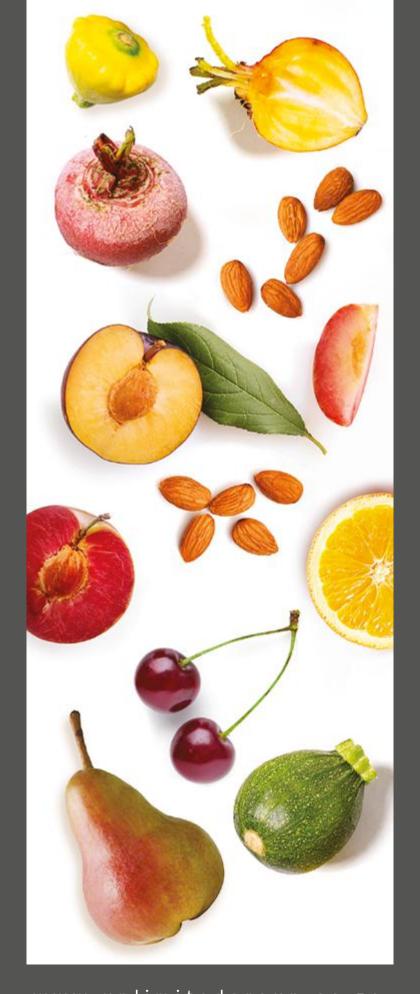


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"First do what is necessary. Then do what is possible. And before you know it you are doing the impossible."

-Francis of Assisi



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INTRODUCTION

OUR 2022 REPORT

The Unlimited Group's sustainability unit has entered its second year with a bigger team and we are pleased to share our latest report. The Unlimited Group operates as a vertically integrated fresh produce business, comprising six business units. Each business unit has a distinct focus along the fruit, vegetable and nut supply chain.

The current report presents various initiatives undertaken by the businesses in the group and our range of functions is showcased through diverse case studies, environmental focus areas, and carbon footprint findings for each business. At the beginning of the sustainability unit's work, we identified several of the United Nations Sustainable Development Goals (SDG) that align with our own sustainability drive. The initial environmental pillars are (1) food waste, (2) carbon footprint, (3) sustainable packaging, and we recently added (4) soil health as a new environmental pillar in our work.

















The 2022 report details the progress made in our sustainability journey in the past financial year, 1 October 2021 to 30 September 2022. We present our attempts to reduce the quantity of waste materials (namely, food and packaging) that were destined for landfill across the entire value chain, while also advancing with the adoption of recyclable materials for our products, operations, and packaging. Our carbon emissions calculation and carbon audit for this year has been sourced from enhanced data gathered across the entire organisation and thoroughly scrutinised by external expert support.

We aim to minimise the environmental impact of the Unlimited Group by implementing suitable measures and mitigating actions to specifically control our carbon emissions. We hope this report will demonstrate our commitment to sustainability and our ongoing efforts to reduce adverse environmental impact. We are proud of the accomplishments made in a number of different areas and recognise that there is still more work to be done. We invite you to join us in the journey towards a more sustainable future. Thank you for taking the time to read this report.

Stories of the Year



Food Loss Reduction
FieldFresh Foods



Measuring Food Waste at Farm-Level Yukon Farms



RenEnergy Solar ProjectsYukon Farms & Fruition



Zero Plastic Packaging Yukon International



New Pillar: Soil Health



Regenerative Agriculture
Boschendal

Our Group

The Unlimited Group consists of six business units. The business units all operate along the fruit, vegetable and nut supply chain. They cover a range of functions including production, packing, processing, exporting, importing and IP management.







Baby and speciality vegetable exporter



Exclusive fruit supplier for Woolworths





Vegetable supplier to South African retailers



Technical experts in the South African almond industry



Stone fruit IP

Managing Director Foreword

Hans Christiaan Muylaert-Gelein

Managing Director, Unlimited Group

What we're really coming to appreciate is how a focus on sustainability helps ensure that the needs of the present can be met without compromising the ability of future generations to meet their own needs. As the world and South Africa confront the challenges of the climate crisis, there's no doubt that taking a solution-based approach is non-negotiable for the agricultural and exporting sector. It's no different at the Unlimited Group, where our Sustainability Unit (SU) has grown not only in size but in scope and ambition as well.

The past year has been a productive one for the unit. Our team grew to five people, each with their own field of expertise and focus, and the goals we set together for the year are outlined in this Sustainability Report.

We expanded our reporting in 2022 to include Soil, which is our fourth Sustainability Pillar, alongside Carbon, Sustainable Packaging, Food Waste and Equality.

Carbon: We moved our carbon auditing in-house to gain a deeper understanding of our carbon drivers, to standardise our methodology and embed our data integrity. Agriculture doesn't have the best reputation when it comes to emissions and consumers are much more aware of the carbon intensity





of the produce they buy. Given that we are far away from our markets, managing and reducing Scope 3 emissions – that is, those not under our direct control, but which are still related to our operations – is becoming increasingly important to us. We are committed to reducing our footprint by 30% by 2030. We will achieve this through a combination of carbon offsetting, reduction where possible, and relocating some primary production.

Rolling power outages across South Africa, known here as load shedding, have brought many challenges, including on the sustainability front. We've had to interrupt our solar roll-out and redirect our energy investment to diesel-slurping generators just to keep the lights on. It's been frustrating, and a carbon nightmare.

Sustainable Packaging: When France banned single-use plastics in June 2022, a fantastic opportunity opened up for Yukon, which was ready with a fully compostable solution. Disappointingly, France yielded to pressure from the plastic lobby and ultimately delayed the implementation of the ban. Although plastic makes for great packaging from a product perspective, the alternatives are there and only regulation will level the playing field from a sustainability point of view. Watch this space.

Food Waste: Tighter controls and increased awareness about the issue of waste has improved numbers at all our business units. It is, however, sobering to see how much food is produced by our farms compared with the small percentage that ends up on customers' shelves.

Soil: For farmers, there is little more important than soil. We are feeling our way in this incredibly complex field and consider it a work in progress. Boschendal's 'regenerative agriculture' approach has inspired us to imagine a future when animals will be moved back from the dreadful animal factories onto the land to become key contributors to the agricultural cycle once again.

Transformation: We recognise that human and social considerations matter as much as our environmental focus. Achieving our target of an ambitious Level 2 BBBEE for the year 2022 will be a major step forward for the Unlimited Group. Results are only expected in June 2023, so we'll provide an update on this in our next report.

Our guiding principle in reporting remains honesty. We like to get our hands dirty and share our data – both the misses and successes. We are committed to transparency, accountability and sustainability. We hope that our efforts inspire you.

Sustainably yours, Hans Christiaan

Sustainability Unit Foreword



Zoë MostertSustainability Manager,
Unlimited Group

Sustainability is at the heart of the Unlimited Group. I am honoured to be part of a company that values environmental sustainability and continuously strive to preserve our beautiful planet for generations to come. I would like to thank our board of Directors, General Managers, Sustainability Champions, and all stakeholders for your commitment to this journey.

The Sustainability Unit is committed to being transparent in our journey. Our commitment to sustainability is ongoing and we look forward to continuing on making progress in this area. We encourage all of our stakeholders to join us. By doing so, we can successfully enable the quadruple bottom line of people, planet profit, and prosperity.



Hannah Hopper

Sustainability Assistant, Food Waste and Social Media

Climate change is the most pressing challenge we face. It is imperative that businesses create long term value by considering how their operations impact the environment and society. Various studies have shown that embedding sustainability in business strategy is essential in meeting growing investor pressure, regulatory requirements and consumer demands. It has also proven to reduce costs and increase profits. Unlimited Group is increasingly committed to integrating sustainability into its overall business strategy. I am honoured to be apart of this journey.



Julia Delport
Consultant,
Soil and Sustainable Packaging

Unlimited Group is an organisation working integrally with many farmers and has an awareness of the impact of the environment on production and visa versa. The goal is to recognize and encourage the efforts that our associated farmers are making in preserving the environment, and to support making the right decisions to improve sustainability, build resilience and reduce impact on the environment. It is a privilege to be working for a company that values sustainability and constantly strives for improvement. This provides an opportunity to truly make a difference in finding new and improved ways to achieve our goals, while reducing our impact on the environment. Each aspect that we progress on, will make a difference to our future, albeit incrementally, if we all make the most environmentally responsible choices, together these elements will add to a more wholesome environment for all.



Farah Pirouz
Consultant,
Data management and Procedures

Sustainability development and its measurement is rapidly gaining importance across all industries. I've been keen to apply my academic background in the analysis of survey data to the collection of carbon emission data across the group in accordance with international standards. Through the process of questioning and verifying data we continuously deepen awareness about the group's sustainability drive. Data quality begins with the collection of data and I applaud the sustainability champions who meticulously responded to our questionnaires. The second sustainability report will no doubt move the group from establishing a baseline to quantifying the impact of different activities across the four pillars.

Our Sustainability Pillars



1. Food Waste

The Unlimited Group is committed to reduce food waste throughout its entire production and supply chains, and to move up the food waste utilisation hierarchy.



2. Carbon Footprint

The Unlimited Group measures greenhouse gas emissions from all its activities involved in producing, processing, transporting and storing produce.



3. Sustainable Packaging

The Unlimited Group has assessed all packaging used and continuously sources and trials more environmentally friendly alternatives, as well as the reduction of packaging.



4. Soil Health

Soil is a new sustainability pillar. The Unlimited Group is currently in the process of doing research on the topic and the relevant measurement standards. The goals and objectives for this pillar are yet to be confirmed. This report will not provide data on soil.

Our Sustainability Approach

Reporting **Pillars Our Goals** Related SDGs **Targets Standards** Cut food waste by half Food Loss and Waste and reduce food loss Target Food waste Accounting and along production and 12.3 Reporting Standard supply chains by 2030 The GHG Protocol's Reduce carbon **Corporate Accounting** Carbon emissions with 25% **Target** and Reporting Standard by 2030 and reach net 13.1 footprint and SANS 14064zero by 2050 1:2021 (2nd edition) International and All packaging should be Sustainable **Target** recyclable, reusable or local reporting and 12.5 packaging compostable by 2030 classification standards To grow our understanding of what our environmentally Measuring Soil Organic Carbon on a reference conscious producers **Target** Soil Health are doing, to build soil point from selected 15.3

producers, to establish

baseline information.

carbon and recognise their efforts for

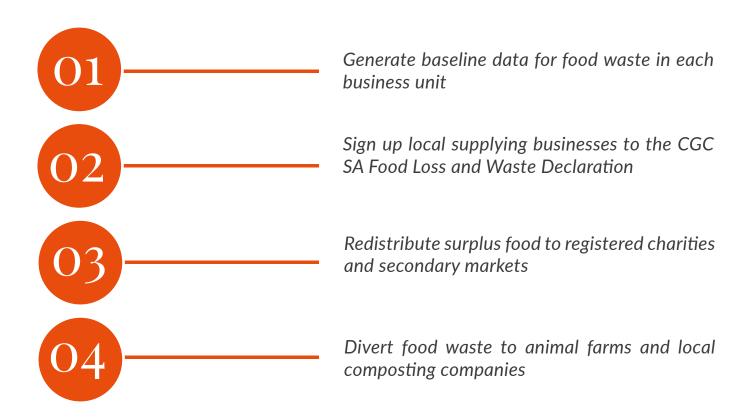
improved sustainability

of soil.

Pillar 1: Food Waste

GOALS & OBJECTIVES

Goal: Cut food waste by half and reduce food loss along production and supply chains by 2030.



The issue of food waste and loss has received significant global attention, especially in light of climate change and the Ukrainian conflict, and has also been a topic in South African news. Food waste and loss (FLW) are important to address for a number of reasons.

The United Nations Environmental Programme (UNEP) refers to FLW in numerous studies that document the deterioration in global food security and the importance to address FLW to ensure low-impact, healthy and resilient food systems. According to UNEP, every year, one billion tonnes of food are wasted globally, accounting for one-third of all food produced. The FAO (Food and

Agriculture Organisation) estimates that food that is lost or wasted could feed 1.26 billion people per year.



The Consumer Goods Council of SA refers to a study by the CSIR (2021) which estimates FLW at 10.3 million tonnes in 2021, but this number includes losses along the entire value chain from primary production to households. Further disaggregation of the data shows that as a commodity group, fruit and

Food Waste Utilisation Hierarchy

Prevention | Source reduction Reduce the volume of the surplus food generated Feed Hungry People Donate food to food banks, shelters and charities Feed Animals Divert food scraps to animal feed Industrial Uses Waste oils for rendering and fuel convertion & food scraps for digestion to recover energy. Composting Create a nutrient rich soil amendment. Landfill Last resort

Worst Case

vegetable contributes 19% to FLW in South Africa.

Food producers and distributers should tackle FLW to counteract the environmental impact, as well as social and economic impact. FLW undermines the resilience of food systems and has significant environmental impacts. When food is wasted all the resources that were used to produce it are also wasted including water, land, energy, labour and capital. Decomposition of some food waste in landfills furthermore contributes to GHG emissions.

Reducing FLW is therefore an important part of our sustainability strategy. The Unlimited Group is committed to reporting on FLW and putting measures in place to cut its food waste by 50% by 2030. This is in alignment with the United Nations Sustainable Development Goal 12.3, also adopted by the SA government (Department of Agriculture, Forestry and Fishery).

The Unlimited Groups local supplying companies have signed up to the South Africa's food waste voluntary agreement. This agreement is a public, collaborative declaration of intent to reduce food and beverage waste and redistribute or enable markets for nutritious surplus food. The agreement was initiated by the Consumer Goods Council of South Africa (CGCSA) and the national Department of Trade, Industry and Competition (DTIC) with the Department of Forestry, Fisheries and the Environment (DFFE).

Byworking collaboratively with other businesses and stakeholders within South Africa's food and beverage sector, the Unlimited Group can benefit from collective learning on how to tackle food and beverage waste, be informed by best practice, align and link to South Africa's commitments under SDG 12.3.

CGCSA is listing our companies as valuable signatory members at this link: https://www.cgcsa.co.za/service-offering/food-safety-initiative/food-loss-and-waste/

Food waste findings Fruition



Fruition has collected and reported on food waste data for the last two years. This data captures how much food (produce that entered the Johannesburg packhouse) was sold, sent for animal feed, sent to local charities (for human consumption) and went to landfill. The results can be seen in the chart below.

Charities supported by Fruition:

- Circle of Life
- Haven Care Centre
- Kingdom Welfare
- Manger
- Rearabilwe
- Siyonqoba Care Centre

In South Africa, these local charities and soup kitchens have become an essential safety net for food security in many communities. They rely on donations to provide regular meals for those in need, especially children and seniors.

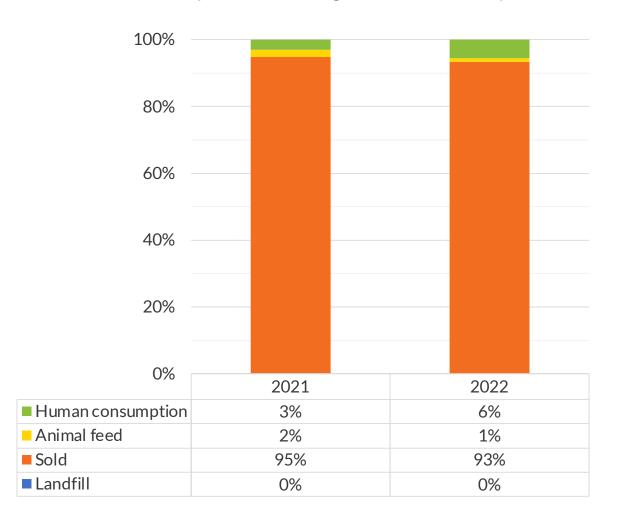






	Objectives	Achieved?
1.	Generate baseline data for food waste in each business unit	~
2.	Sign up local supplying business units to the CGC SA Food Loss and Waste Declaration	✓
3.	Redistribute surplus food to registered charities and secondary markets	✓
4.	Divert food waste to animal farms and local composting companies	✓

Distribution of food produce entering the Fruition facility



Food waste findings FieldFresh Foods



FieldFresh Foods has collected and reported on food waste data for the last two years. This data captures how much food (produce that entered the business' facility) was sold, sent for animal feed, sent to local charities (for human consumption) and went to landfill. The results can be seen in the chart below.

Charities supported by FieldFresh Foods:

- Benoni Child Welfare South Africa
- Rynfield Family Church, Benoni
- Nina Welfare Organisation, Kempton
 Park
- His Identity, Springs

- Angel Wings, Petit Benoni
- Betlehem House, Boksburg
- He is a Provider, Clover Dene Benoni
- Cypress AGS, Benoni
- Germiston Full Gospel, Germiston



ZERO

Food Waste



ZERO

Food to Landfill



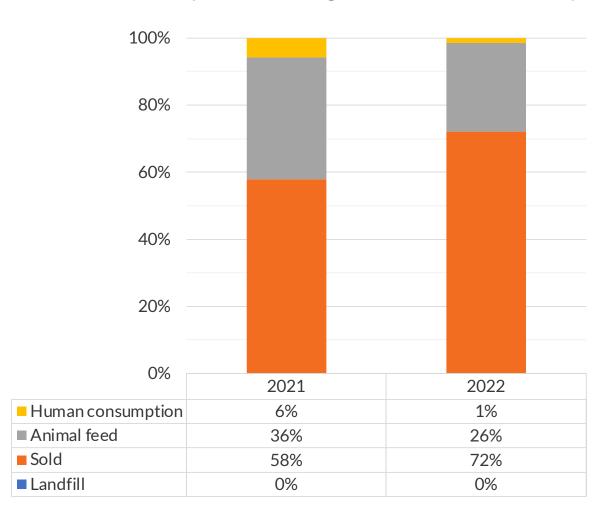
Signed up for the CGC SA Food Loss and Waste Declaration



14 % More product sold

	Objectives	Achieved?
1.	Generate baseline data for food waste in each business unit	~
2.	Sign up local supplying business units to the CGC SA Food Loss and Waste Declaration	✓
3.	Redistribute surplus food to registered charities and secondary markets	✓
4.	Divert food waste to animal farms and local composting companies	✓

Distribution of food produce entering the FieldFresh Foods facility



Food waste findings FieldFresh Veg



FieldFresh Veg has collected and reported on food waste data for the last two years. This data captures how much food (produce that entered the business' facility) was sold, sent for animal feed, sent to local charities (for human consumption) and went to landfill. The results can be seen in the chart below.





ZERO

Food Waste



ZERO

Food to Landfill



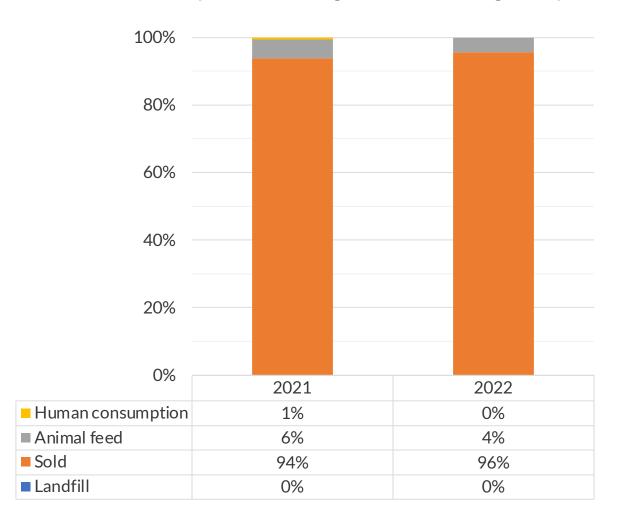
Signed up for the CGC SA Food Loss and Waste Declaration



2 % More product sold

	Objectives	Achieved?
1.	Generate baseline data for food waste in each business unit	/
2.	Sign up local supplying business units to the CGC SA Food Loss and Waste Declaration	✓
3.	Redistribute surplus food to registered charities and secondary markets	✓
4.	Divert food waste to animal farms and local composting companies	✓

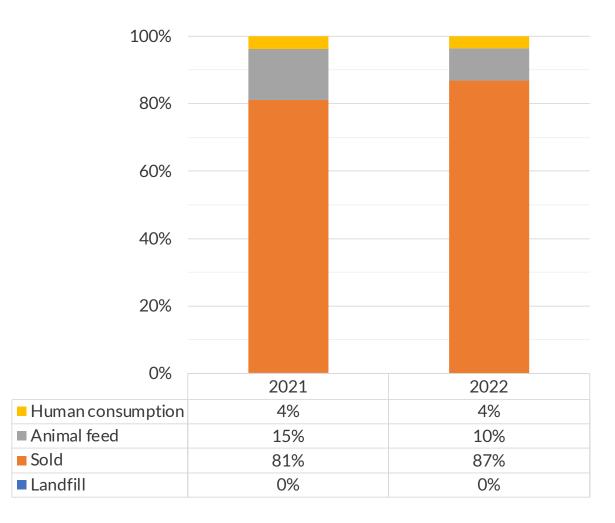
Distribution of food produce entering the FieldFresh Veg facility



Food waste findings Unlimited Group



The business units that reported on food waste for 2021 were able to achieve each of the four objectives for the pillar. They were able to generate baseline data, sign up local supplying business units to the CGC SA Food Loss and Waste Declaration, redistribute surplus food to charities, and divert food waste to animal farms for feed. In 2022, the Unlimited Group had zero food waste going to landfill and reduced food loss by 6%. From the data presented this year, the Unlimited Group aims to put strategies in place to reduce food loss even further.







ZEROFood to Landfill



775 tonnes of food loss diverted to farms for animal feed



288 tonnes of surplus food redistributed to charities



6% more product sold



All local supplying companies are signed up for the CGC SA Food Loss and Waste Declaration

Case Study: FieldFresh Foods Food Loss Reduction

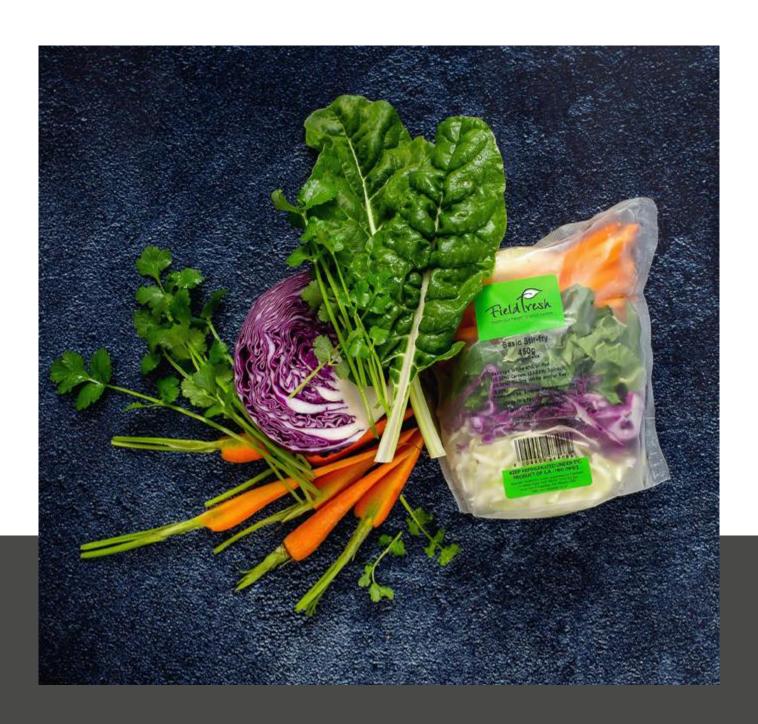


FieldFresh Foods increased its percentage of food sold as intended by 14% between 2021 and 2022. This highlights FieldFresh Foods' commitment to moving up the Food Waste Utilisation Hierarchy. These improvements not only had positive social and environmental impacts, they are also a sign of good business practice and innovation.

During 2022, FieldFresh Foods made the following changes to reduce their food losses:

- Improved the quality of products purchased from suppliers,
- Increased the yields in the facility due to cut size changes,
- Used more off-cut produce in their soup range, and
- Installed new refrigeration units that assisted with lower waste due to better temperature control.

These changes collectively had a significant impact on the amount of food loss. FieldFresh Foods is a great example of how businesses can reduce their food loss and waste through innovation and product variety.





Riaan du Preez
Champion for FieldFresh Foods
Food Waste and Carbon

Working towards a sustainable future should be on everyone's minds, and having the support and drive from Unlimited Group assists in building a more positive outcome. It is an honour for me to be a part of this team and to spread the word. My team is dedicated to lower food waste and increase recycling initiatives.

Case Study: Yukon Farms Measuring food waste at farm level



Determining food waste and loss at farms proves challenging, particularly in fruit and vegetable production, where environmental factors emerge as the main factors. Unforeseeable weather conditions, destructive pests or diseases cause significant impacts. Additionally, elements such as inadequate planning during pre-harvest and production phases, insufficient training, and incorrect use of pesticides also contribute to FLW. The FLW levels estimated in South Africa for fruit and vegetable align with the global average.

In South Africa, farmers are not required to measure and report their FLW, a joint research project has generated primary data from a survey with large scale farms in South Africa. The survey results show FLW for fruit and vegetable commodity group of 9% in the production stage. Statistics by the Food and Agriculture Organisation (FAO) put FLW from post harvest handling and storage at 18.3%.

Yukon Farms is different to the other business units in the Unlimited Group as it is a farm. There are more challenges involved in measuring food waste and loss at this scale, as it occurs at multiple levels. The Unlimited Group has partnered with the Consumer Goods Council of South Africa to establish a robust data capturing system for Yukon Farms. The business unit has recently put measures in place to collect accurate food waste and loss data as produce enters the packhouse and during the final packaging stages.



As these systems are relatively new, they still require some refining. Over the next year, the Sustainability Unit and Yukon Farms will work together to formalize these systems to ensure the data is reliable and transparent. Yukon Farms is committed to reducing its food waste and loss and be at the for front of food waste and loss reporting. The business unit will begin working on a strategy to reduce its food waste and loss once baseline data has been collected.



Ele Venter
Champion for Yukon Farms
Food waste

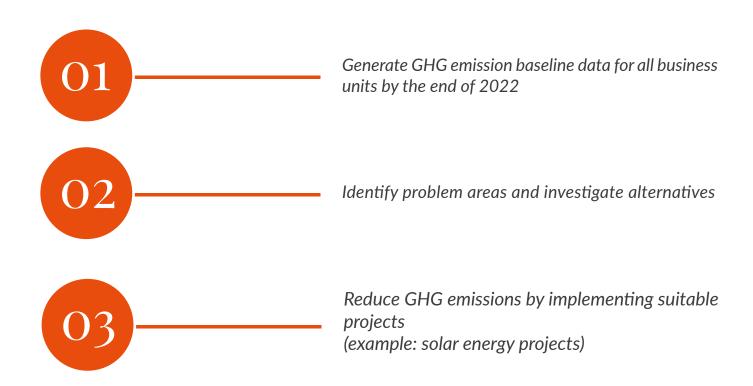
As a farm producing food for human consumption, it is important to look after our environment not only by focusing on food waste but also to look at every possible area in farming with sustainability in mind. We aim to not only use our environment to take what we need for production but also to give back and look after the precious land that we have to not only live off it in the present but live with it harmoniously in the future as well.

Pillar Two: Carbon Footprint

GOALS & OBJECTIVES

Goal 1: Reduce GHG emissions by 25% by 2030

Goal 2: Reach net-zero emissions by 2050







The Unlimited Group now completed its second round of GHG emission audits and data is being reported for the five largest business units as well as for the Unlimited Group head office. In accordance with the United Nations SDG 13. which calls for urgent action to combat climate change and its impacts, the group set the goal to reduce carbon dioxide emissions with 25% by 2030. The sustainability unit, in collaboration with the sustainability champions, has improved data quality and management, through more stringent recording of its activities. The Unlimited Group now has a good understanding of its businesses' contributors to GHG emissions and can therefore develop strategies to reduce its emissions. The ultimate goal is to reach netzero carbon dioxide emissions by 2050.

To determine the Unlimited Group's carbon footprint, all direct and indirect emissions of its business units have to be accounted for. The consumption of various resources such as

natural gas, oil, biomass, electricity, fuel, paper, and materials have to be measured or estimated. Emission factors are then applied to convert emissions of CO2, methane, and nitrous oxide into CO2 equivalents.

The group's process of calculating a carbon footprint is evolving as an ongoing task that is updated annually to monitor actual emissions and record progress made in reducing emissions. Although the agriculture, forestry and other land use sector is not yet liable for carbon tax in South Africa, retailers accelerate their approaches to ESG, including measurement of GHG emissions. We are committed to continuing to improve our data collection process.

The Unlimited Group has received external support from the Sustainability Hut (Pty) Ltd, in completing the 2022 carbon audits for each business unit, which are presented below.

Carbon footprint findings Fruition



Fruition has completed its second carbon footprint audit in accordance with ISO 14064 (2006) and SANS 14064-1:2021 standards. The audit is based on data from the 2022 financial year (1 October 2021 to 30 September 2022). Scope 1 and 2 refer to direct greenhouse gas emissions resulting from Fruition's own operations. Scope 3 emissions include activities from assets not owned or controlled by Fruition, but indirectly impact its value chain. Fruition's largest direct emission was electricity use and largest indirect emission was transportation, distribution, and purchased goods (packaging). There is an increase in Scope 3 transportation emissions from 2021 to 2022. This is because Fruiton grew as a business and imported more fruit to South Africa using airfreight. Fruition's carbon emissions, especially scope 3, increased due to methodology improvements in data collection. Operational changes also adversely impacted our emissions in 2020/21 due to COVID-19 restrictions. The significant decrease in Scope 1 emissions is due to no refrigerant gas refills during the 2022 financial year.

Fruition has installed 32 Canadian solar PV panels on a roof-mounted grid-tied system with a peak power of 144kWp. This can result in an **average carbon saving of 212 tonnes of CO2 per annum**. The system was commissioned on the 29th of November 2022. Fruition will see a decrease in direct emissions in the 2023 financial year.



Freddy Morapi
Champion for Fruition
Carbon

We only have one world that provides shelter for all human life and all creatures. It is our duty to protect the environment and the ecosystems to sustain us. Unlimited group recognizes the impact that we have to the environment and actively works to mitigate the impact while making the company sustainable. It is with pleasure to help champion this process in making sure that the company reaches the goals it has set for itself.

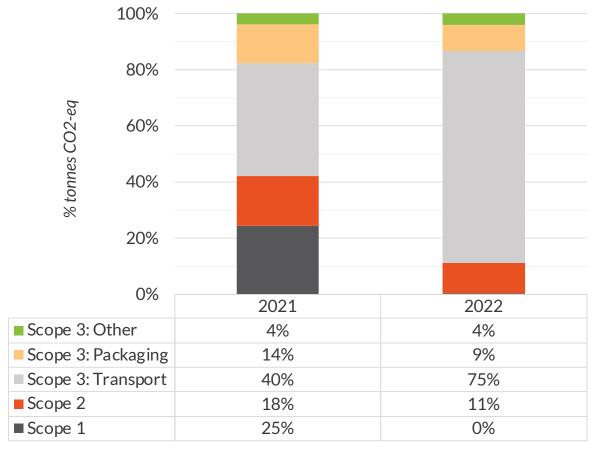




EMISSIONS

average per kg product sold (kg CO2-eq/kg product)





Carbon footprint findings FieldFresh Foods



FieldFresh Foods has completed its second carbon audit in accordance with ISO 14064 (2006) and SANS 14064-1:2021 standards. The audit is based on data from the 2022 financial year (1 October 2021 to 30 September 2022). Scope 1 and 2 refer to direct greenhouse gas emissions resulting from FieldFresh Food's own operations. Scope 3 emissions include activities from assets not owned or controlled by FieldFresh Foods but indirectly impact its value chain. Field Fresh Foods' largest direct emission was diesel usage for transportation and the largest indirect emission was purchased goods (packaging). Since Field Fresh Foods owns its own trucks, the transport of product falls under scope 1. The increase is due to an increase in product handling and data quality improvements.



Jacqueline Finnemore
Champion for FieldFresh Foods
Food Waste and Sustainable Packaging and Carbon

We care about sustainability of the environment because of the generations after us that will be inhabiting earth, whom will be dealing with the impacts of climate change after us. As generations before us have taken care of earth we would hope that generation after us would have an environment that has been sustained to enable them to work on land to create a sustainable world.

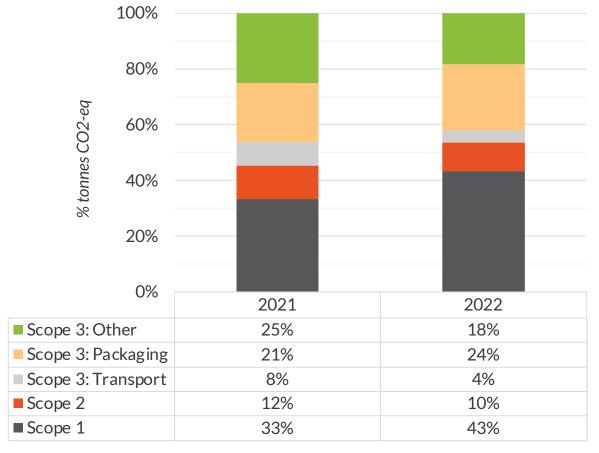




EMISSIONS

average per kg product sold (kg CO2-eq/kg product)

Carbon Footprint: FieldFresh Foods



^{*}CO2-eq, is a unit used to measure the total GHG emissions of a given activity, by converting all types of emissions to the equivalent amount of CO2

Carbon footprint findings FieldFresh Veg



FieldFresh Veg has completed its second carbon audit in accordance with ISO 14064 (2006) and SANS 14064-1:2021 standards. The audit is based on data from the 2022 financial year (1 October 2021 to 30 September 2022). Scope 1 and 2 refer to direct greenhouse gas emissions resulting from FieldFresh Vegs' own operations. Scope 3 emissions include activities from assets not owned or controlled by FieldFresh Veg, but indirectly impact its value chain. FieldFresh Vegs' largest direct emission was electricity use and the largest indirect emission was transportation, distribution, and purchased goods (packaging). FieldFresh Veg imports fresh produce from different African countries. This explains the high percentage of carbon emissions under transportation.



Marili Viljoen
Champion for FieldFresh Veg
Sustainable Packaging, Food Waste and Carbon

I am grateful to be part of the sustainability team in the group. Our choices affects everybody around us and it is important to find ways for everyone to live better and lighter. Sustainability is important to make sure today's decisions ensure resources are there in the future.

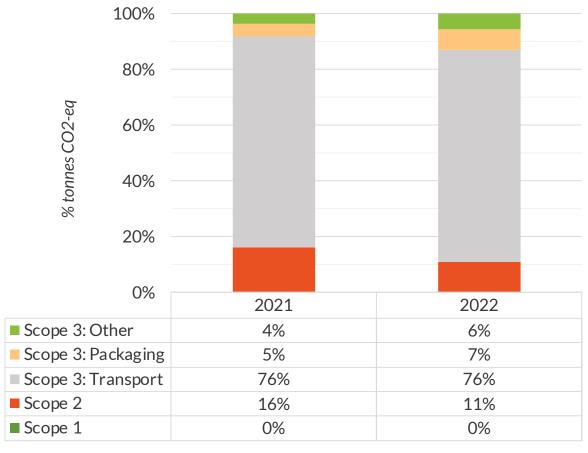




EMISSIONS

average per kg product sold (kg CO2-eq/kg product)





^{*}CO2-eq, is a unit used to measure the total GHG emissions of a given activity, by converting all types of emissions to the equivalent amount of CO2

Carbon footprint findings Icon Fruit



Icon Fruit has completed its second carbon audit in accordance with ISO 14064 (2006) and SANS 14064-1:2021 standards. The audit is based on data from the 2022 financial year (1 October 2021 to 30 September 2022). Scope 1 and 2 refer to direct greenhouse gas emissions resulting from Icon Fruit's own operations. Scope 3 emissions include activities from assets not owned or controlled by Icon Fruit but indirectly impact its value chain. Icon's scopes 1 and 2 appear insignificant in relation to scope 3 emissions, but we continue to monitor all emissions. Its largest indirect emission was transportation, distribution, and purchased goods (packaging). The increase in scope 3 transportation, is due to methodology improvements in data collection and data quality improvements. In 2021, upstream transportation was not taken into account. This was corrected in 2022. Icon Fruit was advised to use 2022 as its base year.



Stefan du Plessis
Champion
Carbon Footprint

The data from our sustainability metrics is used in everyday decisions within the Icon team. Measuring carbon emissions, food waste and sustainable packaging not only contributes positively towards global environmental challenges, but it also improves cost efficiency. I am proud to be a part of a team that is playing its role in ensuring a sustainable future.

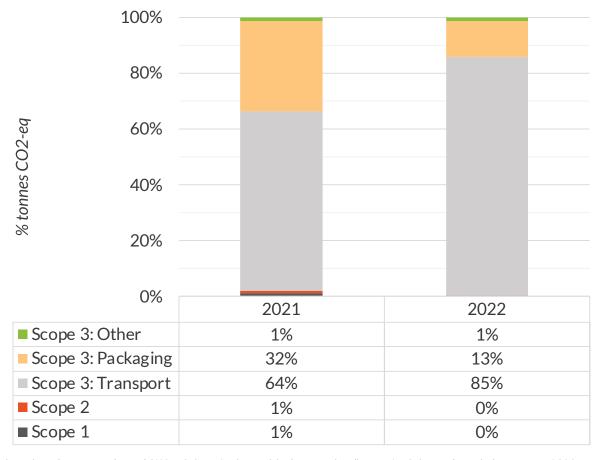


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EMISSIONS

average per kg product sold (kg CO2-eq/kg product)





Carbon footprint findings Yukon International



Yukon International has completed its second carbon audit in accordance with ISO 14064 (2006) and SANS 14064-1:2021 standards. The audit is based on data from the 2022 financial year (1 October 2021 to 30 September 2022). Scope 1 and 2 refer to direct greenhouse gas emissions resulting from Yukon International's own operations. Scope 3 emissions include activities from assets not owned or controlled by Yukon International but indirectly impact its value chain. Yukon International's scopes 1 and 2 are significantly small. Its largest indirect emission was transportation, distribution, and purchased goods (packaging). The increase in scope 3 transportation, is due to methodology improvements in data collection and data quality improvements. In 2021, upstream transportation was not taken into account. This was corrected in 2022. Yukon International was advised to use 2022 as its base year.



Calle Badenhorst
Champion for Yukon International
Carbon

Yukon is committed to reducing food loss and waste, improving packaging and reducing carbon. We believe that these kinds of changes are necessary if we want protect the environment for future generations. I look forward to seeing our progress next year.

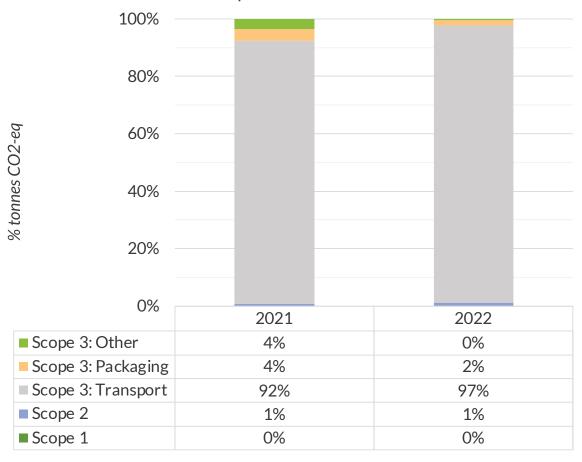


8.1

EMISSIONS

average per kg product sold (kg CO2-eq/kg product)

Carbon Footprint: Yukon International



Carbon footprint findings Unlimited Group



Carbon footprints are an important indicator of our impact on the environment, and specifically climate change. They give us a way to measure the amount of carbon dioxide and other greenhouse gases that are emitted into the atmosphere as a result of our activities. Calculating a carbon footprint is a useful first step for organisations that want to reduce their contributions to global warming and climate change. By calculating our carbon footprint, we can identify the areas where we can make the most impact in reducing emissions. It can also help us to understand our overall contribution to global emissions, and how we can work to reduce our consumption of energy and resources. With this knowledge, we can create more sustainable business processes and practices that benefit both the environment and our quality of life. In 2021/22, our direct GHG emissions (Scope 1 and 2) increased on the previous year due to methodology improvements in our data collection and growth of operations resulting from the easing of COVID-19 restrictions. Scope 1 emissions resulted in 354 tonnes CO2-eq and Scope 2 emissions: 918 tonnes CO2-eq.

The Sustainability Hut (Pty) Ltd. had the following endorsement for the Carbon Footprint findings of the Unlimited Group:

"According to the World Economic Forum (WEF), the top risks affecting businesses over the short term include natural disasters and extreme weather, large-scale environmental damage incidents, natural resource crises, failure to mitigate climate change and failure of climate-change adaptation. Sustainability Hut is encouraged to see the Unlimited Group thinking about mitigating these risks.

We are proud to assist the Unlimited Group understand the impact of their operations, and find ways of transforming their business into a low-carbon climate resilient one."

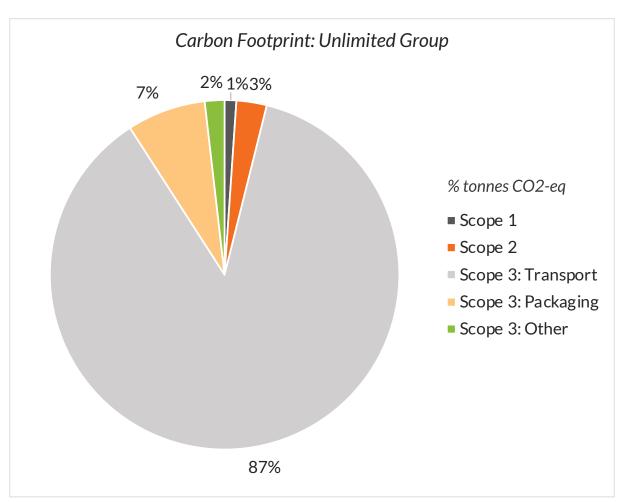






EMISSIONS

average per kg product sold (kg CO2-eq/kg product)



Case Study: Yukon Farms & Fruition RenEnergy Solar Projects







In alignment with the United Nations Sustainable Development Goal 13, the Unlimited Group aims to reduce its carbon emissions by 25% by 2025 and reach net zero by 2050. In 2021, the Unlimited Group did a carbon baseline report for each business unit. With this data, the group began working on a mitigation strategy to reduce its carbon footprint. With South Africa's abundant sunlight and irregular national electricity supply, the Unlimited Group decided to invest in solar energy with RenEnergy.

The first project was established at Yukon Farms in Bothaville, where 210 Canadian solar PV panels were installed. This installation will save an average of 145 tonnes of carbon

dioxide emissions annually and 3,635 tonnes over 25 years. The second project was set up on the roof of Fruition's packhouse, where 320 Canadian solar PV panels were installed. This installation will have an average annual carbon dioxide saving of 212 tonnes, with a total saving of 5,300 tonnes over 25 years.

These two solar installations will prevent 357 tonnes a year and 8,935 tonnes of CO2 emissions over 25 years. This will reduce the Group's overall carbon emissions and will ensure that the operations and service delivery of both business units will not be disturbed during electricity blackouts. These two projects are the first step in the Unlimited Groups journey towards net zero.



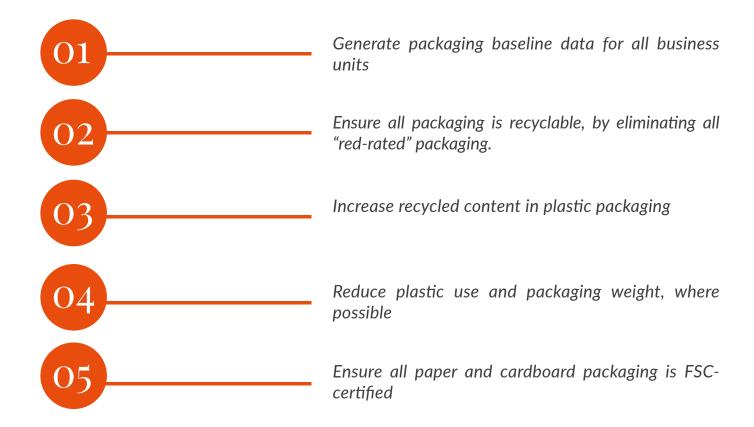




Sonja Coetzer
Champion for Yukon Farms
Carbon

It is a honour to be part of Yukon Farms and have the ability to maintain and support processes of sustainability. We want to make a difference to ensure there will be enough resources left for our future generations and to find ways to preserve our natural resources. We believe that if we all live more sustainably we can help reduce pollution and conserve recources like water and energy.

Pillar Three: Sustainable Packaging



Sustainable packaging is a crucial aspect in the transition towards a more sustainable future. Packaging does not only protect a product, but it contributes to lowering the environmental footprint of food by reducing food waste. At the same time, the packaging itself should not have a negative impact on the environment.

The Unlimited Group aims to achieve sustainable packaging goals that are in alignment with the United Nations' Sustainable Development Goal 12.5, which calls for the reduction in waste generation through prevention, reduction, recycling, and reuse. The packaging used within the Group should contain renewable, recycled, or reusable content, and should be reusable, recyclable, or compostable. Unlimited Groups' goal is to have 100% recyclable packaging by 2030 while reducing plastic use where possible.

RED	AMBER	GREEN
Materials we need to remove	Materials we will either investigate alternatives for or use only where required	Preferred Materials
Compostable (green-rated in France)	New material innovations	Sustainably sourced paper & cardboard (FSC/PEFC)
Polystyrene (green-rated in South Africa)	Non-PE flexible films (incl. complex laminates)	Rigid Polyethylene terephthalate (PET)
PVC & PVdC	Bio sourced polymers	Polyethylene (PE)
Rigid black plastic		Polypropylene (PP)
PLA & Biodegradable Plastics		Mono material flexible films

Figure 1: Unlimited Group sustainable packaging robot system (adopted from South African guidelines and https://www.tescoplc.com/media/757460/uk-preferred-materials-formats-guidelines-2022.pdf

Unlimited Group exports fruit, vegetables, and nuts to numerous countries all over the world. Each country has its own set of sustainable packaging policies, guidelines, and goals. However, the Unlimited Group refers to the 'Tesco Preferred Material' list as its reference for exporting companies.

Since the South African recycling stream looks completely different to other countries, we use South African-specific guidelines for companies that supply product locally. Some countries have specific laws for packaging and therefore the Unlimited Group recognises the specific customers' needs. France has taken initiative in outlawing the use of single-use plastic on fresh produce, whereas the Netherlands encourages the use of recyclable plastic. The customers needs are our main priority.

Our packaging strategy has been developed with the input, knowledge, and expertise of our colleagues, suppliers, and NGO partners and ongoing collaboration is critical to its success. In South Africa, the WWF led the

development of a national initiative, known as the South African Plastics Pact, in 2019. It brings key stakeholders, including businesses, government, and NGOs, together to focus on a common vision to address plastic waste and pollution issues. GreenCape, which was chosen as the implementing organisation by the pact's steering committee, is responsible for delivering the SA Plastics Pact by 2025.

All members are committed to the same objectives: (1) 100% of packaging reusable or recyclable by 2025; (2) Average of 30% recycled content for packaging by 2025; (3) Reducing average packaging weight by 30% by 2025; (4) 100% of cardboard and paper sourced from responsibly managed forests by 2025;

(5) 100% of retailerbranded products will carry the revised On-Pack Recycling Logo by 2023.



Packaging findings Fruition



Fruition's sustainable packaging rating is based on Woolworths Holdings' Good Business Journey Targets and the South African preferred packaging material list.

Fruition has completed its fourth sustainable packaging audit. Fruition currently has 98.4% green-rated packaging, with only 1.6% red-rated. The red-rated packaging refers to the PVC cling wrap that was still in use at the start of FY2021. Fruition has successfully replaced all PVC cling wrap with Superthene™ Polyolefin stretch wrap, which is fully recyclable. Thus, Fruition will be 100% green-rated in 2023 if legislation remains the same.



98% green-rated packaging



Eliminated PVC use



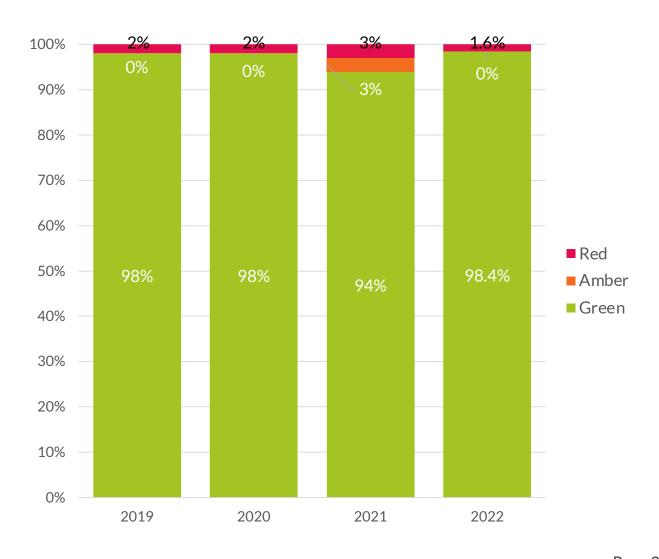
100% of paper/cardboard is FSC certifiedGroup



Cindy Steyn
Champion for Fruition
Food Waste and Sustainable Packaging

I am very proud to be associated with a company that is so committed to looking after the environment. We aim to provide the highest quality fruit while being environmentally responsible. While food waste production has been a key focus in our business, we are also proud that we have been very focused on sustainable packaging in the last year. I am very excited to take the next step in sustainability innovations and look forward to what the future holds.

Goal Description	2021	2022
% Packaging recyclable or reusable	94%	98.4%
% Recycled content (only rPET)	11%	30%
Weight average per unit sold	35g	38g
% Cardboard/paper FSC/PEFC certified	100%	100%
% Products with on-pack recycling logo	100%	100%



Packaging findings FieldFresh Foods



FieldFresh Foods' sustainable packaging rating is based on South African packaging guidelines and customer requirements. Field Fresh Foods complies with the Extended Producer Responsibility (EPR) regulations of South Africa, which aims to ensure that we address pollution by better management of post-consumer packaging waste, and improve recycling.

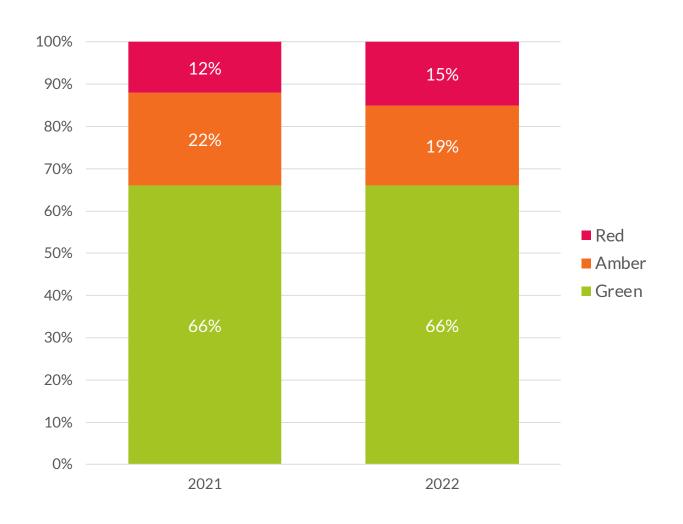
FieldFresh Foods completed its second sustainable packaging audit. No packaging changes were made in FY2022. The increase in red-rated packaging is due to an increase in soup sales. The red-rated soup doy bag (PVDC/PET) should be addressed as soon as possible. An amber-listed BOPP alternative should be investigated.



Jacqueline Finnemore
Champion for FieldFresh Foods
Food Waste and Sustainable Packaging and Carbon

The food industry faces a number of challenges in transitioning to sustainable packaging. Overcoming these challenges requires a concerted effort from the entire industry, as well as collaboration between government, suppliers, and consumers. Our commitment lies in taking actionable steps towards reducing our ecological footprint. To achieve this goal, we are proactively trailing more sustainable packaging options and working collaboratively with industry partners to accelerate innovation.

Goal Description	2021	2022
% Packaging recyclable or reusable	66%	66%
% Recycled content (only rPET)	13%	15%
Weight average per unit sold	14g	15g
% Cardboard/paper FSC/PEFC certified	n/a	n/a
% Products with on-pack recycling logo	100%	100%



Packaging findings FieldFresh Veg



The sustainable packaging rating for FieldFresh Veg is based on South African guidelines and customer requirements. FieldFresh Veg do not pack product under their own brand. Instead, they supply the product in the local retailers' brand.

FieldFresh Veg has completed its second packaging audit. Field Fresh Veg has decreased its red packaging rating from 4% to 1%. This improvement is due to the successful replacement of the redrated PVC cling wrap with the fully recyclable Superthene™ Polyolefin stretch wrap. The remaining 1% red-rated packaging refers to the PVC cling wrap that was still in use at the start of FY2021. The amber rating refers to the BOPP bag. A BOPP alternative should be investigated.



87%

green-rated packaging



Eliminated PVC use



100%

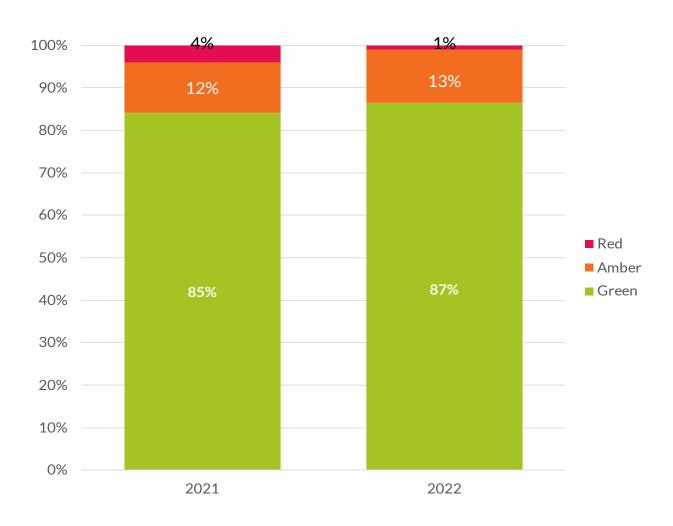
of paper/cardboard is FSC certifiedGroup



Marili Viljoen
Champion for FieldFresh Veg
Sustainable Packaging, Food Waste and Carbon

Our improvement in green-rated packaging demonstrates our commitment, our understanding of the environmental impact of different packaging materials and our willingness to take action towards reducing your ecological footprint. By choosing sustainable packaging, we are making a conscious decision to prioritise the health of the planet and future generations over short-term profits or convenience. Overall, our dedication to sustainable packaging is a first step towards creating a more sustainable future for all.

Goal Description	2021	2022
% Packaging recyclable or reusable	85%	87%
% Recycled content (only rPET)	16%	30%
Weight average per unit sold	10g	9g
% Cardboard/paper FSC/PEFC certified	100%	100%
% Products with on-pack recycling logo	100%	100%



Packaging findings Icon Fruit





Magduldt van Eeden
Champion for Icon Fruit
Sustainable Packaging

The pressure is building on businesses to develop and supply product in a sustainable food chain and that contributes to the long term and future generations. Sustainability is an important key focus point in the Icon Fruit. With the changes in Ecological and Social responsibility, it is forcing us to re-think the way we do business. As a team and part of our responsibilities, we directed our energy toward waste reduction, efficiencies and sustainable packaging, Water management, Soil restructuring and CO2 Reduction which certainly is a challenge. It is an honour to be part of the sustainability development, as a business and building the foundation for our future businesses and generations.



96.6%

green-rated packaging



Eliminated PVC use



100% of paper/cardboard is

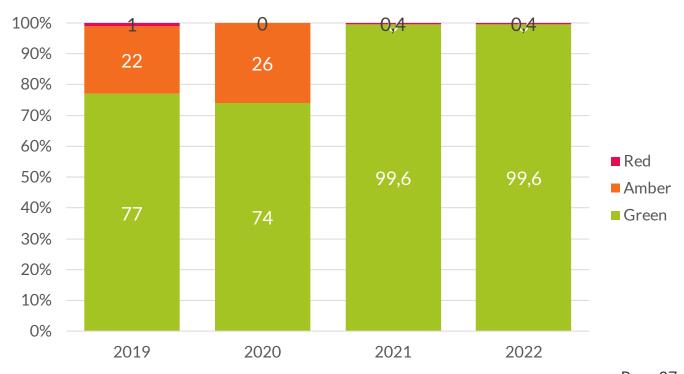
FSC certifiedGroup

The sustainable packaging rating for Icon Fruit is based on international guidelines and policies. The Unlimited Group uses Tesco's Packaging Preferred Materials guidelines, which are based on the UN's guidelines for a circular economy, as its guide.

Icon Fruit completed its fourth sustainable packaging audit. All cartons are FSC-certified, assuring all paper is sourced from sustainable forests. Icon Fruit eliminated the red-rated polystyrene and PVC stretch wrap and launched a green-rated polyethylene carry-bag in 2021. The remaining 0.4% red-rated

Goal Description	2021	2022
% Packaging recyclable or reusable	99.6%	99.6%
% Recycled content (only rPET)	35%	35%
Weight average per unit sold	635g	622g
% Cardboard/paper FSC/PEFC certified	100%	100%
% Products with on-pack recycling logo	100%	100%

packaging refers to the sponges used in the apricot cartons. These sponges cannot be eliminated at this stage, as there is no alternative available. Tesco has changed its policy regarding pulp, which has changed from amber to green rated in 2021. The sustainability score of pulp will be closely monitored. An alternative for the thin and thick sponges will be investigated.



Packaging findings Yukon International





Julia Delport
Champion for Yukon International
Sustainable Packaging

Yukon has invested significantly in progress in sustainable packaging, and to address the issue of single-use plastics in the packaging of baby vegetables. Effort has gone into transforming the packaging and finding suitable home compostable and fully recyclable packaging options, to have suitable options to support the needs aligned to the waste streams in the various destination countries, while maintaining product quality. It is exciting to be supported in a team that strives to make a difference, and that supports environmentally responsible choices.



94%

green-rated packaging



50 tonnes

Eliminated PVC use



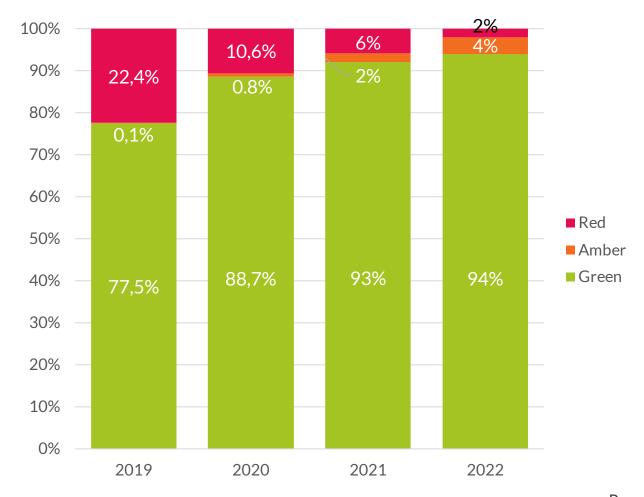
100% of paper/cardboard is FSC certifiedGroup

Yukon International's sustainable packaging rating is based on international guidelines and policies. The Unlimited Group uses Tesco's Packaging Preferred Materials guidelines, which are based on the UN's guidelines for a circular economy, as its guide.

Yukon International completed its fourth sustainable packaging audit. The biggest contributor to the increase of the green rating is the FSC-certified solid board punnet, wrapped with a BOPP bag at was launched in 2021. The latter replaced the PET plastic punnet wrapped in PVC wrap (red-rated). The remaining PVC should be eliminated by the end of 2023. The red-rated Yukon polystyrene punnet and black PET punnet should be addressed.

Goal Description	2021	2022
% Packaging recyclable or reusable	93%	94%
% Recycled content (only rPET)	4%	30%
Weight average per unit sold	4g	4g
% Cardboard/paper FSC/PEFC certified	70%	78%
% Products with on-pack recycling logo	100%	100%

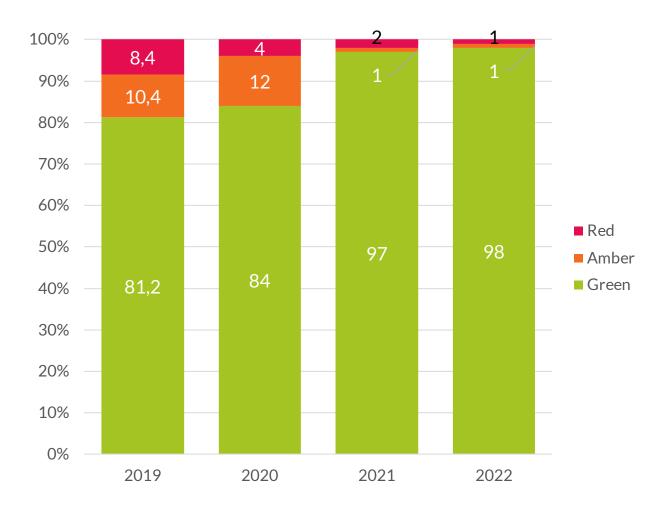
During 2022, Yukon International launched a new YUKON ZERO PLASTIC (YZP) line for France. This was in response to the AGEC law that outlawed the use of plastic on fresh produce in pack sizes under 1.5kg's. This line, packaged in 100% cellulose bags took months of trialling, testing and refining. The cellulose bags are home-compostable and can be discarded with organic waste. This line is currently on hold again, awaiting clear directives from France.



Packaging findings Unlimited Group



The Unlimited Group increased the use of green-rated packaging by 14 percentage points over the past two years. The Group has a remaining 1% red-rated packaging. Until new technologies are developed, there will, unfortunately, be an element of red-rated packaging present. The Unlimited Group is committed to being part of the global movement to rethink, refuse, reduce, reuse and recycle packaging material. We look forward to moving our entire product range to more sustainable packaging.







100% of paper/cardboard is FSC-certified



98% green-rated packaging within the Unlimited Group



10 tonnes less PVC used



50 tonnesless plastic used by
Yukon International since
2021Group

Case Study: Yukon International launches zero plastic packaging



The Unlimited Group's increased focus on sustainable packaging coincided with the EU Directive on plastics reduction in 2019. In the initial phase, we spent tremendous effort in understanding different packaging materials, as well as the various waste streams, to redesign fresh produce packaging, while maintaining fresh produce quality and enhancing shelf life. This was a particularly delicate challenge for Baby Vegetables, being highly perishable, sensitive product, sold in small consumer units. as it is both susceptible to rapid dehydration and prone to condensation. After extensive trials, we changed our packaging to solid board paper punnets and BOPP film, with excellent results. Thereby we achieved our goal to reduce plastic and design packaging for recyclability, in pursuit of the circular economy, aligning with the guidelines given by our customers in most of the EU member countries.

However, in 2020, France adopted an ambitious Anti-waste law (AGEC), which banned the use of plastic packaging on fruit and vegetables in pack sizes under 1.5kg. This ruling came into effect from 1 January 2022. However, as the supply chain was not ready to meet this new requirement, the French issued a dispensation on this requirement until end of June 2022. Within these parameters, only natural polymers, chemically unmodified, and certified as home compostable were permitted. With limited and strained supply of this material, the French





then extended this dispensation another three months to September 2022. Within the required period, Yukon International rose to the challenge, to source, trial, redesign and launch compliant cellulose packaging to create a Yukon Zero Plastics (YZP) line, for France. The included a new label with the Triman recycling logo, to guide the public on how to discard the new home compostable packaging material, compliant with the new regulation.

Then in December 2022, France put this requirement on hold and in March 2023 postponed it again. To achieve such a significant system change, it is essential that government provides clear guidance and coordinated direction to ensure a smooth roll

out and effective waste stream management that is clear to producers and consumers. Non-plastic packaging and new technology is obviously more expensive and will not be able to preserve shelf life to the same extent as plastic packaging. The waste stream for compostables also cannot be confused with recyclables. As with any new technology, there will be a refinement and optimization process, and Yukon has been doing ongoing trials and tweaking, to be ready when this rolls out again.

New pillar: Soil Health

We recognize that soil is a valuable resource that we need to carefully preserve, to maintain sustainable future crops to feed a growing population. We would like to encourage our growers on their journey of improved soil stewardship by encouraging sustainable soil practices. There are differing approaches to achieving this and so there will be differences in the practicalities on different sites, depending on crop and environmental factors. Our aim in the coming year, will be to show case some of the approaches some of our producers are taking to sustainable soil management: from regenerative farming to sensible cover cropping or better crop rotations, and understanding the effects of those on the soil health. Wherever possible, limiting soil disturbance, promoting healthy living roots, encouraging healthy biodiversity, building resilience, rotating away from pathogens, and using biological principles to help rebalance the soil ecology will be promoted.









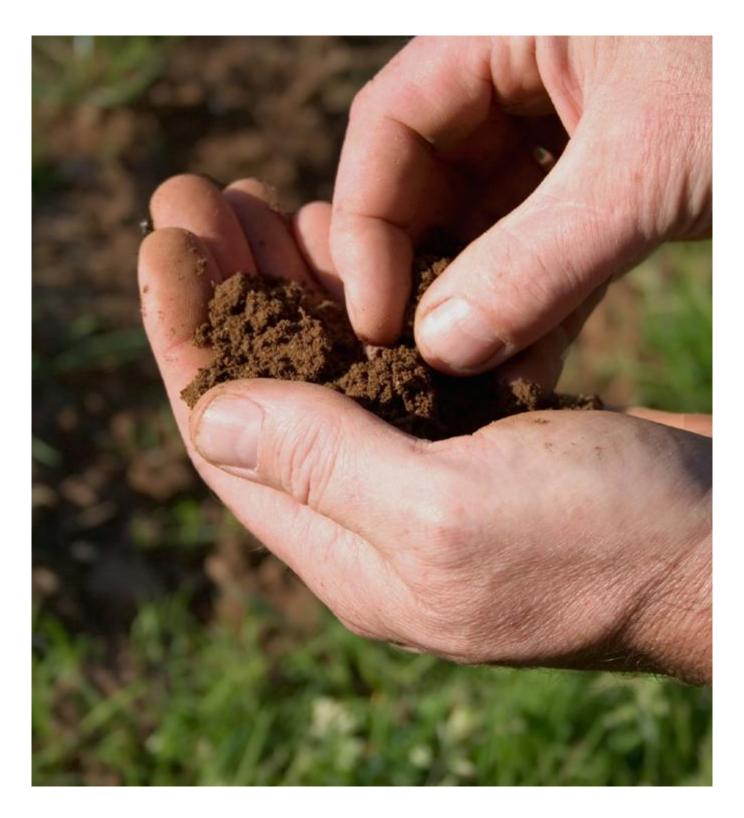






The Unlimited Group has adopted a new sustainability pillar focused on soil health. Soil is mentioned in seven of the 17 Sustainable Development Goals as it plays a vital role in ensuring:

- Food security
- Healthy ecosystems
- Climate change mitigation
- Clean water
- Health and wellbeing



The Sustainability Unit will be working with a few selected producers in this coming year to improve our understanding of this complex topic and how to approach this in the future. As a start, our aim is to collect some base line information about soil organic carbon and the levels we have in South African soils and under our crops, and to put an effort into understanding the practices that are being put in place in attempt improve this, and seeing the effect of these practices on the soil health, and

also to identify practices that may be having a detrimental effect on the soil health and what we can do to address these. We look forward to taking you on this journey together with us, as we explore this topic further in attempt to develop a clearer understanding of how to move forward on this.

Case Study: Regenerative agriculture Boschendal



Boschendal is one of the Unlimited Group's fruit suppliers. The farm has been on a journey of responsible stewardship for some time, with projects in alien clearing, recycling, and packaging. Recently they have set targets to improve their soil quality by implementing regenerative agriculture practices. In just nine months, Boschendal was able to improve its soil organic carbon (SOC) from 1% to 3%. The Sustainability Unit met with the General Manager of the farm, Charles Edmonds, to see what they have done to achieve these results.

Boschendal started by liming their fields to balance the pH levels. They then planted a variety of cover crops such as Japanese radishes, clovers, lucernes, hairy fetch, and grasses to maximize sunlight absorption. Animals were then introduced to the fields to remove weeds, deposit manure, and add

nitrogen to the soil. They first brought in 3 cattle, then 35 sheep, and finally 500 chickens. The strip grazing is strictly monitored, and the animals were rotated through these strips at approximately 34 days per batch. Soil organic carbon, measured with diagonal sampling, increased from 0.5% to 2.5% in nine months, with the best soils going up to 3% organic carbon in that time. Water retention also improved by 29% during this time. The Unlimited Group is inspired by the results that Boschendal has been able to achieve in a short period of time.







Next Steps



Carbon Footprint

The Unlimited Group has completed its second round of carbon footprint audits. The next step will be to put strategies in place to reduce the amount of carbon emitted into the atmosphere. One of the most effective ways to reduce our carbon footprint is to use more renewable energy sources, i.e. solar. Additionally, we can reduce our carbon footprint by becoming more energy-efficient, by installing energy-efficient appliances, reducing electricity and water usage, and limiting our travel. Finally, we can reduce our carbon footprint by supporting sustainable practices such as avoiding single-use plastics where possible. The FLAG (Forest, land, and agriculture) aspect was not taken into account this year but will be prioritised in the coming year, as new FLAG guidelines will be released in 2023. The ultimate goal is to set science-based targets and reduce our emissions with 25% by 2030 and reach net zero by 2050.



Sustainable Packaging

Each business unit has different sustainable packaging projects to focus on, based on their packaging rating and customer needs. The goal is to eliminate red-rated packaging and to investigate non-plastic alternatives to reduce plastic waste. The Unlimited Group is committed to gradually moving its entire product range to more sustainable packaging.





Food Waste

In 2022, the Unlimited Group had zero food waste and reduced its food loss by 6% from 2021. Going forward, the Sustainability Unit aims to work with the Consumer Goods Council of South Africa to establish a robust data capturing system for Yukon Farms. Measuring food loss and waste at farm level is challenging, however we are determined to put the necessary systems in place to make this possible. We are also committed to moving our food losses up the Food Waste Utilisation Hierarchy. Where possible, we would like to increase the tonnage of food loss going to charities for human consumption.



Soil Health

The Sustainability Unit is collaborating with a select group of producers in the upcoming year to enhance our comprehension of the intricate topic of soil health. Initially, we aim to gather fundamental information about the levels of soil organic carbon present in South African soils and beneath our crops. We will dedicate our efforts to comprehending the practices employed to improve soil health, determining their impact, and identifying practices that may adversely affect the soil health.

Acknowledgements

Thank you to all the staff members and partners of the Unlimited Group for your valuable contributions to this report!

The Unlimited Group has assigned staff members within each business unit to be the point of contact with the Sustainability Unit – they are our Champions. They provide the Unit with the required data, knowledge and expertise to make each of the various sustainability initiatives possible.

It is important that the value of sustainability is shared by all within the Group. These Champions truly make this a reality! The Unlimited Group would like to thank each of our Champions for their contribution to this report.

We would like to thank the following people:

Unlimited Group Board of Directors
Unlimited Group Management
General Managers
Sustainability Unit team
Sustainability Champions
Finance Departments

For more information, contact:

Sustainability Unit Zoë Mostert zoe@fruits.co.za

External Recognition

We would like to thank the following organisations:







To the Core Studios

Sustainability Hut

Promethium





RenEnergy

Consumer Goods Council

References

Bega, S. 2021. South Africa wastes 10mn tons of food a year. [Online] Available at: https://mg.co.za/environment/2021-08-21-south-africa-wastes-10-million-tons-of-food-a-year/ [Accessed 2021].

CSIR. 2021. Increasing Reliable, Scientific Data and Information for Food Losses and Waste in South Africa [Online], Available at < HYPERLINK "https://protect-za.mimecast.com/s/9HPDC Bg7NLSoDgtzc9qH?domain=wasteroadmap.co.za" https://wasteroadmap.co.za/wp-content/uploads/2021/06/17-CSIR-Final_Briefing-Note_Food-waste.pdf [Accessed 2023]

Geyer, R., Jambeck, J. and Law, K. 2017. *Production, use, and fate of all plastics ever made.* Science Advances, 3(7). [Online] Available at: https://www.science.org/doi/10.1126/sciadv.1700782 [Accessed 2020].

Mandaha, D. 2022. 45% of available food supply in South Africa wasted, shows new CSIR study. [Online] Available at: https://www.csir.co.za/food-supply-south-africa-wasted-shows-new-csirstudy [Accessed 2022].

Pauer, E., Wohner, B., Heinrich, V. and Tacker, M. 2019. Assessing the Environmental Sustainability of Food Packaging: An Extended Life Cycle Assessment including Packaging-Related Food Losses and Waste and Circularity Assessment. Sustainability, 11(3), p.925. [Online] Available at: https://doi.org/10.3390/su11030925.

Prezkop, L. 2021 How Farmers Are Measuring Food Loss, and Figuring Out How to Solve For It. [Online] Available at: https://www.worldwildlife.org/blogs/sustainability-works/posts/howfarmers-are-measuring-food-loss-and-figuring-out-how-to-solve-for-it [Accessed 2023].

UNEP. 2021a. Why the global fight to tackle food waste has only just begun. [Online] Available at: https://www.unep.org/news-and-stories/story/why-global-fight-tackle-food-waste-has-onlyjust-begun [Accessed 2022].

UNEP. 2021b. Worldwide food waste. [Online] Available at: https://www.unep.org/thinkeatsave/get-informed/worldwide-food-waste [Accessed 2022].

UNEP. 2021c. UNEP Food Waste Index Report 2021. [Online] Available at: https://www.unep.org/resources/report/unep-food-waste-index-report-202>1[Accessed 2023]. UNEP. 2022. International Day of Awareness of Food Loss and Waste 2022. [Online] Available

at: https://www.unep.org/events/un-day/international-day-awareness-food-loss-and-waste-2022#:~:text=An%20estimated%2014%20per%20cent,811%20million%20people%20go%20hungry> [Accessed 2023].

United Nations. 2021. Food Loss and Waste Reduction. [Online] Available at: https://www.un.org/en/observances/end-food-waste-day [Accessed 2021].

United Nations. 2021. The 17 Goals. [Online] Available at: https://sdgs.un.org/goals

United Nations. 2022a. Climate Adaptation. [Online] Available at: https://www.un.org/en/climatechange/climate-adaptation?gclid=EAlalQobChMI08a1hub59gIVCLrtCh3o0AMUEAAYASAAEgKblvD_BwE [Accessed 2022].

United Nations. 2022b. *Climate Change*. [Online] Available at: https://www.un.org/sustainabledevelopment/climate-change/ [Accessed 2022].

United Nations. 2022c. *Climate Adaptation*. [Online] Available at: https://www.un.org/en/climatechange/climate-adaptation?gclid=EAlalQobChMI08a1hub59gIVCLrtCh3o0AMUEAAYAS

World Bank. 2021. *CLIMATE-SMART AGRICULTURE*. [Online] Available at: https://www.worldbank.org/en/topic/climate-smart-agriculture> [Accessed 2022].

WWF. 2022. High levels of food waste on farms can be turned around. [Online] Available at: https://www.wwf.org.za/?41384/High-levels-of-food-waste-on-farms-can-be-turned-around