn said. The arrival of commercially available and viable robot harvesters for

asparagus won't come soon enough in the UK, where "the situation is desperate." *"It's not about cutting costs of labour, but our inability to find it. We have a 12-week season and this technology is vital if we are to harvest the crop,"* he said. With around 1,350 people needed each picking season at Cobrey Farms, labour is one of the biggest costs to his business and finding ways to save costs and become more efficient is crucial for survival. While farm machinery is generally getting bigger and heavier, which is bad for soil compaction, Sprout is fairly small and light, at less than half the size of the smallest car. With several robots working in one field, each using GPS navigation and communicating with each other to ensure that they do not overlap, soil compaction will be reduced, Chinn said. He is also looking at ways to provide electricity to recharge the robots by harnessing renewable energy on the farm.

Recent video of Sprout showing off its capabilities: <https://www.youtube.com/watch?v=8uyJcOLQibY>

# Innovak Global: 65 years as **a root specialist**

**The Mexican company marked its 65<sup>th</sup> anniversary by launching a new product portfolio.**

BY JULIE BUTLER

**C**onstantly bringing new innovations to the market is part of Innovak Global's DNA. And every two years, it brings together advisors, distributors and professionals with close links to it in order to share details of its latest advances. In July, 2022, over 200 people from all over the world attended the Innovak Evolution event in Cancún featuring talks by eminent scientists and

demonstration stations of the company's new technologies. It was there that the root biostimulation pioneer launched Pfenergy, its new technology named to reflect the use of polyphenol components as the source of energy for plants.

Innovak Global was one of the first companies in the world to study the root and its environment, considering it a vital component with great potential to increase crop productivity. Accordingly, it

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set up a knowledge centre called the Rhizosphere Center, where researchers develop solutions for root problems in different crops. By 2005, the company had developed its Root Dynamics Regulation (RDR) approach to understanding all the processes that take place in roots and their environment during the crop cycle. With a focus on maximising the productivity of crops in a sustainable way, RDR is constantly updated as the company generates new findings or develops new products addressing emerging problems in the fields. For example, Innovak Global recently launched Balox, a biostimulant based on polyphenols that addresses plant saline stress. This comes in response to the root stress issues now facing various

crops around the globe. Balox stimulates plants to generate their own osmolytes to face adversities in the environment, allowing better crop development amid salt stress.

Innovak Global's RDR technology covers five areas critical to crop development, starting with soil conditioners to improve plant establishment, followed by the previously mentioned root stress, such as that caused by saline stress. Then there is a focus on boosting root activity in crops, such as generating new roots, so as to improve nutrient absorption and fertiliser efficiency. Next is the rhizospheric environment and facilitating the beneficial interaction that exists between microorganisms and the roots, while the fifth area involves maximising root health so plants can better deal with the presence of soil-borne diseases that affect crop productivity.