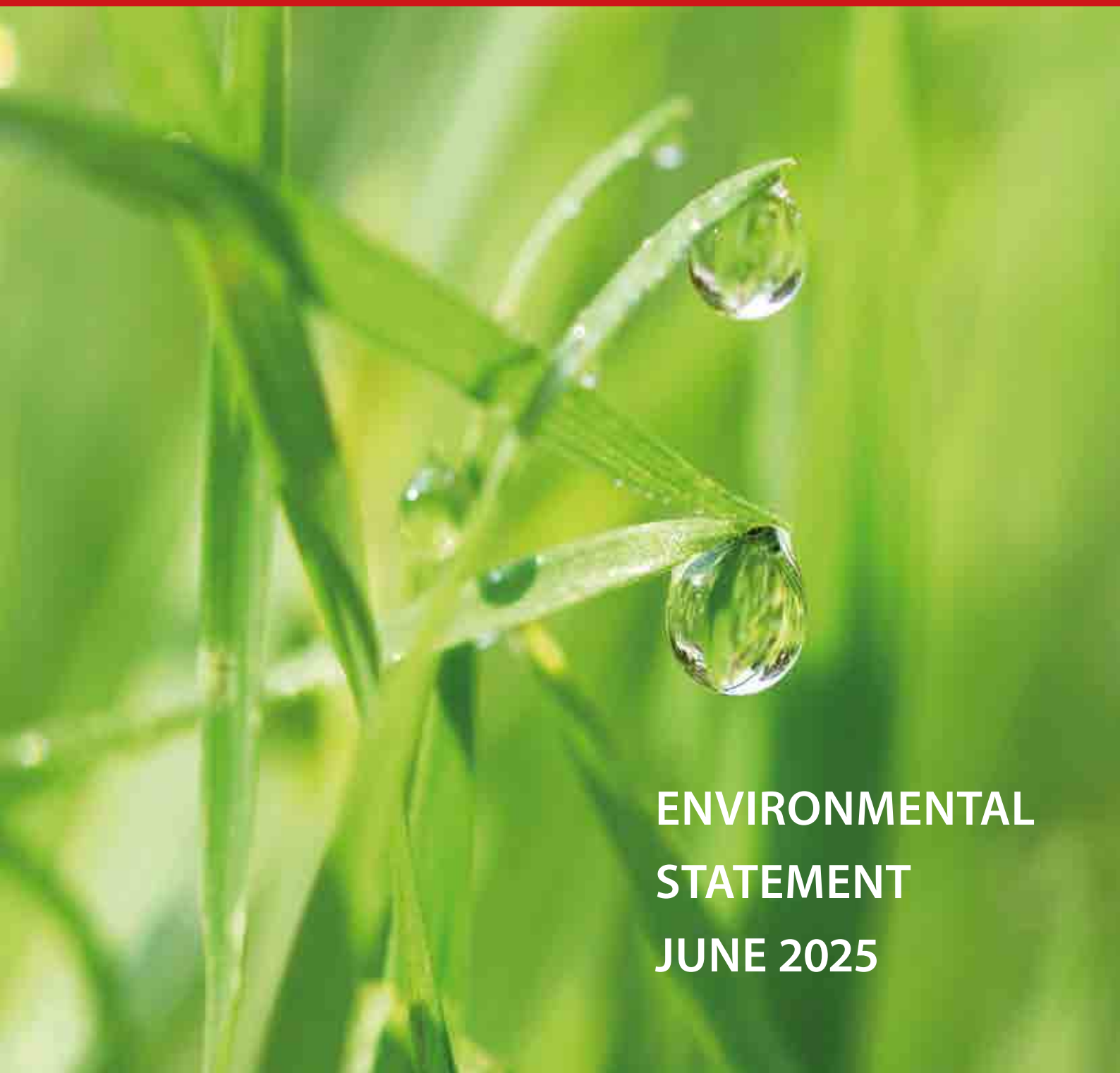
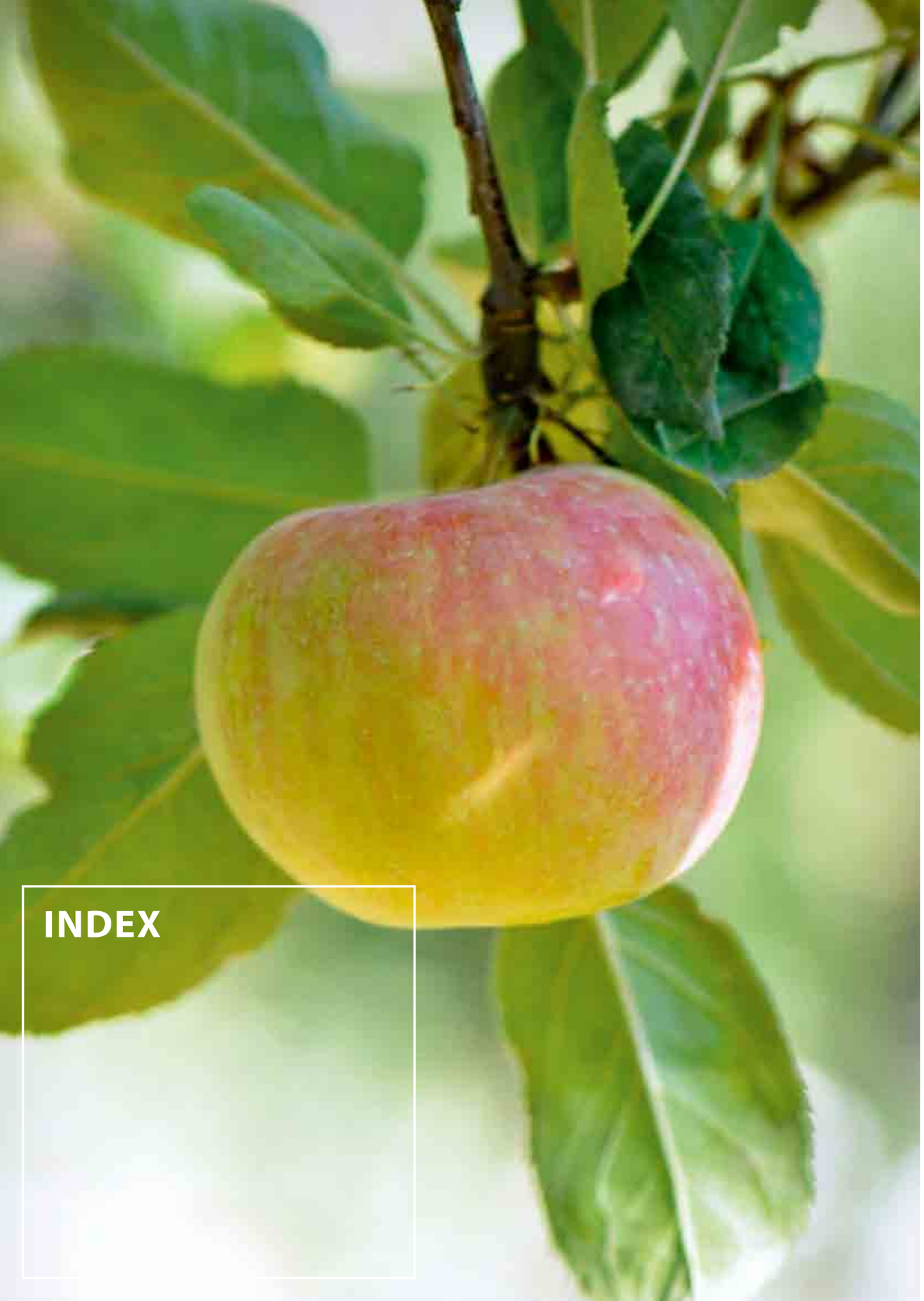
Zipperle

Fruit Juices | Purees | Concentrates



ENVIRONMENTAL STATEMENT JUNE 2025



INDEX

Hans Zipperle S.p.A. is located in Merano's industrial area, with a total surface area of approx. 60,000 m^2 (red area), approximately 38,500 m^2 of which are built on. The area was previously made up of fruit orchards, which were converted into an industrial area. Investigations and findings carried out to date have shown no trace of pollution on this site. The company site borders on a housing estate to the north east and the industrial area to the north west.

FOREWORD

Hans Zipperle S.p.A., with registered office and production facilities in Merano, South Tyrol, produces and sells fruit juices, pulps and concentrates for the international semi-finished goods market, and bottles fruit juices and drinks for the regional market, according to NACE Rev 2.10.32.

Our premises in Merano are located in one of the most beautiful Alpine regions, harmoniously nestled in the South Tyrolean mountains, in the middle of Europe's biggest fruit producing area. We therefore realise that our economic objectives can only be achieved in the long term by treating our environment with respect.

We thus support and plan measures which will continuously improve the company's efforts to protect the environment, for the benefit of nature and mankind.

In particular, we strive to:

- Develop new services and processes and take environmental issues into account in our investments.
- Prevent, reduce and – where possible – eliminate any existing environmental damage.
- Review the organisational systems for reducing environmental hazards.
- Improve our use of resources.

We want to reduce environmental damage as far as possible using the best available methods and technology which we can economically justify.

Dr. Brandstätter Thomas
Managing director, Hans Zipperle S.p.A.

INTRODUCING THE COMPANY

Established exclusively as a bottling business in 1951, the South Tyrolean company has continuously responded to market demands. Broadening the range of goods offered was the next logical step.

Other fruits were added for the production of pulp – apricots, pears, peaches, tomatoes and others; in addition to processing apple and grape juice, apple juice concentrate and coloured juices. In 1970 the company was converted to a public company still owned by the founding family, whose character and principles were to be maintained in the future.

By 1971 we were already processing 50,000 t of fruit, had a storage capacity of 8 million litres (sterile warehouse) and employed 65 people. Today, 175 permanent and approx. 30 seasonal workers process and market up to 200,000 t of fruit (2,500 t/day) for semi-finished goods each year. We have a storage capacity of around 65 million litres.

These quantities are partly due to the global 1980s trend towards non-alcoholic products. As well as the conventionally grown fruits, we now also put great importance to controlled and organically grown fruit. Our company embarked on socially responsible and environmentally friendly production early on, by investing in machinery and technology.

Today, the company boasts state-of-the-art processing lines which ensure "fluent" operations at all stages of processing right through to storage or dispatch. They also guarantee consistently high product quality, demonstrated not least by successful participation in the Schutzgemeinschaft der Fruchtsaft-Industrie's Voluntary Control System. In addition, we are now certified according to the FSSC 22000 standard.

TIMELINE OF DEVELOPMENTS

Zipperle has customers right across Europe with Germany traditionally being the main buyer for semi-finished goods. We only supply the regional market with bottled goods. Approximately 5 million reusable 0.2 and 1.0 litre bottles (10,000 units/h) are filled each year for the regional market.

The company believes that its success is guaranteed by the high quality of its products, its customer service, our environmentally friendly production processes and our social responsibility towards our employees. All our business is handled promptly and reliably. We process fruit delivered to us within 24 hours. A maximum of 72 hours pass by between an order being placed and products being loaded.

For many years already our investment policy has included ecological considerations. We recycle organic residue from fruit processing by drying it and using it to generate energy. We also purify industrial waste water in our internal preliminary purification plant and even recycle the slurry internally via the drying plant.

Major measures are planned with regard to water management in the next few years, as we want to reduce electricity consumption, steam and detergents.

1951	Foundation of Hans Zipperle
1951	Bottling plant
1953	Grape line
1954	Baling press for stone fruit
1956	Construction of first building
1957/72	Construction of storage cellar (cellar 1)
1963	Construction of a boiler house
1964	First flavour recovery and concentrate plant
1964	First two hydraulic horizontal Bucher HP 5000 universal presses
1968	Production of red fruits begins
1970	Construction of an in-house metalwork and electrical workshop
1970	Conversion to a public company
1970	Construction of the bottling hall and bottle magazine and subsequent migration of bottling plant
1973/78	Expansion of storage cellar (construction of cellar 2)
1975	Conversion of concentrate plant from plate-type evaporator to falling film evaporator
1975	First production line for tomatoes and fruit purees
1978/80	Press capacity increased by four additional HP 5000 Bucher presses
1978/80	Expansion of storage cellar (construction of cellar 3)
1980	Introduction of processing from controlled grown and organic fruit
1983	Construction of a press hall with migration of existing presses and press capacity increased by four additional HP 5000 Bucher presses
1984	Construction of production hall with migration of pulp and grape lines
1985	Flavour recovery plant with mechanical vapour compressor
1985/89	Expansion of storage cellar (construction of cellar 4)
1985	Construction of a pomace dryer and incinerator for steam production
1985	Installation of a flue gas filter to reduce dust emissions
1986	Modernisation and expansion of fruit supply (apple silo) and milling station
1987	Second puree line
1988	Press capacity increased by four HP 5000 Bucher presses and expansion of silos with renovation of milling station
1988	Construction of a cooling tower plant for recooling cooling water from juice processing
1989	Expansion of storage cellar (construction of cellars 5 + 6)
1989	Construction of a refrigerated cellar (refrigerated cellar 1)
1990	Expansion of refrigerated cellar (construction of refrigerated cellar 2)

1993 Partial conversion of filtration to membrane filtration (UF)

1993 Migration of boiler house and simultaneous modernisation of incinerators, as well as conversion to methane gas

1993 Construction of a new pomace dryer with solid fuel combustion (organic waste)

1993 Modernisation of solid fuel combustion for steam extraction

1993 Expansion of flue gas filter to reduce dust emissions

1994 Introduction of an organisational structure for quality assurance, occupational safety and environmental protection

1994 Construction of a new staff complex with changing rooms, training rooms and a lounge for lorry drivers

1994 Commissioning of aseptic barrel filling machine

1994 Expansion of refrigerated cellar (construction of refrigerated cellar 3)

1995 Expansion of storage cellar (construction of cellars 5 + 6)

1996 Two state-of-the-art universal HPX 5005i presses with extra capacity and low energy consumption

1996 Third puree line, with reduced electricity and water consumption

1996 Construction of a cooling tower to recool cooling water (tepid water), and for partial recyclying in the production process

1996 Construction of an underground waste water preliminary purification plant with mixing pond and regulating reservoir, neutralisation, filtration and slurry drainage to reduce settleable substances

1996 Construction of a bio-filter system with chemical washer and charcoal filter for reducing odour emissions

1997 Compilation of an environmental handbook as per EN ISO 14001 and regulation EEC 1836/93 (eco audit)

1998 Construction of a new fruit unloading station, with reconstruction of milling station, mash heating and rest time optimisation

1998 Commissioning of a new concentrate plant, with reduced steam and energy consumption

1999 Renovation and automation of dry stage in bottling, conversion to new packaging as well as 0.2 and 1.0 litre bottles and enclosure of conveyor belts from bottle-washing machines to pasteuriser

1999 Climate control in storage cellar 1

1999 Start of construction on refrigerated cellar 4, with three large tanks

2000 Construction of eastern hall for loading and unloading fruit

2001 Increased cooling capacity for cooling/mixing, as well as reconstruction for level recording, control and monitoring

2001 Reconstruction of drying and incinerator systems to reduce emissions

2002 Completion of refrigerated cellar 4

2003 Extension of fruit unloading station for stone and pip fruit for puree processing

2004 Expansion of UF plant, with stabilisation and filtration

2004 Roof added to loading point

2005 Cellar 1 converted and extended by approx. 2 million litres

2005 Sanitization of Cellar 3 sewage

2006 Restructuring of white water channels, plus hoppers, in the juice preparation hall

2006 Entire pomace drying and incineration plant modernized according to ATEX

2007 Connection to the Azienda Energetica S.p.A. district heating plant for the supply of steam

2007 Laboratory modernisation

2008 Installation of a 618.77 kWp photovoltaic system

2009 Two new high-tech fruit puree lines were installed to replace two older plants

2010 Certification according to the IFS, BRC, ISO 9001 and ISO 22000 (energetic rehabilitation) standards

2010 Kosher Certification

2013 Installation of a concentrate plant for highly viscous products, with pasteurisation and barrel filling

2014 Construction of a high-bay warehouse with room for around 1,300 pallets

2015 Setting up of SEU (district heating plant – Zipperle)

2015 Introduction of organisation model according to DL 231, and establishment of code of ethics

2016 Halal Certification

2016 Commissioning of a new bottle washing machine

2016 Replacement of a 1,000-kVA transformer with a 2,000-kVA transformer

2016 Commissioning of a new washing system for large crates

2017 Expansion of the blending capacity by 2 tanks with a capacity of 100,000 liters each

2018 Construction of a new hall with deepfreeze cells and cooling cells for the storage of barrels, as well as a commissioning hall with loading ramps for trucks

2019 Installation of a new filtration and stabilisation plant for the clarification of the fruit juices

2019 Commissioning of a new separator

2020 Commissioning of a new filling plant for 5-20kg-containers (bag in box)

2020 Extension of the storage cellar (building of cellar 7)

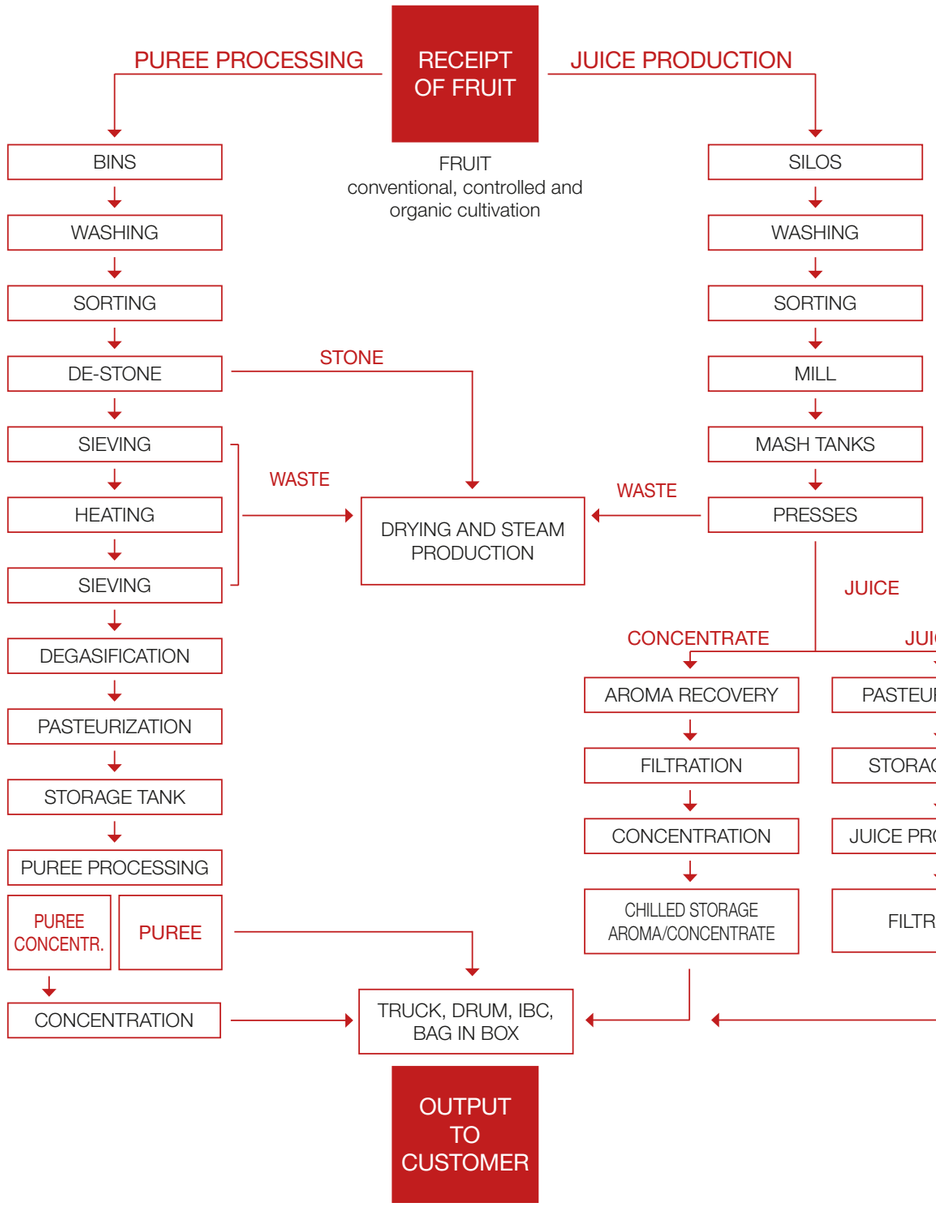
2021 Addition of a cold storage (storage hall south) with a high rack storage

2022 Construction of an underground storage for wooden chips

2023 re-building of the biomass burner for wooden chips and fruit residues with a production capacity of 15 t/h of steam

2024 Installation of a steam turbine (biomass) with an electrical power of 1 MW

OUR PRODUCTION PROFILE



A wide range of conventional, controlled and organic fruits is used to produce and distribute fruit juices, puree and fruit juice concentrates for the semi-finished product sector at the Merano site.

Our in-house agricultural service deals with the organic and controlled cultivation of crops on the producers' land. Most of this fruit is processed between June and November in four shifts, three of which run right around the clock, with the fourth taking the form of a standby team.

The existing plants have a production output of juice from seeds and berries of around 1,800 tons of fruit/day, grape juice around 600 tons of fruit/day, and pulp around 800 tons of fruit/day. The storage capacity is 53.5 million litres at a room and cooling temperature of +11°C for the sterile storage of juice and pulp, 11.5 million litres at around +4°C for concentrates and flavourings, and a barrel warehouse with up to 50,000 aseptically filled 200-litre barrels. The most important thing is that all fruit delivered is processed directly on the day of delivery. There are several refrigeration plants.

Bottled products are only supplied to the regional market (Trentino-South Tyrol).
Approx. 5 million 0.2 and 1.0 litre bottles are produced annually for this region. In 1999 we switched from 0.7 to 1.0 l reusable glass bottles. We again opted for reusable glass bottles for environmental and quality reasons. Disposable PET bottles were not considered for the above reasons. The semi-finished product range is shipped in road tankers, stainless steel containers and 200 litre drums.

Fruit processing creates approx. 30,000 t of pomace and fruit residue each year, which is dried in a drying plant and then recycled. The energy generated in this way is used to produce steam and also supplies the amount of heat required for the drying plant.

The dust in the exhaust air is cleaned using a dust filter with an emission value which is significantly lower than the legally prescribed level. Fruit processing also creates up to a maximum of 400 m^3/h of waste water, which is treated in the in-house waste water preliminary purification plant. The sludge gathered during filtration is drained off using a decanter and transported to the power room, where it is dried and recycled together with the fruit waste.

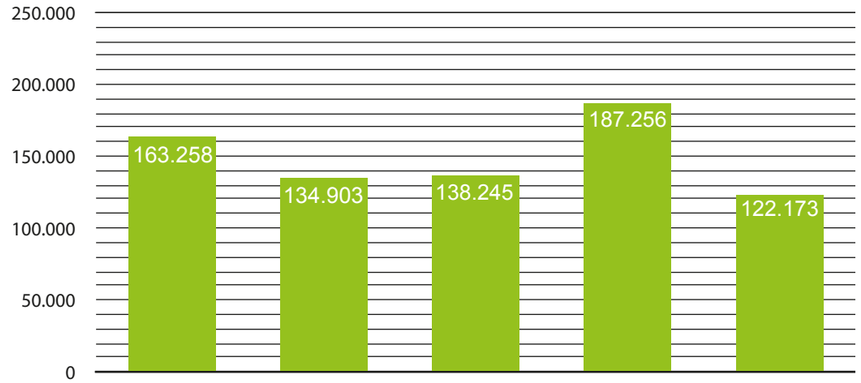


Fig. 1: Production quantity for all fruit (t)

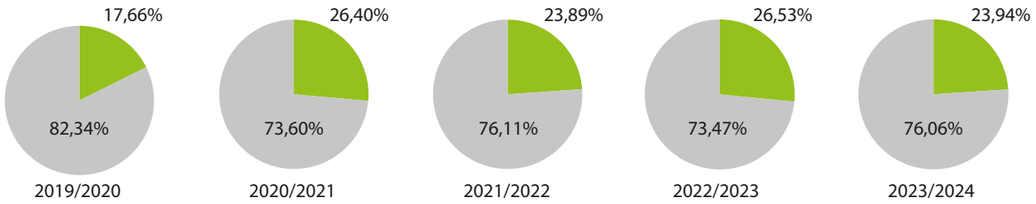


Fig. 2: Organic and controlled cultivation compared to conventional cultivation

MISSION STATEMENT

We are a family company with many years of experience in producing juice, puree and concentrate from conventional, controlled and organic cultivation. This also applies to our high-quality fruit juices, nectars and drinks for the regional market.
Our future depends on satisfied customers. We supply good quality at competitive prices.

We feel responsible for our staff, and therefore strive to continuously improve and produce premium quality on a daily basis. Our company organisation aims to protect natural resources and reduce energy consumption and environmental damage.

In order to achieve this, we conduct regular audits to discover weaknesses and eliminate them.

We want to fulfil our customers' expectations in every way

- We guarantee the quality and legality of our goods
- Smooth procedure from ordering to delivery (according to schedule)
- Production based on food legislation, high standard of technology and regular monitoring of equipment
- We offer friendly and competent advice
- We take our customers' wishes and requirements seriously
- Complaints are a matter for the management; they are analysed and corrected with lasting effect
- Supply according to specifications at competitive prices
- High degree of operational flexibility

Our staff adheres to our mission statement because we

- Encourage the team and each individual to do their very best
- Promote their qualifications and enthusiasm with constant training
- Assign them clear areas of competence and responsibilities
- Continuously improve safety in the workplace and equality for all our employees, as well as supporting and promoting a pleasant working environment
- Implement their suggestions and ideas as far as possible
- Take their wishes and requests seriously

We work closely with our suppliers

- We strive for long-term, reliable and fair cooperation
- By continuously monitoring our suppliers, we incorporate them into our quality, environmental and occupational safety awareness

We are conscious of our responsibility towards society and the environment, because

- When purchasing new technologies and developing new processes, we take care to optimise environmental protection concerns as far as possible that can be achieved through a balance of investments and the best available technology
- We strive to continuously improve all processes and thus protect resources and the environment. We also try to reduce the number and quantity of hazardous substances and increase the use of reusable packaging and, in doing so, we exceed the legal requirements
- We constantly monitor and record emissions produced by the company which affect the environment. This information is exchanged with the public authorities in an open dialogue
- We provide regular information about our efforts to protect the environment and ensure safety at work
- When buying raw materials, we constantly try to increase the proportion of controlled contracted cultivation and the proportion of organic raw materials in our products

We want to remain the most reliable partner to our customers, staff and suppliers. The management guarantees for this mission statement.

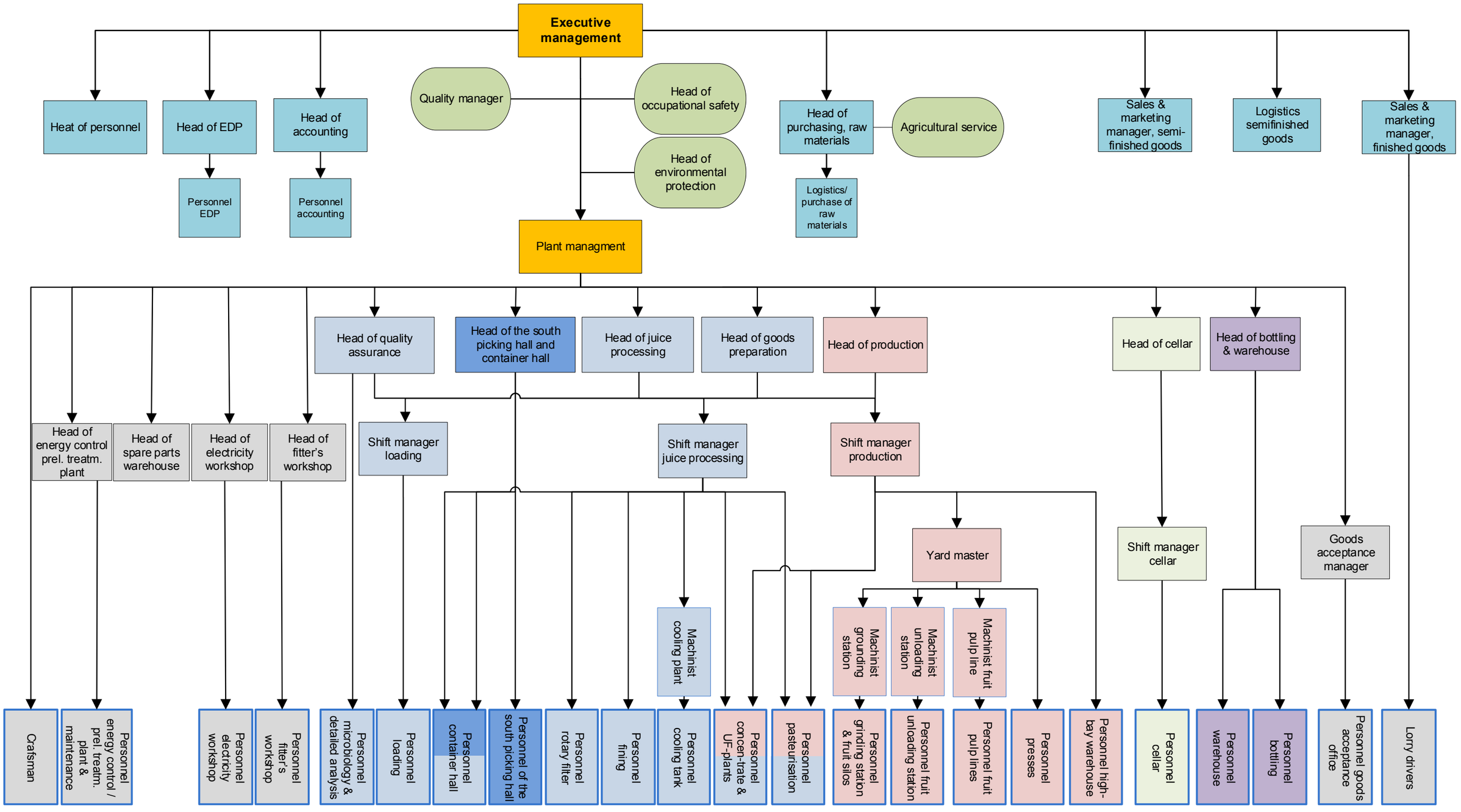
ZIPPERLE'S ENVIRON-MENTAL PROTECTION STRUCTURE

We take environmental protection very seriously, both as a managerial responsibility and as integral part of our corporate philosophy. We therefore believe that the commitment of the staff to our business is the most important basis for industrial environmental protection. We believe that as many employees as possible from all departments must be involved in the environmental decision-making processes, to achieve a high level of environmental motivation and thus achieve sparing use of natural resources.

The management promotes environmental protection at all levels and releases the funds for the objectives defined together with the plant managers, process owners and the operational structure improvement working group. The environmental impacts at the site are regularly recorded and analysed by the environmental officer and his delegates as well as the process owners. This data forms the basis for improving and reorganising environmental systems, and provides the stimulus for targeted economies where resources are concerned. Deviations give rise to corrective and preventative measures. Weaknesses in the eco-management system are identified and documented, as a result of which safeguards for effective corrective measure, or changes to procedures as necessary, are implemented and analysed.

These precautions are intended to prevent a repeat of negative environmental impacts. Professional repairs and preventive maintenance and inspections of the environmental systems at the site by specialist staff or external firms ensure that environmental damage is kept to a minimum or, even better, eliminated. The company has established procedures which allow it to respond quickly and appropriately to incidents which may adversely affect the environment.

Organization chart



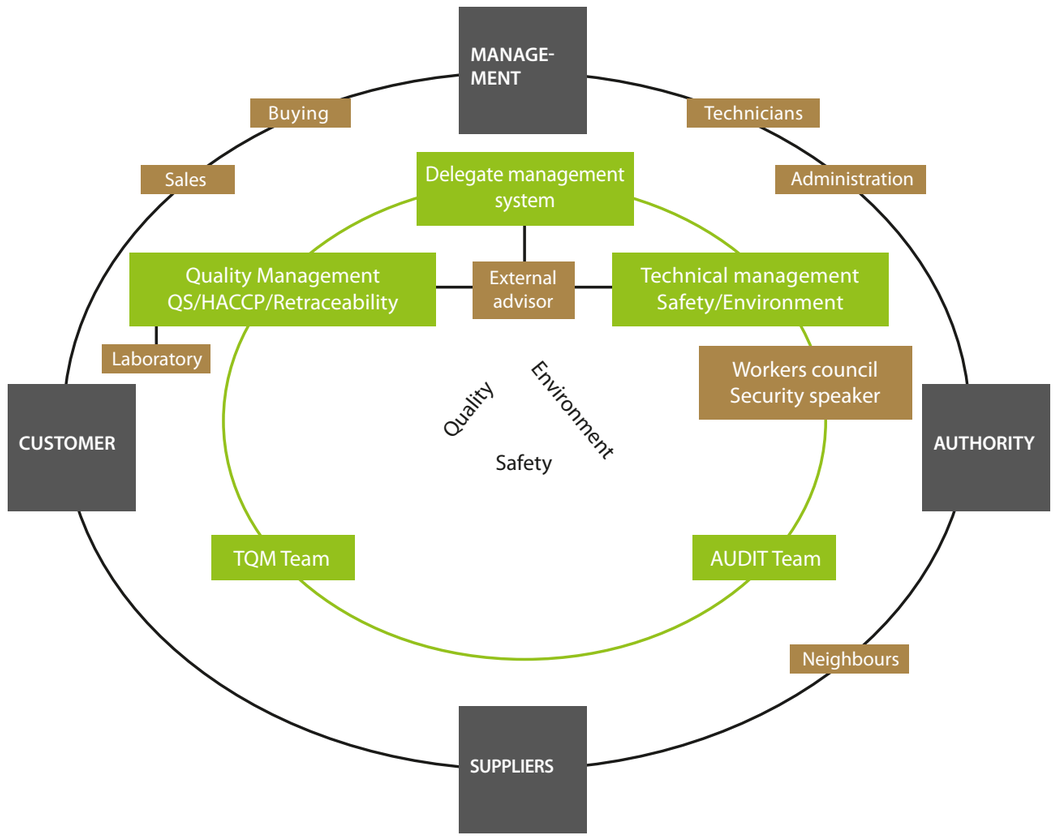


Fig. 3: Circle of continuous improvement

We identify deviations from normal operations at an early stage, keeping harmful environmental impacts low. Annual internal training and briefings put our employees in a position to realise the significance and content of the on-site eco-management system and to implement it.

By creating tailored training programmes, we motivate our staff at all levels and provide them with qualifications in the most important environmental aspects and basic principles of environmental protection techniques. The appointed officers also take part in regular external training courses. The training requirement is assessed by way of regular and planned internal audits. The internal audits are also designed to help to expose weaknesses in the eco-management system, analyse their causes and implement the appropriate corrective measures. The company undergoes regular eco audits by independent organisations to assess the eco-management system that is in place, compliance with the relevant environmental regulations and to ensure that the company's mission statement corresponds to the implemented and planned environmental programmes. The auditors must be independent and possess the necessary knowledge and experience in order to be able to professionally assess the eco-management system operated by the company.

Measurement and control procedures have been introduced to determine the exact impact of production on the environment. The data obtained is recorded in special registers and serves as the basis for improvements and renovations to environmental systems, as well as initiatives for specific potential for savings and resource preservation.
The management of Hans Zipperle S.p.A. assesses the installed eco-management system at regular fixed intervals. The review serves to assess the environmental protection targets achieved by the company and the need to introduce corrective measures to adapt to changes in the business environment. In this way, it is intended to guarantee a continuous and constant improvement in the company's environmental performance. The whole eco-management system was also certified to ISO 14001 at the same time. The company also has a HACCP system, which provides for various quality and hygiene controls and measurements.

Compliance with the relevant environmental laws, both national and local, is one of the main starting points for the whole eco-management system. All the environmental laws and the resulting obligations relevant to the company are outlined in a specific folder in the form of a dedicated register. This register states the obligations derived from each individual group of laws and how they are fulfilled within the eco-management system.

MAIN ENVIRON-MENTAL IMPACTS

Hans Zipperle S.p.A. and all its employees put great importance to optimising and safeguarding internal processes in order to prevent accidental emissions and consequent adverse effects on the environment.

To ensure this, we have developed instruction manuals for all systems and operating instructions for hazardous substances and auxiliary materials. We carry out fire prevention inspections and fire drills and organise inspections by the operational structure improvement working party. We conclude maintenance agreements for all environmental systems and encourage our staff to further develop in-house preventative measures.

The last five years have been selected to show the result. The data was obtained by recording weights and measurements and will continue in the years to come to enable us to set up environmental performance figures in the future. Given that Zipperle's business year runs from 1 July to 30 June, the environmental data refers to this period. As the energy (gas, oil, and electricity), water/waste water and CO_2 output data and other extraction parameters have been recorded every month, we can compare it with previous years. The previous annual data can be found in the environmental statements for recent years.

Indirect

INPUT

Conventional raw materials

Organic and controlled raw materials (2.2.1) (agricultural service)

Direct

INPUT

Supplies (1.7)
Detergent (1.6)
Energy (1.2)
Water (1.4)

Indirect

INPUT

External companies on site (2.3.1)

Indirect

INPUT

Packaging material (2.2.2)

BUYING DEPARTEMENT

Zipperle

PRODUCT

SALES/DISTRIBUTION

Indirect

OUTPUT

Transport of raw materials (2.1.1)

Direct

OUTPUT

Waste (1.5)
Sewage water (1.4)
Emissions (1.3)
Noise (1.1)
Soil and water pollution (1.6)

Indirect

OUTPUT

Waste management and transport companies (2.3.2)

Indirect

OUTPUT

Transport of semi-finished and finished goods (2.1.2)
Company cars (2.1.3)
Staff transport (2.1.4)
Packaging materials (glass, drums, PE bags) (2.2.2)

1. DIRECT ENVIRON-MENTAL IMPACTS

1.1 Noise

The following guide values apply to our site. In recent years the company has made continuous improvements to reduce noise experienced by the nearby residential area.

Subdivision and threshold values according to IPPC licence*	Threshold values		Values recorded in 2024	
	day	night	day	night
General residential area	60 dB(A)	50 dB(A)	41,5 - 53,7 dB(A)	40 - 42,8 dB(A)
Industrial zone	65 dB(A)	55 dB(A)	50,2 dB(A)	44,0 dB(A)

Table 1: Noise guidelines for the site **IPPC Nr. 12-237 of 03.05.2023*

1.2 Energy

Our main energy sources are electricity and natural gas, electricity to operate our plant and natural gas to generate process steam and to heat some areas of our buildings. The fruit residues generated by production are dried and incinerated in-house to generate process steam.

Since April 2007 we have been buying process steam from a district heating power station, which produces electricity and district heating using a gas turbine. To meet the remaining steam requirement we operate 3 boilers, each with an output of 10 t steam per hour. To guarantee the continuity of production in the case of a gas shortage, the three boilers can also run on fuel oil; up to 31.12.2015, heavy oil was used.

1.2.1 Thermal energy

Process	Consumption in MWh				
	2019/20	2020/21	2021/22	2022/23	2023/24
Steam boiler (gas and oil)	49.836,2	47.259,5	57.244,3	53.838,9	40.082,3
Drying and incineration plant (biomass (waste), renewable energy)	12.052,2	7.687,1	6.560,0	13.583,1	33.788,4
District heating (purchase of process steam)	33.552,3	24.573,3	21.768,2	29.237,4	15.737,5
	95.440,7	79.519,9	85.572,5	96.659,4	89.608,2

Table 2: Process steam produced for the fruit processing

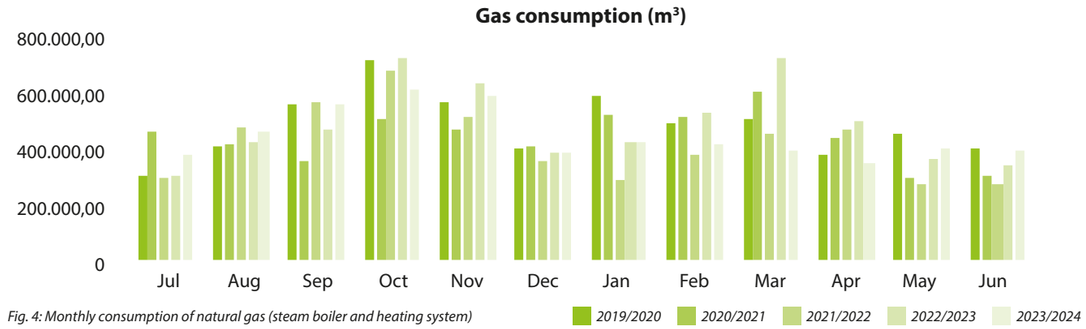


Fig. 4: Monthly consumption of natural gas (steam boiler and heating system)

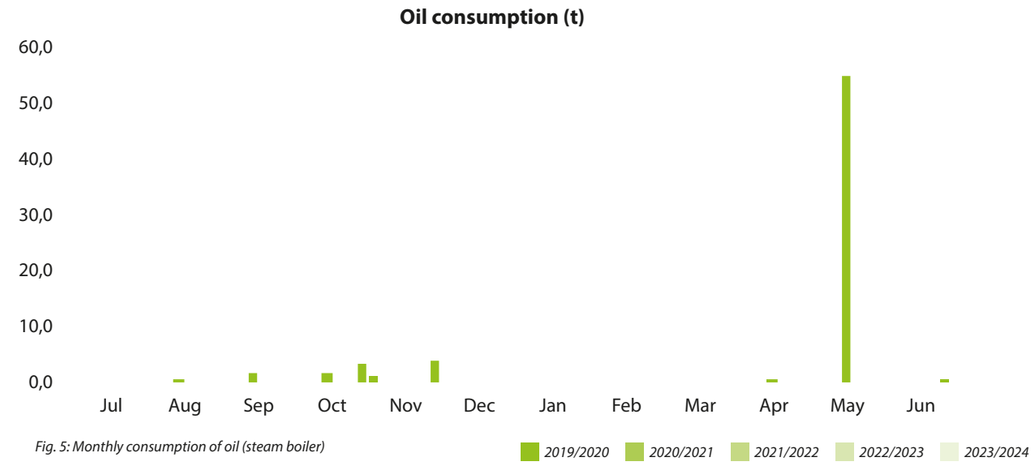


Fig. 5: Monthly consumption of oil (steam boiler)

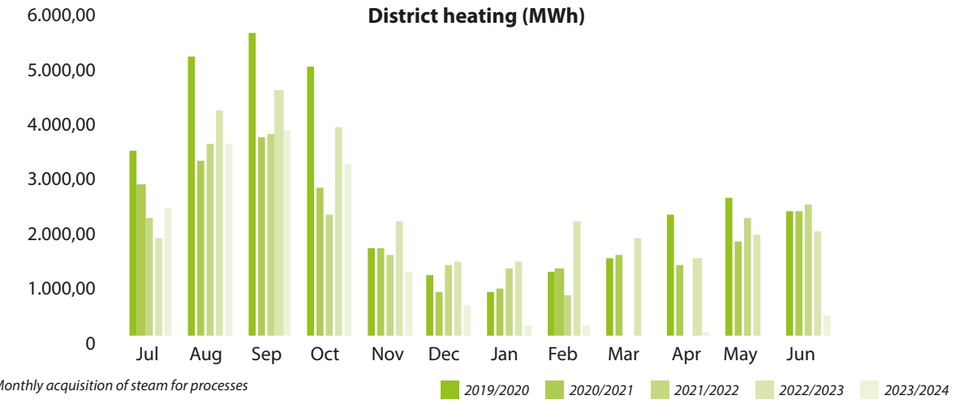


Fig. 6: Monthly acquisition of steam for processes

1.2.2 Electrical energy

Thanks to the agreement stipulated between Hans Zipperle S.p.A. and Alperia S.p.A. (SEU – Efficient Systems for Users), since January 2015, all electrical energy needed has been supplied by the nearby co-generation plant (district heating plant). Only in the event of a malfunction of the gas turbines is mains electricity used.

The consumption of electricity is as follows:

1) SEU: electric current from the nearby co-generation plant (CAR certified) + solar energy from the photovoltaic plant with an output of 618.77 kWp, installed on the roofs of our premises.

2) MAINS: 100% electricity from renewable sources.

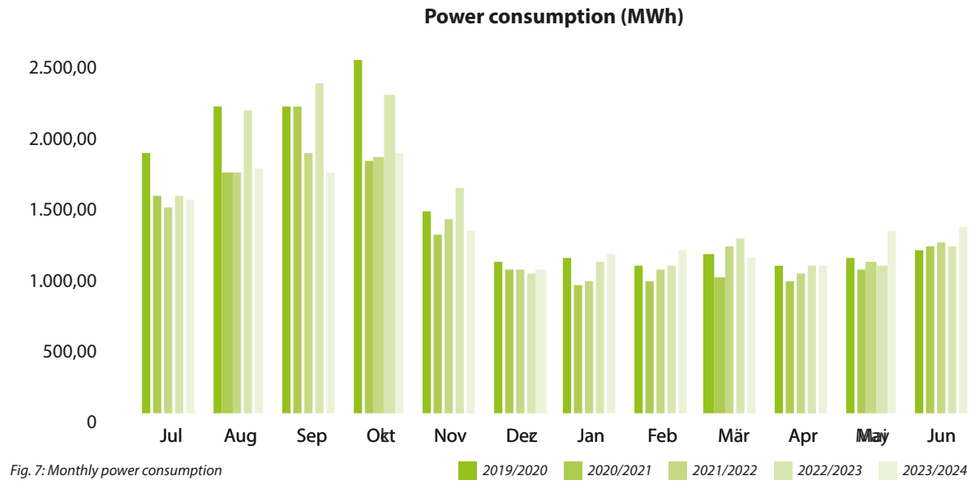


Fig. 7: Monthly power consumption

Process	Consumption in MWh				
	2019/20	2020/21	2021/22	2022/23	2023/2024
Whole plant	17.982,6	15.632,0	15.863,5	17.713,9	16.371,0

Table 3: Annual electricity consumption

1.3 Air emissions

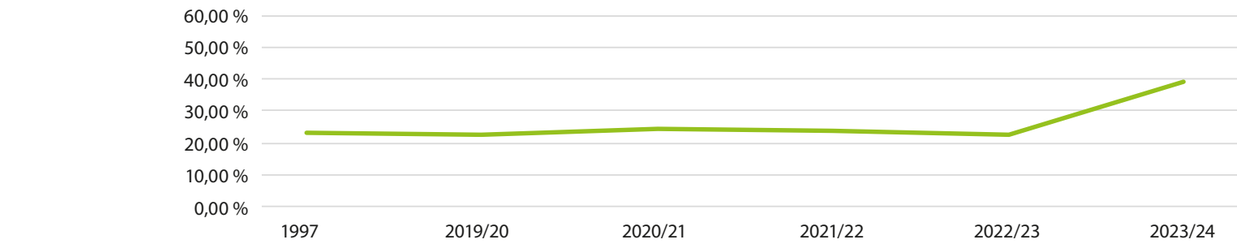
Natural gas is used to generate process steam; use of oil-fired furnaces is minimal. In December 2015, all plants were converted from heavy oil to fuel oil to improve atmospheric emissions. Approximately one-third of the energy requirement can be met by drying and incinerating the pomace, fruit residues and sludge. The dust in the exhaust gases is removed using a dust filter. The threshold values below are adhered to as a result of regular inspection and optimisation of the burners carried out within the scope of maintenance agreements.

Type of emission	Statutory limit values with regard to IPPC licence*			
	Total dust	Nitrogen oxides	Sulphur oxide	Carbon monoxide
Drying (E1.1)	30 mg/m³	400 mg/m³	200 mg/m³	250 mg/m³
Incinerating (E1.6)	20 mg/m³	300 mg/m³	150 mg/m³	225 mg/m³
Steam boiler (E 3.1, E 4.1, E 5.1) „natural gas“	/	200 mg/m³	/	80 mg/m³
Steam boiler (E 3.1, E 4.1, E 5.1) „heating oil“	50 mg/m³	250 mg/m³	/	80 mg/m³
Result of measurements carried out by external agents in 2024				
Drying (E1.1)	1,9 mg/m³	320,4 mg/m³	1,1 mg/m³	174,0 mg/m³
Incinerating (E1.6)	1,2 mg/m³	116,7 mg/m³	< 1,0 mg/m³	61,7 mg/m³
Steam boiler 3 (E 3.1) „natural gas“	/	165,0 mg/m³	/	1,1 mg/m³
Steam boiler 4 (E 4.1) „natural gas“	/	44,1 mg/m³	/	1,1 mg/m³
Steam boiler 5 (E 5.1) „natural gas“	/	43,4 mg/m³	/	1,3 mg/m³
Steam boiler 3 (E 3.1) „heating oil“	1,8 mg/m³**	207,6 mg/m³**	/	0,2 mg/m³**
Steam boiler 4 (E 4.1) „heating oil“	0,9 mg/m³**	212,7 mg/m³**	/	6,4 mg/m³**
Steam boiler 5 (E 5.1) „heating oil“	1,2 mg/m³**	109,1 mg/m³**	/	1,4 mg/m³**
Total	**0,14 t/Jahr**	**56,99 t/Jahr**	**1,3 t/Jahr**	**/**

Table 5: Emission measurements 2022

*IPPC protocol no 12-237 of 03.05.2023
**Emission measurement from 2022 („reserve combustion plant“; measurements are carried out every 3 years)

CO_2 emissions (t)	1997	2019/20	2020/21	2021/22	2022/23	2023/24
Natural gas (own production of steam)	7.445	10.215	9.721	11.302	10.488	7.957
Oil (own production of steam)	4.630	156	-	1	23	7
CO2 equivalents from dispersions from cooling machines	-	123	310	398	471	83
Sum of CO2 emissions Scope 1	**12.076**	**10.494**	**10.031**	**11.701**	**10.982**	**8.047**
District heating (purchase of steam)	-	7.781	5.704	5.160	6.852	3.632
Electricity (purchase from district heating plant with gas turbine)	9.193	3.413	3.132	2.947	3.390	2.461
Sum of CO2 emissions Scope 2	**9.193**	**11.194**	**8.836**	**8.107**	**10.242**	**6.093**
Sum of CO2 Emissions Scope 1 and 2	**21.269**	**21.688**	**18.867**	**19.808**	**21.224**	**14.140**
Burning of biomass for the production of steam	6.324	5.514	5.326	5.080	5.260	9.116
Purchase of electricity from renewable sources	-	774	675	991	952	1.840
Sum of savings of CO2 emissions due to the use of renewable energy	**6.324**	**6.288**	**6.001**	**6.071**	**6.212**	**10.956**
Part of renewable energy on the total energy used on the basis of CO2 emissions	**22,92%**	**22,48%**	**24,13%**	**23,46%**	**22,64%**	**43,66%**



1.4 Water/Waste water

The company's fruit processing and purification processes require a lot of water. Fresh water is drawn from our four deep wells and is supervised by the local public health authorities. Information on daily volumetric rates per well is collected and recorded at a central measuring point.

We treat any waste water in our in-house, underground waste water preliminary purification plant and then feed it into the public sewage system. We continuously monitor waste water from the preliminary purification plant in-house and it is analysed every year by an external laboratory instructed by us. The public sewage system operator is responsible for the analytical inspections and transmission of the corresponding data to the competent authorities.

Exhaust gases from the tanks and room exhaust is fed into a bio-filter to reduce odour emissions. An active charcoal filter has also been installed for safety reasons, which is operated as required.

Fraction	2019/20	2020/21	2021/22	2022/23	2023/24
Freshwater in m^3	1.894.037	1.724.870	1.828.069	2.009.357	1.737.500
Cooling and rain water in m^3	784.179	724.066	925.956	569.150	594.141
Process sewage in m^3	1.320.956	1.167.334	1.242.489	1.370.911	1.163.321
COD in t/a	2.334	1.865	1.842	2.621	1.679

Table 6: List of water quantities and their classification

1.5 Waste

The company operates a collection system for all scrap iron, aluminium, ash, residual waste, glass, filter waste, etc. These valuable substances are collected separately. Organic waste, such as pomace or sludge, is disposed of in the company's own dryers and incinerators, and this process demonstrably meets the corresponding thresholds.

Essential maintenance work means that the plant shuts down for approx. 3 months in the winter, and during this period the organic waste is predominantly used as animal food or recycled in biogas plants. Any special waste is disposed of in accordance with regulations. We try to reduce other residual waste through further organisational measures such as employee training and awareness campaigns. We constantly strive to reduce waste, or to find new ways of disposing of it.

Waste fractions	Waste volumes in t				
	2019/20	2020/21	2021/22	2022/23	2023/24
Total	1.903,8	1.595,5	1.768,7	2.216,4	1.641,6
Residual waste	154,8	125,0	148,7	144,8	156,5
Cardboard	59,1	47,7	54,4	65,4	73,6
Mixed glass	19,5	17,7	20,7	20,6	14,0
Scrap iron	28,6	39,4	20,6	98,1	35,5
Stainless steel	11,0	9,5	0,0	12,5	28,9
Wood	130,1	107,0	87,9	154,0	165,8
Plastic packaging	109,2	64,0	22,0	27,7	57,0
Aluminium and fastenings	4,4	2,9	5,6	5,2	4,9
Electric cable	0,6	0,0	0,6	3,4	1,1
Mixed construction and demolition	35,6	27,8	21,9	32,2	28,5
Ash	396,7	268,0	233,1	223,6	169,3
Filtration residues	0,0	0,0	0,0	0,0	0,0
Waste water preliminary treatment plant sludge*	806,6	687,4	832,8	1.108,8	392,6
Special waste					
Total	9,0	21,9	9,8	32,7	16,3
Lead batteries	0,042	8,819	4,400	4,487	4,433
Paints and coatings	0,000	0,227	0,000	0,000	0,000
Used oils	2,820	0,420	1,280	1,820	2,890
Absorbent material	0,228	0,230	0,116	0,312	0,291
Laboratory reagents	0,020	0,000	0,014	0,018	0,029
Neon tubes	0,046	0,053	0,043	0,045	0,055
Waste from oil separators	0,000	6,160	0,000	17,020	0,000

Table 7: Total quantity of waste disposed of, including details of the main fractions
** Calculated at a TS of ~24%*

Description	Quantities in t				
	2019/20	2020/21	2021/22	2022/23	2023/24
Fruit residues (pomace)	5.694,5	5.070,3	7.203,7	8.953,3	3.314,3
Filtration residues	629,6	300,5	235,6	288,0	288,1

Table 8: Fruit and filtration residues used as animal feed or in biogas plants in compliance with regulation (EC) no 183/2005

2. INDIRECT ENVIRON-MENTAL IMPACTS

1.6 Soil and water contamination

The companies site consists of former fruit orchards, which were turned into an industrial zone. Previous findings and investigations have shown that the plot is not contaminated, as has been confirmed by the authorities. All the activities and systems or storage which could contaminate the soil and water in the event of a breakdown are operated separately. Risk and probability is analysed using organisational measures intended to prevent the above breakdowns.

1.7 Operating materials

Various auxiliary materials, additives and operating materials are used to process the fruit and clean the equipment. The table below sets out some of the statistics.

Auxiliary materials, additives and operating materials	Volumes in t				
	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
Bentonite	61,9	12,9	12,9	9,5	11,0
Colloidal silica	98,5	8,9	20,2	10,7	15,0
Protein	3,6	2,7	0,9	0,8	1,0
Carbon	96,8	36,4	98,5	75,7	68,0
Diatomite and perlite	144,1	67,6	79,7	71,0	79,5
Detergents	739,7	592,7	728,4	742,0	742,5
Caustic soda for neutralising waste water	254,8	138,6	112,1	183,0	148,4
Hydrochloric acid for neutralising waste water	15,6	7,4	36,3	26,6	21,7
Caustic soda for water treatment plant	2,2	5,5	6,2	4,6	4,8
Hydrochloric acid for water treatment plant	0,1	0,1	0,0	0,0	0,0
Cationic flocculants for waste water preliminary treatment plant	17,1	13,3	13,4	15,5	12,7
Anionic flocculants for waste water preliminary treatment plant	3,0	3,4	2,3	2,3	2,2

Table 9: List of various auxiliary materials, additives and operating materials

We constantly improve our external image. We want to be a good neighbour and, of secondary importance, develop our positive public image.

The main indirect environmental impacts caused by our company's activities can be grouped in the following categories:

- Traffic, which mainly occurs as a result of deliveries of raw materials, semi-finished and finished products;
- The product, its composition and properties, and the corresponding packaging;
- The third-party firms which we instruct to carry out various activities on our behalf.

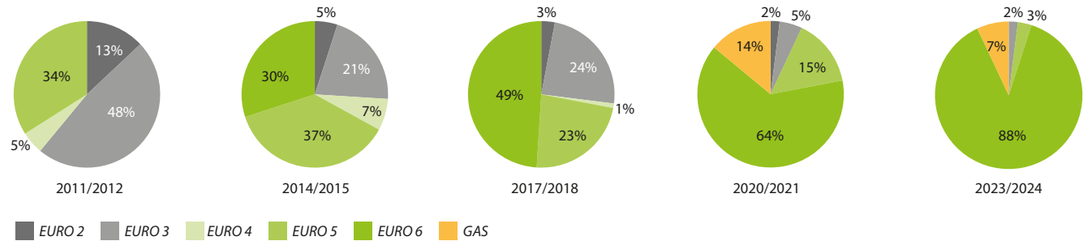
2.1 Traffic

The traffic indirectly caused by our company is generated on the one hand by shipments of goods by lorry (receipt of raw materials and deliveries of semi-finished and finished products) and on the other by employees and others using their cars.

2.1.1 Shipment of raw materials

80% of Zipperle's raw materials originate from Italy, 15% from South Tyrol and approx. 5% from other countries. They are bought delivered to Merano, which is why we normally have little influence on the shipping companies chosen by our suppliers.

In addition some suppliers also transport their own goods, and these suppliers change depending on the weather and the market situation, for example.
In order to conduct an initial assessment of the environmental impact caused by these shipments, we asked the main carriers (approx. 10) about the EURO category of the lorries they use. This research produced the following data:

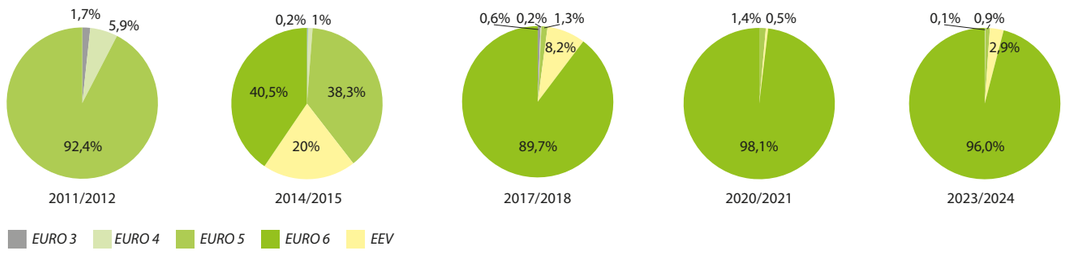


We expect a gradual improvement in this situation depending on the legal position.

2.1.2 Transport of semi-finished and finished goods

We use a limited number of approximately 10 transport companies to deliver our semi-finished and finished goods. This selection has been made on the basis of rigorous past assessments.

We made the aforementioned enquiries among these suppliers, asking about the EURO categories of the lorries they use. This research produced the following data:



2.1.3 Company cars

Some employees have a company car, these being those who work in management, purchasing, the agricultural service, sales and customer service. In total, the company owns 12 motor vehicles, of which two electric vehicles, eight Euro 6 cars, one Euro 6 truck, one Euro 3 truck and one Euro 2 car.

Because these are also available for personal use, it is difficult to quantify how many kilometres have been driven and the air emissions that have ensued. Their environmental impact is, however, low compared to the lorry traffic.

2.1.4 Employee transport

The majority of employees (approx. 80%) working for Zipperle live within a 5-10 km radius. It is difficult to quantify the air emissions generated by the kilometres driven, as the employees use different methods of transport and car pools depending on the weather and time of year (car, motorbike, moped, and bicycle). The remaining 20% of employees live within 20 km and share cars, as far as possible and if hours of work permit. As for company cars, the environmental impact of these methods of transport is rated as low compared to lorry traffic.

2.2 Product

The diagram on page 25 shows the main indirect environmental impacts caused by our products.
On the one hand, fruit growing per se affects both the quality of the end product (residues) and potentially contaminates soil and pollutes ground water through the use of pesticides and fungicides. For some years our agricultural service has been geared to buying more and more organically grown and controlled goods (see Point 2.2.1).
On the other hand, the type of packaging we use for our semi-finished and finished goods has an impact on the environment. By "consuming" our product, the customer may cause an indirect impact on the environment (see Point 2.2.2).

2.2.1 Agricultural service

It must be possible to guarantee product traceability from field to customer where both organic and controlled cultivation are concerned. Every single measure and each stage of processing must be recorded to achieve this, and this is ensured by the software programme our company has developed. We also guarantee our customers who manufacture baby food that the raw materials we sell them comply with statutory regulations and meet the customer's specific requirements.
We provide on-the-spot cultivation advice to obtain suitable raw materials for processing. The agricultural service is responsible for providing cultivation advice to producers/co-operatives and/or inspecting cultivation techniques as necessary prior to the fruit being processed in Merano.

<u>Organic cultivation:</u> we mainly check that fruit grown organically meets the legal criteria and particular attention is paid to mycotoxins.
Rigorous adherence to all the legal provisions is important when organically-grown fruit is being processed (certificates, conformity, etc.).

<u>Controlled cultivation:</u> all the agronomic measures and plant protection used is recorded, so that the agricultural service is always in a position to read the history of a plot like a book. The plant protection measures are applied with the aim of achieving harvested fruit which contains the minimum residues from plant protection agents and substances created by their decomposition.

Where controlled cultivation is concerned, we place great emphasis on selection of areas, as we want to prevent any kind of problem (contamination, pollution from previous cultivation/previous years, and drift from near by cultures). We work with accredited laboratories to obtain an effective analysis, so we are constantly at the cutting edge of technology. The agricultural service is in contact with plant protection agent manufacturers in order to better assess the risk of contamination from them, and thus has the possibility of carrying out more efficient analysis of residues. The percentage of organic and controlled cultivation has risen steadily in the last years.

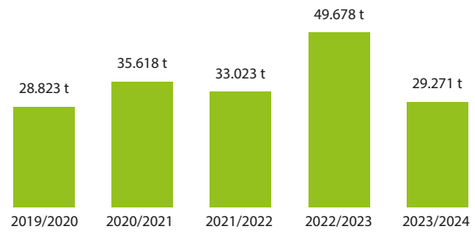
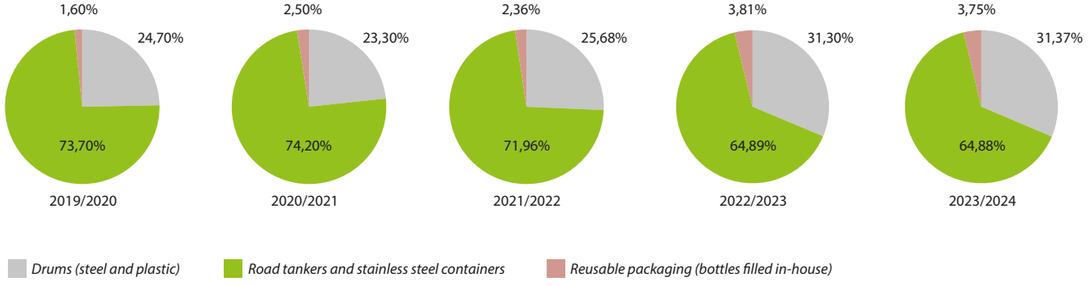


Fig. 8: We continually endeavour to increase the proportion of organic and controlled produce

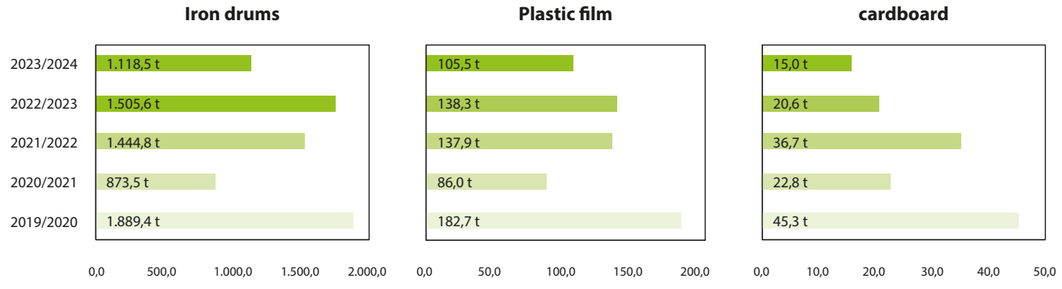
2.2.2 Packaging

Our products are either sold as finished goods to end customers via wholesalers, or as semi-finished goods. We only supply the regional market with finished goods. We have decided to use reusable glass bottles, so we are not introducing any new packaging materials onto the market.

The global environmental impact of glass bottles is very reasonable. The semi-finished goods are shipped by road tankers, in large stainless steel containers (approx. 1,000 litre) or in disposable containers (that is iron 200 litre drums). The percentage of total volumes sold was taken as the basis for global assessment of the packaging types used:



In this field we are only able to advise customers. The decision lies with the customer, who chooses the type of packaging according to production logistics. For reasons of hygiene, when the product is delivered in iron drums, they are lined with a plastic film or combi-bag, which is the only disposable packaging used. As a result the following volumes of packaging materials have been introduced onto the market:



These types of packaging have been developed on the basis of many years of qualitative experience, and thus represent the optimum solution for us. The majority of our packaging can be reused by customers.

CORE ENVIRONMENTAL PERFORMANCE INDICATORS

2.3 Third-party companies

The activities of third-party companies can result in the following impact on the environment:

- Services rendered by third parties
- Disposal of the companies own waste

2.3.1 Local third-party companies
(Suppliers of hazardous substances and maintenance companies)

The choice of detergents and disinfectants must meet our quality and environmental technology requirements. Hazardous substance suppliers must fulfil our parameters. Suppliers are rated according to these and other criteria, such as service (periodic calibration and maintenance of automatic dosing systems for detergents and disinfectants), punctuality of deliveries, logistics (conversion from small to large containers), etc.

Maintenance companies are either contracted from us or called as required. All the maintenance and other third-party companies are reviewed by the occupational safety manager. He verifies the companies' technical suitability, notifies them of existing risks and codes of conduct and coordinates their work procedures.

2.3.2 Waste management and waste removal companies

The company's waste, which has a direct environmental impact (see Point 1.5) is managed or disposed of by third parties. It is difficult to provide a quantitative assessment of the ensuing environmental impact, but Zipperle strives to exert as much control as possible over these suppliers, which is why all waste management and waste removal companies are subject to an annual evaluation. Supplier audits have also been carried out in the past.

The table below shows the most significant environmental aspects and effects in relation to production volumes.

(The data provided is not expressed in relation to the annual total gross value added as these are partly strongly dependent on seasonal fluctuations in the purchase and sales prices, on which we have only a partial influence. This data, and also the overall output volumes are thus not meaningful).

Indicators	Input/Output	Unit	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
Material	Annual processed fruit	t	163.258	134.903	138.246	187.256	122.173
Energy	Total direct energy consumption	MWh	113.423	95.152	101.436	114.373	104.069
		kWh/kg	0,695	0,705	0,734	0,611	0,852
	Total renewable energy consumption	MWh	15.372	10.576	10.724	16.748	37.710
		kWh/kg	0,094	0,078	0,078	0,089	0,309
	Total renewable energy generation	MWh	12.052	7.687	6.560	13.583	31.878
		kWh/kg	0,074	0,057	0,047	0,073	0,261
Water	Total annual water use	m^3	1.894.037	1.724.870	1.828.069	2.009.357	1.737.500
		lt/kg	11,602	12,786	13,223	10,731	14,222
Waste	Total annual generation of waste	t	1.904	1.596	1.769	2.216	1.642
		kg/kg	0,012	0,012	0,013	0,012	0,013
	Total annual generation of hazardous waste	t	9	22	10	33	16
		kg/kg	0,00006	0,00016	0,00007	0,00017	0,00013
Land use with regard to biodiversity	Total use of land	m^2	59.000	59.000	59.000	59.000	59.000
		m^2/t	0,361	0,437	0,427	0,315	0,483
	Total sealed area	m^2	57.000	57.000	57.000	57.000	57.000
		m^2/t	0,349	0,423	0,412	0,304	0,467
	Total nature-oriented area on site	m^2	2.000	2.000	2.000	2.000	2.000
		m^2/t	0,012	0,015	0,014	0,011	0,016
	Total nature-oriented area off site	m^2	/	/	/	/	/
		m^2/kg	/	/	/	/	/
Emissions	Total annual emission of greenhouse expressed in tonnes of CO2 equivalent	t	21.688	18.868	19.809	21.224	14.139
		kg/kg	0,133	0,140	0,143	0,113	0,116
	Sulfuroxide	t	4,600	3,500	1,291	0,734	0,295
		mg/kg	28,176	25,945	9,336	3,918	2,416
	Nitrogenoxide	t	67	70	57	44	72
		mg/kg	410	516	412	235	591
	Total dust	t	0,800	2,400	0,144	0,892	0,460
		mg/kg	4,900	17,791	1,038	4,765	3,765

Number corresponds to the input/output ratio of annually processed fruit.

ENVIRON-MENTAL GOALS ACHIEVED

Below are some of the measures already completed between 2021–2023:

Environmental objective	Programme
Energy saving	Renewal and automation of a concentrate plant (Turbo) with WINCC control. Improvements: • Reduced consumption of fresh water • Reduced volume of waste waters • Energy saving
	Retrofitting and expansion of biomass combustion plant. Improvements: • Increase in plant efficiency from 80% to 90% • Reduction in the CO2-emissions by around 80% (~8.000 t CO2/year) by reduction in the fossil fuels used • Use of own biomass also during the winter months
	Replacement of the fluorescent tubes insalled in Energy central with 70 energy-saving LED lamps. Improvements: • Optimum illumination of the entire area • An energy saving of around 25,000 kWh/year
Prevention of soil and water contamination	Video screening of the black water ducts and creation of a level plan to refurbish the ducts in the break room area up to the waste water pre-treatment plant an juice preparation area.
	Refurbishment of the industrial flooring in the warehouse in order to prevent any soil and water contamination (around 450 m^2).
Water saving	New cleaning station for steel IBCs and boxes. Improvements: • reduction of water for cleaning by 50% • Saving of cleaning agents and disinfectants
	Retrofitting of the pasteurisation plant (PA 5) to SPS control. Improvements: • Reduced consumption of fresh water • Saving of cleaning agents and disinfectants • Reduced volume of waste water
	Retrofitting of the pasteurisation plant (PA 6) to SPS control. Improvements: • Reduced consumption of fresh water • Saving of cleaning agents and disinfectants • Reduced volume of waste water
Air emissions	Exchange of two burner in the existing steam vessels. Improvements: • Reduction of the NOX emissions due to the installation of a low-NOX- burner • Electricity savings due to the installation of a frequency controlled fan
	Integration of an electricity generator with 1 MW power Improvements: • Auto-production of electricity from renewable sources

NEW ENVIRON-MENTAL GOALS

We strive to continuously improve our environmental protection measures and to reduce use of natural resources in order to achieve our environmental policy aims. We therefore set ourselves objectives, big and small, at every level and for all processes. Here is a selection of the main process-related aims:

Programme	Environmental objective	Responsibility	Deadline
Refurbishment of the black water ducts (Line 100) according to the action plan „Plant C3“ in the break room area up to the inlet of the waste water pre-treatment plant and juice preparation area (11 shafts and around 16m of inliner).	• Prevention of soil and water contamination	EM	31/05/2026
Audited measuring of the CO2 emissions following SCOPE 2	• Detailled measuring of the CO2 emissions and supervision of reduction from implemented actions and analysis of any additional potential actions for further reducing the emissions of CO2	EM	31/12/2025
installation of a heat exchanger with a power of 6 MW (and connection to the district heating central of Alperia)	• Energy saving due to thermal recovery	EM	31/12/2025
Refurbishment of freezing cell and KK 1-3 with glycol instead of freon cooling	•Substitution of climate harming cooling gas	EM	31/05/2026

The external auditor has checked the availability of financing required to achieve these aims.

THE FUTURE

We have achieved a lot on the way of environmental protection, we have set new targets, described how we are going to achieve them and talked about implementation. Our efforts also centre on people as well as nature and the environment. In our opinion a successful business has to take into consideration production factors, the environment, and its employees.

We want to embark on these changes decisively and with the full commitment of all our employees.

We have already set up an internal operational structure into which all the management systems (environment, occupational safety, quality) will be integrated in future, in order to have clear ideas and objectives on these levels too.

Employees have the opportunity to submit suggestions relating to environmental targets direct to the eco-management officer or the operational structure improvement working party.


VALIDATION

EDITORIAL DETAILS

Published by:
Hans Zipperle S.p.A.

Dr. Brandstätter Thomas
Management and Public Contact

Wenin Christian
Eco-Management Officer

Bernhart Georg
Environmental Officer

Hans Zipperle SPA – Via Max-Valier, 3 – I-39012 Merano (BZ)
tel. +39 0473 274 100 – fax +39 0473 274 222 – zisaft@zipperle.it

www.zipperle.it