How can we feed 9.8 billion world citizens in 2050? And provide them with nutrientrich food that is produced quickly, with little fresh water and the least possible footprint? This question concerns us daily within HZPC.
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Dear reader,

How can we feed 9.8 billion world citizens in 2050? And provide them with nutrient-rich food that is produced quickly, with little fresh water and the least possible footprint? This question concerns us daily within HZPC.

Our Research & Development department thinks at least ten years ahead with the breeding of potatoes. In this way we develop potato varieties that perform well under challenging conditions in different climate zones.

**Fight hunger with the potato**
The highest possible yield per hectare and the smallest possible footprint. That is where our focus lies. With adapted varieties you can produce sufficient, healthy and affordable food anywhere in the world. This will strengthen the population. As a crop, the potato literally has everything to combat hunger and poverty.

We take risks when it comes to complying with our vision: Feeding the world. We export to places where others do not deliver (any more), like Syria, where a humanitarian disaster has been ongoing for years. It is about people for us, whereby we keep ourselves separate from struggles, both of a political and religious nature.

**Determine our focus**
We recently entered into a dialogue with our stakeholders on Corporate Social Responsibility (CSR). Which topics do they consider important when it comes to CSR within HZPC? Our customers around the world are placing increasing emphasis on chain management. This is in line with HZPC's focus on efficient land use, environmentally friendly cultivation and less consumption of fresh water.

**Opportunities in new techniques**
We see opportunities for improvement with regard to areas such as making cultivation sustainable or optimising transport in the chain. We also see opportunities in new technologies such as the hybridisation of potatoes and seed potatoes. It contributes to our ambition to reach more people in more countries.

We also see possibilities in techniques that accelerate the breeding process. We already have these breeding techniques, but their use is still being blocked by European laws and regulations. For this reason, we are currently applying classical breeding techniques, which means it takes about ten years to develop a new variety. With modern breeding techniques, the development of a variety can be accelerated. This makes a variety more resistant to diseases and challenging climate, with lower environmental impact.

**Unique game-changer**
Within HZPC we see the potato as a unique game-changer. It is a crop that contributes to the solution of the world food problem. This connects us to our growers, our stakeholders and a world full of people. That makes me proud.

*Gerard Backx*
CEO HZPC Holding B.V.
2 HZPC and CSR

2.1 Who we are

Feeding the world: responsible food for the world's population
We feed millions of people around the world with our potatoes every day. 'Feeding the world' is our reason of existence. The potato as a crop makes it possible to produce good food that is rich in vitamins and carbohydrates in a short period of time and with relatively little water. This is however not possible everywhere nor under any circumstances. We want to contribute to the optimisation of global potato cultivation. Research, development and knowledge sharing are of great importance here.

Vision

“We drive the development of responsible food for the world population.”

Together with our growers, producers and consumers, we are committed to improving research and the cultivation and usage of potatoes all over the world. That is why we continuously strive to develop efficient varieties, which are adapted to different usage, climates and growing conditions.

Mission

“We inspire the potato value chain worldwide by delivering innovative products and services.”

As a reliable and ambitious leading player in the world of potatoes, we want to inspire the whole potato value chain. We believe that sharing knowledge, growing and developing together is key to deliver added value in the chain and to strengthen our leading position in the international market.

Solidarity with our growers
We are proud of our growers in the various countries. They supply high-quality seed potatoes and their companies are inextricably linked to us. This also implies mutual care and concern. Growers make an effort to achieve high quality. One of our corporate objectives is to pay our growers of seed potatoes a competitive and fair price in the various countries.

Collaboration in the chain
We want to improve our knowledge of potatoes on a constant basis in order to develop new varieties that meet the requirements of our clients along with our breeders. To set us apart from the competition, we want to provide added value to all parties in the value chain and we also want to be a reliable partner.
**Special shareholder structure**

HZPC Holding is a company with strong stakeholder ownership. This means that we go beyond creating shareholder value to achieve a sustainable result for our growers, breeders, employees, and for society. The Association HZPC (owner of the HZPC shares) has certified all the shares. Only (former) growers, (former) breeders and (former) members of staff may purchase and hold certificates. HZPC Holding is therefore literally a company of growers, breeders and employees and they have a say in the direction of the company. They finance the business with risk capital. Certificate holders can become members of the Association.

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2 HZPC and CSR

2.2 Strategy for increased sustainability

**Global challenges**

By 2050, the world population will have increased to 9.8 billion people. Sufficient food will have to be available for all these people. There is, however, only a limited availability of agricultural land. In addition, diseases affecting food crops, limited product knowledge and inefficient processing lead to lower yields and even to food waste. Fresh water is scarce in many parts of the world. Furthermore, climate change will affect food security because of more extreme conditions.

Distribution of food is another challenge. There is an obesity epidemic in western countries and malnourishment in developing countries. The lack of nutrients found in the food is a key factor. A shortage of vitamins and nutrient components leads to impaired health and reduces well-being amongst large groups of people.

With 'Feeding the world', we want to contribute to the development of responsible food for a growing world population. The need for affordable, responsible food is increasing more and more as the world population expands considerably. The potato can play a significant global role here.
### Challenges:

| The impact of climate change and conservation of natural resources | Enough food for a growth in world population to 9.8 billion in 2050* | Obesity versus malnourishment |

### HZPC contribution:

- Strong crops that adapt to challenging conditions
- Responsible food production
- Light concepts
- Food waste in the chain
- Yields on existing agricultural land
- High nutritional value & superfood varieties
- Less impact on the environment

### Pillar HZPC CSR strategy:

<table>
<thead>
<tr>
<th>Environmental stewardship</th>
<th>Contribution to food security</th>
<th>Social impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Responsible production of potatoes</td>
<td>• Feeding people around the world</td>
<td>• Healthy diet</td>
</tr>
<tr>
<td>• Effective use of fresh water</td>
<td>• Development of adapted varieties</td>
<td>• Focus on taste and nutritional value</td>
</tr>
<tr>
<td>• Efficient logistics</td>
<td>• Taking care of genetic resources</td>
<td></td>
</tr>
<tr>
<td>• Chain responsibility</td>
<td></td>
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</table>

**Source:** United Nations

### Sustainable Development Goals

In 2015, the United Nations drew up 17 ambitious goals under the heading: Sustainable Development Goals (SDGs). These SDGs have been signed by 193 countries worldwide. Based on the SDGs, we work on topics such as climate, health, welfare, poverty reduction and responsible consumption and production.

With ‘Feeding the world, responsible food for a growing world population’, HZPC gives substance to the following Sustainable Development Goals:

- **SDG 1** End to poverty
- **SDG 2** End to hunger
- **SDG 3** Health and well-being
HZPC also contributes to:

\[ \text{SDG 12} \]
Sustainable consumption and production

\[ \text{SDG 13} \]
Address climate change

‘Global Challenges, dutch solutions’

Here, you can read the publication on impressions of the way in which the Netherlands (including HZPC) is working on the realisation of the SDGs of VNO-NCW, MKB-Nederland and Global Compact Netwerk Nederland.

The three pillars of our CSR policy

Objectives and KPIs up to 2020 are formulated within each pillar. These are often qualitatively formulated. This is because the measurability of a number of aspects is difficult. It is our aim to formulate more measurable, quantitative objectives in the future. The progress and details within the pillars can be found under the aforementioned titles as chapters on this website. The foundation that supports all our activities is the long-term relationships that we have with our employees, growers and breeders.
Relationship with stakeholders

HZPC has a relationship with lots of different stakeholders. There is a different role for each of these stakeholders; the role of employer, purchaser or client, supplier, contributor or producer. We want to be transparent about what we do in respect of all these stakeholders. We also take care to maintain a good relationship in which we enter into dialogue with each other. We deem this so important that we have established it as one of our core values:

'We build long-term relationships and take responsibility for our actions.'

We have mapped out our most important stakeholders and defined them as follows: affiliated growers, affiliated breeders, employees, consumers, customers, governments, (food) science, suppliers, social organisations, certificate holders, umbrella organisations. We enter into a dialogue with them about our themes and take action based on their feedback.

Open the feedback table >>

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Topics</th>
<th>Explanatory notes</th>
<th>Actions with reference to this dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliated growers / breeders</td>
<td>Improving sustainability of cultivation and distribution</td>
<td>Improving sustainability in the chain is placed on the agenda by means of growers’ and breeders’ meetings</td>
<td>Organisation of feedback sessions in small groups at growers' premises to discuss impact</td>
</tr>
<tr>
<td>Employees</td>
<td>Research into employee satisfaction, vitality and health within HZPC</td>
<td>Participation in Great Places to work® in 2017</td>
<td>Ensure results are discussed within the teams</td>
</tr>
<tr>
<td>Stakeholder consultation for reviewing CSR policy</td>
<td>Stakeholder consultation for reviewing CSR policy topics.</td>
<td>In 2015/2016 HZPC conducted a stakeholder consultation. In 2018, interest groups and growers will be consulted</td>
<td>The input following these consultations was used in 2016/2017 to shape the new CSR organisation and the starting point for focussing the policy.</td>
</tr>
<tr>
<td>Carbohydrate Competence Center (CCC)</td>
<td>The CCC wants to generate, develop and share high-quality knowledge on carbohydrates, to promote innovation and to contribute to a healthy and sustainable society.</td>
<td>Public-private partnership between 19 companies and 6 knowledge institutions. It was completed in 2017.</td>
<td>Product development (e.g. Sunlite and Fries4All concept)</td>
</tr>
<tr>
<td>CIP (International Potato Centre)</td>
<td>Maintaining genetic diversity.</td>
<td>CIP provides sustainable solutions to problems around the world, such as hunger, poverty and the disappearance of natural raw materials.</td>
<td>In the Netherlands, HZPC will bring this initiative to the attention of various parties in the potato sector to see whether the link between Corporate Social Responsibility (CSR) and benefit sharing for the safeguarding and maintenance of biodiversity can be rolled out further in the future.</td>
</tr>
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</table>
Experts from the worlds of business, government, research & development and social and political interest groups (including Agriterra, Bill & Melinda Gates Foundation, LTO Nederland, IDH, LEI Wageningen)

Feeding a growing urban population

‘Small farmers big deal’ calls upon agri-food enterprises, the Dutch government and knowledge institutions to ensure that farmers’ organisations and cooperatives in developing countries are given a bigger role to play in Dutch trade, aid and investment policy.

We jointly consider the strategy and content of the campaign and place the campaign topic on the agenda in our network.

**Stakeholder consultation**

In 2015/2016, we interviewed various stakeholders: customers, employees and management. On the basis of a questionnaire, we asked for their opinion on the CSR policy of HZPC. A materiality analysis was made based on their feedback. We then reviewed our CSR policy and our CSR organisation. For topics with little assurance within the organisation, or where acceleration is necessary, we have set up working groups to develop action plans over the coming period.

**Our focus**

The GRI guidelines were used to identify and select relevant topics for reports. We identify important topics in the areas of the environment, food security and society. These have the greatest impact on our operations and are of the most concern to stakeholders. By researching these topics, we can prioritise them and focus on the most material subjects. These topics will be further elaborated in our policy and programs.
HZPC Materiality matrix

The most important topics:

Environmental stewardship:
- Development of new varieties with a high yield and low input
- Growers with sustainability program
- Local for local
- Optimize transport

Contribution to food security:
- Development of varieties with a high yield and low input
- More varieties to more countries
- Genetic resources

Social impact:
- Create healthier varieties
- Building human capital
- Stakeholder dialogue and transparency
Sustainability has, for quite some time, been part of our operations within HZPC. Our product is naturally sustainable. Our special shareholder structure is of importance for sustainable business operations. Our important stakeholders – growers, breeders and employees – are able to participate in our company by purchasing certificates. Joint ownership ensures shared values and interests.

Integrity Counsel
An Integrity Counsel was set up in 2015 where employees, customers and growers can be assisted with questions concerning integrity, or report possible violations of integrity.

Corporate governance
HZPC Holding B.V. is a two-tier board company with an Executive Board and an independent Supervisory Board. The latter appoints the members of the Executive Board.

Read more about Corporate Governance at HZPC.

Code of Conduct
Our Code of Conduct contributes to a high ethical standard. Together with good judgement of employees, they contribute to mutual solidarity and pride.

Read here how our Code of Conduct puts this into practice every day.

CSR organisation
We have re-organised CSR within HZPC as a result of a change in the management structure in 2015/2016.
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The CSR Steering Committee is new. The group consists of four management representatives, including our CEO. The Steering Committee directs the working groups, formulates the objectives, and is responsible for decision-making. The CSR Steering Committee meets at least four times a year and reports to the Executive Committee. Our CEO is ultimately responsible for sustainability.

Most of the policy topics are embedded in the daily organisation. The management team reports these topics to both the Executive Committee and the CSR Steering Committee. For those areas where there is still little assurance, or where acceleration is necessary, a working group has been set up.

Five working groups will be set up in 2018. The working groups consist of expert teams that draw up and manage the action plans. The representatives of these working groups and the policy owners within the management team meet at least twice a year to share progress. Although sustainable packaging is not a material issue, we think it is important to make improvements in this area. A working group will be set up to this end.
3 PILLAR 1 - Environmental Stewardship

3.1 Introduction

Natural resources must be respected and protected. As a company in the agricultural sector, a healthy soil is our greatest asset. To contribute to responsible use of the earth's resources, we focus on:

- Developing potato varieties that score better in terms of sustainability;
- Reducing transport kilometers by promoting 'local for local' cultivation, amongst other activities;
- Taking more responsibility in the chain.

### Theme - development of sustainable potato varieties

<table>
<thead>
<tr>
<th>Material aspect</th>
<th>Ambition 2020</th>
<th>Result 2016/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Develop new varieties with high yield and low input.</td>
<td>Giving customers insight into which varieties to use for the sake of sustainability under specific conditions.</td>
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<tr>
<td></td>
<td>Development of a measurement method to determine sustainability indicators for different varieties.</td>
<td>Project group established for the development of a plan of action.</td>
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</tbody>
</table>

### Theme - chain responsibility

<table>
<thead>
<tr>
<th>Material aspect</th>
<th>Ambition 2020</th>
<th>Result 2016/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Selecting growers with sustainability program.</td>
<td>25% of seed potatoes cultivated in a sustainability program.</td>
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### Theme - reducing negative impact distribution

<table>
<thead>
<tr>
<th>Material aspect</th>
<th>Ambition 2020</th>
<th>Result 2016/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Optimisation of transport of seed potatoes.</td>
<td>Reduction of transport km per truck and more transport by inland vessel transport.</td>
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<td></td>
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<tr>
<td></td>
<td>Selecting transport companies with a sustainability program.</td>
<td>Working group set up to optimise transport.</td>
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<tr>
<td></td>
<td>Local for local seed potato cultivation in European countries where HZPC produces seed potatoes.</td>
<td>For each European seed potato producing country: from 82% (2010) to 83% (2016/17) locally cultivated and supplied.</td>
</tr>
</tbody>
</table>

\(^*\) *nematodes = potato cyst nematodes*
3.2 Development of sustainable potato varieties

The potato is naturally a sustainable product

**Future**

In 2030 half of the world's population will live with a shortage of water.

<table>
<thead>
<tr>
<th>In 2050...</th>
<th>CO₂ in the atmosphere</th>
<th>Up to roughly 550 parts per million</th>
<th>Potato yield</th>
<th>Up 28% due to increase in CO₂</th>
<th>Water consumption</th>
<th>Down 11% due to increase in CO₂</th>
<th>Food needed for</th>
<th>9.8% due to increase in CO₂</th>
</tr>
</thead>
</table>

Sources: The OECD Environmental Outlook Baseline projections; United Nations; Plant Research International, part of Wageningen UR Business Unit Agrosystems research; www.waterfootprint.org

The potato does not need much input to feed many mouths effectively and quickly. The potato offers a way forward in terms of the anticipated 9.8 billion world citizens by 2050. Because good and high-quality food can be produced using the potato in a short period of time with considerably less water compared to corn, rice or wheat. One hundred days after planting, the potato can already be harvested for food or as seed. Cereals require a full season for this.

**Potato facts**

After corn, rice and wheat, the potato is the 4th most important food crop in the world. Potatoes consume significantly less water than rice and wheat.

Source: www.waterfootprint.org (Mekonnen, M.M. and Hoekstra, A.Y.)
Source: Kennisplatform Aardappels
**Sustainable cultivation**

We are working on sustainability in order to improve potato cultivation all over the world. The potato is becoming more and more popular around the world, even in countries where rice is preferred, such as China and India.

In order to reduce the impact on the environment, we use our breeding program to focus on:

1. Efficient land use (higher yield per m²)
2. Environmentally friendly cultivation (reduced crop protection and fertilisation)
3. Reduced fresh water consumption
4. Enhanced tolerance to abiotic stress such as heat, drought and salt

**Goals**

- Efficient land use (higher yield per m²)
- Environmentally friendly cultivation (reduced crop protection and fertilisation)
- Reduced fresh water consumption
- Enhanced tolerance to abiotic stress such as heat, drought and salt

**Breeding technology**

HZPC uses the latest breeding technology. With more and more opportunities, we work on the development of new, sustainable and responsible potato varieties. HZPC’s varieties are developed without the use of genetic modification (non-GMO-certification). This policy continues to apply for the development of new varieties.

We are aware that lots of scientific biotechnology research is being undertaken. We are also aware that this science has the potential to tackle many of the issues which challenge the world – production of affordable food for a growing world population. We monitor the possibilities that biotechnology offers from that perspective.

At present, when it comes to the application of new breeding techniques, such as the modification of present genes and cisgenesis (the addition of exclusively species-specific genes), we are still limited by European legislation that has not kept up with current responsible technical developments. Nevertheless, taking into account the wide-ranging political and social discussion, regulation and acceptance of such new technology by our stakeholders will always be decisive for how we work.

Read more about our [Breeding programs and Research & Development](#)
Development of new varieties with a higher yield and lower environmental impact

**Improve performance of varieties**

Research & Development (R&D) plays an important part in our business operations. With a wide network of test field locations around the world, we have included the most important climates and cultivation conditions in our variety testing. We aim to improve the performance of our varieties even further with research into land use, the best degree of irrigation and fertilisation per variety.

**More efficient food for the potato: high yield with low investment**

A potato plant will yield much more under optimal growing conditions. 70% of the difference in yield is down to genetics and the other 30% is down to conditions such as climate, soil and cultivation management.

Fertilisation always seemed self-evident. Fertilisation is now being viewed in an entirely different perspective because of environmental legislation, as well as scarcity of raw materials and minerals. Minerals for growth, such as phosphate, are becoming scarce. The use of fewer fertilisers does not, however, mean optimum nutrition for some potato varieties. A shortage of, for example, magnesium, boron and manganese can increase Alternaria (fungal disease) symptoms. So when the soil condition of various minerals is not optimal, this can have an effect on the extent of Alternaria symptoms.

HZPC has set up two test fields with various nitrogen levels and a location with potassium levels in order to handle minerals more efficiently. The soil levels are tested in advance and the levels absorbed by the plant during the growth phase are measured by way of leaf analyses. Two varieties were tested in 2016/2017: Panamera and Allison.

This provides us with an understanding of the effect of nitrogen on, for example, yield and quality, and the interaction with other minerals. We also observe whether the particular variety becomes more susceptible to disease. We therefore get to know the particular variety even better. With this knowledge we can produce new and improved potato varieties that are less susceptible to disease, or which perform optimally under challenging conditions.

In the meantime, a number of varieties have become so efficient in terms of nutrient absorption that they can get by with very little and still provide optimal performance. One example of a young variety with great potential for stressful cultivation areas is the Panamera. The particular characteristics of this variety are tolerance of heat and drought, nitrogen efficiency and Phytophthora resistance. The variety performs well with only green manure. This results in higher yields during drought conditions and saves grower costs (crop protection products).

**Resistance reduces the necessity of crop protection**

Potato varieties that are less susceptible to diseases require less crop protection. This reduces negative impact on the environment and ensures good yields, particularly in poorer countries where crop protection products are expensive.

Recently, three new tropical clones were tested, in particular on Phytophthora resistance. In these climate zones, there is little or no money for crop protection. The tested varieties are very suitable for a (sub) tropical climate. The first clone has now been applied for registration for the catalogue of varieties.
In addition, management of Erwinia continues to command our attention. Thanks to the introduction of a PCR test* on basic seed potatoes, using fewer field generations and a number of adjustments to the growing process, the number of cases of declassifications of seed potatoes due to Erwinia has fallen sharply in recent years.

* Polymerase Chain Reaction. Samples often contain insufficiently small quantities of DNA to work with directly. Thanks to the PCR technique, we can now multiply the DNA in a sample.

**Cultivation of robust organic varieties in 2020 for the organic sector**

HZPC has signed the covenant ‘Accelerated transition to robust potato varieties’. In doing so it supports the efforts of the organic potato sector to give a sustainable answer to Phytophthora through the cultivation of robust varieties. The aim is to have a pallet of robust, resistant potatoes available for the Dutch organic consumer from 2020 onwards.

HZPC is convinced that, when these varieties are used in conventional cultivation, this will ultimately result in a greater social contribution in the form of a reduction in the use of crop protection. Because this is a much larger crop, this will lead to a larger reduction in the use of crop protection.

**The potato's water footprint**

The production of food is responsible for 85% of the annual water consumption in the world (Arjen Hoekstra, Professor of Water Management at the University of Twente in Trouw). Hoekstra developed the ‘water footprint’ concept, a model that provides an understanding of the volume of water required for producing products and services.

The average worldwide ‘water footprint’ for potatoes is 287 litres/kg. To compare, the average worldwide water consumption for other crops and production:

![Water Footprint Chart](chart.png)

Source: [www.waterfootprint.org](http://www.waterfootprint.org) (Mekonnen, M.M. and Hoekstra, A.Y.)

HZPC also develops varieties that can produce a good yield with less (fresh) water. For example, the Farida is a variety with a low water footprint. It consumes less water and has less downtime during irrigation. In the case of drought or reduced irrigation, the potato tuber sometimes becomes smaller.
Giving customers insight into which varieties to use for the sake of sustainability under specific conditions
We made an overview of sustainability indicators that are significant for the cultivation and growing of a number of our potato varieties. This overview helps customers and growers to determine, on the basis of a number of market or climatic conditions, which (sustainable) varieties they can use which will give the best performance under their local conditions.

View 'Sustainable varieties' poster

Development of a measurement method to determine sustainability indicators for different varieties
We are busy developing a measurement method to determine the sustainability indicators. Various tests and trials have been developed for this purpose:

- Fertilisation trials
- Watersafe trial (drought trials)
- Measurement method for reduction in wastage
- Disease and resistance tests
- Consumer value
- Salt test
- Heat test
3 PILLAR 1 - Environmental Stewardship

3.3 Chain responsibility

Selecting growers with a sustainability program
It is important to our stakeholders that the activities of our HZPC growers are sustainable and transparent. Together with HZPC they are at the forefront of the potato chain. Sustainability of that part of the chain therefore requires commitment and cooperation.

HZPC is a member of 'Stichting Veldleeuwerik'. For some years now we have been promoting the sustainability method of 'Stichting Veldleeuwerik' to our growers. The experiences of participating farmers have been very positive. They recognise the value of the program and they have indicated that they learn a great deal from one another. Nevertheless, the number of HZPC growers (30) who want to work via this certified method did not increase further. We are therefore not going to achieve our aim of an annual increase of 25 certified growers nor our target of 25% of our growers having a concrete sustainability program by 2020.

We nevertheless know that many growers are taking initiatives to make their operations more sustainable. It is our goal to make the sustainability performance of our growers measurable so as to make performance comparable. We participated in a pilot method of the WUR/LEI. This did not yet sufficiently address the areas that we want to make transparent and workable. We are currently working on the development of a new baseline measurement for growers.

'Well on the way to climate-neutral field crops'
View article

Partnership with Polish Sustainable Farming Association
Natural resources such as water, fertile land and fossil fuels are under pressure in Poland. A non-commercial partnership was set up with partners within the food chain in Poland on the initiative of Farm Frites in 2014. It is known as the Polish Sustainable Farming Association. Aim: the promotion of sustainable agriculture. HZPC Poland has been a partner since mid-2015. The program is focused on the first link in the food chain: the farmer. They share their knowledge and learn how to cooperate with other committed companies. This allows them to gain in strength.

Establishment of the 'Sustainability plan for growers' working group
In 2018, a working group will be set up that will focus on making sustainability more transparent to growers and ensuring that growers develop a plan for sustainability. The working group will also formulate a position on the sustainable demands we place on growers. Topics discussed are in line with our HZPC strategy and input from stakeholders:

- Higher yield with a lower environmental impact;
- Ensuring future production by maintaining soil health and avoiding agricultural restriction;
- Promoting crop rotation in favour of soil fertility, biodiversity and the prevention of soil diseases.
Global G.A.P.
Global G.A.P. is the global standard for safe food production in the chain. As of 2012, more responsibility for food safety has been placed with the grower. Growers affiliated with HZPC must comply with the Global G.A.P standard. The certificate is based on food safety but various CSR criteria have also been included. The grower must comply with statutory rules with regard to crop protection, for example.

Global G.A.P. offers the option to have the audits conducted by the marketing organisation, in this case HZPC. ECAS ensures that HZPC conducts these audits correctly. This certification method is used frequently outside of the Netherlands. The consequence of this working method is that all growers must comply with the standard before they can be certified together as a group.

Increasing yield and reducing wastage
HZPC helps growers to optimise production and to reduce negative impact and wastage. Education is an important part of this. This is why we organise regular grower meetings about different topics, such as ‘soil and fertilisation’.

For 2015-2017 the theme of ‘storage’ was the focus. A great deal of loss (due to damp or diseases) can be prevented if growers bring drying and storage up to a higher and more sustainable level (less use of resources). Over 200 of the 500 Dutch growers attended the various meetings. Following the meetings small scale follow-up meetings were organised for the farmers’ own premises with an expert in attendance.

Meetings for growers from both France and the UK were also organised so that they could share their knowledge with Dutch growers. Key topics for these meetings included the optimisation of yield and reduction of disease in the seed potato crop.

Technical innovations for the chain
In addition to new breeding techniques, Research & Development is also developing other innovations. In this way, we develop tools that come in handy for processes in the chain (cultivation, storage and processing).

Prevention of storage diseases through ionisation
The pressure to better manage storage diseases, such as silver scurf on potatoes, is enormous. For example, the quality requirements with respect to seed potatoes have been tightened up in recent years and the use of chemical agents is increasingly limited. To this end, research has been carried out into the possibility of suppressing the infection pressure of storage diseases by ionizing air in the seed storage facility. Unfortunately, in the first phase of the study it was found that it was impossible to ionize the air without the release of harmful amounts of ozone. For that reason, the study was not continued.
**Solentum – Agro Insights**

**Solentum** is a separate B.V. within HZPC Holding, founded in 2015. This start-up focuses on the development of measurement methods and services for partners in the potato chain. In recent years, Solentum has launched three products:

**SolAntenna**
This is an electronic potato that measures five crucial parameters throughout the value chain. SolAntenna is planted between real potato tubers and provides data during the growing season about temperature, relative humidity, CO₂, soil moisture and mechanical shocks. The same SolAntennas can be placed at any desired location in store or storage to monitor the same parameters and make adjustments where necessary. Thanks to the built-in LoRa technology, the SolAntennas are wireless and provide real-time insight into measurements. 325 growers currently use SolAntenna.

**SolGrader**
This is the first app available with real-time information for potato growers and harvesters. Growers use many growth models and these are often complicated calculations. The app shows the expected yield per hectare, the distribution in size category and the amount of potato tubers in these size categories. The app is also useful for companies that buy potatoes. They can determine earlier and faster whether the yield is suitable for them. 486 growers currently use SolGrader.

**SolEye**
Solentum developed SolEye for the processing industry: a machine that accurately and consistently assesses the colour of French Fries. This independent, objective and cost-efficient assessment method is highly important for the determination of the application of the potato. This technique is also used by packers to determine the homogeneity of cooking methods.

**Precision Agriculture research**
HZPC participates in the research program ‘Op naar Precisielandbouw 2.0’. The aim of this program is to conduct research on strategic themes within precision agriculture by working with more than twenty partners over the next four years, in order to speed up the implementation of precision agriculture and to reap the benefits for growers, chains and society. Key topics include satellite image use, soil and crop sensors, integration and applications, field characteristics yield potential, ICT support and knowledge dissemination.
3 PILLAR 1 - Environmental Stewardship

3.4 Reducing negative impact distribution of seed potatoes

Optimisation of transport of seed potatoes
HZPC partially takes care of the transport of seed potatoes. The task of distributing seed potatoes is based in the Netherlands. They are exported around the world from various distribution centres. For this reason, more transport movements take place in the Netherlands compared to other countries.

Transport is the largest component in the CO₂-footprint of HZPC. The challenge is to arrange the logistics as efficiently as possible in order to limit the number of transport movements. We are making more frequent use of the inland waterways. Transport by truck has more of an impact on the environment and is costly. More than 1,000 containers (carrying 27.5 tonnes of potatoes per container) were transported to the ports of Velsen and Rotterdam in the 2016/17 period via Dutch waters. With respect to transport by truck, this saves 24% on CO₂ emissions.

Future hybridisation of potatoes will have a positive effect on CO₂ emissions from transport. Transport will focus more and more on the transport of seeds instead of tubers. Transporting seeds is more efficient, cheaper and less harmful to the environment.

We are currently preparing a baseline measurement with regard to the CO₂ footprint of our transport. It is difficult for us to determine the right scope, especially because transport by third parties, particularly in the export countries, is difficult to measure. We want to be able to include a transport CO₂ footprint in the next sustainability report. A ‘Transport optimisation’ working group will be put together in 2018. The purpose of this working group is to formulate goals and to make and implement a plan of action to reduce the impact of transport on the environment.

Selecting transport companies with a sustainability program
We expect our transporters to have a clearly formulated sustainability policy. We started our first talks on sustainability with our preferred partners back in 2013. These partners subsequently received an inventory referring to sustainability. The results have yet to be evaluated. This will become part of the activities of the working group. Guidelines will subsequently be drawn up with regard to the sustainability standards for our preferred partners and other transporters.

Local for local cultivation in Europe
How do we limit the transport kilometres for propagating material and potatoes? This question is high on our agenda. We aim to produce as much as possible locally to meet demand for seed potatoes in countries where HZPC has seed potato production. In 2016/2017 HZPC produced more than 17,370 ha of seed potatoes in Europe. Approximately 70% of this production took place in the Netherlands.
HZPC has seed potato production in Europe in seven countries. An average of 82% of seed potatoes sold for local production in these countries were locally produced in 2010. We want to increase this percentage. This is why we grow 'local for local' in the UK, France, Germany, Poland, Finland, the Netherlands and since 2015 in Russia. In other words, cultivate close to home, where the consumer's market is. We currently grow 83% through this local for local strategy, thereby limiting transport kilometres.

However, export to the surrounding countries will always continue to take place from the Netherlands. This is because there is demand in those countries for high quality seed potatoes from the Netherlands. These seed potatoes then will be multiplied in the relevant country, for several years. After this period it is released onto the local market for the production of ware potatoes. Export to other countries in Europe, the Middle East, Asia and Africa mostly occurs from the Netherlands.

Share of seed potatoes produced locally, of the overall seed potatoes sold in European producing countries (including the Netherlands):

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>82%</td>
<td>85%</td>
<td>84%</td>
<td>85%</td>
<td>85%</td>
<td>81%</td>
<td>83%</td>
</tr>
</tbody>
</table>

This Local for Local calculation has been revised. The calculation of the figures from previous reports excluded the Netherlands. Because seed potatoes are also grown for the local market in the Netherlands, we have decided to include the Netherlands in the calculation.
The worldwide food demand continues to grow immensely. A growing world population and greater prosperity in various parts of the world explain this growth. Only a small part of the growing food demand can be produced on new, to be developed agricultural land.

This growing food demand will have to be met, for the most part (80%), by higher yields on existing agricultural land. As market leader in potato breeding, we have a major responsibility in this respect.

<table>
<thead>
<tr>
<th>Theme - feeding more people around the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material aspect</td>
</tr>
<tr>
<td>Develop new adapted varieties</td>
</tr>
<tr>
<td>Share knowledge with clients in order to reduce harvest loss, waste of raw materials</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Exporting to more countries</td>
</tr>
<tr>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme - take care of genetic resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material aspect</td>
</tr>
<tr>
<td>Ensuring genetic diversity</td>
</tr>
<tr>
<td>Policy for intellectual property &amp; breeders’ exemption</td>
</tr>
</tbody>
</table>
To feed more people around the world, our breeding program focus on food quality, disease resistance and yield. We also want to increase the nutritional value per m² cultivated, and in so doing, contribute to the improvement of the global food supply.

There are still major differences in terms of yield per hectare. An average of 47 tonnes is harvested per hectare in Western Europe, whereas the volume is barely 15 tonnes in Russia or China. This major difference is caused, for the most part, by the lack of high-quality seed potatoes and lack of product knowledge and proper mechanisation.

Production is also often limited due to susceptibility to disease. We can substantially increase the yield per hectare by supplying high-quality seed potatoes of varieties with excellent characteristics, in combination with sharing product knowledge and knowledge about cultivation.

**Development of adapted varieties**

The focus of our breeding strategy is the development of new varieties with high (intrinsic) qualities for cultivation under difficult conditions such as heat or drought, or poor soil.

HZPC is growing internationally. This makes the supply of adapted varieties, especially including to developing countries, increasingly important. One of the most important contributions to food security is the introduction of disease-resistant varieties. This promotes the sustainable cultivation of potatoes and contributes to food security for growers. Sharing information about the cultivation of potatoes in a healthy and responsible manner provides a lot of added value.

With a wide network of test field locations around the world, we have included the most important climates and cultivation conditions in our variety testing. We aim to improve the performance of our varieties even further with research into the best degree of irrigation and fertilisation per variety. R&D conducts projects on stress (heat, drought, poor soil) among other things. Our goal is to increase the yield for growers of seed potatoes as well as the yield for the grower at the final destination.

In 2016/2017 we achieved a relatively good salt tolerance with varieties such as Sagitta and Sifra. In 2018, research into salt-tolerant potato varieties will receive a substantial boost.

Recently, three new tropical clones were tested at test field locations, in particular for Phytophthora resistance. In these climate zones, there is little or no money for crop protection. The tested varieties are very suitable for a (sub) tropical climate. The first clone has now been applied for registration for the catalogue of varieties.
New potato varieties
HZPC wants to add five new varieties to the catalogue of varieties each year. The following HZPC and Stet varieties (Stet Holland is part of HZPC Holding) were included during recent years:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of varieties included in the catalogue of varieties</td>
<td>5</td>
<td>12</td>
<td>8</td>
<td>7</td>
<td>11</td>
<td>13</td>
</tr>
</tbody>
</table>

Names
- Celandine
- Flamenco
- Memphis
- Kastelli
- Sultana
- Blue Star
- Gioconda
- Magenta
- love
- Navigator
- Orlena
- Sunita
- Talentine
- Viotel
- Queen
- Melanto
- Vitalia
- Zelinda
- ZinaRed
- Avanti
- Baby Rose
- Briosso
- Dicroso
- Double
- Fun
- Fortus
- Heraclea
- Panamera
- Carminella
- Farida
- Llyna
- Jennifer
- Noblesse
- Primabelle
- Rosi
- Cerata
- KWS*
- Russet
- Delia Red
- Anvia
- Elata KWS*
- Generosa
- Essenza
- Joly
- Explorer
- Gaudi
- Lavata
- KWS*
- Orange
- Whitney
- Bricata
- KWS*
- Morgana
- Sunred
- KWS*
- SH C 913
- Kalista
- SH C 1001
- SH C 1010
- Tyson
- Aquila

*With effect from 2015/16, Stet Holland acquired the seed potato activities and assets of KWS Potato

HZPC & hybrid potatoes
Plant breeding is a centuries-old craft and at the same time very relevant when it comes to the availability of sufficient safe and better food for the world’s growing population. With hybrid breeding, new high-quality potato varieties can be cultivated more quickly, with fewer pesticides. With a hybrid, the best of two systems are combined to achieve maximum performance.

Growing hybrid potatoes from seed can make an important contribution to solving the world food problem. Moreover, the transport of seed is considerably more environmentally friendly and cheaper than a container of seed potatoes. HZPC sees many elements in hybridisation with potential for success.
‘Are hybrid potatoes from seed the future?’

Read the interview with R&D Director, Robert Graveland here

Sharing knowledge with customers and growers
As an organisation, we seek close collaboration with our customers and growers worldwide. Our goal is for our chain partners to be successful with our varieties. We therefore offer product-technical support (in the field of agronomy and product management) to chain partners and build commercial relationships with our customers. These direct contacts with chain partners and customers are fostered by an international team consisting of some 90 HZPC employees. Everyone has a direct responsibility to serve our partners in the potato chain as well as possible.

Small farmers big deal
Small farmers, Big deal, an initiative by Agriterra, calls upon agri-food enterprises, the Dutch government and knowledge institutions to give farmers’ organisations and cooperatives in developing countries a bigger role to play in Dutch trade, aid and investment policy. HZPC is a member of the initiative group behind Small farmers, Big deal. We join a group of experts from the worlds of business, government, Research & Development and social organisations to consider the strategy and content of the campaign and to place the campaign theme on the agenda in our network.

Reaching more people: exporting to new countries
We want to reach more people around the world with our products each year. In this way we contribute to food security and to a healthy and varied diet. We focus on adding new countries and increasing seed sales. This includes countries that are difficult to access due to war or (limited/non-existent) infrastructure.

From a structural perspective we delivered to 92 countries in 2017 with direct and indirect sales (licensed cultivation). We talk of structural sales if a country purchases seed potatoes for three consecutive years, or in four years out of five.

Giving small scale farmers in Africa access to high-quality seed potatoes
Around 40% of the population of African countries close to the equator live below the poverty line. Helping small scale farmers to improve their food production is extremely important in response to the strong growth in population and demand for food.

Around 99% of local farmers use degenerated, low quality seed potatoes. These seed potatoes only provide a fifth to a third of the yield of high quality seed potatoes. The Syngenta Foundation for Sustainable Agriculture from Switzerland helps small scale farmers in developing countries to achieve a better income through innovation and sustainable agriculture. One of their projects involves giving farmers access to high quality modern varieties of seed potato: ‘Seeds2B’. The focus within this project is on potatoes as they can help to provide food security while having a low impact.
HZPC is a partner of Seeds2B. With its knowledge and strong variety portfolio, HZPC contributes to the development of the market for small scale farmers in this tropical region. Twelve varieties are now officially approved for import to the various countries in the region. We are working hard to increase this number by carrying out various local trials. We have also found some good local partners who take care of local production and distribution of the seed potatoes. We are working on gaining a reputation, gaining greater access to the region, and cooperation within the sector to improve distribution, storage and marketing.

**Breeding in developing countries: workshop at the Gates Foundation**

The Gates Foundation, set up by Microsoft founder Bill Gates and his wife Melinda, is focused on improving healthcare worldwide and reducing extreme poverty. The encouragement of breeding locally important crops in developing countries is a key point on the agenda. Among other things, the Gates Foundation organised a three day meeting in 2015 and 2016 about this very topic in conjunction with the CIP (International Potato Centre).

HZPC was invited to give a lecture for a target group of local breeders from various developing countries. Producing and maintaining high quality seed potatoes and initial material is a huge problem in developing countries. The local breeders who attended were shown how a commercial breeding company measures quality, how breeding occurs technically and how this leads to quick progress, objectivity and high quality which meets consumer demand. And finally how you can measure this consumer demand. In 2018, HZPC will once again share knowledge at this meeting.
4 PILLAR 2 - Contribution to food security

4.3 Care of genetic resources

**Ensuring genetic diversity**
We aim to conserve the genetic diversity of the potato as a crop. This natural treasure will therefore also be available for future generations. Genetic diversity (differences in origin) is extremely important for the global food supply. As a breeding company, we must be able to anticipate the changing requirements associated with the cultivation of potatoes, as well as changing conditions.

New diseases and pests might come into play, the climate changes and the world population grows. The demand for sustainable products also increases and consumer needs change. The solution to new problems can sometimes be found in the properties of old varieties, in plants in other countries (in agricultural systems or outside them) or in gene banks.

We focus on:

- Supporting and collaborating with gene banks around the world
- Making it possible to use genetic material freely for further breeding (breeders’ exemption)
- Complying with the Nagoya Protocol
- The development of new potato varieties in order to safeguard genetic diversity

**Collaboration with gene banks**
HZPC attaches considerable value to successful collaboration with gene banks. Sustainable collaboration can therefore take place with the most important sources of genetic diversity. We recently entered into a partnership with, among others, the Wageningen gene bank for conservation and evaluation and the SASA gene bank in Scotland.

**Collaborative project with CIP in Peru**
Since 2014, HZPC has been working with the CIP (International Potato Centre) in Peru. This organisation provides sustainable solutions to problems around the world such as hunger, poverty and the disappearance of natural raw materials. The project is focused on ‘Benefit Sharing with custodian farmers’. These local growers work under poor conditions and often live in poverty. Benefit sharing means that local growers who cultivate landraces benefit more from their efforts.

*Read more about the collaboration with in Peru* [link]

**Breeders’ exemption**
Genetic sources and biodiversity form the parental material for plant breeding. In most cases, modern varieties are used as the genetic source for breeding. Wild relatives of cultivated crops and landraces are sometimes used. It is therefore extremely important for plant breeding purposes to have access to all genetic sources.

Plantum is the industry association for companies in the vegetative propagation material sector. Plantum formulated a standpoint to make it possible to use genetic material freely, for further breeding or breeders’ exemption.
This standpoint reads:

1. Biological material protected by patent rights should be freely available for the development of new varieties.
2. The use and exploitation of these new varieties should be free in accordance with the breeders’ exemption laid down in the UPOV Convention.
3. The aforementioned free availability, use and exploitation should not be obstructed in any way, either directly or indirectly, by the law on patents.

HZPC wholeheartedly supports the standpoint of Plantum with regard to the breeders’ exemption and is of the opinion that this should be applicable worldwide.

**Compliance with rules on the use of genetic material: Nagoya Protocol and International Treaty**

The Nagoya Protocol, signed by the European Commission, refers to genetic sources and the fair and ethical distribution of benefits that result from the use of these sources. It is the implementation protocol of the Convention on Biological Diversity (CBD), an international treaty. This treaty is linked to the national sovereignty of the countries where biological diversity has developed naturally. These countries therefore want reasonable compensation for access to and use of these genetic sources. The stipulations of the Nagoya Protocol are binding for the countries which have signed it.

The International Treaty is another protocol variant for compliance with the CBD. HZPC contributes to the Nagoya and International Treaty initiatives to support genetic resources in a structural way. A definitive agreement for this is still under development.
5 PILLAR 3 - Social impact

5.1 Introduction

In addition to reducing our footprint and contributing to food security, we also want to have a positive impact on the social environment. We do this by contributing to a healthy diet, good employment practices, social responsibility with regard to our test fields, and through transparency in the dialogue with our stakeholders.

Theme - contribution to healthy food

<table>
<thead>
<tr>
<th>Material aspect</th>
<th>Ambition 2020</th>
<th>Results 2016/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop healthier varieties/concepts</td>
<td>8 varieties/concepts by 2020</td>
<td>Development of speciality varieties ‘Perupas®’ (a set of five varieties in 2017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Develop concepts: Sunlite®, Fries4all® and Woksi®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Research into carbohydrates (Carbohydrate Competence Centre)</td>
</tr>
<tr>
<td>More people follow a healthy diet</td>
<td></td>
<td>Participation in the information campaign #powertothepieper (power to the potato)</td>
</tr>
<tr>
<td>Providing social return to the community*</td>
<td></td>
<td>Concluding a long-term relationship with Voedselbank Noord-Oost Nederland (food bank in the north-eastern part of the Netherlands), supplying potatoes for food hampers.</td>
</tr>
</tbody>
</table>

Theme - social responsibility

<table>
<thead>
<tr>
<th>Material aspect</th>
<th>Ambition 2020</th>
<th>Results 2016/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invest in human capital</td>
<td>Obtain and retain talent</td>
<td>Perform Great Place to Work ® research</td>
</tr>
<tr>
<td>Prevent child labour</td>
<td>Ensure that no child labour takes place</td>
<td>Establish project group for the prevention of child labour</td>
</tr>
</tbody>
</table>

* Applicable in the Netherlands
The potato, a healthy product
Potatoes are full of good and important nutrients. Vitamin C, B1, B6, magnesium, zinc, carbohydrates, iron, folic acid and fibre. This makes the potato an ideal addition to a healthy and varied diet. They can be prepared in various ways and they can be combined with fresh vegetables to produce a healthy meal.

Facts
1. In 2020 one in five people around the world will be overweight.
2. Potatoes contain fewer calories than other basic foods.
3. Potatoes have high concentrations of nutrients and fibres, such as minerals and vitamins B1, B6 and C.
4. People tend to eat more vegetables with potatoes than with rice or pasta.
Develop speciality varieties

**Superfood: Perupa’s®**
Perupas® are in line with today's superfood trend. These coloured potatoes, which originate from Peruvian potatoes from the Andes Mountains, have a purple, red/pink or dark yellow flesh colour. This is caused by the presence of the pigment anthocyanin, which is an antioxidant. Perupas contain more antioxidants than white potatoes. Antioxidants can help against cell and tissue damage and thus possibly help to offer protection against disease in the long term. In other words, it is an extra-healthy potato.

*Read more about Perupa’s*

Develop concepts

**Fewer calories: SunLite®**
Sunlite® is a tasty potato with fewer calories than the average potato. They contain a mere 58 kcal per 100 gr, compared to an average of 83 kcal for the ordinary potato.

*Read more about Sunlite*

**Fries4All®**
With Fries4All® we have succeeded in developing French fries that contain far fewer calories in the final product. Fries4All® prepared with an airfryer makes French fries that contain 30% to 40% less calories than French fries that are prepared in a deep-fryer, while still preserving the crunchy, fresh potato flavour.

**WOKSI®**
WOKSI® is another healthy and tasty potato concept in which the potato is processed into ready-to-eat freshly cooled potato strips, which can be used, among other things, for stir-frying. A healthy, relatively low caloric meal can therefore be prepared quickly and easily compared to rice and pasta, which is ideal for conscious and busy consumers.
Research on carbohydrates
HZPC participated in research into carbohydrates by the Carbohydrate Competence Center (CCC). This public-private partnership between 19 companies and six knowledge institutions wants to generate, develop and share high-quality knowledge on carbohydrates, to promote innovation and to contribute to a healthy and sustainable society.

There are three fields of action:

1. Research into the structure and functionality of carbohydrates
2. Research into healthy carbohydrates (in order to maintain good health)
3. Research into carbohydrate conversion and processing (for the production of innovative sustainable products)

The accumulated knowledge has contributed to the development of new, lighter, low-carb variants. Such as the SunLite® and Fries4All®.

See the results from the carbohydrate research here

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>WEIGHT (G)</th>
<th>ENERGY (KCAL)</th>
<th>PROTEIN (G)</th>
<th>IRON (MG)</th>
<th>VITAMIN C (G)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes peeled</td>
<td>200</td>
<td>152</td>
<td>5</td>
<td>1.2</td>
<td>16</td>
</tr>
<tr>
<td>Wheat / pasta</td>
<td>200</td>
<td>188</td>
<td>6</td>
<td>0.8</td>
<td>-</td>
</tr>
<tr>
<td>White rice</td>
<td>200</td>
<td>294</td>
<td>6</td>
<td>0.8</td>
<td>-</td>
</tr>
<tr>
<td>Rijst brown</td>
<td>200</td>
<td>238</td>
<td>6</td>
<td>1.2</td>
<td>-</td>
</tr>
<tr>
<td>Beans brown / white</td>
<td>200</td>
<td>216</td>
<td>16</td>
<td>4.0</td>
<td>-</td>
</tr>
</tbody>
</table>

Index of calories in food products
**Information about the potato’s place within a healthy diet**

HZPC wants to reinstate the contact between the consumer and this truly natural product from their local environment. We therefore inform young and old about the potato, for example through (social media) campaigns.

**Participation in the information campaign Power to the Pieper**

The *Power to the Pieper* campaign is a sector wide campaign by the NAO (Dutch Organisation of Potato Merchants), made possible by the EU. The aim of the campaign is to promote the potato as tasty and healthy. The potato has been super nourishment for centuries. This is why *Power to the Pieper* is putting the Netherlands’ pride and joy in the spotlight with an exciting campaign.

**Guided class tours**

We offer guided class tours at our greenhouse complex at Metslawier quite regularly. Here, the children are able to view modern, sustainable greenhouses, hear about how potato breeding works, and see how potatoes grow in the test fields.

**Providing social return to the community**

**Long-term relationship with Voedselbank Noordoost-Nederland (food bank in the north-eastern part of the Netherlands)**

We can help families with financial problems by providing them with potatoes. We entered into a long-term relationship with the food bank. We deliver potatoes to the food bank in the north-eastern part of the Netherlands’ distribution centre from our distribution centre in Emmeloord. From there, the potatoes go to food banks in the provinces of Friesland, Drenthe, Groningen and Overijssel. Every 14 days, clients can be supplied with potatoes by way of food hampers. In 2017 we delivered approximately 60,000 kg of potatoes, divided into packages of 2, 3 or 4 kg.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>KCAL (100 GRAMS)</th>
<th>FAT (GRAMS)</th>
<th>FIBRE (GRAMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTATO COOKED</td>
<td>76</td>
<td>2.3</td>
<td>3.1</td>
</tr>
<tr>
<td>POTATO CROQUETTE PREPARED</td>
<td>235</td>
<td>12</td>
<td>3.2</td>
</tr>
<tr>
<td>POTATO SLICES PREPARED</td>
<td>223</td>
<td>10.9</td>
<td>3.2</td>
</tr>
<tr>
<td>SALTED FRENCH FRIES PREPARED</td>
<td>309</td>
<td>15.4</td>
<td>3.2</td>
</tr>
<tr>
<td>FRENCH FRIES OVEN/FREEZER PREPARED</td>
<td>286</td>
<td>8.8</td>
<td>3.2</td>
</tr>
<tr>
<td>SPRING ROLL</td>
<td>177</td>
<td>8.2</td>
<td>2.0</td>
</tr>
</tbody>
</table>
5 PILLAR 3 - Social impact

5.3 Social responsibility

Invest in human capital
We foster a long-term relationship with our employees. For us, being a good employer means continually investing in human capital: craftsmanship, well-being and vitality. We believe that our employees make the difference when it comes to strengthening the solidarity between our customers and suppliers (growers) and our organisation. That is why we build positions around the talents of our employees. By placing responsibility low in the organisation, our employees have the freedom to take initiative themselves.

Living up to our values
We have an identifiable common direction. This direction is what we stand for; it proclaims our right to exist as a company and how we want to associate with one another. Our employees can identify with our mission and corporate values. They were, after all, involved in the identification and establishment of these values, which serve as the moral compass for the choices that are made within HZPC.

To us, sustainable HR means: results
Increasing the sustainability of HR helps us contribute to the achievement of (long-term) operating results and the continuity of our company. This implies that the mission, vision and goals of the company must be converted to corresponding HR objectives. It also asks for people who are able to steer their own contribution to match what we need as a whole as a company. Based on our business strategy, we have established six HR result areas:

- Strategic HRM
- Strategic personnel planning
- Training and personal development
- Salary and employment conditions
- Vitality and well-being
- Reporting and information

To us, sustainable HR means: responsibility
At HZPC we focus on taking individual responsibility. This calls for people who are equipped to make choices on a daily basis, based on their own knowledge and insights. There is sufficient opportunity to take initiative and responsibility within HZPC.

To us, sustainable HR means: employability
Long-term employability (maintaining earning capacity and flexibility) is central in our policy. This calls for people who are able to anticipate (future) changes throughout their career on a constant basis. This refers to changes that come into play in the environment and within HZPC.

We work towards sustainable employability in different ways. We work with, among other things, the ‘House of workability’. The house symbolises the manner in which someone can be deployed during his/her career. It is based on people’s own responsibility to remain employable. On the basis of this model, the employee initiates a discussion with his or her supervisor.
Sustainable employability is further stimulated by:

- Life-stages schemes (including schemes which make it possible to continue to work to an older age)
- The recruitment of new colleagues with a view to the future (in other words, not just filling the job openings that are available, but getting an idea of the candidate's opportunities for advancement within HZPC)
- Offering development opportunities aimed at current positions as well as possible future positions within HZPC.

Great Place to Work®
In 2016, the first Great Place to Work employee survey Trust Index© was carried out. The Trust Index© expresses how employees experience HZPC on the factors of trust, pride and pleasure. These are three important pillars that influence people's performance. 76% of survey participants agreed with the statement, "All in all, I think HZPC is a great place to work". With 95% and 93% respectively, HZPC scores well above the average (= 70%) in the Trust Index on the themes of fair treatment regardless of race or orientation.

Topics for improvement are appointing and coordinating people, and attracting people who are the best fit for HZPC. The most important results from the survey were discussed with the teams in 2017. After this, plans of action were drafted for improvement. This included looking at how people or teams can become more involved in recruitment and selection processes internally.

Diversity
HZPC employs 340 permanent employees. There are no fewer than 23 different nationalities employed in our company. The intercultural group of employees is growing. Currently, 8% of our employees belong to this category. Collaboration without borders is evident amongst all the different nationalities. This makes our company unique.
**Inflow and outflow**
The outflow of employees will increase during the coming years because of the number of employees reaching retirement age. A certain degree of outflow is positive because it increases the advancement opportunities for HZPC colleagues. This is also true for the recruitment of new employees with additional skills and experience (acquired in a different setting).

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At HZPC we do everything in our power to retain employees whose working capacity is limited as a result of illness. This means care for our employees and adaptations to the work environment so their working capacity can still be utilised.

**Training**
HZPC invests in the training and coaching of employees in various ways. To stimulate development, we have been using StudyTube, a digital learning environment, since 2017. 280 licences for StudyTube were purchased in 2018. This will be part of the further roll-out of the digital learning environment in the coming period.

**Young HZPC**
We founded Young HZPC for employees under the age of 31. The objective of Young HZPC is to strengthen the relationship between young colleagues in different departments and to give them a voice within HZPC so that their added value can be utilised to the fullest extent. Young HZPC is also responsible for international interconnection between young employees.

**Internships and traineeships**
We have good contacts with various schools, training institutions and universities. Working with interns and trainees is encouraged within HZPC’s various international subsidiaries. Students either undertook work experience, worked within the framework of their graduation project or worked at HZPC in a trainee role in 2016/17. Their fresh input is valuable and gives us a chance to become acquainted early on with potential future employees, customers and suppliers.

**Sick leave**
Our rate of sick leave, viewed over many years, is low. 1.68% (2013/14) and 1.74% (2014/2015). However, the absenteeism rate of 3.8% in 2016/2017 shows an increase. This is mainly attributable to a number of long-term illnesses.

HZPC makes every effort to prevent work-related complaints. The identification of risks at the workplace (by carrying out and following up on the Risk Inventory & Evaluation amongst other things) forms part of this. There is a protocol for field staff for working at heights.
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Numbers

Composition of the personnel base 2016/17
(subdivided per SBA - Strategic Business Area)

The division between male and female within the different locations

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<th>SBAE</th>
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Prevent child labour

HZPC has test fields in various climate zones, where new varieties are tested based on local conditions. These test fields are also located in poverty-stricken areas. Child labour is a deeply rooted problem in these areas. In our opinion a child belongs at school, where he or she can build a future. We therefore do not accept any child labour in our test fields. A code was developed in 2015. It is mandatory for test field operators to sign a declaration stating that child labour is not taking place in the test fields. Plantum’s statement against child labour formed the point of departure in this regard and it was customised for HZPC.
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Working group for the Prevention of Child Labour
We do not want to limit the prevention of child labour to the development of a code. To ensure that no child labour takes place, audits and a social program will also have to be looked at. The development of the plans for this is the responsibility of the working group for the Prevention of Child Labour. This will be put together in early 2018 and will then start with the implementation of the program.

Food program pilot in Egypt
In our previous report we talked about a food program pilot in Egypt. By offering children training in combination with a food program, we can combat poverty and prevent child labour. The project was not sufficiently viable. The working group for the Prevention of Child Labour will look at the options and viability in the future.

Dialogue with suppliers
We are also entering into dialogue with suppliers on this topic where child labour may possibly appear in the value chain; one particular area to consider might be suppliers of jute bags, for example. We made an inspection visit to the jute manufacturer in Bangladesh so that we could see the working conditions with our own eyes.
6.1 About this report

In this third Sustainability Report by HZPC we report on the results and the most important developments in the field of Corporate Social Responsibility (MVO) in 2016/2017. The Sustainability Report is intended for our stakeholders, such as employees, growers, breeders, certificate holders and chain partners, and for everyone interested in our sustainable activities.

The HZPC Sustainability Report is published every two years. The GRI G4 guidelines were followed in accordance with the Core option for the realisation of the report. HZPC did not have the sustainability report externally verified.

This Sustainability Report relates to the HZPC entities within HZPC Holding B.V. The financial data are taken from the financial annual report of HZPC Holding B.V. 2016/17. The essential data for sustainability relate to the HZPC locations in the Netherlands. The data is provided by the CSR working group members and those responsible for the various topics.

The reported results have in many cases been approached from a qualitative standpoint. In a number of cases we still have too few measuring instruments available to be able to publish quantitative data. Measurability and the quantification of goals and KPIs are set to become important themes for the coming period.

If you have any questions about our Sustainability Report or HZPC's activities, please contact: sustainability@hzpc.com

Previous publications

Sustainability Report HZPC Holland B.V. 2014/15

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