

# ANNUAL REVIEW / AVEBE

2013 / 2014

## GOING FOR THE LONG TERM

*cover story*

"We're responsible, together with all growers, for keeping the agreements that we make with each other as members of the cooperative. According to the three farmers AVEBE makes a lot of effort to offer a good price, also in the long term."

## WITHOUT AVEBE NO SWEET TREATS

*technology*

Tang Yuan has a permanent place in the freezer section of the Asian supermarket and is available in a whole range of colours and flavours. The food giant General Mills makes this innovative, transparent product with the unique Eliane starch.

## THE STRENGTH OF THE COLLECTIVE

*strategy*

A continuous supply of potatoes contributes to a predictable organisation and better use of market opportunities, and that makes the performance price more consistent.



# THE BASIS OF OUR AMBITIONS

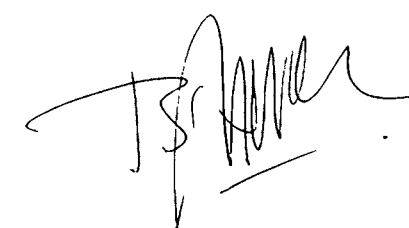
## **THIS IS AVEBE'S FIRST ANNUAL REVIEW**

THE PURPOSE OF THIS ANNUAL REVIEW IS TO TELL YOU HOW THINGS ARE GOING AT AVEBE AND WHAT WE HAVE BEEN WORKING ON DURING THE PAST YEAR. IT SHOWS HOW WE AS A COOPERATIVE ARE LOOKING TO WORK SUCCESSFULLY WITH OUR MEMBERS AND OUR PERSONNEL. AND HOW PROUD WE ARE OF THE DISTINCTIVENESS OF OUR UNIQUE PRODUCTS IN THE MARKET.

THE CENTRE OF THIS ANNUAL REVIEW SHOWS IN IMAGES AND FIGURES HOW WE HAVE PERFORMED DURING THE PAST YEAR. A YEAR IN WHICH THE MOST IMPORTANT GROUNDWORK WAS DONE FOR THE NEXT STEPS IN OUR STRATEGIC AMBITIONS.

WITH KIND REGARDS,

Bert Jansen



# A GIFT FROM NATURE

## innovation

**"Each potato contains a gift and AVEBE is currently the only one able to unwrap it," says Michiel Puttman, director of AVEBE Proteins & Fibres. That gift is potato protein, these days an accepted food substitute for animal protein and even eggs. Potato protein is no longer a niche product; it is becoming a mainstream product. AVEBE places the product on the food market under the brand name Solanic.**

The development of vegetable protein for uses in food for human consumption began seven years ago, and now forms an important pillar of AVEBE's strategy. Indeed, the biggest share of the overall investment budget is currently being devoted to potato protein, including the building of a new plant in Gasselternijveen. That was an important decision made at the right time: the special properties of potato protein give AVEBE a unique product. Potato protein has always been known to have a high nutritional value. That has to do with the composition of the amino acids - the protein building blocks. The content of essential amino acids and digestibility are important aspects of this. Potato protein achieves a higher score on these aspects than other vegetable proteins, such as soya, and can be compared with milk, for example. "In fact, AVEBE has already been working on protein for 30 years", explains Puttman. "To avoid burdening the canals with potato juice discharges we started coagulating it: injecting steam into the potato juice in order to extract the protein,

initially for animal feed." Seven years ago an important step ahead was taken when a small plant was built. Isolating the protein without heating it led to a completely new product with different specific properties designated for food for human consumption.

Puttman: "What started out as an idea gradually became a reality: as well as a number of unique nutritional properties, potato protein has some unique texture properties. That makes potato protein ideal for food segments in which consumers want to avoid allergens or animal products. The fact that we have ended up in the 'free-from' segment is down to the fact that we came up with the right product at the right time: we are acting in perfect harmony with all food and diet trends. It occurred to us that there was certainly something we could do with it, but we couldn't have predicted that those trends would go our way like this," says Puttman. The 'free-from' trend especially affects Europe. That offers

benefits especially in cases where food producers want to replace gluten, eggs, milk and gelatine. "A major producer of sauces and mayonnaises in Europe is a good example of this. We are also working on converting a large part of their product line from eggs to potato protein. "The 'free-from' trend has caught on less in America than in Europe.

The main problem in America is obesity. In this area there are opportunities for potato protein in terms of protein-enriched diet foods.

According to Puttman, the growing demand and an investment in the offing, the 'feed to food' mission is fully under development: The new plant is arriving at exactly the right time. Potato protein is no longer a niche product; it is becoming mainstream. That means that there is room to expand our range of premium quality proteins, says Puttman. "With a technology and infrastructure that makes us truly distinctive," he adds.

## WE VERY OFTEN REPLACE EGGS

## OUR PRODUCTS ARE ALSO CALLED VEGAN EGGS

## AMONG THE REGULARS

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AVEBE none the less has some growers who fail to meet their supply obligations. That has certainly been the case since the subsidies on potato farming were abolished. Explainable, but not acceptable, they agree. "We're shareholders," says Harry. "We're responsible together with all farmers for keeping the agreements."

## UNIQUE PROPERTIES

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The new, transparent Tang Yuan is a sweet rice dumpling made of waxy rice with a sweet filling, such as sugar, peanut butter or sesame paste. The uncooked dough is matt transparent. After cooking the dumpling is clear and transparent and the filling is visible. That is precisely what the Asian consumer wants to see.

## TRAIN AND TRAIN AGAIN!

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With no fewer than six teams, enough for 41 starting positions, AVEBE is getting ready for the four-mile run from Haren to Groningen's inner city. This is twice as many as last year's AVEBE entry, which goes to show how enthusiastic the runners are. "It really is great fun to take part in this as a company team."



# AT THE REGULARS' TABLE

interview

As a cooperative there is much at stake when it comes to AVEBE providing its members with added value. This is determined partly by the price AVEBE pays its members to grow the potatoes. In that context the cooperative makes every effort to pay its members a good price, both today and tomorrow. That is why the focus of the strategy introduced by AVEBE last year is placed sharply on raising that price step by step. Both in the short and the long term. The cooperative does this through innovations, cost price reductions, sustainability and market orientation.

In its almost one hundred years' existence AVEBE has regularly had to anticipate a variety of developments, some of which are within and others are outside of its sphere of influence. Cases in point include the recent abolishing of the subsidies for growing starch potatoes and the cancellation of the European minimum price guarantee. That gave the cooperative an opportunity to introduce a different way of thinking. As well as improving the price for the starch potatoes, the cooperative is working more than ever on raising the crop's yields and returns. This is illustrated by the 20-15-10 project that was started in 2012. The purpose of the project is to raise the yield per hectare. This is a challenging objective, which mainly considers how the returns on test fields, which already often exceed 15 tons, can be achieved in actual practice.

In practical terms this means: more from the field. We invited three farmers to a round table meeting to give their

opinions on AVEBE's strategy and the mutual interest of a healthy cooperative. At the regulars' table of café-restaurant De Boshof in Odoorn we spoke to Berend Jansema, Harry Prins and Bernoud Draijer about what it's like to farm with and for AVEBE. It could be coincidence, but all three are members of family firms that have been handed down from father to son for generations. Just like the membership of AVEBE. Each and every one of them are farming businesses with a varied growing plan in which starch potatoes form an important part of the acreage. Although a farmer can decide on his own growing plan, moving away from potatoes is not something to be taken lightly.

"Potatoes is the crop that involves the most mechanisation and is very labour intensive," explains Bernoud. "But it's also one of the company's biggest annual sources of income. Potatoes are a good fit for the operational side." None the less, there are big differences between



areas. The soil and weather conditions do of course play an important role. Harry mentions a time last spring when there were more than 90 millimetres of rainfall in a single night. And another 30 millimetres during the next few days.

The result? Where one farmer faces a natural disaster, the other has one-and-a-half kilos of potatoes under a stalk. "You do your best, but there comes a point where it's up to nature," adds Harry. At the end of the day it's all about how many

## PROJECT 20-15-10

close-up

The 20-15-10 project is all about increasing returns in the growing of starch potatoes. The theory: a yield of 15 tons of starch per hectare in the year 2020, with a buying price of 10 euros per 100 kilos of starch. Together with starch potato farmers, AVEBE, PPO Valthermond (Praktijkonderzoek Plant & Omgeving ('practical research plant & environment') of Wageningen

University) and the consultancy firms DLV and HLB are looking into ways of improving the growing process. The bar has been set high: a yield of 15 tons of starch per hectare is usually only achieved in exceptional cases. The participating farmers have set themselves the challenge of approaching this yield. Monitoring the growing process is an important part of the project. The emergence date is precisely

established, and the number of stalks and plants is counted. But the watering requirement is also determined. Yield calculations are made, also during the season. The points of improvement to be worked on in order to move gradually towards 15 tons of starch per hectare are then indicated for each plot of land.



## AS A MEMBER OF AVEBE I COUNT ON A FAIR PAYMENT FOR OUR PRODUCT

kilos of starch you produce per hectare. The starch price also plays an important role in the relationship with AVEBE. "Fair pay for the work that we do to grow the starch potatoes so that we as a company can do more than break even. So that we can fertilise and look after the crop. Those costs are going up, so I expect that to be covered by the price for my potatoes." A good price in both the short and the long term. Of course, a farmer can always decide on a different growing plan. That choice depends on the yield per hectare, but also on aspects such as mechanisation and labour costs.

"Potatoes are a relatively expensive crop to grow. But if AVEBE succeeds in improving the performance price, it will stay worthwhile," says Berend. "And that's how it should be, as potatoes

involve working all year round," adds Harry. "The difference between, say, wheat and potatoes has to be at least 500 euros a hectare," says Bernoud. "But we all stand to gain the most if AVEBE is stable. Harvests fluctuate enough as it is, so at least you have some certainty that way. It's never the very highest and never the very lowest. That's a good starting point." AVEBE none the less has some growers who fail to meet their supply obligations. That has certainly been the case since the subsidies on potato farming were abolished. Explainable, but not acceptable, they agree. "We're shareholders," says Harry. "And even though the prices for other crops fluctuate, we're responsible, together with all growers, for keeping the agreements that we make with each other as members of the cooperative." According to the three farmers AVEBE

makes a lot of effort to offer a good price. "AVEBE is innovative," says Harry. "With potato protein, for instance. That makes us unique in the world."

The 20-15-10 project is also regarded favourably. That minimum difference of 500 euros has to come from the cooperative itself, through innovation, lower costs and a more market-oriented operation. And on top of that there has to be an improvement in the farming yield. "All initiatives to keep the yield per hectare as high as possible are welcome," says Bernoud. "20-15-10 ensures that everyone thinks a bit more critically about what they're doing. And it's already been proved in practice that it's possible to produce 15 tons of starch per hectare." The way Bernoud sees it, it's a shared responsibility of AVEBE and the growers: "We have to

work together to ensure that what we grow and how we grow it keeps the price as high as possible." After all, the farming company of today is an enterprise with a large measure of professionalism. And a good farmer earns in a bad year what a bad farmer earns in a good one. Bernoud, Harry and Berend are in agreement: the relationship between AVEBE and the members is future-proof. Of course they'll continue to keep a close eye on what goes on at the cooperative, but as long as they do everything they can to pay out a good and consistent price, AVEBE remains a good bet to run a farm with. Both now and in the future.

## PERFORMANCE PRICE OVER 5 YEARS

PERFORMANCE PRICE FOR 19% STARCH	2013/14	2012/13	2011/12	2010/11	2009/10
<b>POTATO MONEY</b>	<b>71.27</b>	<b>72.54</b>	<b>63.91</b>	<b>57.77</b>	<b>45.74</b>
SUBSEQUENT PAYMENT AND RETURN	1.35	1.77	5.08	3.65	0.36
TOTAL PAID	72.62	74.31	68.99	61.42	46.10
UNALLOCATED RESULT	2.45	3.05	7.95	5.90	0.74
<b>PERFORMANCE PRICE</b>	<b>75.07</b>	<b>77.36</b>	<b>76.94</b>	<b>67.32</b>	<b>46.84</b>

## SOLVENCY

	2013/14	2012/13	2008/09
<b>GROUP EQUITY</b>	<b>195</b>	192.3	<b>163.4</b>
<b>LOAN CAPITAL</b>	<b>200.3</b>	244.0	<b>265.2</b>
<b>TOTAL ASSETS INCLUDING PROVISIONS</b>	<b>395.3</b>	436.3	<b>428.6</b>
<b>SOLVENCY</b>	<b>49.3%</b>	44.1%	<b>38.1%</b>

## ENERGY CONSUMPTION

LAST YEAR WE ACHIEVED A 5% REDUCTION

**OUR AIM**  
**25% 2017/2018 REDUCTION**



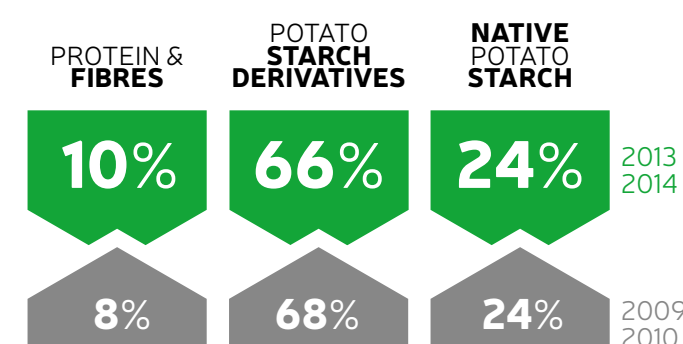
**ALTERNATIVE ENERGY USE**



**FEWER KILOMETRES**

WE COUNTER **SICKNESS ABSENCE** BY STAYING **ALERT** AND GIVING PEOPLE GOOD **COUNSELLING**. WE HAVE **LOWERED** OUR **SICKNESS ABSENCE** IN A RELATIVELY **SHORT** AMOUNT OF TIME **FROM 8% TO 4%**

## TURNOVER BREAKDOWN



## COOPERATIVE RESULT

EUR x M	2013/14	2012/13
TURNOVER	579.9	591.1
COSTS	564.8	571.1
<b>OPERATING RESULT</b>	<b>15.1</b>	<b>20.0</b>
BALANCE OF INTEREST CHARGES AND PROCEEDS FROM SECURITIES	-5.6	-7.3
TAXATION	-1.2	-1.3
<b>RESULT AFTER TAXATION</b>	<b>8.3</b>	<b>11.4</b>

## NUMBER OF EMPLOYEES

	AVERAGE NUMBER	PERCENTAGE FEMALE	PERCENTAGE MALE
2009/10	<b>1422</b>	<b>12.5 %</b>	<b>87.5 %</b>
2010/11	<b>1361</b>	<b>14.2 %</b>	<b>85.8 %</b>
2011/12	<b>1352</b>	<b>14.7 %</b>	<b>85.3 %</b>
2012/13	<b>1308</b>	<b>14.9 %</b>	<b>85.1 %</b>
2013/14	<b>1311</b>	<b>15.1 %</b>	<b>84.9 %</b>

## ACCIDENT FREQUENCY

THE NUMBER OF ACCIDENTS PER 1000 EMPLOYEES IN WHICH A DOCTOR WAS CONSULTED



OUR TARGET

**0.5**

## A GOOD EMPLOYER

Being a good employer is one of AVEBE's strategic objectives. This is expressed in a sickness absence percentage of less than 5 percent and is one of the basic conditions for the organisation's success. What better reason for AVEBE to build on a learning and thriving organisation? Director of Human Resources Management Jacqueline Niessen explains what that means.

"A thriving organisation stands or falls on healthy employees. But it takes more than health to thrive. It also has to do with job satisfaction, being able to adapt to changes and having enough time for leisure activities," explains Jacqueline Niessen. "People have to work until they're 67.

That asks a lot of employees, so it's important for them to stay fit and healthy during their working lives. But also afterwards. The employees are the people who make an indispensable contribution to AVEBE's success."



That is why AVEBE has introduced a broad range of measures to help employees to stay fit and healthy. A case in point is the *Gezondheidsbus* (Health Bus) for the Periodic Medical Examination (PME). Employees can use this facility to have aspects of their health checked, such as their weight, blood pressure, but also their sight and hearing. After the examination employees are given feedback in a face-to-face talk with a professional nurse. If necessary, they are given suggestions for improving their health.

"In the first round we offered the PME to 170 employees. 145 of them have made use of it. People are free to choose: we want to encourage them by giving them alternatives. And we can see that people are responding. When you hear people comparing their BMIs, it's safe to say that the commitment has proved successful."

This is just one of the examples intended to contributing to a sickness absence level of no more than 5 percent. "By staying alert and giving people good counselling we have been able to reduce sickness absence from 8 to well under 5 percent in a relatively short amount of time. The challenge is to keep it at this level. That's good for employees, but also for AVEBE: half a percent of sickness absence costs an average of half a million!"

**IF YOU KNOW WHAT YOU CAN DO AND WHAT YOUR ALTERNATIVES ARE, EVERYONE'S COMMITMENT AND ENTHUSIASM INCREASES**

"It's not just about physical health, but also mental fitness," explains Niessen. "That means not only being up to your job physically, but also being capable. We want good quality employees who are equipped to do their jobs." An important role is played here by the introduction of the Interview Cycle. Employees have three interviews a year with their managers in order to set individual targets. These targets are evaluated and adjusted where necessary on an interim basis. A performance appraisal is then held at the end of the year. "If you want to develop it's very important to know what's expected of you and that the manager knows what you need for that purpose. That can vary from supervision in the workplace to a training course," says Niessen.

According to Niessen this is an important precondition for AVEBE's ability to develop into a learning organisation; an organisation in which employees are proactive and play an active role in continuously improving the company. "We want people to take control themselves, and we encourage them to do so. That's part and parcel of today's good employment practice: you set the contours and leave the details to the employees." Last year AVEBE made a start with its job classification system. According to the HR director the changes it contains are a perfect fit in this respect. Modernisation and simplification are key to this. AVEBE is reducing the almost four hundred job descriptions to a much smaller number of job categories. This makes it easier for employees to see the areas in which they can develop and their career prospects. That makes it possible to work on continuously improving yourself and the organisation. A thriving organisation calls for vitality. Vitality for yourself and for AVEBE."



# STRATEGY WAS MADE FOR AVEBE

interview

**Bert Jansen, CEO and chairman of the board of AVEBE, has a mission: a lasting improvement of the performance price, to be achieved with the current strategy. Despite the abolition of the EU subsidies. Or perhaps even thanks to their abolition: this forces AVEBE to operate in an even more market-oriented and cost-efficient way. The objective: a potato price that is a match for wheat. It is up to Bert Jansen and his colleagues to make this happen. Under the watchful eye of the Supervisory Board, chaired by Hans Hoekman. We spoke to them both at the AVEBE information centre in Ter Apelkanaal.**

"Our strategy is all about continuity," says Bert Jansen. "And looking back at our history, that's not something that can be taken for granted. Where there was a link between a subsidy and the growing of starch potatoes a few years ago, we are now faced with the challenge of growing them without subsidies. With a situation in which we have to be a good partner for customers, farmers and personnel under today's conditions."

In common with many other cooperatives, AVEBE's quest for continuity is sought by finding a balance between a good payout price for the raw product and having sufficient resources to invest in the company. Put simply the strategy is all about how AVEBE can generate the financing needed for this, but in such a way that it fits in with the company's DNA. "We won't be trying to do things we don't know anything about," says Jansen. "We're operating a focus strategy in which everything centres on the starch potato and we are basing it on four pillars: market orientation, cost efficiency, innovation and sustainability."

AVEBE measures how the strategy is progressing against eight concrete targets. Fewer complaints, energy reduction, less sickness absence, a low accident frequency index, increasing annual production of top quality protein, growth in innovative starch products, more new business and cost reductions. "To make sure that the objectives are mutually reinforcing, we have consciously looked for the connection between the four pillars. That means, for example, that each sustainability target is linked to an innovation or cost target: healthier personnel means lower costs, innovation means increased added value, lower water and energy consumption means cost reductions, and so on," explains Jansen. "That means that the targets are not just ideal, but that they are also in keeping with the spirit of the times and how the cooperative is also

making itself more sustainable." AVEBE has informed everyone about the targets. "All stakeholders know exactly what they can hold us to account for in the years up to 2018," says Jansen. The strategy is supported by the Supervisory Board. Hans Hoekman, chairman of the Supervisory Board: "We've looked mainly at the big picture: the focus, viability and feasibility of the strategy: how do you make it measurable, how do you make it realistic? And it is of course important that all stakeholders are behind it. It was very important to the Supervisory Board that the strategy came from the company itself."

The implementation of the strategy is now well on schedule and according to Jansen AVEBE has taken clear steps ahead. That is found mainly in the conditions area, which means that the organisation is ready to continue to roll out the strategy. This must ultimately lead to a higher payout price to the members and sufficient investment in the company. That combination will guarantee continuity. To measure the performance price AVEBE compares the income that the farmer can achieve with starch potatoes with that from wheat. The cooperative seeks to achieve a potato balance per hectare that is at least 500 euros higher than that of wheat. "In financial year 2013/2014 the performance price fell slightly, but we were able to achieve the plus 500 euro target," says Jansen. "Taking the years together, there has to be a perceivable rising trend. Despite the fluctuations in supply and demand that we will always have to deal with."

Some areas are going according to plan: proteins appear to be feasible, as are the energy savings. But according to Jansen an extra push will be needed in other areas. Other than that the CEO is in no doubt that the strategy is having sufficient impact. "The strategy is on all agendas: management, personnel and members. We continuously

communicate on where we are, what's going well and what could be done better. And this is the one and only agenda." The implementation of the strategy has been positioned decentrally. The management has set the outline of the strategy, but the managers are responsible for their projects that contribute to achieving the overall targets. "This was a year of preparation, of getting ready to score," says Jansen, "at the same time we see that the strategy forms the big picture and that things will always crop up along the way. Our setting is changing. That means that despite the fact that the result and the performance price were a bit lower, we've performed decently given those circumstances and have put a lot of work into making sure that the strategy will be possible in the years to come." The two men agree that the cooperative is future-proof. "People are very clear about the principle of the cooperative," says Hoekman. It is essential that everyone keeps their agreements. "A continuous supply of potatoes contributes to a predictable organisation and better use of market opportunities, and that makes the performance price more consistent," says Hoekman. "The way Hoekman sees it one of the Supervisory Board's most important tasks is to look at the short and the long term. That means not just going for short-term success, but also making sure that the strategy bears fruit in the long term."

It takes time and effort, but AVEBE is operating a strategy that is a good fit for the company, which is hard to imitate and in which the value is found in the balance between the short and long term. The strategy of market orientation, innovation, cost awareness and sustainability is intended to ensure that the cooperative holds its own in the consolidation process taking place in the European starch industry.

YOU CAN DO MORE COLLECTIVELY THAN INDIVIDUALLY **NOW AND IN THE FUTURE**



## THE AVEBE OPEN DAYS INSPIRING AND INVITING

report

**New varieties, seed potato treatment and countering Rhizoctonia: these were the key themes during AVEBE's open days. Three themes in which there is much to be gained in terms of improving returns in starch potato growing. The open days at the trial and demo fields of AVEBE Agro are intended to ensure that there is enough time and space to collect and share information, but also to inspire.**

"Each arable farm is different. We therefore do not give 'growing instructions', but invite discussion. Each company, each plot of land, is different. It's all about gathering knowledge that you can use to optimise the yield and the balance of your own company," says Agro director Arjan de Rooij. Together with his team of account managers he looks back at successful open days.

The potato lifting demonstration on the last open day reiterated the point that it's about the entire growing process: from good seed material to lifting the potatoes without losses or damage. "By providing ways of increasing the returns on the growing process we are setting out to inspire and motivate. That means working on awareness," says De Rooij, referring to the trial with seed potato storage.

This trial once again highlights the fact that there is no single storage and preliminary processing method, but that the optimum circumstances depend strongly on the variety.

Important new varieties in the field were Actaro and Avito from AVEBE's own growing company, Averis. Avito stands out in particular for the improved phytophthora resistance: no infection was found despite the substantially lower number of treatments. Limited quantities of seed potatoes are available for both varieties, and growing will take place at trial scale in the year to come. That will yield valuable information about specific cultivation properties of new varieties.

## 6 TEAMS AT THE START OF THE 4 MILE RUN

health

**The 4 Mile Run in Groningen is the Northern Netherlands' biggest and most popular running event. A strong group of participants, a youth run and a large number recreational runners take the annual total to over 21,000 runners. A unique event that is all about cooperation and good sportsmanship.**

This year AVEBE took part in the 'company run' of the Groningen 4 Mile Run. No fewer than six company teams, enough for 41 places on the starting line, got themselves ready for the four-mile race from Haren to Groningen's city centre. This is twice as many as last year's AVEBE entry, which goes to show how enthusiastic the runners are. "It really is great fun to take part in this as a company team." Heading for the finishing line together with your colleagues! says one of the competitors. To maximise the challenge, one of the teams took part in the competitive run. The team took 38th place.

To make sure that the competitors turned up at the starting line properly equipped for the task AVEBE provided several running clinics overseen by a professional running trainer, addressing such aspects as running schedules, good running shoes and clothing, avoiding injury and healthy nutrition.

## WE HAVE BEEN NOMINATED AS BEST EMPLOYER

highlights

**AVEBE is among the 3 Best Employers in the Northern Netherlands. Nationally AVEBE occupies 34th position.**



The Best Employers study was carried out by Effectory and Intermediar and gives an objective judgement on employment practice in the Netherlands. 366 organisations took part in the study. AVEBE occupies 34th position in the category 'companies with more than 1000 employees. The result of the employee satisfaction survey is used to calculate the Best Employer Score. For this purpose the average is calculated for the questions about: satisfaction with the organisation, job satisfaction, pride in the organisation and subscribing to the objectives, offering space and opportunities for employees to perform optimally and showing appreciation for employees and their performance. Almost 70% of the employees took part in the employee satisfaction survey. AVEBE's average score in this study was a 7.4. The employees are most satisfied with the opportunities provided to perform and are proud of the organisation.

## ACCIDENTS DOWN QUALITY UP

highlights

**"Safety should be a matter of course. Everyone who comes through the gate here must also return safely home at the end of the day," says Eward Hofstede, AVEBE's Operations director. Safety is also an important spearhead in Operations.**

Work is carried out with running machinery, chemical processes and moving parts. Safety is therefore an integral aspect of working at the location. Studies are being conducted into process safety, investments are being made in systems, education and training and everybody is provided with the correct personal protection equipment. This is having the desired effect. "The number of accidents has fallen sharply in recent years, but that is not to say that our work is done. There are numerous other improvements planned for the years to come," says Hofstede.

The aim - increasing safety - has two aspects. "First, we want to make sure that our people are able to work in a safe environment. And secondly, safety also serves an important business-economic purpose. Our processes have to be as they should be in order for people to work safely. That results in productivity and its quality going up and the costs going down. And that is an essential part of AVEBE's strategy."



# STANDING OUT IN THE MARKET

industrial applications

**Sustainability is not just a strategic pillar for AVEBE, buyers too are always on the lookout for sustainable solutions. Efforts in the research & development and market areas in the Industrial Applications and Paper segment are therefore aimed at finding sustainable solutions.**

A case in point is Perfectafilm X in paper applications. Based on waxy potatoes, this product is known to form a good film. These properties, combined with the technical support provided by AVEBE, ensure that potato starch forms an excellent alternative for synthetic binding agents, such as polyvinyl alcohol and latex.

It is partly owing to this solution that AVEBE has been able to extend its market range with applications for applications such as baking paper, protection paper and packages for liquids. This often enables customers to achieve energy savings. Also, they are able to switch from oil-based technology to starch - a much more sustainable alternative. The fact that customers themselves are

asking for sustainable solutions is partly a response to governmental measures. New European legislation, for example, sets strict requirements for the quantity of chemicals used in production and lowers the permitted quantity of chemicals in the end-product.

An example of this is the quantity of preservatives in adhesives. Customers are therefore on the lookout for new solutions in the form of ingredients with outstanding performance and which fit within the new laws and regulations.

For that reason AVEBE is working very specifically on ingredients and applications that meet this demand.

A potato starch-based product is already being used for purifying drinking water in Spain, for instance. It provides a natural alternative for the chemical standard polyacrylamide, which can no longer be used. In the wood panel industry biochemical oxygen demand (BOD) plays an important role in treating waste water. Potato starch can be used to substantially reduce the BOD content of the waste water. Potato starch (dextrin) is also used to replace the strong-smelling lignosulfonates, a natural solution of AVEBE's.

These are examples of how AVEBE works together with its customers and how work is done on new innovative, sustainable processes.



**UNIQUE  
PROPERTIES  
MAKE ELIANE  
A GLOBAL STAR**



## NO TANG YUAN WITHOUT ELIANE

### technology

**General Mills is one of the world's biggest food companies. With major global brands it is a company whose products are found in virtually any kitchen. Examples include Cheerios and Häagen-Dazs. The company uses AVEBE's potato starch for the production of Tang Yuan, an Asian delicacy. Dr. Zheng Hong Chen, AVEBE's production development and application research manager, explains why.**

Almost thirty years ago General Mills set up shop in China and has since become one of the most influential food companies. There are currently six state-of-the-art production locations where various products are made in the region, ranging from breakfast products, snacks and ice cream to true Asian specialties like Tang Yuan, a sweet treat made of rice with a filling that is traditionally made and eaten on holidays. In the

21st century Tang Yuan has become a dessert that can be enjoyed all year round. The product has a permanent place in the freezer section of the supermarket and is available in a whole range of colours and flavours. The food giant makes this innovative, transparent product with Eliane, a unique AVEBE starch. Eliane Gel 100 is a starch derivative with unique properties. It is very clear and has a low viscosity,

which makes it less syrupy. Unlike ordinary derivatives, it is also thermo-reversible. That means that it melts when heated up and coagulates again when it cools down, after which it can be heated up again.

"That's the unique aspect that makes Eliane Gel 100 so suitable for this product," explains AVEBE's product development and application research manager Dr Zheng Hong Chen. "The new, transparent Tang Yuan is a sweet rice dumpling made of waxy rice with a sweet filling, such as sugar, peanut butter or sesame paste." The uncooked dough is matt transparent. After cooking the dumpling is clear and transparent and the filling is visible. That is precisely what the Asian consumer wants to see. Dr. Chen: "Eliane Gel 100 is added to the dough and that makes the dumpling very transparent and can easily be made. That is impossible with other ingredients."

The collaborative effort between AVEBE and General Mills China took shape in 2013 during an important Chinese expo for food ingredients. "The team at General Mills China responsible for the frozen food segment handed us the challenge of making this very clear dumping in a way that fit within their process," explains

Chen. "Because we are familiar with the process and the recipe we soon realised that we could take a step in the right direction with Gel 100."

Based on the AVEBE solution factory trials were quickly set in motion and the new recipe was taken into production a few months later. Both the product and the guidance provided by AVEBE were of decisive importance to General Mills. "AVEBE showed that it knows a lot about our market, but also about the production process. We were therefore given not only a recipe but also good assistance with upscaling the process. That is especially important because technical problems often arise in that area during the product development process, says Kelvin Sun, project manager at the Research & Development department of General Mills China.

According to Dr. Chen the unique nature of the Eliane Gel 100 solution is also clear from the purchasing policy of General Mills: "The policy of General Mills is to buy all ingredients locally. Eliane Gel 100 is the only ingredient for this product that comes from outside of China."

### THE WORLD OF WAXY

#### close-up

**Starch consists of long chains of carbohydrates and glucose that form a reserve for plants such as corn, potatoes, wheat and rice.**

There are two types of starch: amylose and amylopectin, which virtually always occur together in nature. But for some applications it is clearly preferable to use amylopectin because of its clarity and short texture. That is why AVEBE

developed Eliane. This is what we call a 'waxy' potato. Eliane is a starch extracted from potatoes that contain only amylopectin. These potatoes are obtained through natural selection at AVEBE's own cultivation company, Averis. That makes AVEBE unique in the world. Eliane Gel 100 is made of Eliane and has a low viscosity and is very clear. In Europe Eliane Gel 100 has a clean label, which means that it does not have an E-number label on the

packaging. The special property of Eliane Gel 100 is that it is thermo-reversible. That means that a solution containing this starch coagulates into a gel when cooled down and melts again when heated up. This step can be repeated several times without the quality being affected, even after freezing. This is an important property that can improve the texture of deep-frozen products such as dumplings and refrigerated meals.





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