CSR Report 2020

Accelerating our sustainability journey

Holland.Malt

your quality in our hands

Contents

Message from our CEO Jos Jennissen

Strategic choices pay off

It is somewhat strange to say, but Holland Malt is looking back on a great year. When the corona pandemic started early in 2020, we were initially hit hard. We deliver malt worldwide, and when large customers decided to pause their supply chains, it had a serious impact. Like many businesses, we have had to implement cost reduction measures. From June onward, when the lockdown restrictions were loosened somewhat and the hospitality sector could open again, we saw a significant catch-up effect. This was strengthened by our strategic focus, in which geographic and market spread is central. Through the strategic locations of our two maltings nearby Europe's largest container port, Rotterdam, we have excellent access to breweries worldwide. Moreover, in some geographic areas, the beer market was surprisingly not much affected. As a result, we have had a very good year and we will continue with our growth agenda as planned.

Sustainable progress

We have also continued making progress towards our sustainability commitments, as shown on the right.

Joining forces for sustainable agriculture

Breweries are increasingly asking for sustainable barley. In part, because the end consumer has started to pay attention to sustainability, but also because the sector is realizing that this is necessary to keep its' 'license to grow'. If agriculture does not change, farmlands will become depleted. Global grain production is not developing at the rate it used to, whereas the global population and consumption are growing fast. As a sector, we need to engage with and support farmer communities to create a win-win and facilitate the change into a future-proof sector that can deliver the large volumes needed to meet demand, sustainably. As a company, we aim to source 100% sustainable barley in 2025.

One of the ways we increase the amount of sustainable barley sourced is through the Sustainable Agriculture Initiative (SAI). SAI assesses and certifies farmers based on their sustainable practices and provides certification on bronze, silver or gold level. In 2020, another large European malting barley producer joined SAI on a national sector level. An important step which shows that SAI is increasingly embraced in malting barley areas in Europe. This means we are increasingly able to source the sustainable volumes we need. In 2020, we achieved 59% sustainable barley sourced. A great accomplishment, especially since our production capacity doubled in 2019 after the opening of the two new malting towers at Eemshaven maltings.

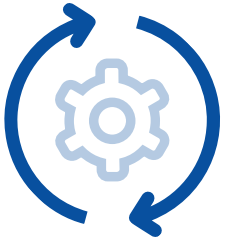
We also focus our efforts on regionally grown barley in the Netherlands. We do so with the projects Farmer Beer Water and a local growing project around brewery De Koningshoeven, known from the La Trappe beers. Here, the partnership agreement has been renewed for another three years. In the coming period, we will work on obtaining SAI gold certification through the implementation of additional sustainable agriculture measures. When this is achieved,

Our sustainability commitments

Source **100% sustainable barley** in 2025

Create a **100% safe work environment** in 2025

Reduce 35% CO_2 emissions by 2025 and 70% by 2030



Operate circular by 50% in 2025 and by 100% in 2030

the project will become a frontrunner and bring Dutch agriculture to a higher level. In this regard, the Dutch Skylark Foundation (Stichting Veldleeuwerik) has played a very important role as well. The Foundation discontinued its work in 2019, but it is important to acknowledge that Skylark has been instrumental in helping farmers become more sustainable, and in increasing the volumes of sustainable barley from the Netherlands.

We can truly tackle this challenge if we work together as a sector. Therefore, we want to sit down with breweries to discuss solutions and the appropriate financial structures, so that all parties in the value chain can be compensated on a level playing field. Our ambition for the future is to make sustainability part of the contracts with breweries, farmers and cooperatives.

Working on our environmental footprint

Our sustainability impact is more than the barley we source. Companies in so-called 'conversion industries' like ours turn raw materials into usable products. This generally requires large amounts of natural resources, such as water, electricity and gas. As a result, the limits of linear production systems become very clear. With the increasing global consumption patterns, industrial processes need to be reinvented to be more environmentally sustainable.

This also applies to us. The malting process is heat intensive and for a large part makes use of natural gas. At Holland Malt, we are focusing our efforts on reducing fossil fuels. Together with our energy provider we installed a hot water buffer at Lieshout maltings. Waste heat can be stored there. It functions like a battery from which the heat can be withdrawn later. In 2020 we also procured green electricity, another step in reducing our CO_2 emissions. However, with these actions we are not only working on our CO_2 ambition, we are also making our operations more circular. The challenge is to do this in a cost-efficient way. Therefore, we need the support of our stakeholders, including the government, to realise this transition. Let's work together!

Safety remains a top priority

Next to the above accomplishments, I am very proud of our safety performance. At Lieshout maltings, we have had zero incidents for four consecutive years, and we will keep striving for a zero-accident workplace. People should feel and be safe when they are at our malting plants.

Many things have been achieved, but there is still a lot of work to do in the coming years. Besides our ambition to reduce our footprint, we will investigate additional ways to increase the circularity of our business. I look forward to it. Looking back on 2020, I would like to very much thank our customers and partners. A special word of thanks to our employees, who stood their ground in a strange and challenging year and who make a great team!

Please enjoy Holland Malt's CSR report 2020.

Jos Jennissen, CEO Holland Malt

CSR Performance

Sustainable Agriculture

36% increase of sustainably sourced barley

Over the past two years we increased the amount with 83%.

75% was SAI Silver or higher

In 2018 this was 63%.

Health & Safety

1 LTA

0 Fatalities

The number of LTA has been very low, with zero accidents resulting in absence from work in Lieshout and only 1 accident resulting in absence in Eemshaven.

Environmental Performance

123 kg CO_2 per ton malt

2,7 m^3 water per ton malt

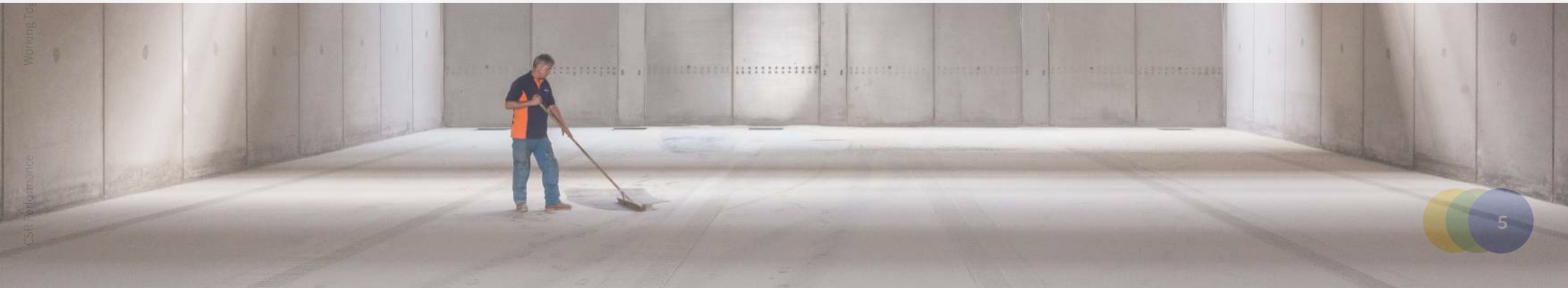
The CO_2 per ton malt decreased, thanks to increased efficiencies of our new malting towers and the procurement of green electricity from Dutch windmills.

Product Responsibility

Zero recalls

99% of our co-products is circularly re-used

All external audits have been successful, most of them with the highest ranking.



Trends & developments

Global megatrends have the potential to fundamentally change the way society and our business operate. To make our business future-proof, we assess the potential impact of economic, social and environmental trends and developments that can affect our business. We will address a few trends that are relevant to our sector and our business.

Growing world population

By 2050, there will be more than nine billion people on the planet. Feeding this growing global population is a serious challenge given the demand placed on our ecosystems. The amount and quality of agricultural land is declining as a result of ongoing urbanization, higher salinity levels and soil erosion. Moreover, extreme weather events, such as drought and flooding, are impacting harvest quantity and quality.

According to the Food and Agriculture Organisation (FAO), in 30 years an additional 70% of food will be needed to feed the world, while at the moment there are still nearly 690 million people suffering from chronic hunger. Food security is thus a key topic in the entire agricultural chain, and agriculture needs adapt in order to create a sustainable food production system. This also affects the barley-malt-beer value chain. Global grain production is not developing at the rate it used to, while demands keep increasing. At the same time, barley, being a crop that fits well within the crop rotation plan of a farmer, can play an important part in sustainable agriculture. More on this in the chapter Sustainable agriculture.

Climate Change & Energy Transition

Climate change is a key risk to our sector and business: rising temperatures and changes in rain patterns have an impact on agriculture, including barley cultivation. Most of the barley we source grows in Western Europe, in countries like the Netherlands, France, the UK and Scandinavia. In these regions, barley is a rain fed crop with a relatively strong resistance to warmth and drought. However, long periods of rain or drought will have an impact on the quality of the barley.

By adopting the Paris Climate Agreement in 2015, the international community has committed to reduce CO_2 emissions to restrict the global average temperature increase to 'well below 2 degrees' Celsius above pre-industrial levels, and to make efforts to stay within a 1.5 degrees Celsius above pre-industrial levels scenario. To achieve this, CO_2 emissions must be reduced by 80% to 95% by 2050.

We currently use natural gas and a small share of biogas to generate the heat for our malting process. Our long-term ambition is to reduce CO_2 emissions by a 70% in 2030, an ambition set out in 2018 and still achievable. We believe that multiple sustainable energy sources will together provide the solution to decarbonise, but we also believe that using plant biomass will not be the answer to meet the goals set out by the Paris agreement. In Lieshout we are working together with Swinkels Family Brewers on lowering our CO_2 emissions. At the Eemshaven malting plant, as standalone facility, we are eventually focussing on the complete elimination of natural gas. These activities help to meet our ambitious goal on CO_2 reduction and will make our plant future-proof. More on this in the chapter Our environmental performance.

Circular Economy

Millions of tonnes of waste are produced every single day. The circular economy strives to prevent products turning into waste and seeks to eliminate the idea that new resources are needed to create economic grow. In a circular economy, raw materials are decoupled from economic growth and production processes are circular instead of linear. The food sector as a whole generates a lot of waste.

In the barley-malt-beer value chain, the amount of waste produced is limited, especially given our product which is largely shipped in bulk. Still, circularity is very relevant for Holland Malt: one of the co-products of our production process is 'malt culms', which are currently sold to the feed sector. More on this in the chapter Product responsibility.

Our CSR Strategy

Our Purpose

Your quality in our hands. Holland Malt was founded over 100 years ago with the goal to deliver quality malt at all times, now and for future generations. Our purpose: Holland Malt delivers high quality malt at all times. We are a family-owned business. We are determined to reduce our environmental impact in our production, create a safe work environment and take responsibility for our product and in our supply chain to safeguard the well-being of future generations.

Our CSR ambitions

We have been dedicated to sustainability for years and have concrete, measurable ambitions in place that focus on the biggest impact areas within our business and supply chain:

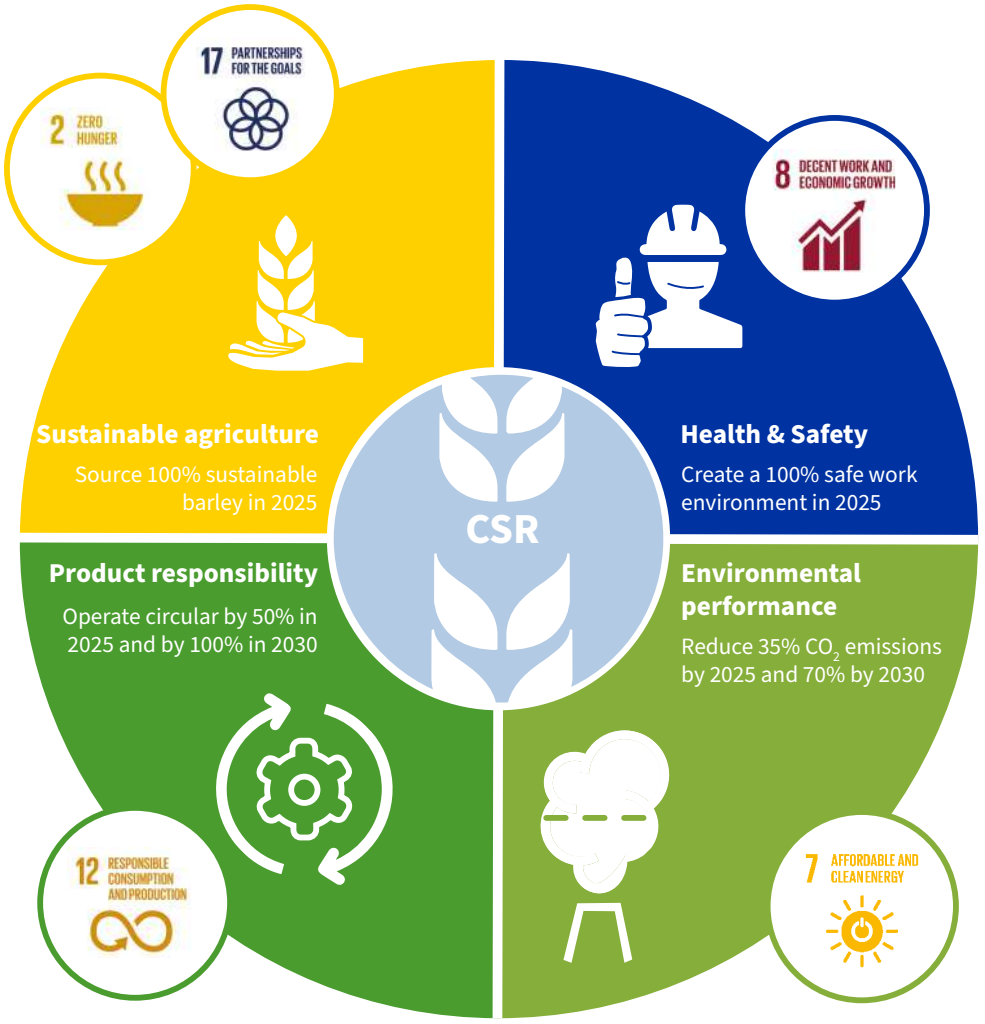
- Sustainable agriculture
- Environmental performance
- Health and safety
- Product responsibility

These four pillars form the basis of our CSR strategy and our reporting. We are working on the following ambitions, benefitting famers, employees, clients, consumers and our environment:

- Source 100% sustainable barley in 2025
- Create a 100% safe work environment in 2025
- Reduce 35% CO_2 emissions by 2025 and 70% by 2030
- Operate 50% circular in 2025 and 100% by 2030

All of our commitments have a wider impact on our value chain and benefit famers, employees, clients, consumers and our environment. We see our efforts in a broader perspective and align our ambitions to the UN Sustainable Development Goals (SDGs). As shown in the visualisation on the right, each of the four pillars and ambitions contributes to a specific SDG. These are the SDGs to which we can contribute the most.

In the section Our CSR Performance, we share our efforts and our performance by means of KPIs for each CSR pillar.



Value Chain

Our value chain is straightforward and transparent. It starts at barley and ends at beer. As a malting company, we transport and store grains and produce malt for use in beverages and food. We supply the malt to brewers and distillers all over the world.

At the moment, most of our CSR activities take place in our own operations, but we increase the impact of our efforts by working together with suppliers, clients and other stakeholders.

Governance

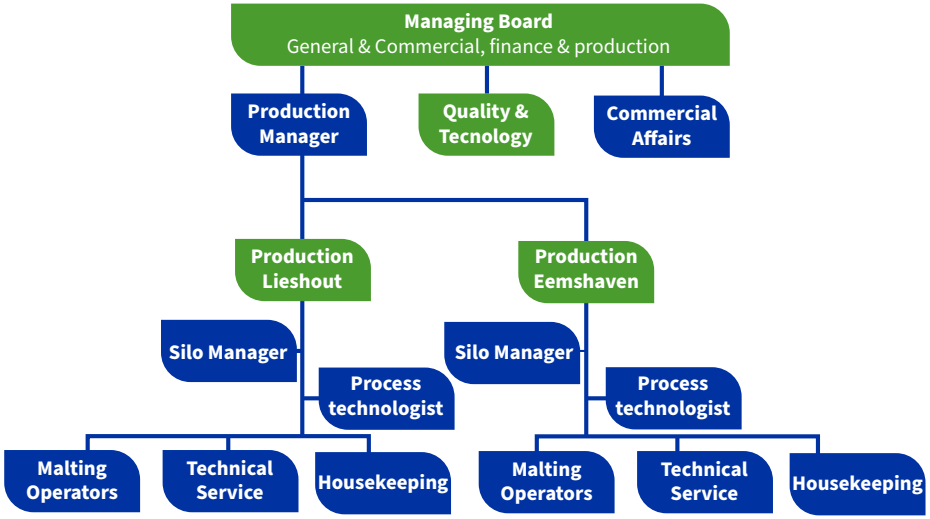
The final responsibility for CSR lies with our CEO Jos Jennissen. He ensures effective governance and guarantees the most attention is given to the implementation of our refined CSR strategy. He ensures that important topics are addressed, and he also participates in many stakeholder discussions. Furthermore, he takes part in internal initiatives and activities regarding sustainable employability and guarantees that our people work in a productive, motivated and healthy way.

To support Jos Jennissen on a tactical and operational level, Martijn van Iersel, our Manager Sustainability, takes care of the proper implementation of all CSR activities. Our Production Managers in Lieshout and Eemshaven maltings are responsible for plant-related CSR matters such as energy and safety for our co-workers. Our CSR governance is not restricted to the boardroom level or an isolated staff department: it is vertically embedded in the organisation and responsibilities are given to those functions that have the largest impact and influence on specific actions and outcomes. Below you can find the organogram of our organisation.

CSR is also part of our company management system. To continuously improve our quality and ensure food safety, we have set up our management system according to ISO 9001 and are ISO 22000 certified. Our environmental management system is also in accordance with ISO 14001, but is not certified as such yet.

By integrating CSR in our governance, management and reporting systems, we are structurally and continuously seeking to improve our processes and CSR performance. A responsive attitude towards complaints and suggestions for improvement is crucial to us. We take all complaints very seriously, investigate each case thoroughly and find the best solution.

Finally, we enable all our employees to act in line with our principles. All employees sign our company code when they start their career with us.



Working together

Listening to our stakeholders

We engage in active dialogue with all our key stakeholders. These are parties that are impacted by our activities or who can influence us, for example in relation to realising our CSR ambitions. Our key stakeholders are clients, employees, farmers and cooperatives, suppliers, shareholders and governmental and certification bodies.

We list all our key stakeholders, monitor how we are in contact with them, what the output of the engagement is and to what extent we take action based on their feedback. This way we ensure all voices are heard. In 2020, we engaged with a variety of stakeholders. We especially talked to several clients about CSR related topics. Below are some concrete examples:

With a global brewer we engaged in discussions on the reduction of our CO_2-footprint and the progress on sustainable barley in the context of the Sustainable Agriculture Initiative.

Japanese clients are strongly focused on sustainability.
They are running programs to map the quality and possible risks of the barley production, and they address various topics, such as anti-discrimination, labour rights, fair conduct and safety, via their independently developed Code of Conduct.

We also talked to various smaller Dutch breweries.
They are looking to work increasingly with locally produced barley. We therefore introduced a new malt, Authentic Dutch Pilsner Malt, which has been made from barley grown 100% on Dutch soil. With locally grown barley, we can also ensure that transport kilometres are reduced.

We talked about sustainable, local barley with brewery De Koningshoeven.
We agreed on renewing the project focused on regional production of malting barley for their various Trappist beers. In our dialogue with Agrifirm, the farmer co-operative behind this project, we discussed the extension of this project, for example by including topics like nature inclusive farming and a Deltaplan for biodiversity. We will continue these conversations to make concrete agreements. We are also looking into SAI certification with Agrifirm.

With various German brewers, we discussed the presence of glyphosate in malt.
Glyphosate is used as a herbicide as well as to speed up the ripening process (desiccation). This latter application on malting barley is not allowed given the risk of residues in beer. We share this concern of the German brewers and strongly urge our suppliers to reject the use of glyphosate for desiccation.

About this report

This is our CSR report 2020. The report focusses on 2020, however the presented data covers the activities of Holland Malt during the period 1-1-2019 to 31-12-2020. We have two locations with production facilities, in Lieshout and Eemshaven. All locations, including the head office, are included in the scope of this report.

The content of this report has been developed through interviews with various internal stakeholders, such as the CEO and the CSR/QT manager. Furthermore, interviews were held with selected external stakeholders. Their stories are presented in the chapter 'Our CSR Performance'.

Data presented in this report and appendices are based on data from Holland Malt's management systems and reports. KPMG has provided limited assurance on selected CSR indicators in the Royal Swinkels Family Brewers integrated annual report of 2020, which include CSR indicators for Holland Malt. Some of those data indicators are included in the section 'environmental performance' and 'health and safety'. Due to the fact that our malting plant in Lieshout is located next to a brewery of Royal Swinkels Family Brewers, some of the data of this production facility are presented in the Annual Report of Royal Swinkels Family Brewers. In some situations, we have not been able to separate the data for the brewery and the malting towers. In those cases, we only report for our malting facility in Eemshaven. This is applicable for the waste data in this report. This data is marked with an asterisk *.

The report has been drafted in line with the Global Reporting Initiative Standards (GRI). Specifically, the GRI Principles for Defining Report Content and for Defining Report Quality are incorporated in this report. However, we do not report 'in accordance' with the GRI.

Our CSR Performance

Sustainable agriculture

Our business depends on the availability of barley. No barley, no malt. We only want to work with high quality, sustainable barley. Barley is a rain fed crop, but has a relatively strong resistance to heat and drought. It is often a rotation crop. For example, a farmer will first grow barley and then potatoes. This rotation improves soil quality and yields, by giving it a period of rest from the intensive use. As a result, the soil life and biodiversity can recover. Most of the barley we source is grown in Western Europe; the largest share comes from The Netherlands, France, the UK and Scandinavia. This reduces cost and environmental impact of transport.

Our performance

We are committed to sustainable agriculture and are part of multiple platforms that certify and enable farmers. We are a member of the Sustainable Agriculture Initiative (SAI) and used to be a member of the Skylark foundation, which unfortunately ceased to exist in 2019. In addition, we are also involved with other local initiatives, such as 'Farmer Beer Water' at Lieshout maltings and local sourcing at the Koningshoeven Brewery, described in detail below.

With these initiatives, we tackle the various ambitions that sustainable agriculture has, such as safeguarding biodiversity, ensuring healthy soils, protecting crop sustainability, using green energy, empowering farmers and sharing knowledge. The ambitions and efforts of large and small breweries to source sustainable malt are important, because our clients amplify our performance. When they demand sustainable barley, we are able to source it.

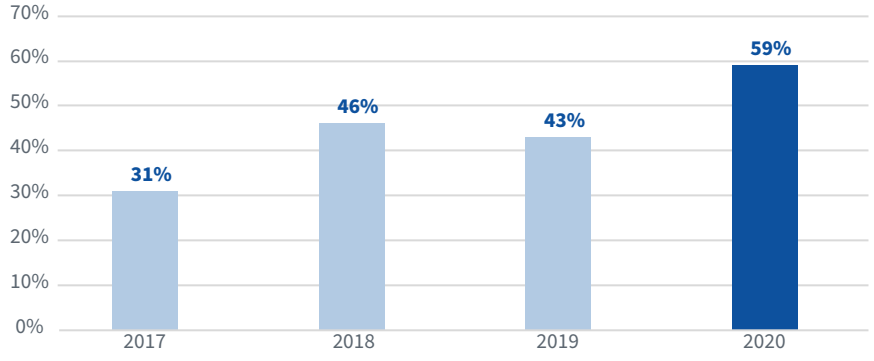
We are very proud of what we have achieved together: we have made a significant step in both the quantity and the quality of our sustainable sourcing. Our goal is to source 100% sustainable barley in 2025. In 2020, we achieved 59%. A key driver was the focus on finding and developing new supply chains.

Climate impact on barley

Climate change is a global development that also impacts our sector. On the one hand there are longer hot and dry periods in summer. That is not always a bad development, because heat and drought can actually improve the quality of barley, especially in countries like Denmark and Sweden. However, in the Netherlands, most of the barley comes from Drenthe, where barley is grown on drought sensitive land. Towards Southern Europe, desiccation of the land is also a risk. Farmers are able to manage this impact through irrigation, although using ground water in dry periods is challenging as certain ground water levels need to be maintained.

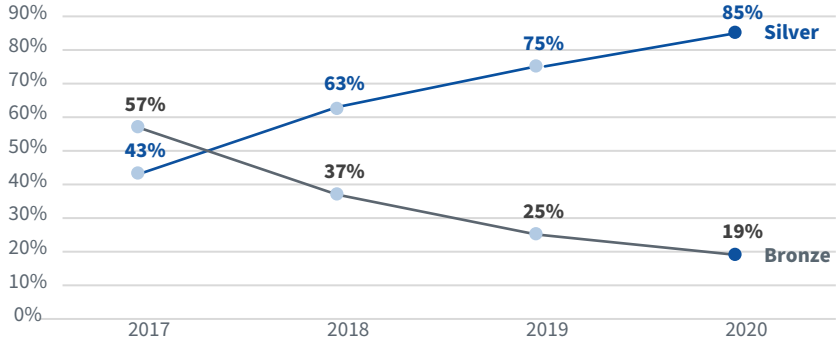
The other side of the coin is an increasing amount of rain. That presents a more significant risk as farmers have no way of managing this. Resilience is therefore a benefit for everyone in our value chain. Together with clients, we have assessed the potential risks of climate change in relation to barley. We work with farmers and enable them to be adaptive. Research and barley breeding are also key in the solution to find more drought or heat tolerant barley varieties. Finally, we follow a procurement strategy that makes us less at risk of the effects of climate change and the quality of crops. Our overall conclusion is that our malting locations are optimally positioned in Europe.

% Sustainable sourced of total production (target KPI)



% SAI Silver/ Bronze or higher

(including the sourcing via other initiatives) of total Sustainable sourced



Increasing sustainably sourced barley

SAI stimulates sustainable agricultural practices and production systems that preserve future availability of resources and enhance their efficiency. It is one of the most used and respected standards for sustainable agriculture. SAI also offers a benchmark for farmer cooperatives to become 'SAI certified'. This certification indicates that farmers work according to sustainable practices. In 2019 and 2020 we worked on helping our Danish, Swedish and French suppliers to become certified. After carrying out the Farm Sustainability Assessment, they have become SAI certified on bronze, silver or gold level. Getting more and more suppliers certified will help us to source 100% sustainable barley in 2025. From all our barley suppliers, 59% is now SAI certified. We will continue to focus on enlarging our supply with sustainable barleys.

Skylark: a big step for sustainable farming

From 2012 to end of 2019, we worked with the Skylark Foundation. This foundation stimulated farmers and food processors in a joint effort to improve sustainable farming. Over the years, farmers have written their own sustainability plans and accredited Skylark advisors supported farmers to help integrate social, environmental and economic ('people, planet, profit') principles on their farms. Through Skylark Foundation we provided a premium for the barley and stimulated biodiversity by handing out free flower seeds to be used in barley field boarders.

Holland Malt has rapidly increased the barley sourced from Skylark; from 3,488 tonnes malt at the beginning in 2012 to about 12,000 tonnes malt in 2019. Unfortunately, the Skylark Foundation ended its activities per 2020 as a result of insufficient financing possibilities. The foundation was an influential partner in setting sustainable agriculture on the agenda in the Netherlands. Moreover, they successfully involved farmers on an individual level and supported them with knowledge and guidance on increasing sustainability. As Holland Malt, we were sorry to learn that the foundation stopped its activities, and we welcome any new initiatives.

Improving the cultivation of brewing barley

The project Farmer Beer Water is located in Laarbeek and aims to ensure a good quality of the ground and surface water in the area, with minimal drought damage for the farmers. It is a collaboration of the municipality of Laarbeek, Water Boards Aa and Maas and de Dommel, ZLTO (department of the Dutch Federation of Agriculture and Horticulture), Rijkswaterstaat, the province of North Brabant and Rabobank and local farmers.

Holland Malt is involved as a partner to educate farmers on how to secure the quality of the barley with minimal use of fertilisers. This is important to have a minimal negative impact on the ground water quality. In addition, we try to stimulate the local production of malting barley in this project. The past two years, there has been growing interest from farmers around the brewery to participate. Especially 2020 saw a record year in terms of arable land used, and the volumes produced increased threefold.

Working together with De Koningshoeven

Brewery De Koningshoeven is based in Berkel-Enschot in the Netherlands. It is known for the Trappist beers named 'La Trappe'. De Koningshoeven is one of the few breweries that can produce under the label 'Authentic Trappist Product'. This means that the beer is brewed under the supervision of monks and made on the premises of the abbey. To reduce transport emissions, we have been managing a supply chain together since 2012, focusing on the regional production of malting barley for the various Trappist beers. This project has been very successful as it stimulates farmers to be part of a sustainable, local value chain and guaranteeing the demand for their barley. On the next page, you can read the story of one of the farmers taking part in this project and on page 25, please read more about De Koningshoeven.

Introducing Authentic Dutch Pilsner Malt

Next to our focus on sustainable barley, in 2020 we also developed a malt that is distinctive, local and sustainable. There has been increasing demand for such a malt, especially from Dutch craft breweries who are looking to create local, sustainable beers. The new Authentic Dutch Pilsner Malt is produced using the best quality Dutch brewing barley. Malting barley in the Netherlands is mainly grown in Zeeland, West-Brabant, and in the North of the Netherlands (Drenthe and Groningen). Barley has the strong benefit of being a 'breaking crop' within a crop rotation plan, adding value and yield to crops such as potatoes or sugar beets.

Taking care of the soil

Caring for the soil

For over 19 years, Arjan de Graaf has been a farmer in the land of Heusden and Altena, Noord-Brabant. There, he runs his farm 'Bodemtrouw'. A Dutch word which is hard to translate, but which is about being 'faithful to the soil'. Arjan: "Sustainability means taking care of the land. It is the most important means of production we have." Arjan grows potatoes, beets, onions, flax fibre, winter wheat, grass seeds and barley. Every growing season, he specifies which crops will be grown on which specific lot by a rotation scheme. Some crops demand a lot from the soil, but cannot be grown consecutively every year. Moreover, soil that is used intensively needs to recover as well.

This is where malting barley, a 'break crop', plays an important role. Barley is a good rotation crop that helps the soil and biodiversity recover, and that breaks diseases and weed cycles. A good example is the influence malting barley has on nematodes. Nematodes are small worms, barely visible to the naked eye, which live in the soil and damage the roots of crops. Affected crops will not absorb sufficient nutrients and lack growth and production. Barley ensures that the nematode population decreases. This enhances the quality of the soil and increases the yield and healthiness of following crops.

Project Regional Growing

For Arjan, sustainability is also about knowing where his product goes. His winter wheat for example, is used as feed at a chicken farm nearby, creating a short, local supply chain. That is the reason why Arjan enjoys being part of the project Regional Growing. Some nine years ago, this project was initiated by the cooperative Agrifirm. The goal: processing barley grown in Brabant regionally. It is a success: the malting barley from the various participating farmers is used nearby at brewery De Koningshoeven. Here, the famous La Trappe Trappist beer is brewed.

Arjan has also learned from the project. "We all grow barley on the same type of soil, and we learn from each other about optimising the cultivation of malting barley." For example, variety trials have been done to learn if different barley varieties deliver the same quality of malting barley. In terms of quality, the protein number and plumb grain count are key, in combination with high yield during the harvest. "The past years, the yield has been 9 tonnes of barley per hectare on average. As a farmer, you always want to try and increase that."

Climate change also plays a role. Dry periods are manageable by irrigating the land, but heavy and frequent rain is a problem. Some years ago, Arjan grew a barley variety with a low straw stiffness, this one subsequently lodged in heavy rains. Last year however, rains stayed away and the harvest had to be irrigated completely.

Less water

Agriculture requires a large amount of water. Fields are often irrigated with ground water, however this practice has come under a magnifying glass in recent years, due to the longer dry periods in spring and summer. To reduce his water usage, Arjan has invested in GPS-technology on tractors and farming machines, as well as moisture sensors in the ground. Now the amount of water used during irrigation can be precisely managed, with a 10% reduction of water as a result. Arjan: "I used to do the irrigation using my 'farmers' sense'. This technology shows that that feeling was not always correct. Now, I can check my smartphone and the sensors show me what the water balance looks like, and when we should need to start watering." Last year investments were also made in a new irrigation system, which supplies water only to sections of a plot that need water.

Environmental performance

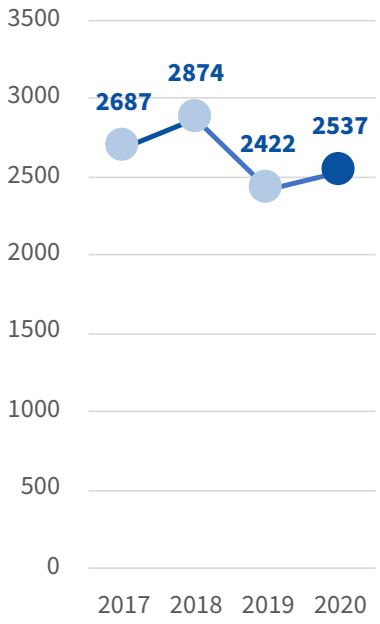
Improving our water and energy efficiency has long been a focus for us. Over the past ten years we have taken significant steps. We aim to reduce our CO_2 emissions with 35% by 2025 and 70% by 2030. We are investigating ways to replace our natural gas usage with other renewable sources. The focus is on electrification of our malting plants, as it becomes increasingly clearer that fuelling and burning plant biomass is not the solution. Reaccumulation of exhaust CO_2¬ into new biomass is going to take decades, and this is not what the Paris agreement is aiming for.

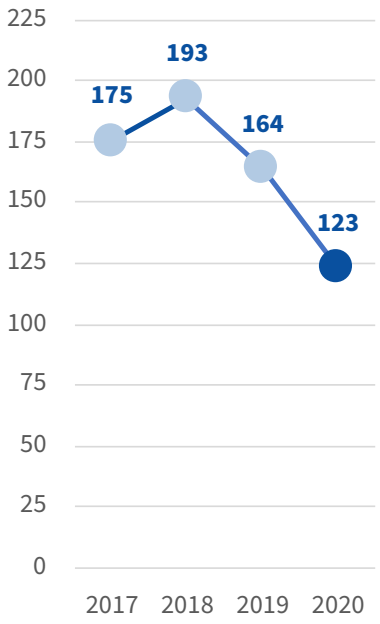
Our performance

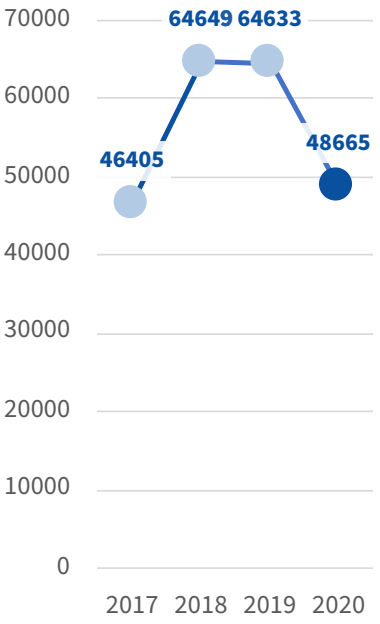
In 2020, our relative and absolute energy use (in MJ) and CO_2 emissions decreased significantly, as the two new malting towers in the Eemshaven, opened in 2018, have become fully operational. After a period of testing and small batch production, which resulted in heat loss and increased emissions, we now see a steady decrease. Moreover, by procuring green electricity (locally produced wind energy), we have been able to further decrease our CO_2 footprint in 2020.

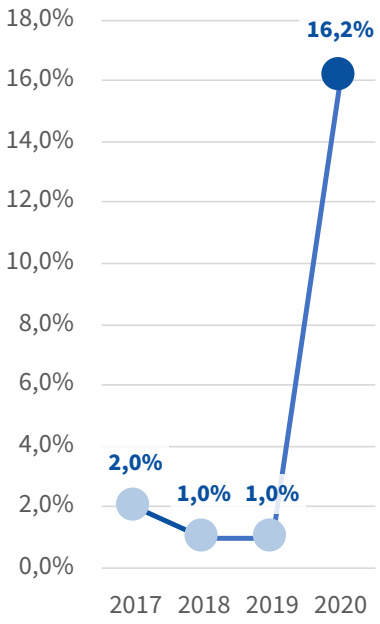
In the entire value chain, water is needed for the growth of barley, production of malt and brewing of beer. The amount of water used for malting is low compared to the other steps. Nonetheless we strive to further decrease our water usage. It decreased slightly over the past two years. For 1,000 kg malt we now use about 2,7 m^3 of water, thanks to increased efficiency and a new way of water purification.

Energy

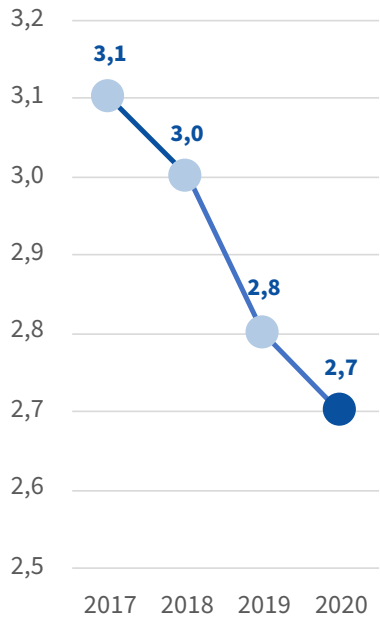








Water



Setting up a heat sharing network

The malting facility in the Eemshaven uses approximately the equivalent of 14,000 households' worth of natural gas. It is essential to us to reduce gas extraction in Groningen as quickly as possible. Since 2018 we, together with our neighbouring companies, have been investigating the use of residual heat. With the construction of a smart heat network, we can use this residual heat to replace natural gas.

In 2018 we achieved a collaboration agreement to research such a heat-net in the port of Eemshaven, and a treaty was signed early 2019. Currently, the research into this heat net is well underway and a cost estimation will be made. In case that this project is finalized, we will stop the use of natural gas in our Eemshaven plant.

Using residual heat

One of the key achievements in 2020 was the installation of a hot water buffer at Royal Swinkels Family Brewers in Lieshout, with which the brewery, bottling plant and the Holland Malt malting plant have become much more sustainable. This hot water buffer enables energy savings of more than 15%, which is equivalent to 4 million cubic meter of natural gas per year. That is comparable to the gas consumption of more than 2000 households.

Main part of this new system is a large buffertank with hot water. This buffer is fed with residual heat from the brewery and malting plant, stores the heat and passes it on to those processes that actually need heat. In this way, the residual heat is no longer lost, but reused. Additional heat pumps, condensers and flue gas coolers ensure that the hot water is at the right temperature and at the right place at the right time. The brewery also uses less steam, which also results in energy gains.

Exploring new innovative technologies for sustainable energy

Over the past few years, Royal Swinkels Family Brewers joined forces with Eindhoven University of Technology (TU/e) to find a way to generate energy using iron powder. The burning and regeneration of iron does not generate any carbon dioxide at all. In October 2020, TU/e successfully demonstrated the use of this iron fuel at our neighbouring brewery in Lieshout. The demonstration showed that iron fuel can be applied as a sustainable substitute for heat-intensive industries and power plants.

Learning from previous projects

Implementing clean energy systems has been a focus over the past years. Successful initiatives in this field require good partners and finding mutual benefits for each party, as the initial investment is usually high, with longer return times. We also often work together with knowledge institutions close to where we are located. Although there are dilemmas, we keep focusing on investing in clean energy and technology.

We believe that burning plant biomass is not going to help us here. By burning wood pellets for example, four times the amount of CO_2 is exhausted compared to burning gas. And then we do not count the CO_2 that is produced in the production process of the pellets. This means that accumulating this huge amount of CO_2 will take decades and will certainly not be done before 2050, which is set by the EU as the ultimate goal to become CO_2 neutral. We are therefore looking for other ways to become independent from fossil fuels and actively search for ways to implement these.

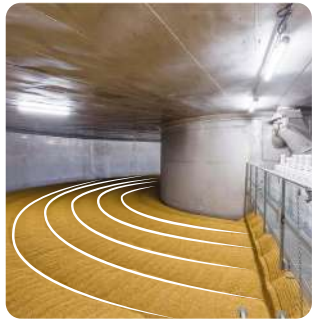
From barley to malt

The process of malting

Making malt in essence requires only two key ingredients: barley and water. The operational process to turn barley into malt, with which brewers can produce their beers, is a bit more complex. Moisture is added to the barley to create a 45% moisture level, then it needs to be dried back down to less than 5%. How does this work? Edwin Evers, operational manager at Holland Malt, knows all about it.

Malting is a heat intensive production process. That is the result of the steps needed to turn barley into malt: steeping, germination and kiln drying. When barley arrives from the land, it contains 14% moisture. We then start with soaking the barley grains for 24 hours in a steeping vessel. After the grains have been soaked, they need to be rinsed and placed in a warm and well-ventilated environment. Once germination is complete, the grain is loaded onto the kiln floor. This is the drying phase, the last step of malting. Here, the temperature increases gradually, drying the sprouted grains and stopping the germination process. As the temperature rises even more, the sprouted barley is cured, which improves flavour and preserves the malt.


Steeping


Germination


Kilning

Process improvements for energy reduction

The entire process of malting requires 75% thermic energy, mostly from gas and for a small part from electricity. The biggest impact is in the kilning. Due to the large amounts of barley that is dried, much heat is required. Moreover, kilning actually exists of different phases. In the first phase, water is evaporated, and in the next phase, moisture diffuses out of the kernel. These phases have different energy requirements. In the moisture diffusion phase, much less energy is needed than for evaporation, and sometimes there may be an energy surplus. Re-using this leftover drying capacity is therefore a key step in the reduction of energy used. Thanks to process improvements in this area, we were able to lower the gas usage with 10% in 2020 compared to previous years.

Health & Safety

High-quality employment conditions and a healthy and safe working environment are very important to Holland Malt. We are proud to have longstanding relationships with many of our employees. Offering opportunities for continuous personal development and giving attention to ideas are key elements in our policy. We ensure a safe environment with measurements from our 'Safety Master Plan': we eliminate industry risks, educate employees, provide and repeat safety trainings and obligate personal protection equipment. Our ambition is to create a 100% safe work environment in 2025.

Our performance

In 2020 we continued our strong safety performance. One incident occurred at the Eemshaven malting plant and we are proud to say we have maintained our zero-incident results in Lieshout for the fourth consecutive year. After several incidents some years ago, we launched our extensive safety program BeSafe to register incidents and accidents. The driving forces behind BeSafe are our Safety Champions, employees who set the right example and show their colleagues how to spot unsafe situations and warn each other about them. Together, they ensure direct reporting of hazardous situations.

In addition, all staff takes part in regular observation rounds to identify any unsafe situations. One of the key actions of 2020 was increasing safety awareness amongst operators. When an unsafe situation occurs, we make sure to point it out. Such situations are also videotaped, and these "Like this/not like that" videos are shared with our employees.

I have the prescribed Personal Protective Equipment (PPE)

I comply with the alcohol and drug regulations

I operate vehicles safely

I always have a valid work permit

I act in case of excess CO_2

Ensuring health and safety

The importance of safety

Christian Trilsbeek has been working at Holland Malt for nearly 25 years. Since 2018, he is the lead operator at Holland Malt. Operators are the employees who take care of the logistics and production processes at our malting plants. An important task, because every day, 1350 tonnes of barley arrive in Lieshout and Eemshaven via trucks and boats, and 1100 tonnes of malt are transported to many different breweries.

Christian focuses on making sure all these activities are carried out safely. “We believe it’s important that our people and partners can go to work and back home again safely and healthy every day. I enjoy contributing to that.” Health and safety is something to keep in mind constantly, because incidents and accidents happen easily. “Employees don’t always recognize the risks of certain behaviours. They want to work fast and efficient, and in the process, they forget the safety measures”.

Conducting observation rounds

Over the past years, a lot has been achieved to create more safety awareness. For example, the BeSafe system was implemented to register incidents and unsafe situations. These notifications end up on Christian’s desk, who investigates them. Moreover, the training program STOP Dupont was carried out, which amongst others led to the implementation of observation rounds. “At first, there was resistance to these rounds, in which unsafe behaviours and their possible consequences are discussed. We have really seen a culture shift there. Pointing out unsafe situations to each other is now accepted.” In addition, there are dedicated safety champions, who are the eyes and ears when it comes to safety. Thanks to these efforts, zero accidents resulting in absenteeism occurred in Lieshout for four years in a row. Something Holland Malt is proud of!

Keeping the focus

The current challenge is to keep up this safety performance. “Now that things are going very well, the key is to not lose our attention. We always need to work on this topic.” Training is an important part of that. Every year safety training is provided, and the in-house Learning and Development Academy offers various online courses. These include safety-related topics which are obligatory for specific employees. In 2020, our employees completed an average of 2.1 trainings or courses. Holland Malt also invests in improving the physical work environment where possible in order to achieve the goal of having absolutely zero incidents and accidents.

Product responsibility: quality and circularity

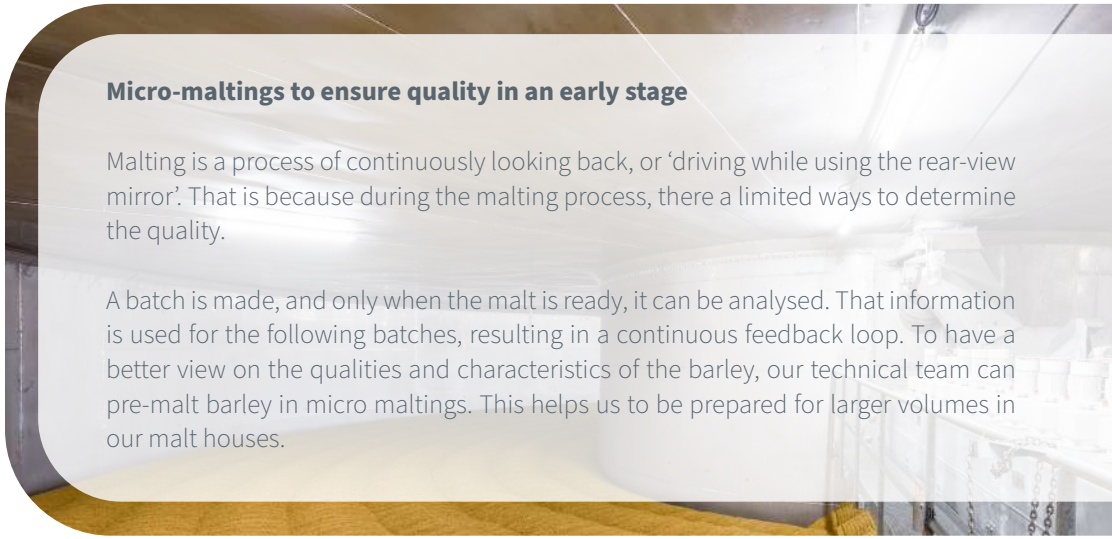
We have a strong sense of responsibility and distinguish between quality and circularity. Firstly, we strive for excellence in quality and product safety for all products of Holland Malt. As part of the food sector, we are fully aware of our highest responsibility and naturally, we have been HACCP certified for almost 20 years. Quality is our license to operate and our mission and as such an intrinsic and integrated part of our business. We stick to our motto: your quality in our hands. We have always been outstanding in quality and food safety in the past, and we will continue to do so in the future. Secondly, we strive for circularity in our business, which focuses on the following points:

- Ensuring local sourcing of sustainably produced barley;
- Using crop types that have the best environmental performance;
- Optimising energy and water efficiency and decarbonising our processes;
- Looking for high-value upcycling of our co-products and waste;
- Improving logistics and packaging.

All these steps together ensure that our business growth decouples from the usage of natural resources and we move towards a circular 'waste free' business. This is where we want to be in the future, we are committed to operate 50% circular in 2025 and 100% by 2030.

Product responsibility: quality

Holland Malt is certified for ISO 22000, Organic and GMP-standards. We have had multiple external audits in 2020, for example for GMP, ISO 22000, a SKAL audit and visits of the Dutch Food and Consumer Product Safety Authority (NVWA). We passed all audits with positive results. In addition to audits from these various organizations, Holland Malt is also audited by clients. In 2020, it was not possible to do this on site due to the corona pandemic. However, several virtual audits took place, and we have responded to many customer questions via questionnaires. All final scores were positive to very positive. We highly appreciate these external audits from the various organisations, as they help us to improve our performance and provide feedback that we are on track in terms of quality.



Micro-maltings to ensure quality in an early stage

Malting is a process of continuously looking back, or 'driving while using the rear-view mirror'. That is because during the malting process, there a limited ways to determine the quality.

A batch is made, and only when the malt is ready, it can be analysed. That information is used for the following batches, resulting in a continuous feedback loop. To have a better view on the qualities and characteristics of the barley, our technical team can pre-malt barley in micro maltings. This helps us to be prepared for larger volumes in our malt houses.

Expanding Certification: moving towards FFSC 22000 Certification

We have multiple certificates in place. However, occasionally we evaluate the pros and cons of additional certificates. In 2018 we assessed the potential added value of a FFSC 22000 certification. This certificate provides companies in the food industry with an ISO-based food safety management system certification that is recognised by the Global Food Safety Initiative (GFSI). Recognition by GFSI would provide us worldwide acceptance from food manufacturers and retailers. FSSC 22000 defines requirements for integrated processes to control and minimise food safety hazards. In 2019 we were recertified for the ISO22000:2018 norm. Given that the FFSC 22000 standard is a globally recognized standard, we are currently evaluating what improvements we need to make to become certified according to this standard.

FSSC 22000

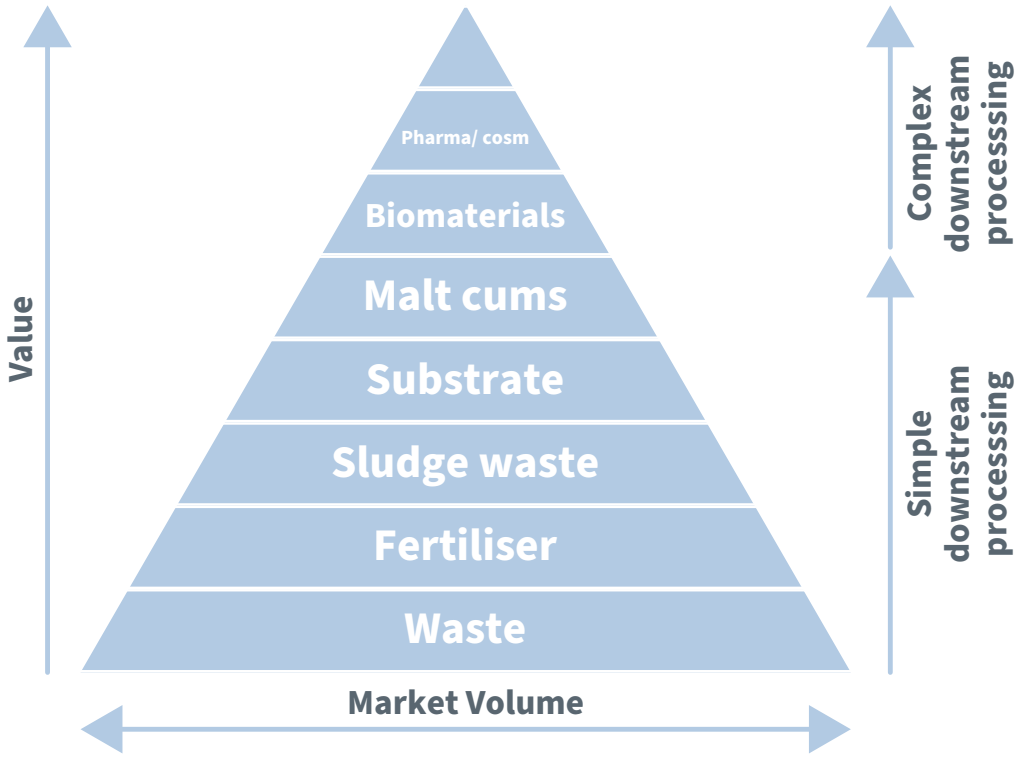
Responsible production: circularity

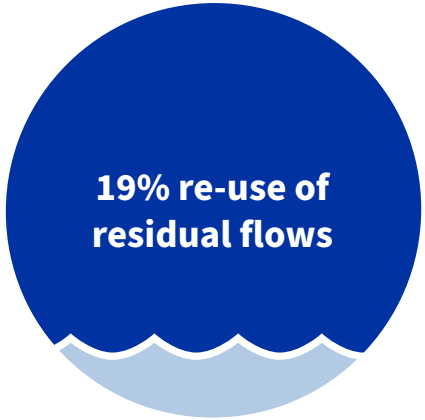
Our approach for circularity focuses on procurement, production and high-quality reuse. The malting barley is our primary raw material, for which we focus on sustainable and local sourcing, primarily through sourcing SAI certified barley. As explained in the chapter Our environmental performance, greening our energy use and making it more efficient is a key focus point. We are also working to green our logistics, for example by finding ways to make sure trucks do not drive back without load after delivery. When it comes to product packaging, recently a new kind of packaging was introduced at our Lieshout plant, thanks to which the total amount of packaging used, has decreased by 33%.

In terms of waste, malt culms are one of our largest co-product streams which is sold to be used as animal feed. We have started various projects focused on circular reuse of our organic waste streams. One project that is in the starting phase is to upgrade the sludge waste that remains after water treatment. Currently, the sludge is used as biomass, but we will investigate alternative, higher value uses according to the value pyramid. Research projects together with Wageningen University, look into using organic waste for growing worms or insects.

Measuring circularity

Since two years we have more detailed waste breakdowns. To measure our circularity performance, we now report the circular application of residual waste flows and co-products (organic waste). At present, nearly all the organic waste is re-used, for example in the form of animal feed, and 19% and of the residual waste, such as paper, plastic, glass, and wood can be re-used.





Sustainable beer, grown and brewed in Brabant

The origin of Dutch Trappist beer

In 1884 a small group of Trappist monks fled from France to Berkel-Enschot in the Netherlands. They embraced the former country residence of King Willem II - the Koningshoeven - as their new home, founded their monastery and decided to brew Trappist beer. That is, in short, how De Koningshoeven became the start of La Trappe. It is to this day done under the supervision of the monks, and a part of the revenues is donated to charity. Treating the nature and the community surrounding the monastery with respect is an inner conviction based in monastic values. Esther de Vilder, the new managing director at De Koningshoeven, explains.

Project Regional Growing

Raw materials are purchased locally where possible. In the past, the brewing barley was sourced in the main barley areas in Europe such as France and Denmark. De Koningshoeven then wanted to source it closer to home. “That’s why we started with a project that focused on regional production of malting barley in Brabant and Zeeland. Not only does local barley save on transportation costs, fuel, and CO_2 emissions, it is also about creating more sustainable agriculture. We are now working together with about 35 farmers. We value the relationship with these growers, who regularly visit the brewery.” Some of them have been participating since the start of the project, about 9 years ago. “It is a great success. 100% of the base malts in our beer is made from barley grown locally on about 300 hectares of land”. Recently, the project was renewed for another three years.

Creating a circular brewery

Next to malt, a lot of water is needed to brew beer. There is a water source on site, and recently a purification system was installed by the abbey. “We are working on reducing wastewater altogether. Our ambition is to eliminate any water spillage and to have an effluent with a water quality as good as the water we are brewing with.”. A positive impact on water usage, but also an important step in making beer brewing more circular. The next step is already underway, with the new kitchen of the Tasting Room becoming gas-free. The abbey and brewery are already making use of the energy yield of hundreds of solar panels.

Involving people

In addition to sustainability in resources and processing, De Koningshoeven also pays attention to people. “We want to see how we can provide a workplace for people with a distance to the labour market, and how our employees can participate in community projects.” Next to that, education about sustainability will be on the agenda. “Normally, we have about 150.000 visitors on a yearly basis who are told the history of De Koningshoeven, our Trappist beers and charity projects. Sustainability will become a bigger and fundamental part of this experience and message we want to bring across and share with our visitors and stakeholders.

Colophon

Holland Malt
P.O. Box 50
5737 ZH Lieshout
The Netherlands

CSR content:
Martijn van Iersel, Sustainability Manager at Holland Malt
info@hollandmalt.com

Concept, text and design:
Didi Hoezen, 2BHonest
Jacqueline Houweling, 2BHonest
Charlotte Marsman, 2BHonest

Photography:
Romee Albert