

Avebe Magazine

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Avebe is stronger with BO Akkerbouw
‘We want everyone to come home safely from work’
A healthy water balance



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“As a cooperative, we see that we and our members are part of the solution.”

Welcome to the 11th edition of the Avebe Magazine, which covers the entire Avebe supply chain from field to customer. You can read about our growers' experiences with irrigation technologies, our colleagues from Operations explain what happens at the production locations during the intercampaign, and a customer tells how we achieve the best result by working together.

In short, there's plenty to talk about! It's not possible to write an article about everything, unfortunately, which is why I have used this foreword to mention a few extra topics.

First of all, I would like to mention the current geopolitical situation. The turmoil in the banking sector, high inflation and the resulting repeated interest rate increases have all caused economic uncertainty for many firms. We also notice this at Avebe: this global economic situation has reduced the demand for our products. To respond to these challenges, it's important to be agile, which includes focusing on cost consciousness.

Another issue is the Agriculture Agreement (Landbouwakkoord) in the Netherlands. It has unfortunately not proved possible to reach a consensus on the Agreement.

At Avebe, we have done our best to stand up for the interests of our members and the cooperative through the Dutch arable farming trade association (BO Akkerbouw) and the Dutch food industry federation (FNLI, Federatie Nederlandse Levensmiddelen Industrie). That has not always been easy, as there are sometimes conflicting interests. Various colleagues and members have worked very hard during the past few months, and I would like to compliment and thank them for their efforts. Although it has not proved possible to reach an Agricultural Agreement that all parties can accept, we will continue to do our utmost to ensure a healthy and sustainable future for our members and the entire sector.

The current situation is causing a great deal of uncertainty. It is essential that the negotiations lead to a long-term, sustainable and integrated perspective for the sector and the associated supply chain. As a cooperative, we see that we and our members are part of the solution. For example, our potato protein and potato starch are helping to meet the growing demand for plant-based products. We have an important role to play in the plant-based revolution by answering the growing demand for high-quality, sustainable ingredients for foods and industrial markets.

Another important political debate concerns catch crops. This has been ongoing for more than eighteen months. We have worked hard to push for the addition of starch potatoes to the list of winter crops. And successfully – the starch potato is officially on the list! That's good news for starch potato growers, as it means our members are not obliged to harvest their starch potatoes before 1 October and then to sow a catch crop. Starch potatoes continue to grow after 1 October and fix more nitrogen in that period than the planned catch crop.

Another topic I would like to highlight is our new strategic period, *'Accelerate and strengthen: Build together on sustainable growth'*, which starts on 1 August. This strategy focuses on strengthening the core of Avebe, accelerating our position in new, plant-based markets and developing a new horizon. Collaboration, taking responsibility and development are the core values of this strategy and are expressed in the 'Play to win' programme. Leadership is an important part of 'Play to win', which is why we launched the Avebe leadership programme in March. The objective is to promote

flexible leadership, which means asking ourselves: taking all the developments around us into account, what sort of leadership do we need to keep achieving our strategic goals? All those in leadership roles, from team leaders to the EC, take part in this programme, which focuses on five core competences: innovating, connecting, changing, reflecting and realising. We organise leadership days each season, which we call 'learning journeys'. By the time this magazine is published, most participants will probably have already completed their second learning journey. This shows how we are taking great strides towards developing our leadership abilities at Avebe.

Finally, I would like to thank all our colleagues and members for their efforts. Some have already been on holiday, while others will pack their bags soon. I wish everyone a calm and relaxing time, and of course I hope you enjoy reading this magazine!



“Collaboration, taking responsibility and development are the core values of our **'Strengthening and accelerating'** strategy.

An aerial photograph of a vast agricultural field during sunset. The field is divided into long, straight rows of dark soil. In the foreground, a blue tractor with a green trailer is moving across the field. The trailer is filled with a dark substance, likely fertilizer or seed. The sky is a warm, golden-orange color, and the horizon is visible in the distance with some trees and buildings. A dark green circular graphic is overlaid on the bottom right of the image, containing the main text.

Avebe is stronger with **BO Akkerbouw**.

For Royal Avebe, collaboration with our members and clients is essential, as well as with other companies in the sector. BO Akkerbouw, the Dutch arable farming trade association, plays an important role in this process. Avebe is a founding member of the trade association, which represents and supports the interests of the arable farming sector. Peter Smale, Public Affairs Manager at Avebe, and André Hoogendijk, director of BO Akkerbouw, explain the partnership and why it is so important. >>

>> BO Akkerbouw combines the strengths of twelve organisations in the arable farming sector. The organisation carries out cultivation-related research, advocacy and is involved with public affairs (see box about BO Akkerbouw). “It’s important to work together to tell a clear and unambiguous story,” emphasises Peter. “We also follow changes to laws and regulations or external developments, and we inform one another, co-ordinate communication and amend plans as necessary to make sure we keep going in the right direction.

As we’re a business-to-business company, not everyone has heard of us. While many people are familiar with Avebe in the northern Netherlands, we are less well known in government circles. We’re working hard to change that and the situation is improving all the time. Our participation in BO Akkerbouw helps us make sure officials and politicians hear our story.”

Common interests

While the twelve organisations that work together in BO Akkerbouw are sometimes competitors, the trade association focuses on their common interests. The parties collectively decide whether to tackle each challenge based on those common interests. If they decide to do so, they set up a working group of members with the most knowledge of and experience with the topic. “Our members are quick to agree and the co-operative spirit has always been part of arable farming. This makes it a very natural partnership,” explains André.

“BO Akkerbouw only supports initiatives that benefit the sector and have the support of all members. The working group agrees the objective for each project and prepares a plan to achieve that objective. The board decides whether to proceed based on the result.” Peter adds: “Of course there are sometimes disagreements, but we have a very good working relationship within BO Akkerbouw. I see many more common interests than conflicting interests.”

André agrees and emphasises that BO Akkerbouw does not aim to influence policy unless the topic is primarily focused on research and knowledge.

“A good example is the campaign against the decision to make the sowing of catch crops mandatory from 1 October. BO Akkerbouw campaigned for an alternative that also improved the water quality. A starch potato fixes more nitrogen than a catch crop can absorb after 1 October, for example,” says André.

Promoting an inspiring message

The partnership has resulted in various inspiring events, including the ‘Plant the Future Dinner’ by the Food Transition Coalition to promote greater consumption of plant-based products, which the trade association sponsored. Because most members are actively involved with this transition, BO Akkerbouw saw it as a perfect opportunity to raise its profile with dishes made from plant-based products. Avebe was certainly not left behind, explains Peter: “It was a success and a great opportunity to tell our story to members of the Dutch parliament and the Minister of Agriculture. They were enthusiastic about the macarons from Smaakaron, which contain our potato protein, and our dessert made from plant-based protein.” André: “It’s important to tell the wider world an optimistic story about how the arable sector can make a positive contribution to the image of Dutch agriculture.” To emphasise that message, all guests received a sustainable bag filled with plant-based products. André: “It really represented what arable farming is all about, with products from all competitors in one bag.”

Grüne Woche

This year, BO Akkerbouw had a stand at the Grüne Woche (Green Week) in Berlin for the first time. Avebe was one of the members present to represent Dutch arable farming. Peter: “It’s a consumer fair, which means it isn’t an obvious choice for us as a business-to-business company. Nevertheless, many policymakers also

Peter Smale,
Public Affairs Manager Avebe



Our members are quick to agree and the co-operative spirit has always been part of arable farming.

visit the fair to network. We were able to tell our story and presented information to the Minister for Nature and Nitrogen Policy. The fair was a good way for us to put ourselves on the map as a sector and as a company.” Peter believes this is important: “Many people aren’t familiar with the innovative side of the sector. We lead the way in innovation in the Netherlands, and Avebe is well placed to show this. Another issue is that many people don’t really understand how co-operatives work. Some people think that ‘big agro’ just wants to earn as much money as possible at the expense of farmers. But many of these companies are co-operatives that in fact aim to increase farmers’ earnings.”

Greater self-confidence

The trade association is presently working hard to develop its own vision for the future, ‘Space for the New Field’. This project offers a roadmap towards a sustainable future for the sector. It focuses on a compelling story in which farmers can run a stable and profitable business and all the links in the supply chain help and support one another. André: “The project also aims to accelerate the protein transition, and to produce more bio-based raw materials and sell them in the Netherlands and across Europe. This will involve dealing with issues related to crop breeding, soil, water and energy. While many of our members are already tackling these issues, we can expand and accelerate that process by working together. The arable farming sector has grown in confidence in recent years. After all, we have a great story to tell. It’s good to see that more and more people are hearing it. We’re on the right track together!”



André Hoogendijk,
Director BO Akkerbouw

About BO Akkerbouw

BO Akkerbouw was founded in response to the abolition of the productschappen (product boards) in 2014. Twelve organisations from the arable sector founded a trade association to promote the common interests of the sector and the development of sustainable cultivation methods. Another goal of BO Akkerbouw is to improve the profitability of arable farming businesses. BO Akkerbouw works with growers, traders and processors to promote the interests of the Dutch arable sector. The trade association also launches research programmes for growers. The organisation represents the sector in the political debate and works with supply chain partners to strengthen the entire sector.

“We are all part of growers’ crop rotation plans. In our sector, there are many common interests at stake. This means that joining forces is a good and logical idea, and not just when it comes to growing, but also for advocacy purposes. We make sure the voice of the sector is clearly heard,” says Peter. André Hoogendijk adds: “The arable farming sector primarily consists of co-operatives. Every crop is part of a rotation, so working with supply chain partners makes perfect sense.”

The organisation consists of: Agrifirm, Royal Avebe, Het Comité van Graanhandelaren (The Grain Traders’ Committee), Royal Cosun, Coöperatieve Zuidelijke Aan- en Verkoopvereniging (CZAV, Southern Purchasing and Sales Co-operative Association), Van Iperen, LTO Nederland, Nederlands Agrarisch Jongeren Kontakt (NAJK, Dutch Agricultural Youth Contact), Nederlandse Aardappel Organisatie (NAO, Dutch Potato Association), Nederlandse Akkerbouw Vakbond (NAV, Dutch Arable Farming Union), Plantum NL and the Vereniging voor de Aardappelverwerkende Industrie (VAVI, Potato Processing Industry Association).

Building on sustainable potato starch.

Knauf is a global manufacturer of building products. The company strives to achieve a sustainable supply chain without compromising on quality. That's why Knauf uses Royal Avebe's potato starch to develop new products. Dr. Norbert Wings, head of product development for ready-mixed compounds at Knauf, explains their success.



Dr. Norbert Wings, head of product development for ready-mixed compounds at Knauf

Knauf is a global manufacturer of building products, including plasterboard, insulation materials, finishing materials and façade systems. The company strives to achieve a supply chain that is as sustainable as possible and to supply products that contribute to a healthier living environment without compromising on quality. Wings: “Several departments at Knauf have already worked successfully with Avebe for many years. Our department, which develops ready-mixed products, has done so for four years.”

Sustainable alternatives

“To implement our sustainability strategy, we were looking for sustainable

raw materials for the products we develop in our department.” One of those raw materials is potato starch converted into starch ether from Avebe, which is used as a stable and easily adaptable ‘backbone’ for the product. Wings: “The structure of starch is perfectly balanced, which allows us to easily adapt the properties of our products. In the past, we used traditional chemicals such as cellulose, but that requires large volumes of energy and water and has a much greater ecological impact than starch. Starch ether fulfils the same role, but it is much more sustainable because it is plant based. We are also continually discovering new properties that we can use for further development.”

Working together towards sustainable solutions for the market

For Avebe, it's important to continue developing our products and knowledge in partnership with major clients in the market. Knauf is an important player in the market for applications for our building products. Marcus Meier, Avebe's account manager for Knauf and business development manager for construction, is working on this development with Knauf and the Industrial team at Avebe. There is a clear mutual interest in offering more sustainable solutions to this market. We see opportunities to grow together in this segment, and the signals we hear from Knauf and other clients clearly confirm this.

“Knauf is committed to taking sustainability to the next level.”



Consistency comes first

Nevertheless, there are challenges to be overcome in the transition to potato starch: “The starch is easy to process in our product development. However, because it is a natural product, you can’t just swap one raw material for another. We’re working closely with Avebe to identify the benefits and drawbacks and to resolve them.” The objective is to create a consistent, high-quality final product. It’s a step-by-step process. Wings: “We listen to our clients’ and representatives’ ideas and wishes. These are often the starting point for our research. We then test those ideas in the lab to see what needs to be adapted and how. We then attempt to scale up the production. Raw materials with consistent properties play a key role, which is why we also ask our suppliers for consistency. Our clients soon notice if our products change in any way.”

Clear communication

Knauf supplies to various market segments, from professional experts to DIY enthusiasts. “Our products are adapted to the specific tasks of each market segment. We must communicate

any product changes clearly, otherwise our reliability will be directly affected,” says Wings.

Sparring with Avebe

To protect that consistency, they regularly discuss ideas with the team at Avebe Innovation Center in Groningen, particularly when it comes to developing new concepts and final products. Wings: “We see the relationship with our suppliers as a lock-and-key system. We need to find the right key to open the lock. Once we think we’ve found the key, we see if it fits in our lock. If it doesn’t, we need to work together to make it fit. While that can sometimes be difficult, Avebe really helps us refine our products at application level.”

A dynamic process

Working together has major benefits for both companies: Knauf can improve their products and make them more sustainable with Avebe’s starch, while Avebe is involved with concept and product development. Avebe can also improve their market position in the construction industry by supplying sustainable ingredients. This makes it a win-win

situation, as both parties can benefit from each other’s expertise and innovations. Wings: “Knauf is committed to taking sustainability to the next level. Companies like Avebe are important to us as we tackle that challenge. We don’t just want to work on the development of products, but also to focus on other innovative concepts. We look forward to continuing to work together on this exciting and dynamic process. The team is always happy to help us and the partnership has been very fruitful. We’ve also already used a huge amount of potato starch.”

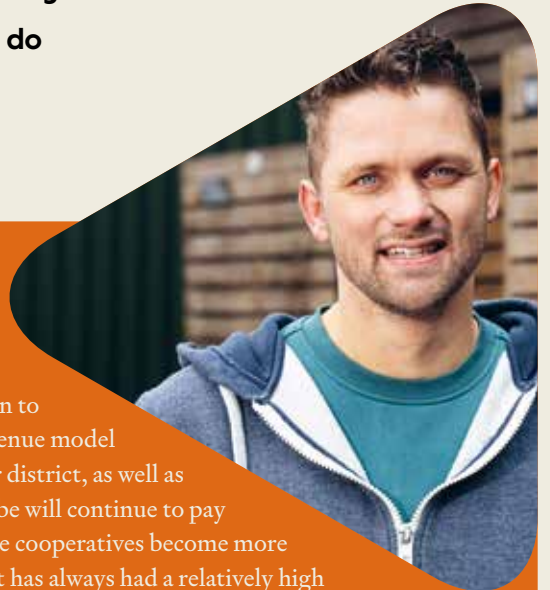
Avebe people in the picture.

Meet the people behind Royal Avebe. In each edition of Avebe Magazine we put a number of Avebe employees in the picture. What role do they play within the organisation? Read about it here.



Joost Köhler
Maintenance Manager

Joost Köhler has worked as a Maintenance Manager at Avebe KPW at the Lüchow location since 2018. He sees the conflict inherent in combining day-to-day processes with strategic developments as his greatest challenge. “Because the requirements and conditions have changed greatly in recent years, our maintenance activities must also evolve to guarantee the continued existence of the factory,” says Joost. The networks and standardisation between the factories are just as important as adapting rapidly to changing market conditions.



Robin Kuper
Chair of the South district

“We pay a lot of attention to combining a healthy revenue model with a healthy soil in our district, as well as our confidence that Avebe will continue to pay a competitive price as the cooperatives become more commercial. Our district has always had a relatively high percentage of mixed businesses. For these farms in particular, the obligation to grow cover crops will complicate the cultivation of starch potatoes. Here in Schoonebeek, I have increased the size of my potato crop by exchanging land with livestock farmers.”



Rita Minow
PLP employee

“Communication has been an essential part of all my tasks, which have included logistics, export administration, acting as a service partner for all IT questions and IT projects at KPW, preparing our weekly KPW News and maintaining the KPW website, because an open partnership with all internal and external stakeholders based on trust is crucial for a good working relationship, commitment and the success of our company.”

Markus Fehren-Evering
Farmer in Emsbüren, Lower Saxony

“The starch potato has been an important part of our crop rotation since 1984. We also keep pigs and chickens. Alongside the associated feed production, starch potato cultivation has been an economically secure source of income for our business ever since. However, potato cultivation is different every year, which is why we’re very happy with the continually optimised, personal advice from Avebe. They always find a quick solution to every issue, from seed potatoes to storage.”



Maik Mann
Farmer and board member of
the German Agrarprodukte Göhlen
eG company

“We have supplied potatoes to the location in Dallmin since 2000. While we already cultivated potatoes, the transition to starch potatoes had several new benefits. Because we can supply starch potatoes directly from the field, we don’t require storage, which is time and cost intensive. Thanks to the Waxy potatoes, which account for slightly more than 50% of our starch production, as well as the very wide range of other potato varieties, we can extend our harvesting season and successfully avoid peak moments.”

Jan Thale Hulshof
Member of the youth council for
the East district

“We discuss important topics such as legislation and regulations in the youth council. For example, we grow starch potatoes at a ratio of 1:2 on the arable farm where I work. The government will soon force us to switch to 1:3. There is also a lot of competition from products including onions and consumption potatoes. Although we are all different growers and we all have our own opinions, we work together to find ways of tackling challenges like these. I’m enthusiastic about the youth council.”



“We expect to achieve **energy savings of 40% to 50%** with this concept. That’s a lot!

Erik Koops, director Energy Avebe

More sustainable spray drying with Zeodry.

Drying products is an important part of the production process at Royal Avebe. However, this process consumes a great deal of energy, particularly with spray dried products. Avebe’s sustainable goals demand a better solution. The innovative zeolite technology should permit a more energy efficient process that delivers the same quality. The team behind the Zeodry project is exploring the possibilities of this technology.

“Spray drying is particularly important when processing our plant-based proteins and maltodextrins,” explains Erik Koops, Energy Director at Avebe and programme manager for the CO₂ and energy reduction programme. “It increases the product quality but is an energy-intensive drying process. This doesn’t align with the goal that our team is working so hard to realise: a reduction in CO₂ emissions of 30% by 2030. We have already taken great strides towards that goal, including by installing electric steam boilers and concentrating potato juice with membrane technology. We hope this drying process will be the next step.”



fascinating

the desired quality while significantly lowering the energy consumption of the system and making it more efficient and sustainable.”

Circular zeolite

The Zeodry project is based on a 15-year-old study by Wageningen Food & Biobased Research, formerly part of TNO. That study investigated the use of zeolite. Erik: “Zeolite is a natural mineral with an important double function: it can easily absorb moisture, while simultaneously producing heat. We use that residual heat to save energy. This means zeolite is very suitable for use in a drying process.” Energy-efficient dishwashers already use this property to dry dishes after the final rinsing cycle, but it has never been done before at a large scale in industrial driers. “The study showed how zeolite technology can work, the implementation was still a problem. A drying wheel was used in the study, but it couldn’t withstand the heat and mechanical stresses. It simply wasn’t strong enough,” explains Erik, and while the study still had untested ideas and concepts, the funding dried up and the research came to a halt.

Quality comes first

With spray drying, we can turn a liquid flow into a dry powder without using high temperatures. The method works by spraying a liquid into a chamber filled with hot air. This causes the water in the liquid to evaporate, leaving the dry matter. The process takes place in a large drying tower, in which large volumes of air are heated. Erik: “As these systems consume huge amounts of energy, we’re working hard to find alternatives. We have studied several alternative drying processes in recent years, but they couldn’t deliver the same product quality. The Zeodry project allows us to achieve

Major savings

“We have picked up where they left off together with our partners in the Fascinating programme,” explains Erik: “To us, the most promising idea is the zeolite drum concept, in which the mineral is securely fixed to a drum. We have used this as the starting point. We hope to install this drum in existing spray driers or to add it to the designs of new systems. We expect to achieve energy savings of 40% to 50% with this concept. That’s a lot! The production capacity can even be increased by pre-drying the air with zeolite,” adds Erik.

Consortium as part of Fascinating

The Zeodry project is part of the Fascinating programme, which focuses on everything related to the promotion and development of circular and sustainable agriculture systems in the province of Groningen. Several major parties are working together to develop sustainable production methods. Erik: “Thanks to the well-organised partnership, it’s much easier to work in a focused way. We have taken a structured and targeted approach to identifying areas where we can help one another. The government is also increasingly promoting the protein transition. Thanks to the subsidies from Fascinating, it was possible to launch and accelerate the Zeodry project. The main drivers of research in this project are Avebe, FrieslandCampina and Cosun. We are also working with five other external parties, including a spray drier supplier and a supplier of dehumidifying equipment.”

New standard

Erik expects to complete the first phase of the project by the end of 2024. “This phase focuses entirely on finalising the design on paper. The intention is that a second phase will follow, in which we will launch a pilot with the zeolite drum. In that phase, we will also study whether the technology can be applied to the spray drying process at Avebe. Of course, it’s important that we can guarantee at least the same product quality. We are aiming for success and hopefully a new standard for spray driers with zeolite technology!”



Jan Dusink (l),
David Fousert (m)
and Hylke Zijlstra (r)

We want everyone to come home safely from work.’

Safety is always essential, and that includes during maintenance on machines and systems. Good preparation, clear communication and planned double checks play an important role. As a Stop Coordinator for the food factory, Frans 't Hart spends every day planning safe maintenance. He explains what that involves.

The safety of the production staff on the line and the engineers who carry out maintenance on the systems is always the top priority. Frans: “We want everyone to come home safely from work. That’s why we standardise our procedures so that everyone knows what is expected of them.” The general safety rules are carefully checked during the regular safety rounds, including good lighting, fire safety and keeping the workplace

You can see it as a sort of Formula 1 pit stop, but a bit longer.

neat and tidy. During the Planned Preventive Maintenance rounds, the production line is completely stopped to allow maintenance to be carried out on silos and pumps etc.

A long pit stop

“Our Maintenance Department has three months to prepare for each Planned Preventive Maintenance round. They carefully consider what needs to be checked and possibly repaired and record it all in SAP. My team and I then prepare a safety plan. This explains exactly what needs to be done, where the engineers need to be and which safety procedures they need to follow,” explains Frans. “The objective is of course to keep the production line downtime to a minimum. You can see it as a sort of Formula 1 pit stop, but a bit longer.”

Key to success

Once the safety plan and all planned activities have been discussed and the work permits have been signed, the production line is halted and the machines are locked. “We use colour-coded locks that are kept in a special ‘lock box’. The key for this is placed in a box with its own lock. The key for this lock is kept in another closed box. The keys are kept by different employees, so no one can accidentally turn on (part of) the production line.” Once everything has been prepared, the engineers carry out an LMRA (Last-Minute Risk Assessment) and lock the system with a blue lock. They can then start working.

Awareness

Safety awareness has increased greatly in recent years, says Frans. As well as the double checks and standardised instructions for the qualified engineers, the production team is also informed about the works that will be carried out. Frans: “This means everyone knows what to expect. We also listen carefully to our employees and evaluate everything so we can be sure that the procedures are correct. If they aren’t, we discuss the required changes, which then become the new standard.”

A BRIEF INTRODUCTION: Robert Jan Bannink, QESH Director

Robert Jan Bannink has been the new QESH (Quality, Environment, Safety & Health) Director since 1 February. He is responsible for developing and implementing QESH policy at Royal Avebe.

Robert Jan is no stranger to Avebe, as he worked there on an interim basis in 2019. Robert Jan: “There’s a real no-nonsense mentality here and a good atmosphere. Everyone is very motivated to improve processes, which is a good starting point for getting to work.”

Robert Jan sees many opportunities to improve and standardise processes to make them faster and more robust. “In the past, QESH mostly worked reactively. It’s now time to start standardising, so we don’t need to keep reinventing the wheel. Preparing good procedures always includes talking to our colleagues on the work floor. It’s easy to put safety regulations on paper, but you also have to be able to follow them in practice.”

Robert Jan: “It’s also very important to make clear what we expect from one another, which is why we aim to become more transparent. This means sharing not just what is going well internally, but also what isn’t going well. While this can put you in a vulnerable position, it also motivates you to improve. We put safety into practice at the highest level and there are many opportunities for improvement. I’m enthusiastic about how Avebe approaches this process. We really tackle challenges together. That energises me.”



Robert Jan Bannink,
QESH Director

Mobile Maintenance App saves time and administrative headaches.

The Mobile Maintenance App helps engineers, work planners and schedulers save time and administrative headaches. “Because we asked for their opinion about the required features during the development phase, the introduction went very smoothly,” explains Sander te Riele, Engineering, Projects and Maintenance Manager.



“We had already decided to digitalise our paper workflow,” explains Sander. “When our partner Mendix proposed developing an app, we were very happy to accept. It wasn’t just a commercially attractive decision, but also exactly what we needed.”

Multi-disciplinary

A multi-disciplinary team consisting of people from various departments with a wide range of expertise was brought together to decide which features the app should offer and which employees would use it. Sander: “Because the team brought many different areas of expertise together, from engineers and work planners to schedulers and ICT staff, everyone was quickly convinced that the app would

be very useful. Repairing defects is our engineers’ main activity, but they also have to deal with administration. When we still used forms, they often still had to be filled in after the work was complete. Now the engineers can finish the administration as soon as the job is done.”

Scheduling module

He continues: “We also added a scheduling module, so that work planners and engineers can see all scheduled assignments. This shows how the app also contributes to high performance and multi-disciplinary working at Avebe.” The Mobile Maintenance App was launched this spring on the work floor in Gasselternijveen. Ter Apelkanaal and Foxhol followed later. Sander: “As a team,

we insisted that the app would only be launched once it worked properly, which avoided a lot of frustration. It’s really important that apps like these are user friendly and work properly, particularly during the introduction.”

External parties

Following the successful introduction of the app, we will also make it available to external parties that carry out maintenance work at Avebe. Our German colleagues in Lüchow and Dallmin are also interested.

Anna Paques' graduation assignment was her first introduction to Avebe. Now, seven years later and several professions later, she has a leadership role in Ter Apelkanaal. "There are many opportunities to discover your talents and grow, particularly if you take the initiative."



'Plenty of growth opportunities if you take the initiative.'

In recent years, Anna has had various roles at Avebe. She is now an Improve manager. In this role, she focuses on continually improving (technological) processes, the associated training programmes and development.

She tells about her career: "I never had a clear idea what I wanted to do in the long term at Avebe. I also don't like being in the spotlight. All the same, I did regularly tell managers, colleagues and others about my interests. In my experience, that opens doors for you. For example, when specific vacancies arose, people often said: 'Is this something for you?' That's how I ended up as a production planner. After half a year I became a Sales and Operations planner. This was a great role that allowed me to see how all our production sites work, which helped me form a broad picture of the organisation."

Avebe Young

You can go very far at Avebe if you take the initiative, says Anna. "There are plenty of people here who are happy to tell you about their work if you ask them. I advise young, new employees to sign up for Avebe Young. It's a great way to meet people from various departments. Even if you're not so young, I recommend joining activities or courses that are open to everyone at Avebe to gain new insights and create new career opportunities without forcing yourself to network." It's the same for everyone: it's good to talk to others about your interests and make use of the opportunity to look behind the scenes at other departments.

Feedback

Feedback can also help you discover your talents and your objectives, but it can be quite intimidating, says Anna. "The 'Continu FIT' meeting cycle, which focuses on performance, employability and talent, makes it easier to ask for and give feedback. It also gives you tools to help you regularly discuss these topics with your manager. You can record the process digitally, which helps you see the long-term picture and steer your career in the right direction."

She concludes: "Career development doesn't usually involve heading straight for your target. New insights and (personal) circumstances also have an effect. Reaching out to and staying in contact with your manager or Avebe's internal mentors can really help. By gaining experience and testing and sharing your ideas, you can discover your talents and opportunities for further development."

“Making better use of every inch of water.”

Improved water efficiency is an essential part of starch potato cultivation to protect the availability of water, a natural resource that is in very short supply.

Ekkehard Fricke, head of the Irrigation department at the Lower Saxony Agricultural Board and director of Veldberegening, a professional organisation for the irrigation industry, explains how water can be used efficiently in agriculture in Germany and, more specifically, how it can be integrated into starch potato cultivation:



Ekkehard Fricke, head of the Irrigation department at the Lower Saxony Agricultural Board and director of Veldberegening

“If we look back at the past few years, a clear trend can be seen: temperatures above the long-term average and falling precipitation levels. To protect their crops in these conditions, farmers need more water. While access to that water should be protected by water rights, it is often unavailable in sufficient quantities. We see that these rights cannot be increased further, and that water is available in very limited quantities at many locations due to insufficient groundwater reserves. All this means that water efficiency is becoming increasingly important in arable farming, including in starch potato cultivation. We need to use the available water as optimally as possible and to make even better use of every inch of water. Every company will have to be visited individually to increase the water

efficiency of the arable farming sector. It is also important to take factors such as crop rotation and soil type into account, as well as the priorities of farm managers. Every company will have to develop its own strategy to make the best possible use of the available water. For example, it may be

possible to use water more efficiently by adapting the crop rotation or prioritising the irrigation of different crops, such as potatoes or vegetables. Our task in all this is to offer support, to formulate the right measures for every business structure and to put these into practice in partnership with farmers.

Potatoes are cultivated in very diverse ways in our industry and the economic importance of potato cultivation can vary greatly from one farm to another depending on how the crop is processed. In most cases, however, potato cultivation is still a major source of income for farms. Due to major price changes, starch potatoes also continue to be one of the most economically attractive crops to irrigate. We have been developing several concepts during recent years to make potato starch cultivation as water efficient as possible without reducing the yield, so that farmers have access to enough water despite growing demand. In response to a research question from Avebe, we are currently attempting to determine how much we can limit irrigation and to

identify varieties that allow economically attractive starch yields with lower irrigation levels. Our common objective is to publish practical recommendations for irrigation, to identify efficient varieties and to pass this information on to farmers so that starch potato cultivation continues to be a sustainable and lucrative activity in the future despite the reduced availability of water.”



“You expand and deepen your knowledge during the intercampaign.”

The production lines in Gasselternijveen that were running at full capacity early this year are now silent. Potatoes are processed into starch, protein, fibres and protamylasse here during the campaign. All potatoes have now been processed, the systems have been rinsed out and the factory has stopped working. Gasselternijveen is now in the intercampaign. Michiel Valk (l), Production Team Leader, and Maurice Kooistra (r), Process Operator, explain what happens during this period.

>> Michiel and Maurice both work in one of the five production teams that are collectively responsible for the three factories in Gasselternijveen: the potato starch factory (AMF), the by-products factory (NPF) and the new Solanic factory, where protein is extracted from potatoes. This potato protein is used as an ingredient in foods such as plant-based meat and dairy substitutes. Each team has around 12 employees. “The operators work in different factories at different times. This keeps the work varied and you learn a lot,” explains Maurice. He joined Royal Avebe two years ago after an internship. Michiel has now worked at Avebe for almost 10 years and has been Operations team leader for the past three years.

Focus on maintenance

Although the factory is busiest during the campaign, the intercampaign is also an important time of year. “We use the intercampaign for maintenance and to prepare the factories for the next season,” explains Michiel. “The major cleaning operation begins as soon as production ceases. We clean the factory and its systems before the maintenance work starts. The team then secures the factory by locking the systems and removing the fuses so we can carry out the maintenance work safely.” Maurice adds: “We do most of the maintenance ourselves, which makes it really interesting. We’re actually engineers during the intercampaign. It allows us to expand and deepen our knowledge of all the processes and machines we use in our day-to-day work.”

Training

Both preventive and replacement maintenance are carried out during the intercampaign. “We check the condition of the systems during the campaign,” explains Michiel. “We monitor all systems to detect whether extra maintenance is required. If so, the maintenance team carries out this work during the intercampaign.” As well as major preventive maintenance, the intercampaign also allows time for employee training, including the mandatory safety days, forklift training and company emergency response drills. Michiel: “We attend training courses throughout the year, of course, but there’s more time now.”



Michiel Valk, teamleider Productie en Maurice Kooistra, procesoperator

Variety

“While some prefer to start the campaign as early as possible, I personally enjoy the period between seasons. We work normal day shifts from Monday to Friday and there are no irregular shifts. I also enjoy working on the machines,” says Michiel. Maurice: “I also always enjoy the intercampaign. As Michiel says, it’s nice to work day shifts, and it brings a bit of variety.”

Company ambassadors

The new strategic period starts in the summer of 2023. The targets in this strategy can only be achieved with the right people. The recruitment department is helping by ensuring that the right people are in the right place at the right time.

“Royal Avebe is a unique company,” explains Natasja Turksma, Recruitment Director. “As a cooperative, we are involved with the entire value chain, from crop breeding to cultivation and processing, as well as innovations that help our clients. We are also actively contributing to sustainability; for example, we are committed to the protein transition. **Our goal is to produce better plant-based nutrition for people and animals.** It’s great to be able to contribute to that goal as an employee and as a company.”

Employees are ambassadors

The current shortage in the labour market makes it increasingly important to share that positive message. “That’s why we rely on our committed colleagues, many of whom have worked at the company for decades. Some have even been here for 40 to 50 years! They really are our ambassadors. Avebe has always been a regional, down-to-earth cooperative. Our employees

are proud to work at Avebe and of the important contribution they make. Everyone really looks out for one another, and that makes it a special place to work. However, the outside world still doesn’t hear enough about what a fantastic company Avebe is and all the great things we do.”

Creating value

Natasja: “We try to get the most out of our precious potatoes and our precious employees.” Good working conditions, a pleasant atmosphere on the work floor and being a stable employer help us reach that goal. Natasja: “Everyone is valuable at Avebe. It’s great to be part of that. I’m proud of my colleagues and I hope they feel that they are seen and heard. Avebe is committed to that goal.”

Sustainable ambitions.

Within Royal Avebe we often talk about sustainability People, Planet and Profit (the three Ps) are often used. The idea is that every sustainable initiative should improve each of the three Ps equally. If one P is improved more than the others, the initiative won't stand the test of time, which means it isn't sustainable.



Avebe's ambitious sustainability targets

Our entire organisation is working to reduce our CO₂ emissions, water consumption and waste. We have also launched many initiatives to reduce the use of chemicals in our factories. Our clean label programme is a good example, while other sustainability programmes focus on reducing our energy consumption. For example, we have our own warehouses on location to reduce the need for logistical movements. We are also making greater use of green energy with solar panels and by installing e-boilers. Our operations in the field are also becoming more sustainable. Together with our members, we follow a sustainable cultivation programme, which reduces the use of pesticides. All this shows how Avebe is becoming more sustainable across the board.

The Ecovadis platform

We can improve our sustainability performance throughout the supply chain by working with our suppliers. Ecovadis is a global platform that helps companies evaluate the performance of their suppliers. Ecovadis covers more than 200 sectors in more than 175 countries, which allows them to analyse social, ecological and economic performance throughout the supply chain. Sustainability is the top

priority for companies of the future, and the greatest impact can be achieved by examining the entire supply chain.

Sustainable procurement

Ecovadis considers four aspects when comparing company performance:

1. Environment
2. Labour and human rights
3. Ethics
4. Sustainable procurement

Our Procurement department has already worked hard to increase our sustainable procurement score with Ecovadis. For example, we published a sustainable procurement policy several years ago. We have also sent all relevant suppliers a 'Responsible Sourcing Policy', which we asked them to confirm and sign. In the end, however, it all comes down to how motivated the supplier is to do business sustainably, which is why we have also organised supplier visits and a webinar. We strive to work with companies with sustainability in their DNA.

Sustainable initiatives by the Procurement department

Our sustainable procurement policy is specified in our general purchasing terms and conditions and is now also part of our supplier audits. As well as making agreements with suppliers, we

also pay attention to what we purchase. For example, we have reduced the use of road logistics by making greater use of rail transport. We are also using more sustainable ingredients in our production process. These include ingredients based on palm oil. All refined palm oil in these ingredients has been RSPO certified since 2021. The RSPO standard is the most important, independent, third-party sustainable palm oil standard. It protects the environment and the local communities that depend on it. The World Wildlife Fund supports this standard.

Gold medal

For all these efforts by the Purchasing department and its partners, plus the initiatives of our Legal, HR and Utilities departments, among others, we received a gold medal from Ecovadis! This puts us in the top 5% for sustainability in our industry sector. That is a fantastic result.



A healthy water balance.

Water plays a major role throughout Royal Avebe's supply chain, from cultivation to processing. The demand for water in the region is expected to grow in the coming years. Which challenges will this bring? And how can companies help to maintain a healthy water balance?

Rhine supplies less water and a large amount of water evaporates from the IJsselmeer. This means the demand for water sometimes exceeds the supply. This affects the water balance and means less water is available in the area we manage."

Maintaining equilibrium

Keeping the water balance in equilibrium is challenging. Francine explains that there are many aspects to consider: "On the supply side, making good national and regional agreements is very important to make sure the available water is distributed fairly. After all, we all get our water from the same source. On the demand side, we employ measures to make the water and soil use as efficient and resilient as possible. My team mostly focuses on future problems, including climate change, the effects of extreme weather, the self-sufficiency of the region and the use of sustainable innovations such as drip irrigation and good soil

management. We also make use of Blue Transition, a European subsidy scheme. In the Netherlands, this subsidy focuses on the Drentsche Aa and Veenkoloniën regions. We're also investigating ways of expanding the buffering capacity of the IJsselmeer, which should increase the water availability."

Sustainable alternatives

Francine believes that industrial and agricultural businesses bear a share of the responsibility for getting through dry periods. "Economic development is important for the region, but it can't come at the expense of the water balance. At the Water Authority, we're keen to work with businesses to find sustainable alternatives, such as on-site water collection and storage, or air cooling instead of water cooling. It's great to see that Avebe is open to working together and is committed to sustainable innovations for efficient soil and water use."

Francine Engelsman, a hydrologist at the Hunze en Aa's Water Authority, explains: "In normal circumstances, we have enough water in the IJsselmeer, the freshwater buffer for the northern Netherlands. However, in the summer period in particular, the demand for freshwater increases at a time when the

Irrigation technologies: precision watering.

Drip irrigation is an efficient and economical irrigation method with a low risk of disease, says Piet Mekkes from Geesbrug. However, the system is relatively expensive and labour intensive to install.

With drip irrigation, small quantities of water flow directly to the roots of the plants in the field through small holes in buried drip hoses. This saves a great deal of water. “It’s a great system. You achieve the same result as with traditional irrigation, but with less water,” says Piet, who runs a combined arable and poultry farm with his son Geert. “The system isn’t cheap, but because a subsidy was available, we could test it over a period of three years.”

Mekkes’ farm used the system to irrigate seven hectares of starch potatoes. “Because the drip hose must be placed close to the roots of the plant, we reinstalled the drip irrigation system every spring. We did so immediately after planting the potatoes before the first leaves grew. Irrigation is really easy once the system is installed.” Piet and Geert could easily turn the irrigation on and off and read measurements from the moisture sensors using an app on their phones. As well as the convenience of the system, Piet was also impressed by the result. “Because much less water evaporates than with traditional irrigation, we saved up to 70% water. The risk of disease is also much lower, as you only water the roots rather than the whole plant.”

Despite these benefits, Mekkes will return to traditional irrigation once the subsidy stops. “Installing the system costs a lot of time and money, and you don’t even know for sure whether you’ll need it that year. For us, the income from crops that earn relatively little doesn’t outweigh the cost of using drip irrigation. It’s a good system, but unfortunately not for our business.”



Strong potato varieties are very important for sustainable cultivation and can deliver major cost savings. Potato varieties that require less water can also contribute to reducing CO₂ emissions and have a lower environmental impact, because they are less dependent on pesticides.

“As well as water consumption, factors such as disease resistance, climate resilience, yield, market requirements and sustainability are also important when developing strong potato varieties,” says Hendrik Jan Schepel, a manager at Averis. “You also have to take rooting depth and soil type into account. All this demands a multifaceted approach to protect the quality of your soil and crop. Good varieties that can be cultivated without irrigation include Axion, Avamond, Avenger and Adelinde. They require less nitrogen and perform consistently well in various growing conditions.”



Sustainable Water Recycling: The Wolfsburg Model.

Hagen Reinbeck-Grube has been a farmer since childhood: corn, grain, and beets - that was his bread and butter business for a long time. But for the past three years, potatoes have become part of his portfolio as well.

“Potato cultivation has always appealed to me,” says the 43-year-old. “Previously, we lacked the technical equipment. Now we have an external partner who handles planting, harvesting, and loading completely.” Reinbeck-Grube’s farm and fields are located about four kilometers away from the huge complex of the Volkswagen main plant in Wolfsburg. “However, the sandy soils, due to long-term cultivation with different crop rotations, are very well suited for potato cultivation. My fields are rated at 18 and 43 soil points, with an average of around 26 soil points.” These are ideal conditions for the waxy potato variety, which now covers 34.5 hectares of Reinbeck-Grube’s cultivation area. And it is likely to expand in the future.

Like other farmers in the KPW regions of eastern Lower Saxony, Brandenburg, and Mecklenburg-Vorpommern, Reinbeck-

Grube has to adapt to prolonged periods of drought. “It’s a big challenge for all of us. Here in Wolfsburg, however, we are in the fortunate position of having access to a modern water treatment plant that allows us to irrigate our fields with purified wastewater from the third treatment stage.” Decades ago, the city of Wolfsburg began using its wastewater for irrigation on the loose soils of the surrounding villages. This led to the organisation of a wastewater association that has been developing solutions for the constantly increasing requirements for water quality for over 80 years. The method, known as the “Wolfsburg Model,” was even showcased at the 2008 EXPO in Zaragoza, Spain.

“The wastewater association provides us farmers with water, which we distribute to the approximately 1,500 hectares of irrigation areas through our self-

developed 77-kilometer-long pressurized pipeline system. We, as members of the wastewater association, finance and maintain the pipeline system ourselves. The water is primarily pumped into the pipeline system through two electrically driven and frequency-controlled pumps.” Naturally, the associated costs lead to discussions, but through a cooperative partnership, good solutions have always been found.

“The result is a sustainable water recycling system that helps preserve the groundwater. However, during vacation periods, less wastewater is available, so there is also the option to introduce a small amount of well water into the pipeline system. For this purpose, we operate a well gallery equipped with five electric submersible pumps that can be switched on when needed.”

Healthy soil, healthy crops: the role of green manure.

Soil fertility and the use of green manure can affect the ability of the soil to retain moisture. How exactly does it work, and what is the best way to use green manure? Gerard Hoekzema, managing director of the 't Kompas and Kooijenburg experimental farms set up by WUR Open Teelten, explains.

“A healthy soil is the cornerstone of a healthy water balance and thus also of optimal and healthy crop cultivation. Green manure can help. The soil structure in the spring after sowing a green manure is often better than if the soil had remained uncovered.” Gerard explains that green manure can also help to keep the populations of certain lesion nematodes under control, which can lead to better operational results. However, it is crucial to carefully select the right green manure.

Two sides

Green manure plants such as Japanese oats, fodder radish and tagetes can be grown as fully-fledged crops and can improve the soil structure. Gerard: “They add organic material to the soil and fix nutrients for the following crop. If you cultivate them correctly and the external circumstances are favourable, the crop will become less sensitive. This can reduce the need for artificial fertilisers and pesticides, while also improving the ability of the soil to retain moisture. However, there are two sides to the story. If you choose the wrong green manure

and don't cultivate it correctly, harmful soil pests can multiply, especially lesion nematodes in lighter soils.”

Optimal conditions

Even with the perfect green manure, it's important to continually monitor it. Gerard: “I see green manure as a fully-fledged crop and that's how I grow it. Cultivation is an interplay of many different perspectives. What works for one farmer won't necessarily work for others. External factors such as the weather also play a major role, which means you may sometimes have to irrigate more or less. The only thing you can do is optimise the conditions you grow in as much as possible. It's important to take plenty of samples and carefully monitor how your crop develops. This will help you understand your starting situation better and optimise the next stage of your crop rotation. Crops can't talk, but they can tell us a great deal.”



Gerard Hoekzema, managing director of the 't Kompas and Kooijenburg experimental farms set up by WUR Open Teelten

Accelerate and strengthen

Build together on sustainable growth.

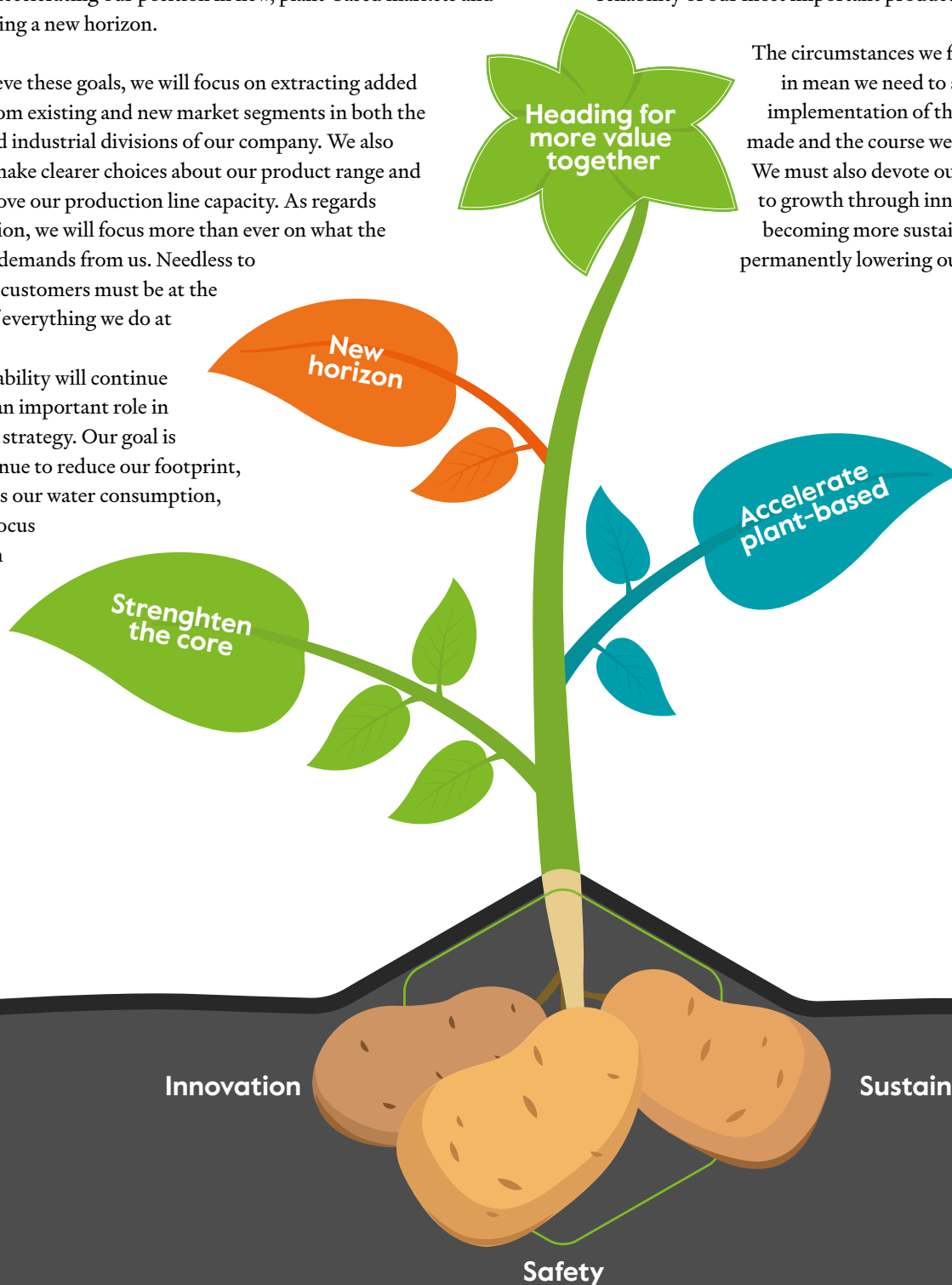
This is the title of our strategy for the 2023-2028 period. 'Accelerate and strengthen' focuses on strengthening the core of Avebe, accelerating our position in new, plant-based markets and developing a new horizon.

To achieve these goals, we will focus on extracting added value from existing and new market segments in both the food and industrial divisions of our company. We also aim to make clearer choices about our product range and to improve our production line capacity. As regards innovation, we will focus more than ever on what the market demands from us. Needless to say, our customers must be at the heart of everything we do at Avebe.

Sustainability will continue to play an important role in the new strategy. Our goal is to continue to reduce our footprint, as well as our water consumption, and to focus more on


circularity and extracting value from waste flows. It is also important to continue increasing the productivity, efficiency and reliability of our most important production lines.

The circumstances we find ourselves in mean we need to accelerate the implementation of the choices we have made and the course we have adopted. We must also devote our full attention to growth through innovation, becoming more sustainable and permanently lowering our cost base.




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