

SVERIGES STÄRKELSEPRODUCENTER

# Sustainability Report

FY23

*Our brands!*



KOCKENS®

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*Our four focus areas*

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*Sveriges Stärkelseproducenter produces an annual sustainability report based on our split financial year, which runs from September to August. This is our sixth report and applies for the period 1 September 2022 to 31 August 2023. The report covers our entire business and constitutes the formal sustainability report according to the Swedish Annual Accounts Act.*

25



New core values for the Swedish business

49

**10/12%**

**LESS ENERGY/WATER PER TONNE OF STARCH IN NEW MJÄLLBY FACILITY**

39



Rainforest Alliance-marked pepper

52



Decision to phase out propylene oxide

72



Positive EU report on CRISPR-Cas9

33

**50%**

New higher goal for share of certified turmeric (SSI definition of sustainable purchasing)

26

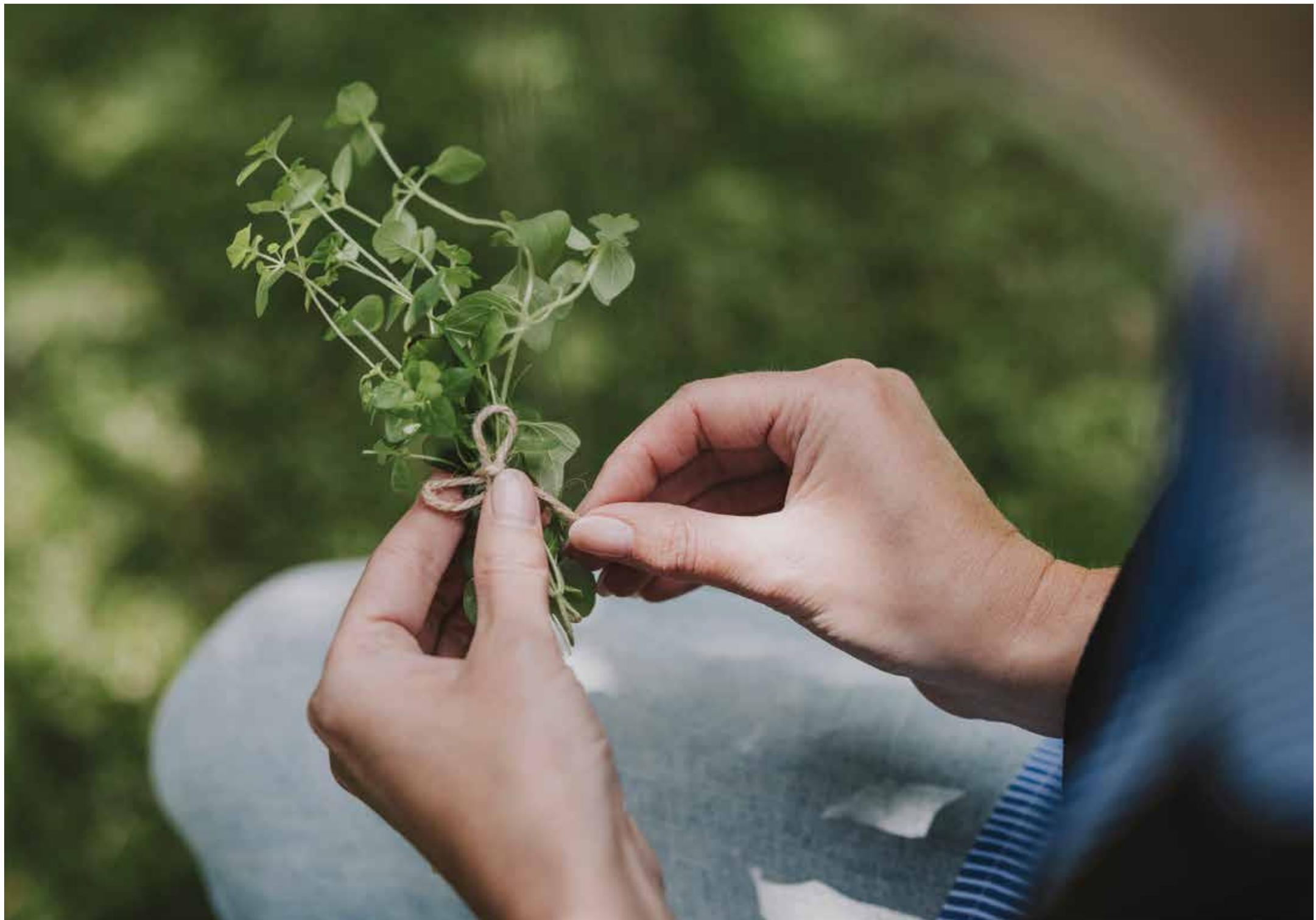
**47/53**

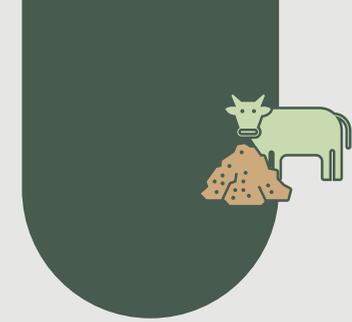
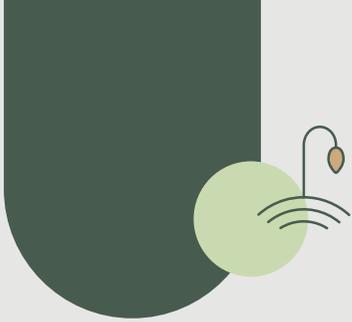
Ratio of men/women in management in the Czech business

43

**38%**

**SHARE OF OUR SWEDISH GROWERS USING BIO-DIESEL**

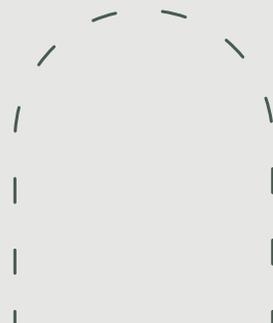




# Sustainability for us

Our business is based on an effective interplay between nature and humans, and we work hard to ensure this interplay is sustainable in the long term.

*Welcome to our  
sustainability report!*



## A Few Words From Our CEO

Sveriges Stärkelseproducenter operates through our brands, Lyckeby, Solam, Culinar and Kockens, on a global market that in the last financial year has been strongly affected by the invasion of Ukraine. Both from the human perspective and the more business-relevant, where inflation, high energy prices and a poor economic situation have had a clear effect on our business. Global uncertainty reveals our society's vulnerability, and the necessity for us as a company to work in a methodical and long-term way with our sustainability process.

Despite this operating context, I'm happy to see our sustainability process continue with undiminished energy, lofty ambitions and good progress. We have made important long-term strategic decisions about our product range on the starch side. During the past financial year we have also had to make a few tough decisions to ensure our business can continue to operate on an everyday basis. Here are a few examples of our work with sustainability during the past year:

Culinar and Kockens continue to strive to improve social, economic and environmental conditions for growers around the world, and during the year



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*Here you can read about our business and how we constantly improve it together. We want to be part of a sustainable future.*

**HANS HOLMSTEDT**  
Group CEO

Kockens chose to obtain Rainforest Alliance certification for all of its conventional black pepper, and also launched organic chili and paprika. For the first time we have calculated carbon footprints for Culinar and Kockens, and can see that our focus on packaging is justified. We will therefore be continuing our work to create more climate-smart packaging, including through using bio-based/recycled plastic wherever possible. The work to reduce the use of plant protection products for growing starch potatoes continues with the same enthusiasm, in a close collaboration between our growers and grower advisors. We're well on the way to reaching our ambitious goals, but a lot of work remains to achieve a sustainable solution.

We have continued to invest and adjust our work processes to reduce energy consumption, which has produced very pleasing results. Unfortunately we were forced to increase the proportion of LPG in our starch production during 2022, as there was great uncertainty about energy supplies. We did this knowing that in the short term it would increase our carbon dioxide emissions. In retrospect, it turns out that we could have used our stocks of bio-oil, as the energy shortage wasn't as dramatic as we had feared, and today we have returned to our strategy of reduced carbon dioxide emissions.

We have been granted a new authorization for starch production – an important milestone in our strategy based on volume growth for starch products. As part of this, we have also established the main orientation for our product portfolio. We will focus on what we call the products of the future, which include our Clean Label range. In our dialogs, we see a continuing increased interest in the green protein

shift, and E number-free starches – an interest we aim to satisfy. Following the review of our product portfolio, we have also decided that after 2024 we will end our hydroxypropylated range, thus phasing out the use of propylene oxide from our production. Propylene oxide is on the EU's list of products to be phased out, and the substance has a negative effect on both the working environment and our process water, so we are convinced that this is the right decision. The decision also means that our current Seveso classification will come to an end.

During the financial year we have begun working on a set of shared core values for the entire Swedish business. The aim is to give all of our employees and managers a sense of community that will create satisfaction and security, and a sustainable company in the long term.

My ambition is for us to work with all of our employees, owners, customers and collaboration partners to continue developing our sustainability process. Personally, I'm convinced that we must accelerate this process with regard to our environment and nature, for us as humans, and not least from an economic perspective.

I hope you will find our sustainability report interesting. We welcome questions about the content. This year I'm particularly pleased that we have also included our Czech business in the report.

## **HANS HOLMSTEDT**

*Group CEO*

# About Sveriges Stärkelseproducenter

Sveriges Stärkelseproducenter is an agricultural cooperative founded in 1927. The association has 600 members in southern Sweden, of whom 400 are active growers of our primary raw material – starch potatoes.

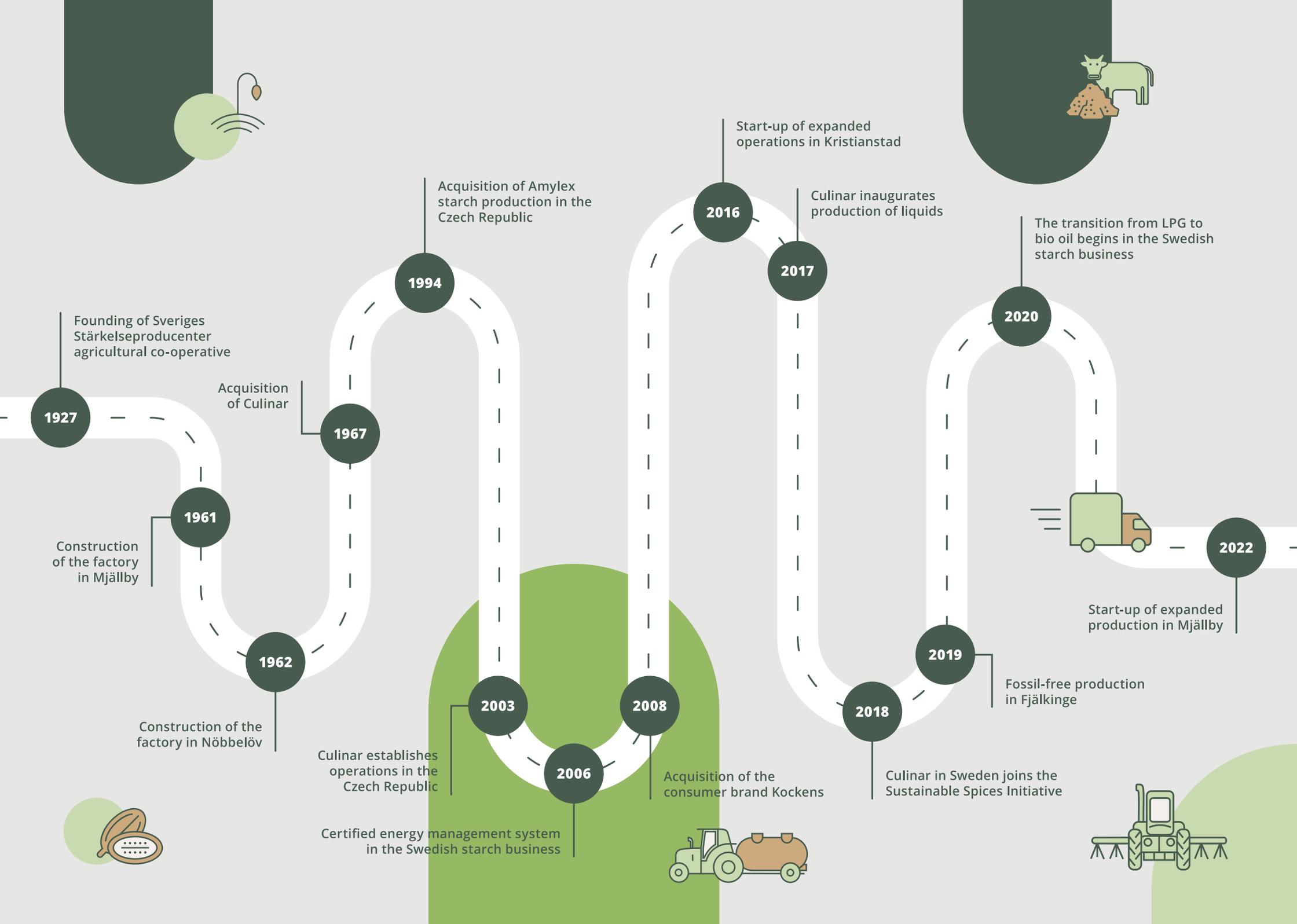
*The association has two business areas: **starch** and **flavor**. Our starch operations are run under the name Lyckeby, while flavor is managed by the companies Culinar Sverige AB (Culinar) and Kockens AB (Kockens) and Lyckeby Culinar A.S. In total, the association employs around 360 people in Sweden and 130 in the Czech Republic. Turnover is approximately 3 billion kronor.*

## OUR VISION

*Starch potatoes are the most profitable option for our growers.*

*Our timeline!*





1927

Founding of Sveriges Stärkelseproducenter agricultural co-operative

1961

Construction of the factory in Mjällby

1962

Construction of the factory in Nöbbelöv

1967

Acquisition of Culinar

1994

Acquisition of Amylex starch production in the Czech Republic

2003

Culinar establishes operations in the Czech Republic

2006

Certified energy management system in the Swedish starch business

2008

Acquisition of the consumer brand Kockens

2016

Start-up of expanded operations in Kristianstad

2017

Culinar inaugurates production of liquids

2018

Culinar in Sweden joins the Sustainable Spices Initiative

2019

Fossil-free production in Fjälkinge

2020

The transition from LPG to bio oil begins in the Swedish starch business

2022

Start-up of expanded production in Mjällby



## STARCH

We produce starch from potatoes and transform it to suit our customers' needs and requirements. All of the potatoes in our Swedish production are grown by our owners.



## LYCKEBY

Sveriges Stärkelseproducenter offers customized, functional starch products and potato fiber to the global food industry under the Lyckeby brand.



## SOLAM

Sveriges Stärkelseproducenter sells value-added starch products to the paper industry in Europe under the Solam brand.

*Our brands within the starch business area*



## THE GREEN STARCH FACTORY

## Starch operations

*We buy potatoes, in Sweden from our potato growers and owners, and in the Czech Republic from 150 local growers. Then we process and utilize the material in the potato in the best possible way so we can offer customized, functional potato starch products to customers within the food and paper industries. We focus on markets and applications where potato starch has high potential, giving our customers added value. When you buy from Lyckeby, you always get support and knowledge within the areas of product development, applications, logistics, and quality, from our highly experienced team. Our mission is for the starch potato to be the most profitable alternative for our growers.*

In addition to transforming the starch, we also make use of side streams from other components in the starch potato, as far as possible. We transform the potato fiber to a food-grade product, sell the protein as animal food, and in our Swedish operations the juice and surplus water are transferred back to the fields as concentrate to fertilize and water the crops. A circular process that we are very proud of!

*This icon symbolizes our starch operations...*





## FLAVOR

We blend spices with other ingredients to create products that simplify customer logistics.



## CULINAR

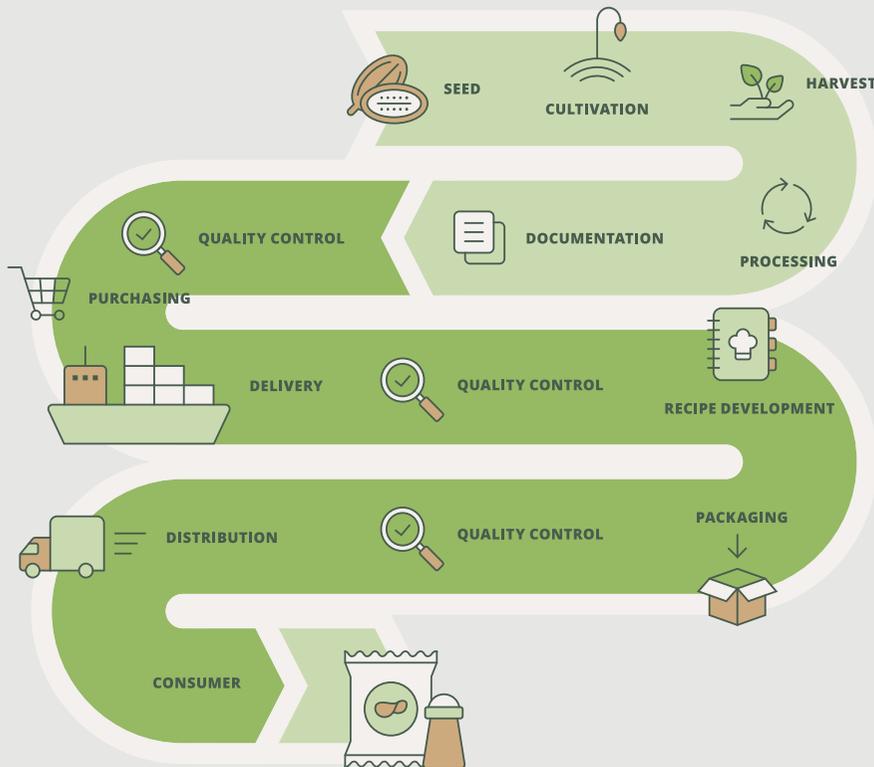
Culinar Sverige AB and Lyckeby Culinar A.S. offer a wide range of spices, other ingredients, and unique blends to the food industry in Europe under the Culinar brand.

**KOCKENS<sup>®</sup>**

## KOCKENS

Kockens AB creates products targeted at consumers, restaurants, and catering in Sweden under the Kockens brand. The product range consists of dried herbs and spices, potato starch, and gluten-free flour.

*Our brands within the  
flavor business area*



**THE SPICE ROAD**

## Our flavor operations

*At Culinar, we blend spices from all over the world with other functional ingredients (including Lyckebys potato starch) to create ready-to-use flavor and texture ingredients for the food industry. Our role in the value chain is to simplify and streamline logistics and blending in the customer's end process.*

Contributing support and knowledge within applications such as snacks, meat and deli, bakery, etc., is an important part of our business. Here we collaborate closely with the customer so the consumer receives a good end product. As well as application knowledge, we also optimize packaging and manufacturing to minimize waste and simplify handling of ingredients by the customer.

At Culinar, we also create products that are sold directly to the consumer and to the catering industry via Kockens.

*... and this icon symbolizes our flavor operations*





*Sveriges Stärkelseproducenter has five production units in Sweden and two in the Czech Republic, all located close to where our starch raw materials are grown.*

### **NÖBBELÖV**

This is the base of our starch operations. We receive starch potatoes from our growers and process them into native potato starch, protein, and fiber. Some of the native starch is then further processed into modified food starch. The facility also hosts our research and development center, which focuses on the development and application of starch in food and paper applications. Number of employees: 100 permanent employees.\*

### **FJÄLKINGE**

This is the base of our flavor operations. Here, purchased raw materials are mixed with ingredients from Nöbbelöv to make dry and liquid food ingredients. Fjälkinge is also the site of our development center, targeting flavor innovations in different food applications. Number of employees: 162 permanent employees (Culinar) and 12 permanent employees (Kockens).

### **BÄCKASKOG**

This is our seed center. We also carry out some packaging of products here, including Kockens potato starch. Number of employees: 4 permanent employees.

### **MJÄLLBY**

This is one of the sites where we receive starch potatoes from our growers and process them into native potato starch, protein, and fiber. Some of this is transported to Nöbbelöv, but the majority is transformed on site into starch products for the paper industry. Number of employees: 22 permanent employees.\*

### **JÄMJÖ**

This is one of the sites where we receive starch potatoes from our growers and process them into native potato starch. The starch is transported direct to the customer or to Nöbbelöv and Mjällby for further processing. The facility has now been sold and operations ceased on January 1, 2023. Number of employees: 4 permanent employees.\*

### **HORAŽĎOVICE**

**Amylex:** We receive starch potatoes from our local growers and process them into native potato starch and protein in our starch operations. Some of the native starch is further processed into dextrin for use in the food and technical industries. Number of employees: 75 permanent employees.\*

**Culinar:** In our flavor operations, purchased raw materials are mixed with ingredients from our starch operations to make dry food ingredients. Number of employees: 58 permanent employees.\*

*\*In addition to the permanent employees in our starch operations, every year we employ seasonal workers, who normally work from September to January – the period during which our factories receive potatoes and produce native starch.*

*In addition to these production units, Sveriges Stärkelseproducenter has smaller sales offices in Denmark, Poland, Germany, and China.\*\**

# Our sustainability process

*As a business, we need never doubt that our products have a self-evident place in a sustainable future, but with this knowledge as a foundation we constantly strive to improve our working methods – with the ambition of minimizing negative impacts from our operations and maximizing their benefits for society. We have chosen to focus our sustainability efforts within four main focus areas we feel are most relevant from a risk and impact perspective.*

These focus areas are common to our two business areas, and follow our value chain, centering on the processing of cultivated raw materials. Our focus on these areas means we can contribute to a more sustainable world. Here, we present our focus areas and the Agenda 2030 goals we link to our sustainability process.

## A VALUE-ADDING WORKPLACE



## SUSTAINABLE CULTIVATION



## RESOURCE-EFFICIENT OPERATIONS



## THE PRODUCTS OF THE FUTURE



## A VALUE-ADDING WORKPLACE

Our workplaces should generate value in the form of security, satisfaction, diversity, and equality for everyone working in them. The basis for this approach can be found in Swedish legislation and is reinforced by our corporate culture, which is characterized by commitment, pride, and loyalty.



## RESOURCE-EFFICIENT OPERATIONS

In addition to adding value to the starch, we also make use of side streams, creating sustainable production with high circularity. In our factories, we also work continuously to ensure production takes place with the least possible input of energy and chemicals.

## SUSTAINABLE CULTIVATION

Our primary raw materials are cultivated crops. Around the world, cultivation faces a range of challenges within areas such as biodiversity, climate impact, and social conditions. We aim to meet relevant challenges with knowledge and responsibility.



## THE PRODUCTS OF THE FUTURE

Together with our customers and collaboration partners, we work to develop the sustainable products of the future, which will contribute to both improved health and a better environment.

*Read more on page 20*

*Read more on page 30*

*Read more on page 44*

*Read more on page 62*





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*Our close collaborations with customers in the context of long-term and trusting relationships are central to us. With high levels of transparency and support within the entire chain of sales, logistics, product development, and quality, we create security both for the customer and for our own employees. This in turn leads to good business transactions and we can gain important insights from our customers in terms of how we can become a more sustainable company.*

**MATHIAS SAMUELSSON**

Sales Director, Lyckeby



## **Governance and working methods**

Our focus areas set the direction for development investments and improvement work, but the sustainability of our business is also based in sound corporate responsibility and legal compliance in our everyday activities. We have all the relevant authorizations for our operations, apply systematic working methods to areas including the working environment and fire safety, and our management system is certified according to a number of standards.

The Swedish starch operations are certified according to ISO 9001, ISO 14001, ISO 50001, ISO/FSSC 22000, Non-GMO, EU organic, Halal, Kosher, FSSC FEED, and GMP+, and the flavor operations are certified according to ISO 9001, BRC Food, KRAV, EU organic, Rainforest Alliance, and Fairtrade. Our Swedish operations are also approved for the manufacture of products labeled “Från Sverige” (“From Sweden”).

The Czech operations are certified according to ISO/FSSC 22000, EU organic, and Halal. The starch operations are also certified according to ISO 14001, GMP+, and Kosher.

### **BUSINESS CULTURE**

We have business relationships with suppliers and customers in a global market. Our business culture means we take responsibility for complying with current legislation regarding product safety, economic laws, and requirements regarding human rights, corruption, and working conditions. All employees working with selling are informed about our business ethics to ensure this culture is applied in practice. Our standards for suppliers and employees are summarized in our codes of conduct and policies.



# A value-adding workplace

*Read more about the focus  
area on the following pages!*



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*We know that a sense of community and job satisfaction are very important for our employees. And our employees are very important for us. So we invest a great deal in creating a positive culture where everyone is happy.*

**CHARLOTTE OLSSON**

HR manager



## A value-adding workplace

*Our employees generate value for the business through their knowledge and commitment. In return, we want to give them a workplace that creates value and quality of life, in the form of security and job satisfaction. So that everyone can contribute to our sustainable development, we also need to ensure we have the right skills and culture, in which everyone's capacity is utilized.*

Our responsibility as an employer is based in legislation, practice, and central collective agreements. In addition to this, we apply local agreements on conditions, and local policies on rules, procedures, etc., which further reinforce our position. But our work goes much further than this. To ensure our future, it is important to be an attractive employer on every level, for both new and existing employees.

### DEVELOPMENT AREAS

-  **Health and safety**
-  **Satisfaction and community**
-  **Diversity, gender equality, and equal treatment**
-  **Knowledge and skills development**

# Health and safety in the workplace

*We strive to ensure that our employees can feel safe, well, and satisfied in their workplace. Naturally, our goal is for there to be no workplace accidents, and for us to be able to provide support and appropriate measures to minimize illness.*

Our systematic occupational health and safety process, with procedures for safety rounds, action plans, and follow-up, is thoroughly implemented and a natural part of our work. Risk and consequence assessments are carried out for all changes, and close collaboration with unions helps ensure any risks are detected at an early stage.

We have zero tolerance for workplace accidents leading to absence. By aiming to achieve increased reporting of incidents, we improve our opportunities to prevent accidents. We are currently reviewing definitions and metrics for our work with health and safety in our Swedish operations. From financial year 2024, reporting will take place according to the new definitions, in line with global standards. One important change is that we will then be able to distinguish between different types of accidents more clearly, which will simplify both reporting and follow-up.

## Reported near-misses and incidents in the Swedish operations

	Reported incidents (number)			Reported incidents* (number)		
	FY21	FY22	FY23	FY21	FY22	FY23
Lyckeby	48	40	31	22	14	16
Culinar and Kockens	40	62	55	30	29	38

\*This includes both accidents and less serious incidents such as someone needing a plaster. In FY23, there were a total of four accidents leading to absence from work.

### Reported accidents in the Czech operations

	Reported accidents ** (number)		
	FY21	FY22	FY23
Amylex	0	3	2
Culinar	1	0	1

\*\* This includes only accidents that led to absence from work

A couple of years ago, a large-scale modernization of the packaging line was carried out in the Czech operations, which has improved both quality and food safety, but has also led to a better working environment. The Czech operations have been a member of SEDEX (the Supplier Ethical Data Exchange) since 2017, and share data with collaboration partners through this system. During the last year, a social audit was carried out according to the SEDEX audit system SMETA, and the results were good.

### Sick leave in the Swedish operations

	Sick leave (%)		
	FY21	FY22	FY23
Lyckeby	3.1	3.0	3.3
Culinar	5.8	5.4	4.3
Kockens	0.5	0.4	2.2

### Sick leave in the Czech operations

	Sick leave (%)		
	FY21	FY22	FY23
Amylex	5.5	6.8	6.7
Culinar	8.4	6.9	3.3



## **A sense of community and job satisfaction make for long-term employees**

We strive to promote a sense of community within the company, and during the year have implemented a large-scale evaluation project in the Swedish operations to create a sense of belonging and security. We also arrange activities to promote employee well-being, and since 2022 this work has been run for the Swedish operations through a club with representatives from all of our companies, under an HR umbrella. The focus for this well-being club is health-promoting activities, with the aim for it to be possible for everyone to participate, for example in a Pilates taster session, bowling, a padel tournament, or a golf contest.

At Lyckeby, all of the staff are invited to an annual Lyckeby Day. A range of company information is presented, such as our sustainability process and the new core value formulations, and we then offer inspirational talks about self-leadership, the chance to socialize, a show, and dinner. The pulse survey we carried out in the Swedish companies in spring 2023 also showed that happiness and satisfaction are important.

In the Czech operations, joint activities were also arranged for employees of Amylex and Culinar, for example outdoor activities, product tastings, a Christmas party, and a motivation event prior to the start of the campaign in the fall. The business is a major employer in Horažďovice, and is also active both as a sponsor and participant in cultural and social events and projects in the town. Annual meetings are also held in which retired colleagues participate. At the end of FY23, we organized an Open House which attracted 400 attendees.



*One popular activity is the “Red Carpet”, where we welcome employees to work with mulled wine and coffee on one morning in December.*

## Case study: Evaluation process

*During the past year, we carried out a process to draw up the Swedish operations' core values: Courage, Commitment, Caring, and Responsibility.*

**Maria Forsblom, HR Business Partner, you've led the work to draw up core values for Sveriges Stärkelseproducenter. What was the aim of doing this?**

We wanted our core values to reinforce a shared culture in the workplace and to give clarity around what we can expect from each other when we work here. We believe this lays the foundation for creating happier employees.

**What challenges did you encounter in the process?**

Agreeing on what is important in our collaborations in the workplace has been fun and creative, but also challenging. Of course there's a fear of platitudes, and words mean different things to different people. So it's been important for us to work hard to formulate behaviors that we associate with our values. Like the fact that Commitment means we take an interest in our colleagues and collaboration partners, and give each other energy and joy. We have also been careful to listen to many other opinions along the way. The entire business has been involved in this work.

**How do you move forward now to make sure the values have the intended effect?**

The core values have been set on an overall level, and now we begin the process of communicating what we mean by the values internally and integrating them into our processes and leadership. They should be a self-evident part of our leadership training, the induction of new employees, employee appraisals, salary criteria, recruitment, etc. It's a long process, but it feels as if it's going well so far, so we're hopeful about the future.

*We have developed new core values*



## Diversity, gender equality, and equal treatment

*The fact that everyone is of equal value, and that it's important to utilize everyone's skills and commitment are important foundations in our business. This means we all have the same rights, opportunities, and responsibilities within all areas, regardless of gender, age, ethnic or cultural background, disability, or sexual orientation. This naturally also means that all forms of discrimination and harassment are prohibited in the workplace.*

Our policy forms the basis for this work, and we work actively to apply it in all of our processes, such as recruitment, personal development, and salary negotiations. For example, we use clear requirement profiles during recruitments to ensure that we are focusing on expertise and minimizing the risk of discrimination.

We produce annual documentation of all efforts related to equal treatment, including salary inventory. The purpose is to detect, rectify, and prevent unreasonable salary differences between men and women. This is a collaboration between the company and the local union branches. Together, we have determined that we are within the framework of what can be considered reasonable.

In general, we have a more even division between men and women at managerial level and in specialist positions than in total among all employees. The male/female ratio in the Swedish operations is 62/38 at managerial level, and 50/50 in our management groups. For the Czech operations, the figure is 47/53 at managerial level. But the differences are greater in the business as a whole. It has traditionally been more difficult to find female candidates for the more technical positions, which means it feels particularly pleasing that in recent years we have succeeded in recruiting more female process operators.

In the past year, we have reviewed our policy for victimization, which has included clarifying how different events should be handled. We have also updated our whistleblower function, which means an employee suffering from misconduct can communicate with HR anonymously. Unfortunately, a few cases of victimization have occurred, and we take these very seriously. This is an area we must continue to prioritize, and as well as the large-scale work on our values currently underway, we are also providing work environment training for all managers and safety representatives. And of course the social work environment issues form a natural part of this. We have also introduced specific sponsor training to improve how we help new employees and seasonal workers feel part of the social context.



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*The fact that we now need to construct larger changing rooms for women is something we welcome, because it's an indicator that we have succeeded in recruiting more women for our technical positions.*

**NIKLAS NILSSON**

Production Manager, Native

**Proportion of women and men in total in the Swedish operations.**

	Women (%)	Men (%)
Lyckeby	18	81
Culinar	34	66
Kockens	58	41

**Proportion of women and men in total in the Czech operations.**

	Women (%)	Men (%)
Amylex	17	83
Culinar	65	35



*We fully accept that we can constantly improve our promotion of general awareness of sustainability issues, and that this is a gradual process.*



## Knowledge and skills development

To be able to develop the business in a sustainable way and create efficiency throughout our value chain, we feel it's important that our employees have the knowledge required to contribute to this development. This means both basic knowledge of sustainable development and future challenges, both for our operations and those of our customers, but also specific knowledge within more business-specific areas.

In general, we work with employee appraisals as the basis for employee skills development, and also with recurring training linked to our management system. In some cases, we also carry out more targeted training efforts such as the work environment training carried out in the fall, and we're currently drawing up a business-specific leadership course, partly based on our new core values.

We fully accept that we can constantly improve our promotion of general awareness of sustainability issues, and that this is a gradual process. Our future goals include introducing sustainability information as part of our induction program for new employees, and improving our employees' access to ongoing information about our sustainability work via information and articles on our intranet.



# Sustainable cultivation



*Read more about the focus  
area on the following pages!*



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*Our ambition is to be able to contribute to a sustainable development of global spice cultivation. We therefore devote considerable resources to making sustainability risks visible and following them up in our supplier chains.*

**KHIRIM FAGER**

Quality and Sustainability Manager,  
Culinar Sweden AB



## Sustainable cultivation

### FLAVOR

We purchase raw materials from all over the world, which represents a significant challenge when it comes food safety, cultivation conditions, working conditions, human rights, and environmental impact.

#### FLAVOR DEVELOPMENT AREA

 **Global supplier cultivation and working conditions**

### STARCH

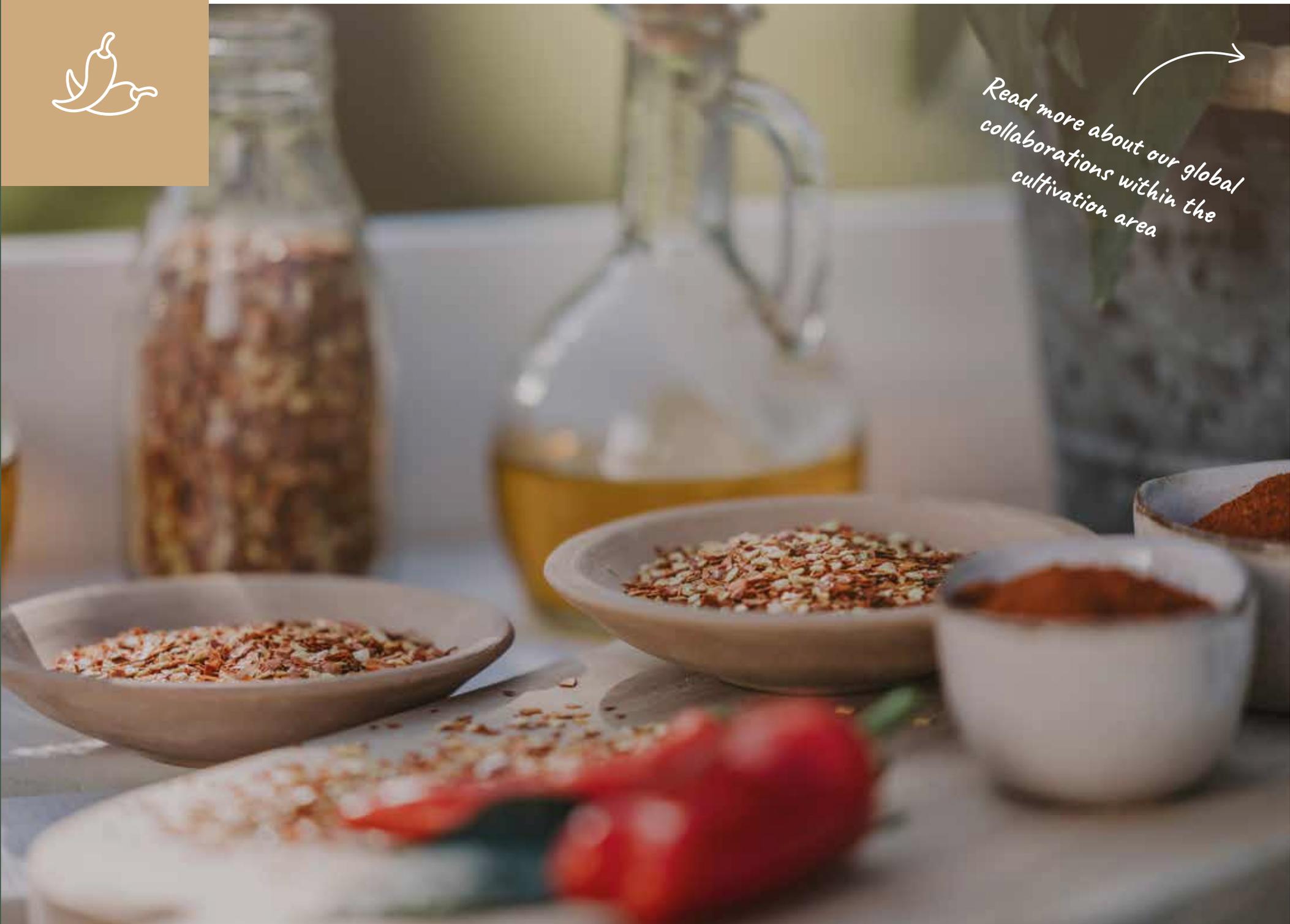
Potatoes for our starch production are cultivated close to our facilities, in southern Sweden and the Czech Republic respectively. The two regions have different challenges, but both involve working to ensure a good long-term yield.

#### STARCH DEVELOPMENT AREAS

-  **Use of plant protection products**
-  **Climate impact**
-  **New starch potato varieties**



*Read more about our global collaborations within the cultivation area*





## Sustainable Spices Initiative (SSI)

The SSI is a global platform that brings together actors throughout the herbs and spices supply chain that are willing to collaborate. The SSI supports the Sustainable Agriculture Initiative's definition of sustainable agriculture: "the efficient production of safe, high quality agricultural products, in a way that protects the natural environment, improves the social and economic conditions of farmers, their employees and local communities and safeguards the health and welfare of all farmed species".

To assess the sustainability of ingredients, the SSI uses a portfolio of different and certifications within both social and environmental sustainability. If the supplier complies with the selected standards, the ingredient is defined as sustainable. In addition to this, the SSI also works with specific projects linked to a particular spice or geographic area, which might involve increasing the farmers' knowledge of sustainable cultivation.

All member companies must undertake to set targets that agree with the SSI requirements, and to report ongoing results to the SSI.

## Global supplier cultivation and working conditions

Every year, we import several thousand tonnes of spices and herbs from all over the world for our flavor operations. It is therefore essential to the long-term survival of our business that these are cultivated in a sustainable way. Our ingredients and products must also be safe, genuine, and of good quality.

One important pillar in our work is our collaboration with the Sustainable Spices Initiative (SSI), of which Culinar's Swedish operations are an active member. We use the SSI's definitions of sustainable spices and our goals have thus far been in line with the SSI's requirements. But during the past year we have far exceeded the goals for pepper and turmeric, and have therefore decided to expand our ambitions still further. Our new goal for 2025 is for the proportion of sustainable purchases (according to the SSI's definition) for turmeric to be at least 50%, while the corresponding goal for pepper is 40% and for chili we maintain the SSI level of 25%. During the year we have also launched our Rainforest Alliance certified black pepper. You can read more about this on page 39. Outcome for the year in relation to our goals for sustainable purchases

- Turmeric 70%
- Pepper 42%
- Chili 8%



## Supplier follow-up

Our supplier code of conduct and supplier audits form important tools for managing sustainability risks in the cultivation stage. Our code of conduct clearly links our requirements to international conventions and guidance such as the UN's Guiding Principles on Business and Human Rights, and the Convention on the Rights of the Child. Our intention is thus to help reinforce implementation of these conventions in the supplier chain and to promote continued development of sustainable cultivation.

We value long-term relationships with suppliers. Consequently, we have developed our contacts with suppliers in Sedex, where we have become AB members. This means we have the opportunity to share information, reports, action plans, etc., with suppliers who are also members of Sedex. This is a valuable complement to our risk evaluation of. We continuously visit and audit our suppliers both for product safety and compliance with our code of conduct. We then work together to implement improvements within these areas.



### **The spice trade - a global business with challenges**

The spice trade is a complex one, where a large proportion of spices are grown by small companies in developing countries. Small-scale cultivation has many advantages, including for biodiversity, but also bring risks of low pay and poor working conditions for the farmer, their family, and any employees. In some cases the families have no finances or opportunities to allow the children to go to school, so instead they must stay at home and help out with cultivation. As spices are used in most food products and consumed all over the world, demand is expected to increase in line with the globally increasing population. Secure supplies of spices for a growing population will only be possible if spice production gives an economically attractive and sustainable income for the grower, as they are increasingly leaving agriculture for more secure sources of income.





## Food safety

Safe raw materials of the right quality are a foundation of our business, and obtaining them can be a major challenge in our turbulent times. So it is particularly important for us to evaluate each raw material and as far as possible to verify these characteristics. We examine aspects including:

- Cultivation certification
- Certification of production and processes
- Quality characteristics defined according to ISO standards
- Specific risks linked to the raw material
- Unique inspection programs for each raw material
- Long-term collaborations with suppliers



**Hi Johan! You've been working as a buyer for Culinar for 16 years. What do you think is the most important change in how you buy spices, herbs, and vegetables today compared to when you started?**

The entire purchasing strategy has changed enormously. Now buying products certified as sustainable, as far as possible, is always part of the dialog with the suppliers. It wasn't like that when I started out. The discussion around buying certified products began in 2013, and at that time we were talking about organic. Now organic isn't the only issue, social aspects have also come into play. From starting with 4% organic in 2013, we're now at 70% certified for turmeric in 2022. Another important change has also been that the customers have started caring about how the products are grown. It used to be primarily the producers who considered this to be important. Also, during audits there's now often one person looking at the social aspects of the production. Previously the focus was primarily on the food safety side.

**What does the customer pay when you buy so much that's sustainability labeled?**

We haven't previously labeled our products at all, despite buying Rainforest Alliance or similar products, so we haven't charged any additional fee. But from this year, Kockens' Rainforest Alliance labeled pepper will cost a little more.

**You're part of the Sustainable Spices Initiative. What does that mean?**

Yes, in 2018, we signed our letter of intent and joined the

**NAME**

Johan Kjellsson

**WORKS AS**

Strategic Buyer

**EMPLOYED SINCE**

2007

**WORK TASKS**

Carrying out strategic plans for the various categories and buying the spices, herbs, and vegetables we need.

**THE BEST THING ABOUT WORKING FOR CULINAR**

My friendly colleagues and the supplier contacts all over the world. And above all getting out and talking to the growers in the field in the source countries.



SSI's global collaboration platform. It was our then purchasing manager who ran the process, and that's inspired a lot of our work in this area. It's a requirement for SSI members that 25% must be sustainability labeled by 2025, but Culinar has already passed that level and we've set our sights much higher. Within the SSI there are also a range of working groups exploring things like the pay situation to create knowledge for the members.

### **What does it mean that you've now taken the step to label products as Rainforest Alliance?**

Previously, we only followed up the certifications via our suppliers, but now the Rainforest Alliance also carry out audits of our facility. They go through our plant and documentation to make sure everything is correct. The certification was complete in 2022, and since January this year our Rainforest Alliance labeled pepper has been available in stores.

### **Biodiversity is an important agricultural issue. How do you approach this in your supplier chain?**

Most spice growers have very small-scale production, where they also often grow several spices. For example, a farmer may have trees and bushes producing pepper, coffee, cocoa, and cinnamon. Then there may be other, larger-scale cultivations, particularly when it comes to chili and pepper, and this is where there's the greatest risk to biodiversity.

### **What will happen in the future?**

We will continue to work to increase the proportion of certified spices. We're also trying to work to achieve a closer dialog between buyers and the customers' sustainability managers, because there's often a gap there between ambitions and reality.





*News! Rainforest Alliance certified  
black pepper*



”

*We are proud to be the first brand to introduce Rainforest Alliance certification for all of our conventional black pepper. This is a step in the right direction in improving our products and our range from a sustainability perspective.*

**JOSEFIN SOHL**

Senior Brand Manager, Kockens



## Organic, Fairtrade spices

Our ambition is to always choose Fairtrade certified raw materials where possible. This guarantees the spices have been grown with concern for both the environment and the grower's social conditions and security. By choosing both organic and Fairtrade we reduce our impact and contribute to a sustainable balance in the world.

We already have a wide organic range that we have supplemented this year with Smoked Paprika. We also launched our first Rainforest Alliance certified product – black pepper. Rainforest Alliance is an international non-profit organization that works to create a better future for people and nature through responsible entrepreneurship.

### Spices from across the world

Our spices and other ingredients come from all over the planet, and it's becoming increasingly important for the consumer to know their origins. So when we redesigned the packaging we made the source of our raw materials more transparent, marking the labels/bags with the country of origin.



*Read more about our work on  
starch potato cultivation*



# Environmentally sustainable cultivation of starch potatoes

Naturally, our starch operations also follow up on supplier social responsibility, and our Code of Conduct applies to all suppliers. But our sustainability focus for cultivation in Sweden is primarily the environmental challenges, as we consider these to be greater than the social issues.

## A close collaboration for a higher harvest and fewer plant protection products

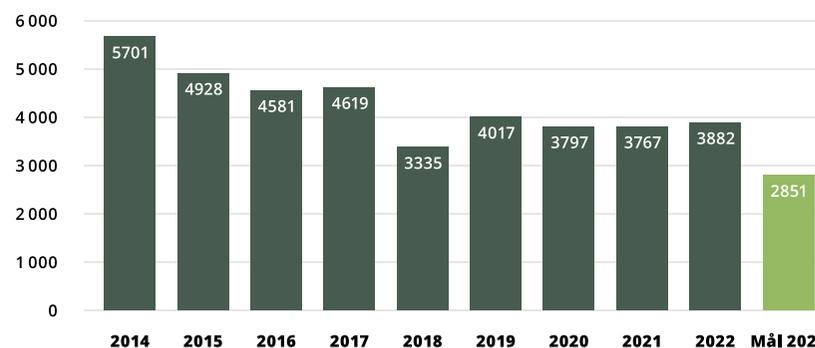
We have a very good and close relationship with our suppliers, not least because a majority of them are partners in our business. Together, we work to achieve higher harvests, a lower carbon footprint, and low use of plant protection products. The incentive here is both environmental and economic.

For our Swedish growers, increasing harvests is a good indicator of success. And the harvest is also important for our carbon footprint, as a large part of it comes from nitrous oxide emissions. The more land we use for our cultivation, the higher the carbon footprint.

Plant protection products are used in cultivation of starch potatoes to combat weeds and illnesses that attack the plant – above all blight and the Alternaria fungus. Research conducted in this area, together with our own cultivation trials, has shown that the quantity of protection products can often be reduced with little or no impact on the yield.

On the basis of this, Lyckeby in Sweden now have a target of reducing the quantity of plant protection products used by our potato suppliers by half per hectare by 2025 compared to the quantity used in 2014. To date, the figure has reduced by 30%. To ensure that we reach our goal, we provide advice to our potato growers through weekly mailings during the cultivation season containing recommended dosages for plant protection products. The recommendations are based on existing forecasting models for blight and Alternaria. The major reduction between 2014 and 2018 was achieved using a tool for forecasting fungal attacks.

**PLANT PROTECTION LYCKEBY**  
Grams active substance/ha

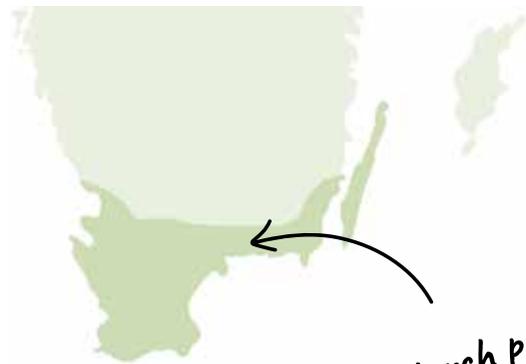


## Knowledge-based improvement

We work intensively to develop new forecasting models, including through cultivation trials where we evaluate the effects of plant protection products in different cultivation conditions. Insect traps around the Swedish cultivation area are investigated every week and provide us with useful information. Our growers come together at our field meets, where they share information and experience with each other and with us. For example, very small amounts of protection products are required in dry conditions, as the risk of blight is very low. The program to reduce the use of plant protection products is aimed at reducing the impact of farming on biodiversity. Reducing the use of plant protection products by 50% aligns well with "Farm to Fork", where the goal is for the quantity of plant protection products used within the EU to be halved by 2030.

### FLOWERING FIELDS

Rationalization of the cultivated landscape has created problems for wild animals and plants, including insects

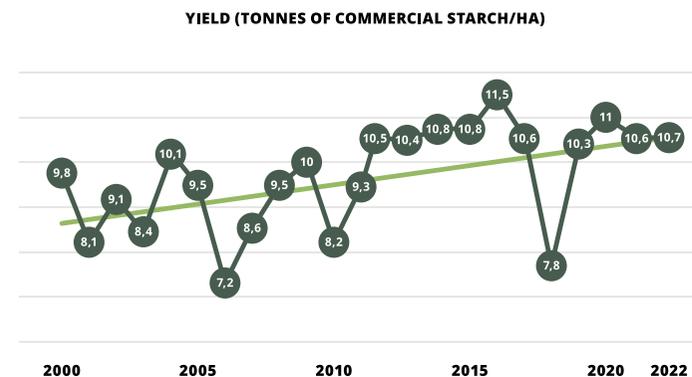


*Area where starch potatoes are cultivated for the Swedish operations*

being affected by the lack of flowers in the landscape. Potatoes are one of the few flowering crops in a normal crop rotation, and when the rapeseed has flowered, potatoes offer food for insects such as bumblebees. As well as our raw material providing insect food, for several years we have sponsored the Hela Sverige Blommar [The Whole of Sweden Flowers] project, which finances flowering field margins around Sweden.

### THE GOOD AND BAD OF WATER

Potatoes are a crop that enjoy a little extra water when summers are dry. Many of our Swedish growers water their potatoes, while very few of our Czech suppliers have the opportunity to do so – something that's visible in the harvests. We think this will become an increasingly important issue when the effects of climate change become more obvious. Both in terms of dealing with precipitation and arranging for watering in dry conditions. This is something we take into account when we develop new potato varieties and in our cultivation development, where we address issues such as the time of year and day it's most effective to water crops.



”

*It's not unusual in our industry for suppliers to also be owners. One of the advantages of this is that we can handle issues requiring a long-term approach.*

*Sustainability work is a good example of this, and we have a good collaboration and an excellent dialog with our suppliers on these issues.*

**MARTIN ANDERSSON**

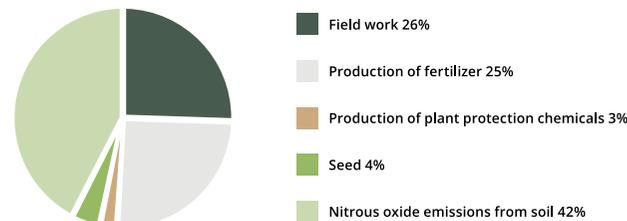
Head of Agriculture Department



**Climate impact of potato cultivation**

Potato cultivation represents approximately 40% of Lyckeby's carbon footprint, when we include our direct emissions of greenhouse gases from production and indirect emissions from elements such as raw materials, packaging, and transports. Almost half of the emissions take the form of nitrous oxide from the cultivated areas, and it is difficult to affect this. Other emissions are caused above all during production of mineral fertilizer and through the use of fuels during cultivation.

The climate impact calculation indicates which activities we need to prioritize in the future to reduce our total carbon footprint in accordance with our goal to reduce emissions in Scope 3 by 20% between 2017 and 2025. You can read more about this on Page 55. We are currently reviewing how the carbon footprint from cultivation should be calculated, which may change the figures in the future to some extent. But we already know where we need to make an effort. In the past year, we have mapped our growers' use of fuel and fertilizer, and discovered that 38% of our growers use diesel with an admixture of bio-diesel, while fertilizers with a better climate performance (Best Available Technology fertilizer (BAT)) is used on 40% of the cultivation area.





# Resource-efficient operations

*Read more about the focus area on the following pages!*

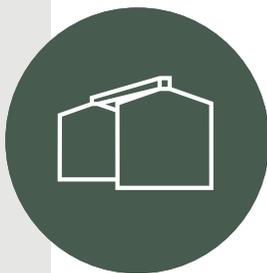


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*Energy is a major cost for us, not least in the past year, and we are working hard to reduce our energy consumption. There are only advantages in doing so, for our company, for society, and the climate.*

**TOMAS ARNESSON**

Chief Engineer



## Resource-efficient operations

By making use of side streams and working efficiently, we create sustainable production with high circularity. In our factories we constantly strive to ensure that all operations use the least possible input in the form of energy and chemicals.

Energy efficiency has always been a high-priority issue, and our Swedish production facilities have been certified according to ISO 50001 for many years. We also undertake continuous improvement of our measurement and monitoring systems for our carbon footprint, in parallel with taking measures to reduce greenhouse gas emissions, for example by replacing fossil fuels in production and transports.

As one aspect of optimizing resource use, we also strive to increase material recovery in our operations.

### DEVELOPMENT AREAS

-  **Energy and climate**
-  **Water and wastewater**
-  **Chemical use**
-  **Material recovery**
-  **Sustainable transports**

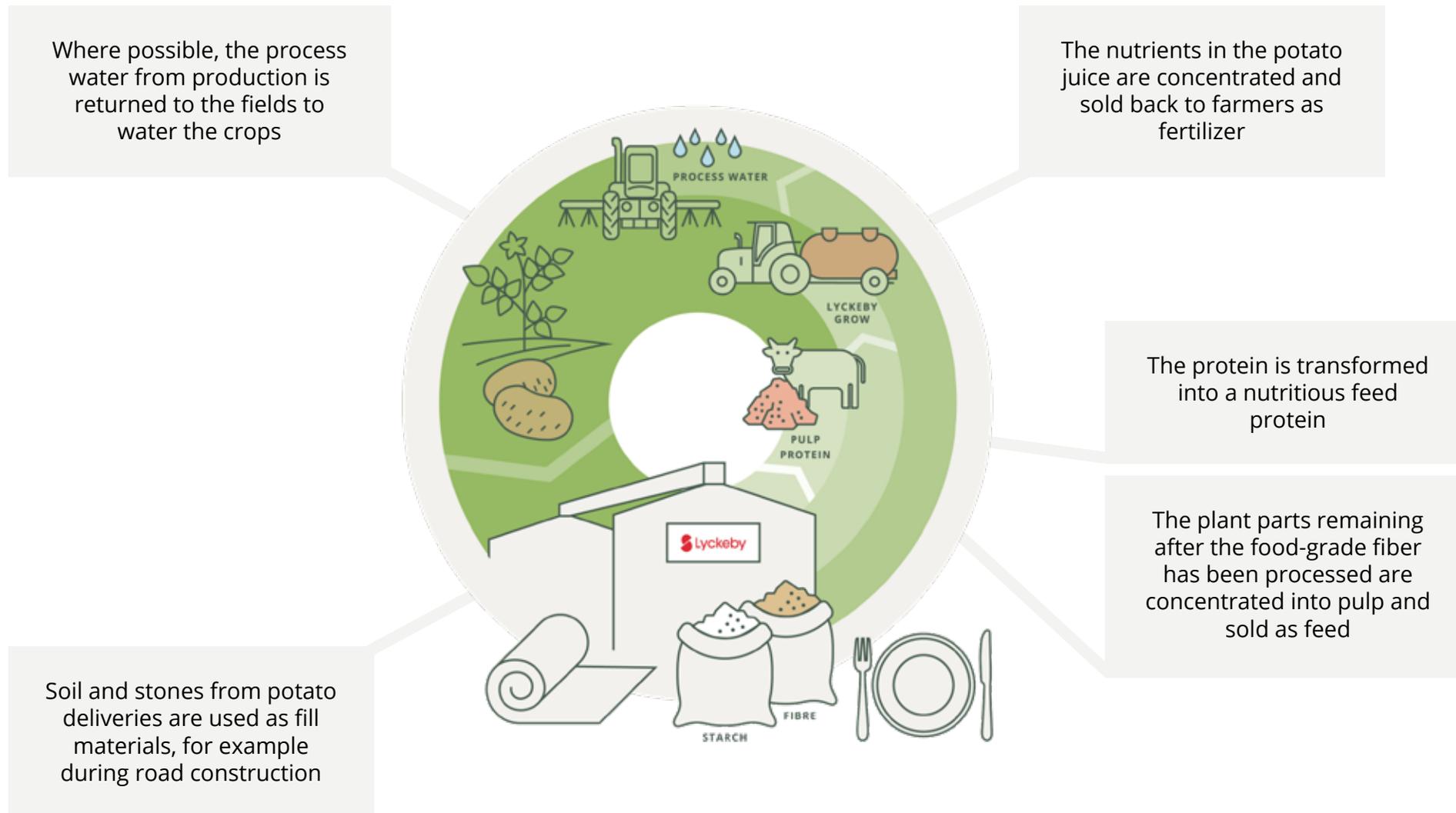


*In addition to adding value to the starch, we also make use of side streams, creating sustainable production with high circularity.*

The potatoes delivered to the starch factory are fractionated into starch, fiber, and protein. The starch and fiber are refined into our main products, but we also make use of the by-products.

This means that our production is a good example of a circular system where the majority of the raw materials are utilized in a resource-efficient way. In our factories we also work continuously to ensure that fractionation, purification, and processing use the least possible input in the form of energy and chemicals.





## Climate action in starch production

*Starch production is an energy-intensive operation, and consequently energy and climate action are extremely important in our sustainability process. We calculate our carbon footprint annually, and have achieved significant reductions of our direct emissions through energy efficiency measures and a transition to renewable fuels.*



”

*Many people worked hard last year to make sure the new production facility in Mjällby was ready for the start of the campaign. But now we're all happy and proud of this modern, efficient facility.*

**EMIEL EGGINKAMP**

Project Manager for the Mjällby+ project



## Prepared for major energy gains

Optimizing energy use is the foundation of useful climate action, and the focus on energy saving is intensifying in line with the major challenges facing the Swedish energy system. Our target is to make energy savings of 1 GWh/year calculated as a rolling five-year average.

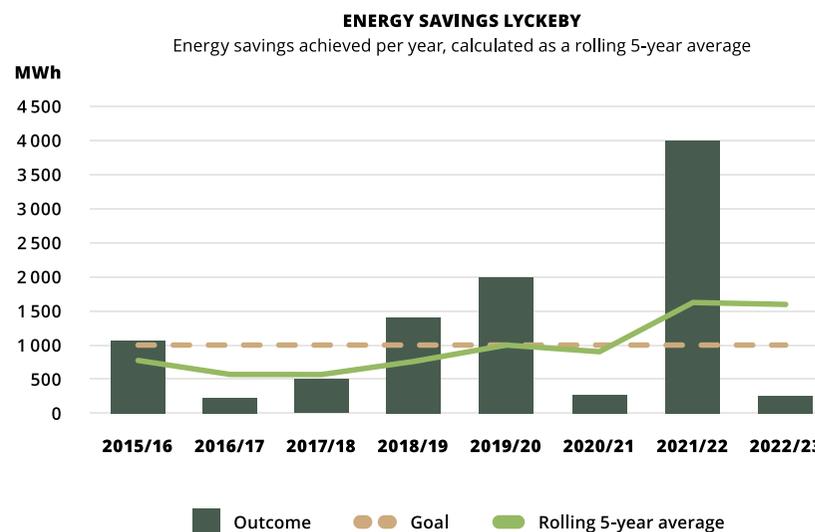
Last year we made very extensive energy efficiency measures, and this year too we have taken a clear step despite working hard to adjust an entirely new facility in Mjällby that was commissioned in September 2022.

The new facility, where we now produce almost half of our commercial starch, has an energy consumption that's around 10% lower per tonne of commercial starch, which adds up to many kWh in total. This is achieved above all through heat recovery from the drying process, but we have also optimized the system based on 20 years' experience of the process.

This was an opportunity for us to start again from the beginning so we have been able to design the facility from a totally different perspective, which for example means we can make cross-connections between different processes and use more efficient pumps. All of these small optimizations together produce a big effect.

We have also invested in installing more meters in our facilities, which makes it easier for us to work with more auto-

mated trends and analysis. And with a control system that allows everyone in the company to connect and look at the information, more people can help improve the process.



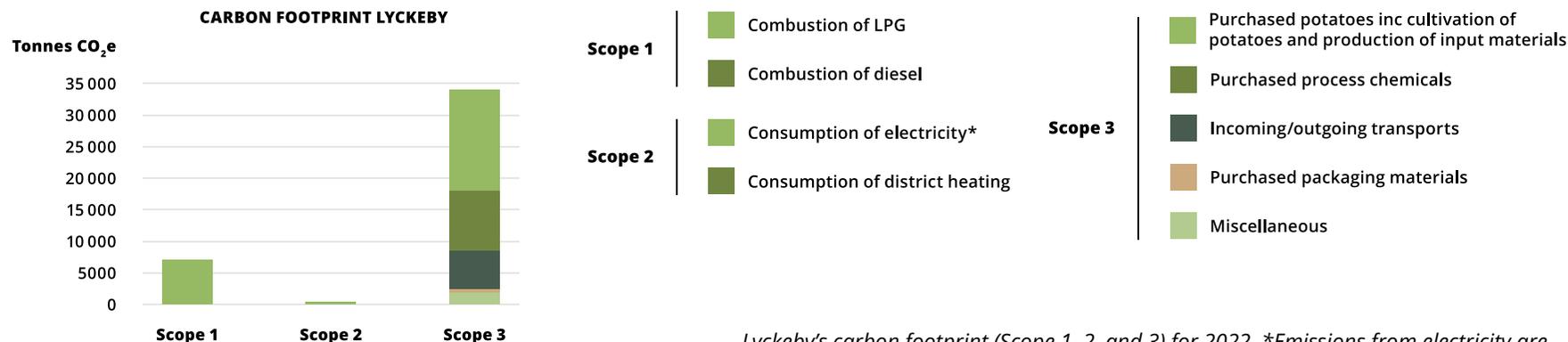
\* We have chosen to set a target of absolute savings rather than energy consumption per produced tonne so we can more clearly see the total effect of our measures. Our energy consumption varies a great deal depending on the product mix we are producing, which means an efficiency target is not always appropriate.



# A bump on the road to the climate plan

Since 2020, we have replaced a large share of the fossil fuels in our starch production with bio-oil, which has reduced our direct emissions of greenhouse gases. In late summer 2022, however, there was significant uncertainty about energy supplies in Sweden, which meant we temporarily chose to go back to using LPG to secure energy supplies for our increasing production. We did this knowing that in the short term it would increase our carbon dioxide emissions.

In turn, this means we have not achieved our goal for 2022. As it turns out, we could have used our stocks of bio-oil, as the energy shortage was wasn't as dramatic as we had feared, and today we have of course returned to using bio-oil. We intend to continue aiming to achieve our long-term goal of reducing our carbon dioxide emissions in Scope 1 and 2 by 85% for the period 2017–2025.



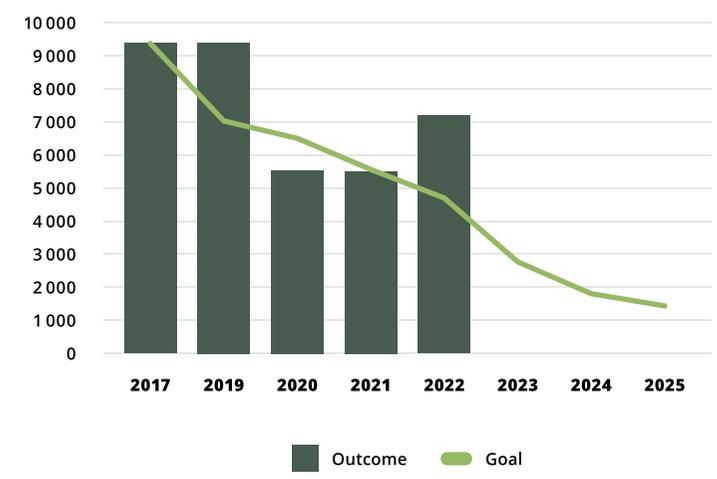
Lyckeby's carbon footprint (Scope 1, 2, and 3) for 2022. \*Emissions from electricity are calculated using the location-based approach, which is the calculation method we use in our metrics. Using a market-based approach, the equivalent result would be 1250 tonnes of CO<sub>2</sub>eq. The biogenic emissions were 5,983 tonnes of CO<sub>2</sub>eq.





In 2022, our emissions of greenhouse gases from energy use in production (Scope 1 and 2) represented approximately 18% of our total carbon footprint.

**GREENHOUSE GASES CO<sub>2</sub>e**  
Scope 1 och 2



## Reduce emissions we don't control ourselves

We have set a goal of reducing Scope 3 GHG emissions by 20% for the period 2017–2025. These emissions, from potato cultivation (including production of input products), production of process chemicals, packaging, and transports (Scope 3) represent the majority of our carbon footprint, but are also more difficult for us to affect than the direct emissions from our production.

Thus far we have succeeded in reducing emissions by 4% since 2017, but because a large share of this is related to our production volumes, it is difficult to achieve reductions while maintaining or increasing production. We continue to streamline our resource use and during the past year we made an important decision to phase out the use of propylene oxide, a chemical substance which, in addition to having a negative effect on our process wastewater and the working environment also has a relatively large carbon footprint.

During the year, we have also acquired better information about our growers' use of fertilizer and fuel, which are important factors in the potatoes'

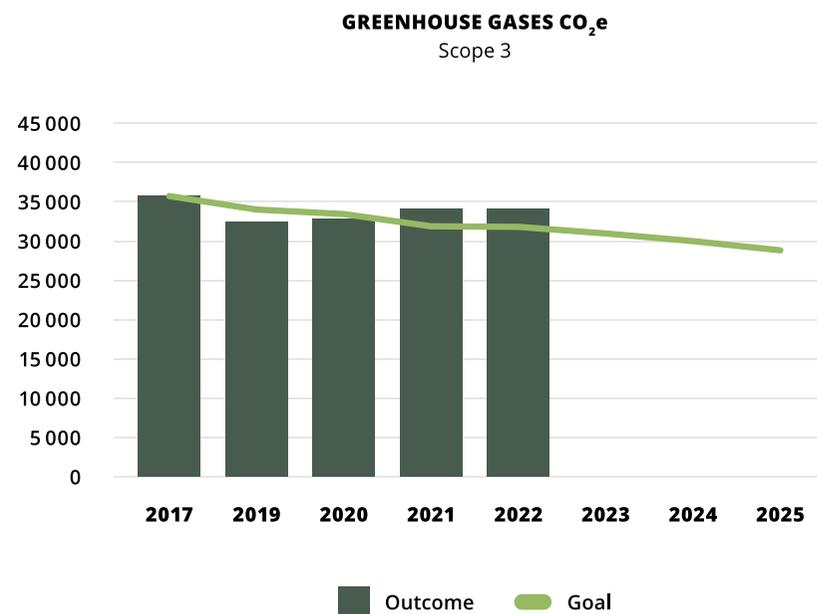


carbon footprint. Read more on page 43. Changes are also underway in terms of how the carbon footprint of agriculture should be calculated, and these may affect the results in the future.

## Water resources – an issue of the future

Water supplies in Sweden are still good, and because the vast majority of the water we consume in our starch production is then used to water crops in the field, we haven't previously focused as much on water efficiency as energy consumption. All of the water used to wash the incoming potatoes is collected in ponds at our facilities and then piped to local growers around the facilities. Condensate from evaporation of the juice from the potatoes during protein manufacture is infiltrated into the ground adjacent to the facility.

However, climate change is also expected to mean reduced access to water in Sweden, and therefore to reduce our extraction of groundwater we are working on returning clean water flows between different steps in our processes. In the new facility at Mjällby, we have been able to implement major water optimizations, and water consumption per tonne of produced commercial starch is around 25% lower there. But at the facility in Nöbbelöv, water savings are a balancing act because some wastewater from processing is piped to the municipal treatment plant. When we return more water to our process, we reduce the quantity of water in the waste, with the risk of creating high levels of organic content. Processing in Mjällby does not produce any wastewater, which gives us completely different opportunities.





*News! Our starch now has an  
emission factor*

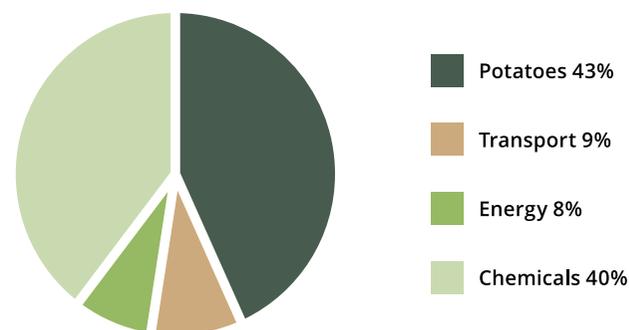


## Emission factor for our customers' climate calculations

Customers and consumers increasingly demand information about the carbon footprint of different products, and standardization of this area is continuing. We strive to meet our customers' needs for information about our products.

During the past year, we have calculated the specific carbon footprint in accordance with ISO 14067 for our products for the paper industry and as part of that also for native starch and for the by-products fiber, concentrate, and protein. The purpose of the calculation is to give our customers the knowledge they need to calculate carbon footprints in the next link of the chain, both for products and organizations. The calculations include all parts of the carbon footprint up to the point at which the starch leaves our facility (cradle-to-gate) but we also give our customers information to allow them to include the transport in the calculations.

The cradle-to-gate carbon footprint for the Swedish-produced starch we supply to the paper industry is 0.35 kg CO<sub>2</sub>e/kg starch, based on data for 2022, and exactly as for our production in total, the vast majority comes from cultivation of potatoes and production of the chemicals used in processing. This means that the same measures to reduce the organization's carbon footprint will also reduce the emissions factor for the product we deliver to the customer.



Distribution of carbon footprint (cradle-to-gate) for our Swedish-produced starch to the paper industry, based on data for 2022. In total, the carbon footprint is 0.35 kg CO<sub>2</sub>e/kg starch.



*Biodiversity at  
our Nöbbelöv factory*



## Our rare flowers

*Our factory in Nöbbelöv is surrounded by approximately 35 acres of high conservation value grazing land, which is classified as a habitat protection area.*

In a 2017 inventory, at least 100 growing sites were found with more than 3,500 plants of the rare *Helichrysum arearium*. When we laid new roads in the area in 2020, 1,500 of these plants were moved to a nearby nature reserve. During the past year a survey was carried out to see how our *Helichrysums* had done. Unfortunately, the inventory showed that many of the plants that were moved had not survived two years later, but new stocks have established themselves outside the areas to which the plants were moved. In addition, other red-listed species, such as Breckland thyme, seem to have moved along with the *Helichrysums*. We will carry out a new follow-up in 2025.

When the new roads were being laid we also planted five new poplar trees in the area.





## Energy efficient lighting in our flavor operations

Processing on the flavor side requires much less energy than the starch process, but despite this it is, of course, important for us to reduce our energy use and we work with continuous improvement of our energy efficiency through a structured energy management group. During the year we have installed around 100 new high-level LED luminaires with movement sensors in our warehouse and we continue to replace the older LED luminaires with newer generation LEDs. These measures meant that last year we achieved our energy efficiency goal (348 kWh/tonne). Energy consumption per produced tonne was thus 14% lower than in 2015. We have chosen to retain the same goal in 2023 and will evaluate it in the energy management group in January 2024.

### First carbon footprint in place for the Swedish flavor operations

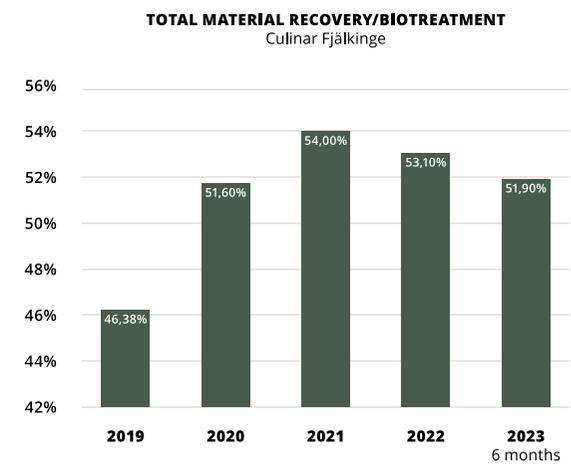
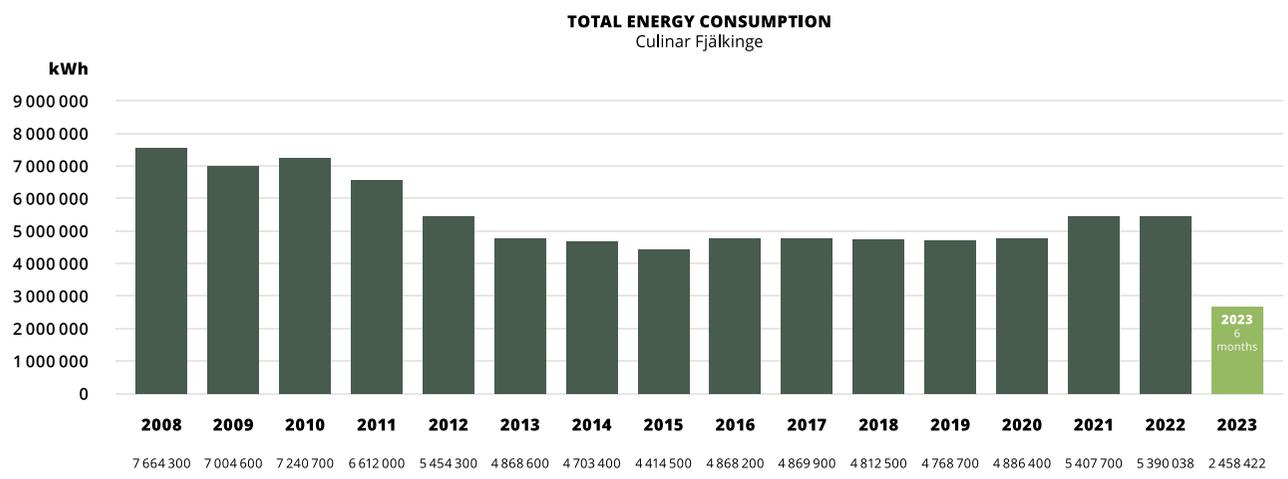
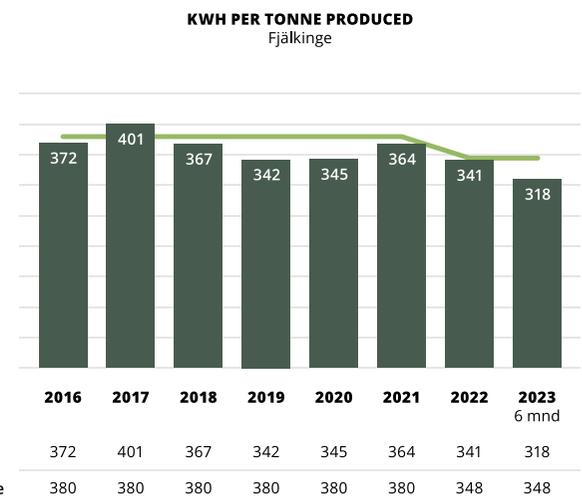
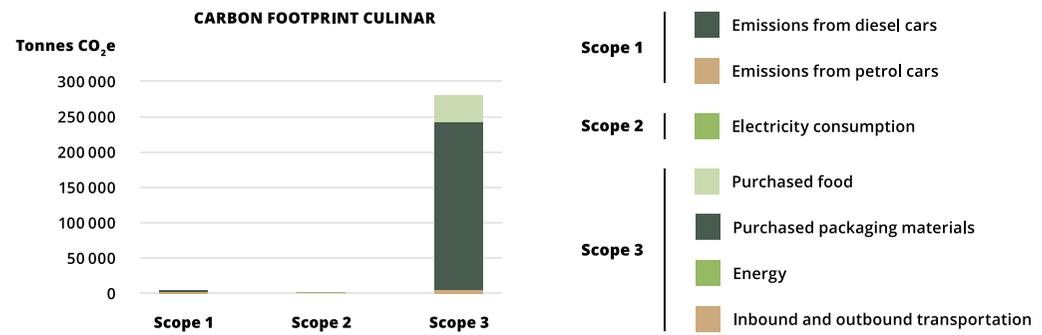
To better understand what we should focus on in our flavor operations' climate work, we have now carried out a calculation of our flavor operations' carbon footprint in Scope 1, 2 and 3 according to the Greenhouse Gas Protocol. All the energy we use for our own production in the Fjälkinge factory has been fossil-free since January 2019, and the total carbon footprint for Scope 1 and 2 for 2022 (primarily emissions from cars) represents less than 1% of the total. The analysis clearly shows that our work with climate-smart

packaging is definitely the right priority. Read more about this on page 66. For Kockens' products, we have signed up to DLF's 2025 Transport Initiative, a voluntary commitment and a clear statement that the grocery industry wants to drive development towards fossil-free transports. This means that we have a goal of fossil-free transports for Kockens products from 2025. We have also joined the Swedish Food Federation's Sustainability Manifesto, where one of the five commitments is "A fossil-free industry". In line with this manifesto, we are aiming to use only fossil-free fuels for transports of Culinar products by 2030.

### Resources in focus

As part of a drive to optimize our use of resources in production, we have worked since 2020 to increase material recovery in our production at Fjälkinge, by introducing more material recovery fractions. Our KPI is for more than 50% of waste to fall into the Material Recovery, Bioprocessing, and Reuse fractions. Between January 2020 and June 2023, we introduced four new material recovery fractions (Mixed Paper, Hard Plastic, LDPE Colored, and PP Bigbags). These fractions have allowed us to sort waste from the combustible fraction to the new fractions, and together this has increased our material recovery by approximately: 6%. In total for these fractions, we have sorted 143 tonnes (2020–2023) which would otherwise have gone into the combustible fraction. For all material recovery fractions, we have thus far sorted 94 tonnes in the first six months of 2023. During fall 2023 we will investigate the opportunity for taking a new step on the waste staircase, and moving some waste from energy recovery to reuse.



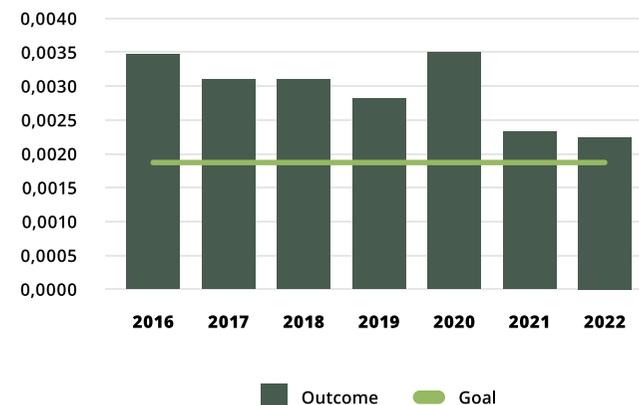


# Wastewater, energy, and hydrochloric acid in focus for our Czech starch operations

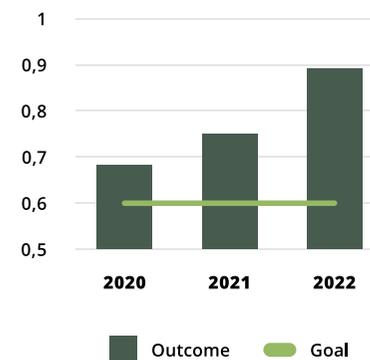
For legal reasons, we don't have the same opportunity in our Czech starch operations to allow local farmers to use the washing water and potato juice for watering their crops as we do here in Sweden. Instead this water is treated, first in our own treatment plant and then in the municipal treatment plant. Between 2017 and 2021, we invested in reducing the organic material in the wastewater and also obtained two new by-products – protein and fertilizer that can be used in organic cultivation. Our goal now is to reduce the wastewater volume per tonne of potatoes by 30% by 2026, with FY23 (0.86 m3/tonne potatoes) as the base year.

We are also actively working to reduce the use of hydrochloric acid, which is an important input product in the production of dextrin. The dosage is being optimized, and the goal is to reduce use per produced tonne of dextrin by 40% by 2026, compared with the average use for the period 2016–2020. The trend looks positive, and thus far our use has reduced by 34%. Energy use in the process is largely linked to product volume, and we have consequently set an energy goal to reduce energy use during storage of the products. The goal is to reduce energy costs by 10% and we intend to achieve this by investing in a new warehouse.

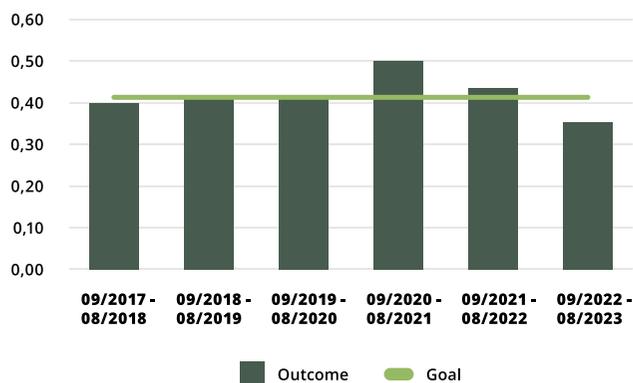
**CZECH REPUBLIC, CONSUMPTION OF HYDROCHLORIC ACID**  
Tonnes/tonne of dextrin



**CZECH REPUBLIC, WASTE WATER**  
m3/tonne of potatoes



**CZECH REPUBLIC, ELECTRICITY CONSUMPTION IN FLAVOR OPERATIONS**  
kWh/tonne produced

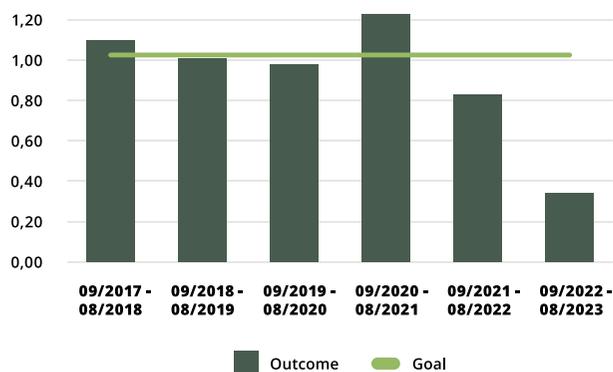


## Efficiency is the keyword in our Czech flavor operations

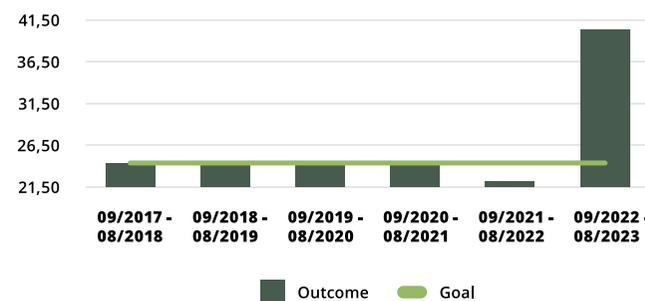
Like the Swedish flavor operations, the Czech organization is focused on energy, but also water. In recent years, efficiency has increased both for energy and water, and the work continues to find opportunities for improvement. We have recently installed solar panels for hot water and a heat pump to heat the warehouse.

Waste from the operations consists of empty packaging, and the wastewater from washing production equipment passes through a particle separator before being piped to the municipal treatment plant.

**CZECH REPUBLIC, CONSUMPTION OF NATURAL GAS IN FLAVOR OPERATIONS**  
kWh/tonne produced



**CZECH REPUBLIC, WATER CONSUMPTION IN FLAVOR OPERATIONS**  
m<sup>3</sup>/tonne produced





# The products of the future

Read more about the focus  
area on the following pages!



”

*We are Sveriges Stärkelseproducenter. Our customers' success is our primary motivation! We are Sveriges Stärkelseproducenter. Our customers' success is our primary motivation!*

### **JENS BENGTTSSON**

Interim Development Manager,  
Culinar Sverige AB



## The products of the future

Development is a very important part of Sveriges Stärkelseproducenter's operations, and our development departments collaborate closely with our customers to develop new products that meet consumer needs. Demand for sustainable solutions in the form of climate-smart options, clean label, plant-based products, and healthier variants is increasing, as too is the demand for transparency in the value chain.

The experts in our development departments have long experience of working with different applications and know which ingredients are required to handle different production processes. We offer support in the development of new sustainable products by helping our customers to choose sustainable ingredients that work in their various applications.

A continuous process is also underway in our starch operations to develop our by-products, increasing resource efficiency.

### **DEVELOPMENT AREAS**

-  **The climate impact of food production**
-  **The green protein transition**
-  **Reduced salt content in food**
-  **Packaging**



# Culinar targets the needs of the future

Together with our customers, we develop the products of the future today. Our range of products and services includes development in flavoring and functionality, where our dedicated product developers bring their deep knowledge to bear, helping customers launch new, sustainable products.

Our close collaboration with customers, in-depth knowledge of flavors and applications, and our ability to batch-customize according to the customer's process helps us contribute to reducing waste and increasing efficiency in the customer's production.

## **AN ADAPTABLE DEVELOPMENT PARTNER**

World events in recent years have been challenging for many food producers. Disruptions in the supplier chain have led to problems such as cost increases and shortages.

Culinar has worked proactively to help customers optimize recipes and processes without compromising on flavor and functionality. With our broad knowledge of how different ingredients are constructed and interact, and how the end products are affected, we have continued to be a secure partner for our customers.

## **COLLABORATION PROJECT WITHIN SWEDISH FOOD SUPPLY**

We are participants in FINEST, a project led by RISE and financed by Formas, which aims to contribute to a sustainable system transition for the food sector.

New plant and vegan products are examples of where our broad expertise in flavor and functionality from traditional food applications can be utilized.





## Kockens' future-smart packaging solutions

Our packaging design is always based on strict demands for our products to be long-lasting through protection against contamination by moisture and dirt, and against impacts during transport and handling. It is also important for the packaging to be functional for the user, easy to open, and easy to use. Our goal for packaging for the Kockens brand is also to gradually move towards a reduced climate impact, and for it to be possible to recover the materials in all Kockens packaging by 2025.

At Kockens, we constantly work to improve our packaging and to find future solutions in close collaboration with our packaging suppliers. Different packaging solutions have different challenges. Without compromising on our basic requirements, we work to reduce the carbon footprint from our packaging through a range of measures. This is an important aspect in further reinforcing our positioning as the green brand.



- 🌿 **Reduce the quantity of packaging material**
- 🌿 **Pallet-adapted packaging to streamline transport**
- 🌿 **Use bio-based or recycled plastic**
- 🌿 **Facilitate recycling with mono-materials, separability, etc.**

## Something new is growing at Kockens

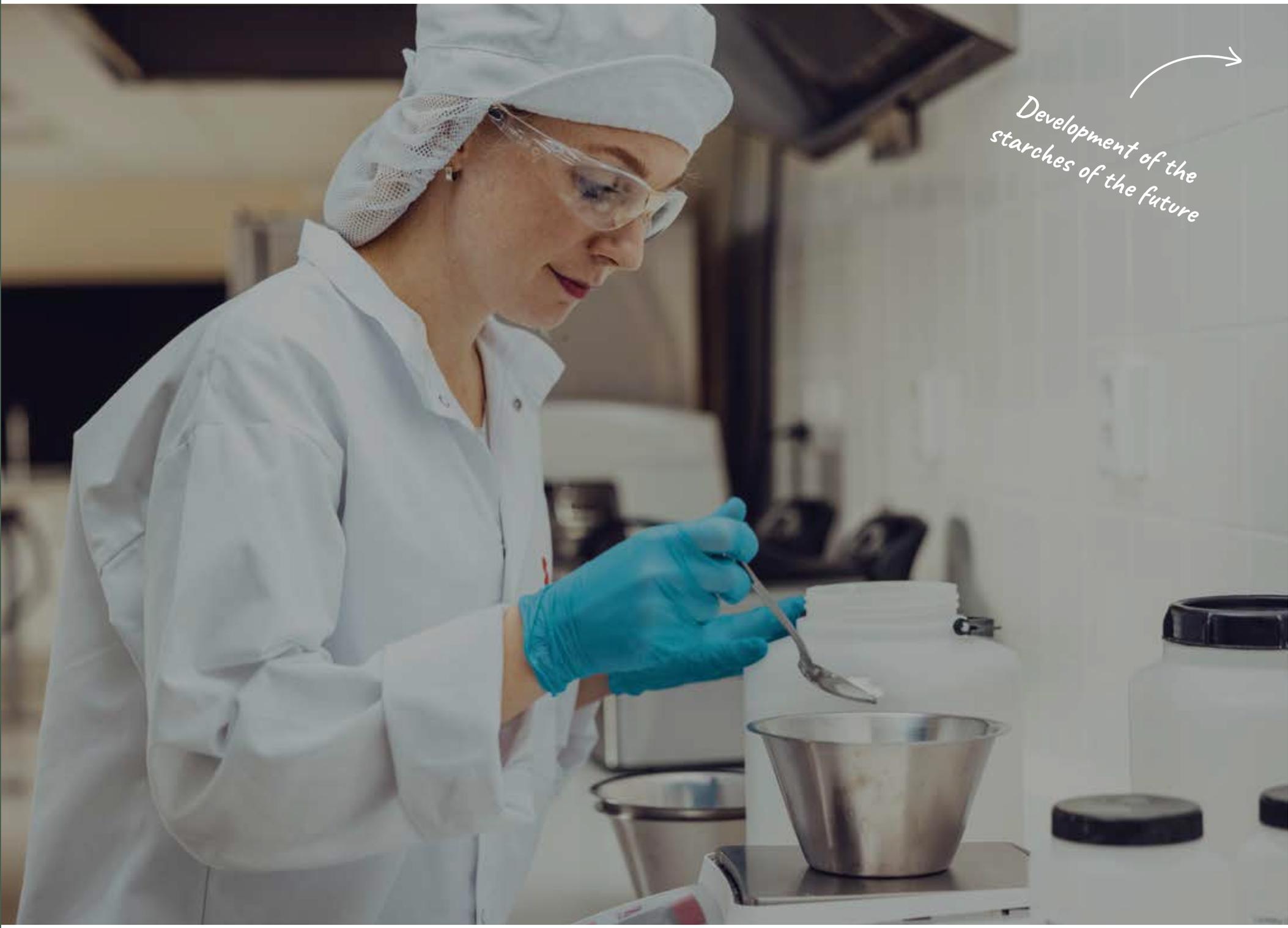
In recent years, there has been constant news of Kockens' new climate packaging. A weight reduction and more recycled glass in the spice jars, bio-based plastic in lids, and only recycled plastic in the slightly larger medium plastic container.

This year, we have continued the journey by investing in a new packaging machine, where we can pack in paperboard and monoplastic, in line with the 2025 Plastic Initiative. We are also working towards replacing black plastic in packaging to facilitate recycling, because sorting facilities struggle to sort black plastic.

## 2025 Plastic Initiative

The Kockens brand is a member of DLF's "2025 Plastic Initiative". This means that, together with colleagues within the food industry, we strive to push development towards the circular economy in accordance with the EU commission's launch of "A European strategy for plastics in a circular economy" in January 2018. The aim of the initiative is that by 2025 it will be possible for the plastic packaging placed on the market by members, and which is covered by producer responsibility legislation, to be reused in new products.





*Development of the  
starches of the future*

## The functional food starches of the future

*The overarching focus of development work at Lyckeby is on developing products, processes, and concepts that will contribute to our sustainable development. This involves creating new starch products manufactured with lower energy and chemical inputs, and which contribute to creating climate-smart, healthy, and safe food.*

A number of long-term research and development projects in the Swedish starch operations are collected under our internal development vision "The green starch factory". We want to create sustainable products that correspond to our customers' needs – and ultimately those of the consumer. One major challenge is creating starch products that can cope with the food industry's demands for process- and storage-stability while simultaneously meeting the increasingly conscious consumer's demands for the products.





*E number-free starch*



LYCKEBY CAREFUL SALES VOLUME  
(2018-2023)



### Dextrin – a natural, E number-free starch with many applications

We produce dextrin in our Czech operations. Dextrin is modified physically rather than chemically, using acid and heat, and is thus declared without any E number in the ingredients list, in the same way at the Lyckeby Careful products. This starch product is often highlighted as a health product and can also replace egg in some applications. Dextrin can also be used as a replacement in polymer dispersions (plastics) in different technical applications, including during the manufacture of adhesives. Dextrin-based adhesives are used in large quantities in the manufacture of paper sleeves, and today more and more customers are looking for sustainable adhesives for other products and packaging.

### Lyckeby Careful – clean label

Today's consumer constantly demands more sustainable products, and our Lyckeby Careful portfolio has been created especially to respond to this demand.

The products are processed using a climate-smart production technique patented by Lyckeby. With this technology, we reduce the consumption of energy and chemicals in the processing of process-stable starch products, which are especially designed to tolerate the food production process they are then used in. In addition to the products having a lower carbon footprint, they are also what are known as "clean label" starches, which means that they are declared without E numbers in the ingredients list on the food.

Over the last few years, we have invested in potato-based Lyckeby Careful products with the function of giving consistency, texture, increasing the switch to plant-based meat alternatives, and improving crispness in foods such as French fries. Our goal is to increase sales of Lyckeby Careful tenfold between 2020 and 2025.





## Modern plant breeding – changing the landscape

We are extremely proud of our innovation project, in which we have worked with the Swedish University of Agricultural Sciences (SLU), using modern plant breeding techniques and taking a very large step towards creating climate and environmentally-smart food starches.

With the help of the Nobel prize-winning CRISPR-Cas9 genome editor, we have developed new potato varieties whose starch is naturally more storage-stable. Natural storage stability means that smaller quantities of chemicals and thus of energy are required to produce the starch products our customers demand.

During the financial year 2022/2023, we have carried out cultivation of different variants of seed potatoes developed using the genome editor to facilitate future industrial cultivation.

We have also continued product development to evaluate how the starch functions in different food applications, to prepare for a forthcoming product launch. If the project continues to show positive results, we estimate that large-scale production of new climate-smart starch products will be possible in 2025. We are keeping a close eye on the development of regulations on modern plant breeding techniques within the EU. On 25 July 2018, the European Court of Justice decided to regard as GMOs organisms obtained by modern techniques for plant breeding such as CRISPR Cas9. This is

despite the fact that modern technologies can be used more safely and more effectively than “traditional” editing methods, which are exempt from the legislation. The decision has been criticized by authorities, researchers, and industry within the EU, and we are continuing to provide information at regional and EU level on the need for and benefits of modern technologies, for example through our project for climate-smart food starches. We expect that the legislation will soon be changed, so we can use modern plant breeding technologies on equal terms with countries outside the EU.

Since the EJC verdict in 2018, the European Commission has carried out an investigation of current legislation and how it should be possible to use modern techniques without jeopardizing food safety. In July 2023, the European Commission released its report, suggesting changes to the GMO directive so that it is possible to use the modern plant breeding technologies such as CRISPR-Cas9. In its statement, the European Commission was clear that the modern plant breeding technologies are necessary for us to be able to achieve our goals within Farm to Fork and The Green Deal. We welcome the European Commission's position and hope now for a rapid process to decide on a new directive so we can market the new, climate-smart starch products and then continue working on exciting new projects within modern plant breeding.

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*We are convinced that the genome editor is important in a sustainable future, and thus actively contribute by testing the technology in real applications. This makes our products part of the solution to meeting some of the major challenges facing us in terms of the climate, the environment, and sustainable economic development*

**KALLE JOHANSSON**

Development Manager, Lyckeby

## **Collaborative program for innovative food crops**

SLU Grogrund is a collaborative program between the Swedish University of Agricultural Sciences (SLU) and industry, which aims at ensuring access to new plant varieties adapted to Swedish growing conditions and contributing to a growing, sustainable, and profitable production of food in Sweden. The program began in 2018 as part of the Swedish food strategy. Participants include academic researchers, plant breeders, and actors from the food and agriculture sectors and society as a whole.

Lyckeby plays an active role in SLU Grogrund's steering group, and took part in 6 of the program's 21 projects during 2021.



## KPI Overview

On the following pages, we provide a summary of the KPIs we follow in our sustainability work, and how close we are to achieving our goals.



**GOAL ALREADY ACHIEVED**



**GOAL WILL BE ACHIEVED**



**GOAL DIFFICULT TO ACHIEVE**

### A value-adding workplace

	DEVELOPMENT AREA	GOAL/ACTIVITY	HOW IS IT GOING?	READ MORE ON P.
	Workplace accidents	Zero tolerance for workplace accidents that lead to absence		<b>22</b>
		Revision of goals for workplace accidents in FY23		<b>22</b>
	Raising staff awareness of sustainability work	Introduce sustainability information into the program for new employees		<b>29</b>

## Sustainable cultivation

	DEVELOPMENT AREA	GOAL/ACTIVITY	HOW IS IT GOING?	READ MORE ON P.
	Use of plant protection products	By 2025, reduce the quantity of plant protection products used by our potato suppliers by 50%, compared to 2014 and maintaining the same yields		<b>41</b>
	Climate impact of potato cultivation	Reduce emissions in Scope 3 by 20% from 2017 to 2025		<b>43</b>
	Global supplier cultivation and working conditions	100% of our suppliers should have signed the Code of Conduct and been risk assessed by 2025		<b>34</b>
		By 2025, increase the share of purchased, sustainably-produced spices to: 50% turmeric, 40% pepper, 25% chili		<b>33</b>



## Resource-efficient operations

	DEVELOPMENT AREA	GOAL/ACTIVITY	HOW IS IT GOING?	READ MORE ON P.
	Climate impact, starch production	Make energy savings of 1 GWh/year, calculated as a rolling five-year average		<b>49</b>
		Reduce carbon footprint in Scope 1 and 2 by 30% from 2017 to 2021		<b>52</b>
		Reduce carbon footprint in Scope 1 and 2 by 85% from 2017 to 2025		<b>52</b>
		Reduce carbon footprint in Scope 3 by 20% from 2017 to 2025		<b>52</b>
	Chemical use, starch production	Increase sales of Lyckeby Careful products tenfold between 2020 and 2025		<b>71</b>
	Total carbon footprint	Calculation of Scope 1, 2 and 3 carried out during 2022		<b>58</b>

## Resource-efficient operations

	DEVELOPMENT AREA	GOAL/ACTIVITY	HOW IS IT GOING?	READ MORE ON P.
	Energy use, Fjälkinge factory	Total energy consumption of 348 kWh/tonne at the turn of the year 2022/2023, production of the same volumes as 2017		<b>59</b>
	Material recovery, Fjälkinge factory	>50% of the waste from the Fjälkinge factory, must fall into the fractions material recovery, bioprocessing, and reuse		<b>59</b>
	Sustainable transports	Fossil-free transports for all Kockens products according to DLF's transport initiative, fulfilled by 2025		<b>59</b>
		Only fossil-free energy in transports for Culinar products by 2030, according to the Swedish Food Federation's Sustainability Manifest		<b>59</b>
	Fossil-free production	Only fossil-free energy in production at the Fjälkinge factory by 2030, according to the Swedish Food Federation's Sustainability Manifest		<b>59</b>



## The products of the future

	DEVELOPMENT AREA	GOAL/ACTIVITY	HOW IS IT GOING?	READ MORE ON P.
	Chemical use, starch production	Increase sales of Lyckeby Careful products tenfold between 2020 and 2025		<b>71</b>
	Modern plant breeding	Increase our knowledge of how the CRISPR technology affects the potato's properties		<b>72</b>
		Collaborate with other actors in the SLU Grogrund project		<b>73</b>
	The green protein transition	Continuously increase our knowledge of flavoring foods based on alternative proteins to satisfy our customers' demands		<b>65</b>
		Be an active partner in cross-industry projects aimed at ensuring a resource-efficient value chain for green proteins cultivated and processed in Sweden		<b>65</b>
	Reduced salt content in food	Play an active part in the ReduSalt project, to develop techniques that make possible a salt reduction in a range of food without compromising on flavor and function		<b>65</b>
	Packaging	It must be possible to recover 100% of material in all of Kockens' packaging by 2025		<b>66</b>



**EVA LUNDHOLM**

Environment and Quality Manager,  
Lyckeby

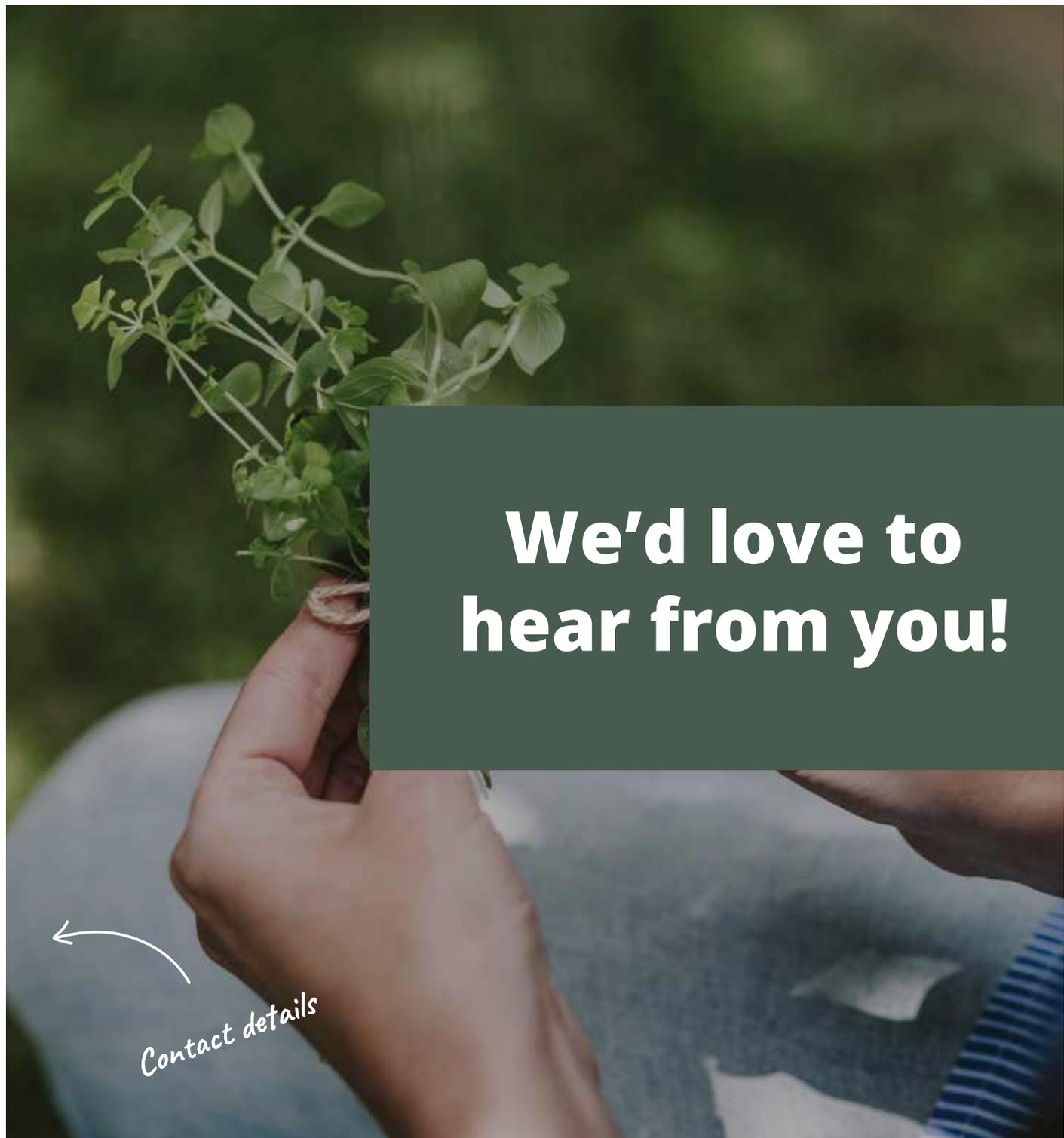
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**We'd love to  
hear from you!**



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