2019-2024

UC Sustainable Food and Drink Plan

February 2019
UC Sustainability Office

Contents

Executive Summary

This Sustainable Food and Drink Plan brings together elements of the UC Cultural Narrative, the Sustainability Framework and the Wellbeing Strategy. It recommends the following pathways be undertaken:

- Expand edible plantings on campus
- Continue expanding fair trade options available on campus
- Develop direct partnerships with the Food Resilience Network
- Create a 'Plenty to Share' space in an appropriate place on campus
- Work with all food and beverage vendors on campus to ensure sustainability principles are adhered to. This includes the provision of healthy and affordable food options.
- Trial a fruit and veg market day
- Test interest in a food co-op
- Continue to educate the community about correct waste disposal methods
- Explore small scale on-site composting methods.

Introduction

Food and drink options on campus have long loomed large as an important issue for students. As UC considers how best to demonstrate appropriate stewardship of people and planet, the particular issue of food and drink has come up as a priority, particularly with regard to the Wellbeing Strategy.

Food and drink options cut across a range of areas including nutrition, mental and physical health, cultural health, affordability, accessibility, availability, carbon miles, environmental management, food justice and food resilience. There is a growing appreciation of the effects of poor student nutrition, in particular. There is also a growing body of research suggesting methods of mitigating the effects of poor nutrition, along with a variety of other positive benefits that can be derived from a coherent strategy around food and drink.

This Plan seeks to offer just that in a UC context.

Guiding concepts

Kaitiakitanga – guardianship and protection of people, environment, knowledge, culture, language and resources for future generations.

Mahinga Kai – traditional customary food gathering, encompasses the places where natural resources were obtained; the resources themselves; and the practises and principles that guided how those resources were managed

Manaakitanga –The extension of charity, hospitality, reciprocity and respect to others.

Mana Whenua – Mana or 'authority' held by the local hapū or iwi over the land or particular area.

Mauri Tū – environmental health is protected, maintained and/or enhanced

Tauutuutu – Reciprocity; giving back what is taken; maintaining balance
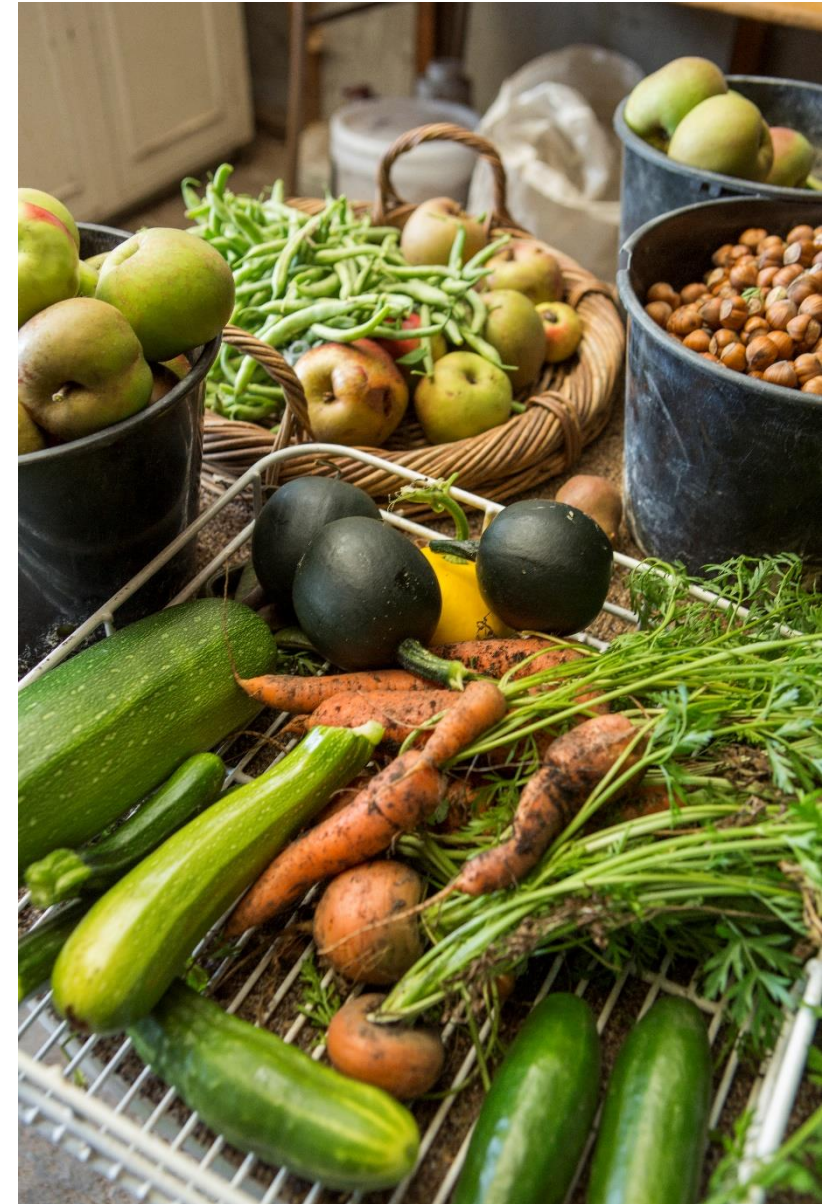
Te Ao Māori – Māori worldview, including Te Reo Māori (Māori language), Tikanga (processes and practices) and Mātauranga Māori (Māori knowledge systems).

UC Framing Tools

UC Wellbeing Framework

The UC Wellbeing Framework was adopted in 2017, and states:

"The UC Wellbeing Framework aims to develop a UC PERMA-Culture by focusing effort on four key areas within its sphere of influence. The framework envisions a healthy environment to live and learn where each sphere of influence primarily relates to particular dimensions and elements of wellbeing... In practice there is overlap between the spheres of influence and the dimensions/ elements. The goal of this framework is to embed wellbeing within both the physical and social environments in a self-sustaining way to enable students and staff to be *people prepared to make a difference*, *Tangata Tu,Tangata Ora*."

Sustainable Campus Environment was listed as one of the four key areas of the framework (along with Positive Pedagogy & Leadership, Inclusive Policy and Practice, and Bicultural Competence and Confidence). Important in advancing this key area was the ratification of the Sustainability Strategy. One of the key action areas in this sphere is to "Provide predominantly healthy food and beverage options at cafes, restaurants and in vending machines. Challenge sponsors and suppliers to provide the most nutritious and affordable options."

Cost and access to healthy food options on campus was one of the main student concerns noted in this framework.

UC Sustainability Framework

In 2018, Senior Management Team and UC Council adopted the UC Sustainability Framework. This Framework states:

The University recognises it can play a role toward securing a sustainable environment for current and future generations, and is committed to:

• Increasing awareness of environmentally sustainable development and engagement;

• Identifying and implementing affordable, evidence-based, sustainable business practises to reduce and manage the University's own ecological footprint;

• Supporting the teaching, learning and research in sustainability topic areas;

• Meaningful partnerships with Māori under Te Tiriti o Waitangi (the Treaty of Waitangi), which recognises the concept of Kaitiakitanga, or guardianship, of the natural environment. The University also recognises the concepts of Manaakitanga, Mauri Tū, Mahinga Kai and Tauutuutu.

The University embraces its contribution to New Zealand and global academic community. Thereby it will:

• Draw on the special significance of Te Tiriti o Waitangi and commit to being good stewards of our environment in line with the principles of Kaitiakitanga, Manaakitanga, Mauri Tū, Mahinga Kai and Tauutuutu.

• Develop bicultural competence and confidence through knowledge of and engagement with Mana Whenua, locally and nationally.

• Commit to developing and enhancing partnerships that will advance sustainable development.

UC Sustainability Plan

The UC Sustainability Plan applies the Sustainability Framework to Learning in Future Environments (LiFE). The Plan identifies a range of work streams to be undertaken, which align with an Australasian approach for applying sustainability in tertiary education institutions.

Figure 1: Sustainability Planning at UC

The Plan and the various sub-plans (of which the Sustainable Food and Drink 2019-2020 Plan is one) are summarised in Figure 1.

UC Landscape Masterplan

The UC Landscape Masterplan was adopted in 2017, and embodies the concept of mahinga kai.

It states that marker plantings, mahinga kai sites, symbolic edible plantings, the community garden, and food forest are located strategically to enhance the planting strategy and portray the university story.
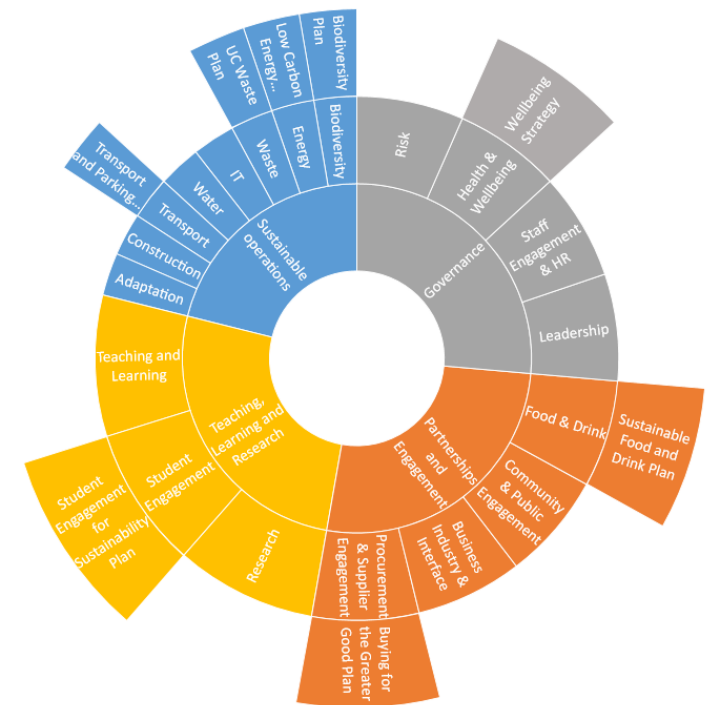
UC Procurement Strategy

The sustainability clauses in the UC Procurement Strategy consider food in the context of both catering and events contracts. This emphasises the need for caterers and events coordinators to consider fair trade, free range, vegetarian/vegan, local, organic or spray-free, and served with durable service ware.

External Frameworks

Christchurch City Council: Food Resilience Policy and Action Plan

In 2014 the Christchurch City Council adopted a Food Resilience Policy and Action Plan. This demonstrated their on-going support of the Food Resilience Network and commitment to developing a more food resilient community. This was felt to be especially relevant and important in light of the recent earthquakes, but also in terms of the predicted effects of climate change.

The CCC's Food Resilience Policy may be viewed here. Their Food Resilience Action Plan is here. The University of Canterbury is listed as a key supporting organisation in the CCC Plan.

New Zealand Food Policy Network

This Network is made up of Auckland, Wellington, Christchurch and Dunedin City Councils, Sports Waitakere, Local Food Northland, Toi Te Ora Public Health, Massey University, and Waikato University. It is an inclusive national voice for the diverse participants in food systems, supporting the shift to sustainable local food systems enabling equitable access to nutritious food and growing healthy, connected thriving communities. More information can be found here.

Food Resilience Network

The Food Resilience Network is a legal incorporated society based in the Canterbury Region. It developed the Edible Canterbury Charter and co-authored the Food Resilience Action Plan with Christchurch City Council. It is made up of approximately 60 organisations with a reach of more than 11,000 people.

EAT-Lancet Commission

This Commission convened 37 scientists from 16 countries, and focused on sustainable production of foods and healthy diets. It specifically links issues around global food production with climate change and environmental

sustainability in general. The goal identified by the Commission was to "achieve planetary health diets for nearly 10 billion people by 2050", and it outlines five strategies to achieve that goal. These strategies are:

- Seek international and national commitment to shift toward healthy diets
- Reorient agricultural priorities from producing high quantities of food to producing healthy food
- Sustainably intensify food production to increase high-quality output
- Strong and coordinated governance of land and oceans
- At least halve food losses and waste, in line with UN Sustainable Development Goals

Read the Commission report [here](#).

Sustainable Development Goals

In 2015 all governments of the world signed up to the United Nations Sustainable Development Goals. These 17 goals broaden our understanding of what sustainability means. Goal 1 is "No Poverty", Goal 2 is "Zero Hunger" and Goal 3 is "Good Health and Wellbeing". New Zealand is reporting its progress to the UN in 2019, and the New Zealand university sector (through Universities New Zealand), is submitting comment for this report on the contribution being made to the SDGs by universities. The University of Canterbury is represented on this group.

Pathways

1   Edible campus

The concept of an edible campus is embedded in both the Campus Masterplan and the Landscape Masterplan. Already, UC has

* two community gardens
* two significant landscape plantings of fruit trees and berries.

Waiutuutu Community Garden (formerly Okeover Community Garden) has been in existence since 2002 and is well-loved and increasingly utilised by students. The notion of the edible campus expands on these initiatives to include a food forest near the new UCSA building, and various edible plantings across the Ilam Campus. These will no doubt require the input of student volunteers as well as coordination from the University.

Students noted in 2014 that they would be more likely to utilise fruit trees than vegetable plots on campus, and this should be considered when developing new plantings.

2   Fairtrade campus

UC is a Fairtrade accredited campus. This embodies values around social, economic and environmental justice. All cafes on campus offer fair trade options for coffee, and almost all purchasing of coffee and tea by UC departments is now fair trade. This is to be encouraged and expanded to include more products.

3   Community connections

There is a large number of organisations in the Christchurch area, and nationally, working towards making the community 'food resilient'. This entails the ability of a community to continue to feed itself when confronted by shocks. Examples of these include the impacts of climate change, or of earthquakes and other natural disasters. UC could consider joining the Christchurch City Council, the Canterbury District Health Board and many other organisations in signing the Edible Canterbury Charter, becoming a member of the Food Resilience Network, and the Aotearoa Food Policy Network.

Community fridges or 'plenty to share' tables have become increasingly common around the country. These are places where

food can be left for others to collect for free. The presence of these on campus would support the existence of fruit trees – if harvesters placed the surplus on the tables. This would reduce any damage to trees from careless harvesting, or harvesting fruit before it is ripe, and help educate the community about what is available when.

4   Food vendors

Most cafés on campus have expressed strong interest in sustainability principles. Caterers are required to meet these principles. It is recommended that café contracts be updated to likewise require sustainability principles to be adhered to. These may include the following:

- food to be sourced locally and to be spray free or certified organic
- food and drinks to be fair trade certified where these options are available
- single use food and beverage packaging to be eliminated and replaced with durable options
- compostable packaging to be used where single use options cannot be eliminated (compostable means approved by UC)
- healthy and affordable food options to be available.

Students appeared to be extremely well-disposed towards a regular fruit and vegetable market on campus. This is something that could be considered. Likewise, a co-op approach to group buying of dry groceries (fairly common at universities now), would be worth exploring.
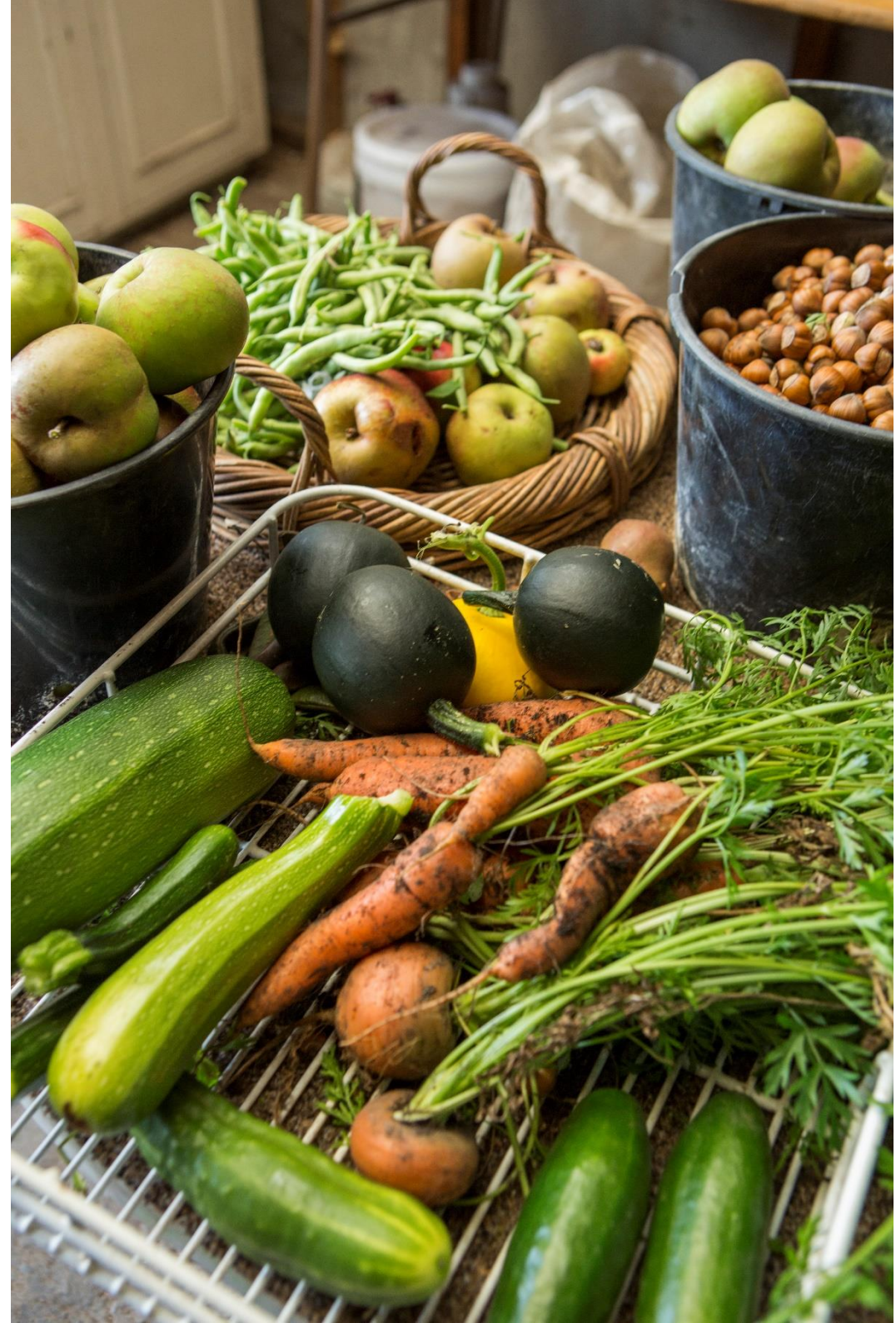
Compost

recycles nutrients & organic
matter back into the garden

5   Food waste

Food waste at UC is taken off-site and composted. Key to this system working is the elimination of contamination from other forms of waste. Café staff must be well trained on correct disposal of waste. Likewise, the wider UC community requires on-going education about the correct way to use our waste system. This work is mainly undertaken by the Sustainability Office.

UC may also explore options for small-scale on-site composting (for example in tandem with the new food forest), such as is undertaken at the Waiutuutu and Dovedale Community Gardens.

Summary of Actions

- Expand edible plantings on campus
- Continue expanding fair trade options available on campus
- Develop direct partnerships with the Food Resilience Network
- Create a 'Plenty to Share' space in an appropriate place on campus
- Work with all food and beverage vendors on campus to ensure sustainability principles are adhered to. This includes the provision of healthy and affordable food options.
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Reporting and Review

Reporting on this plan will be undertaken through the annual Sustainability Report. Review of the plan will be undertaken within 5 years by the Sustainability Office.

Appendix 1: Canterbury University Food Services Review (2017)

The University of Canterbury Wellness Committee has shown real commitment towards the health and wellbeing of both students and staff and recognise that nutrition is a key component towards achieving this.

Eating a balanced diet is important for all age groups to reduce health complications and improve mental wellbeing, and this is no exception for those attending university. Studies have shown that eating a balanced diet can lead to increased academic performance, improved cognitive function, and greater attendance rates. (1,2,3)

With the university vendors and vending machines being the only place close to campus where the students can buy food and drink it is important that the food offered here contributes to a healthy diet.

Factors contributing to the nutritional intake and choices of students include :

Students having limited time between lectures

The campus being isolated from large shopping areas where alternative food options are available

Food available on campus

Students' discretionary income to spend on food.

Students' knowledge of food and what comprises a "Healthy Diet"

Students' skill set around food preparation

The aim of the food review was to complete a stock take of key food and beverage offerings available to students and staff on the Ilam and Dovedale campuses at the University of Canterbury. This gave the baseline data needed to assess nutritional adequacy of the food and beverages offered at the university.

All food and beverages sold on campus were categorized using a tool devised for use with the National Food and Drink Policy for Organisations. Utilising this tool enables the categorization of food into a traffic light system based on certain criteria.

The green category includes foods and drinks that are part of an everyday healthy diet such as fruits, vegetables, wholegrains, low fat milk products and legumes, nuts, lean meats.

These products are nutrient dense and low in saturated fat and sugar.

The amber category includes food and drinks that aren't classed as everyday foods and are generally higher in saturated fat, sugar and salt. However, products in this category can be changed into green category items by making small changes such as using wholegrain breads if white has previously been used or adding sald to a wholemeal egg sandwich.

The red category contains food and drinks that are highly processed and have no nutritional value such as sugar sweetened beverages and confectionery.

The ultimate aim for food outlets is for >55% of products to fit into the green category, <45% to fit into the amber category and having no options that classify as red. (4) For accurate classification, photos of all the vending machines and cafes were taken and food and beverage items entered into an excel document. These were then coded based on the nutrient criteria tables and the percentage of food and drink within each of the categories.

Key stakeholders were interviewed

Tom the UCSA food and beverage manager

Kelly who runs cafe101 and Reboot

Lynn who runs DD1 and Mix cafe.

Students were also interviewed to gain their perspective on the food choices offered

Findings

A common theme among all food vendors on campus was the high levels of sugary drinks. Fridges were all predominantly fizzy, energy drinks and juice, in big serving sizes such as 1L bottles. Water was often placed on the bottom shelf, or tucked away in the corner.

An easy adjustment to make would be to increase the prominence of healthy foods and drinks in the different vendors. This would include things such as putting green items at eye level, or move them to main locations in the shop. For example, moving the water in the fridges, or fruit to be next to the cashier instead of the chocolate bars. Pies are a big seller for the UCSA, however currently most of them are in the red category. As they are a popular choice it makes it important to improve the health of these pies to move them up into the amber category. A way to do this is to use the better pie guideline, which focuses on using less margarine in pastry and better quality meats, as well as having tips to increase herbs

and spices to reduce the need for salt, and adding vegetables to bulk out the pie. These guidelines call for pies to be equal or less than 10% fat.

Vending

Vending Machines

Approximately 90% of the products in the vending machines located around the campuses were classed in the red category (Appendix 3). This category included the sugar-sweetened beverages chocolate bars, and chips. The only options that were classed in the amber category were either 250ml cans of sugar-free red bull or v, or packets of nuts that were either salted or contained dried fruit. The only item categorized in the green category was water. The amber and green products were usually located near the bottom of the vending machine, whereas all the red category items were at eye level.

Cafes

Due to the fact that 3 vendors are involved options within each category varied between the cafes (Appendix 4). Approximately 90% of the drinks in all cafés were classified in the red category so the results are reported in separate tables to avoid skewing overall results.

Mixed results were achieved by the UCSA vendors, ranging from:

The Greek that had all green items

The Burg where 100% of their food items sold were red.

The Shilling Club served a variety of menu items which were amber and could be moved to green with minor adjustments. Due to the pricing structure here it would appear to cater more to the staff than the students.

The Wok presented no green items, however by making a few easy cheap adjustments to the food they offered they would be able to achieve higher scores.

The sandwich and roll options offered were the same at many of the UCSA vendors across campus, and whilst the rolls looked good and filled with salad, when purchased it was disappointing to see that all the salad had been pushed to overhang the side of the bun but when opened there was only the one small piece of lettuce.

Basic sandwiches were made with white and brown bread so that there were both options available to the students but apart from this selection, other bread products were predominantly found on white bread.

Pies, sausage rolls, Cornish pasties, pizzas were amongst the considerable number of red coded items offered at Chiltons .

Cakes and slices were abundant in all cafes and were in large portions.

Snacks products such as Crisps, chocolate bars, confectionary

Cafe 101 and Reboot have a large selection of rolls and sandwiches. Currently these are being made using predominantly white bread, however the fillings do contain a lot of salad, and minimal processed meats. Due to the large amount of white bread used, currently these fall into the amber category, however swapping the bread used will ensure they reach the green recommendation. There is a large selection of pies, sausage rolls and pastries available which Kelly mentioned were popular among the tradespeople working at the university but also within the student community. The salads they offer rotate continuously, with flavors such as beetroot, walnut and feta, and are offered throughout summer and swapped out for soup during winter. Once again the selection of drinks on offer is dominated by sugar sweetened beverages.

The Café DD01 food looked the healthiest, with no pies or sausage rolls, all wholegrain bread with the exception of a bagel and panini and all sandwich options stuffed with colorful salad. Whilst the percentages don't really reflect this, with 59.26% of the food items sold falling into the red category, the changes they have to make are small and easily achievable. This cafe was also the most affordable with comparable bread items such as their sandwiches or rolls being roughly a dollar cheaper per item. The area that lets DD01 down is their snack selection with many types of chips and chocolate bars available. What was seen in the drinks cabinet was similar to all the others with all the other food vendors where sugary beverages dominate

Approximately 90% of foods and beverages in the vending machines fall into the red category.

Results see Appendix 1

Feedback from the students ran to a common theme. Food was too expensive, and there was not enough choice.

Recommendations

Vending

- Trial only selling sugar free beverages and water

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- Decrease the price of water compared to the other products.
- Install directions for water supply to fill drink bottles
- Install water fountains
- Artificially sweetened beverages <300mls can be classified as Green
- Nuts as unsalted, dry roasted and without the fruit are Green
- Nutrient dense snacks that also have a long shelf life, such as the microwavable rice packets, tuna cans/pouches or could have chicken cans, crackers and cheese, and easy open cans of soup, fruit in juice will be healthier options for students and can provide an almost balanced meal
- For the frozen vending machine, a range of frozen meals could be offered as these provide more of a balanced meal and have greater nutritional quality compared to the pizzas and pies currently available.

Sandwiches and Rolls

- Swap white bread for wholegrain
- Include more vegetables into rolls and sandwiches – 50% and reduce the protein filling – often see double protein such as ham and cheese – remove 1 protein and cost saving will allow the vegetable
- Increase offerings and varieties of bread based products
- Trial toasted sandwiches and reduce pastry items.
- Following student comment about popularity of Pita Pit – a " tailor your own sandwich bar " is a bread based option that could be added to the Greek section which already has most of the ingredients required like salad options – just add crusty wholegrain bread selection and lean meat to the existing salad bar.
  This would increase the GREEN options available and reduce the deep fried options available at the adjacent stand.

Soup Bar

Having soup available throughout winter could be an option. A possible place for this could be in the smoothie bar area of Chiltons. It's an easy affordable way to provide a healthy option for students over the winter months. They could use leftover bread and toast it which would reduce wastage.

Pastry

- Remove deep fried foods
- Make pies according to the better pie guidelines or start with using potato topped pies to reduce pastry by 50%

Cakes and Slices

- Reduce serving sizes of cakes and slices and subsequently the cost of these items

All Cooked Dishes / Mixed Meals

- The wok sells a lot of dishes, and is a popular choice for lunch however it also sells a lot of deep fried food. Remove the deep fried options such as deep fried camembert and spring rolls, and add more vegetables into the curries and casseroles. This will remove all the red options and move most of the amber up into green. A legume curry, tagine could also be offered which is high in protein but cheaper to make and will answer the needs of the students to have more vegetarian/vegan options and also be more cost effective. By adding more salads to the burgers at the burg, and using wholegrain buns this will help to make these options healthier.
- Reduce the protein (meat, chicken, fish) content of dishes and replace this with legumes and/ or vegetables. This reduces the cost of the dish, increases the nutrient content and educates the students about legumes.
- Legumes are useful for serving both vegan, vegetarian and omnivore dietary needs. Trialling new recipes including this food group would be advantageous.
- Change combo deals to have water as their only option
- Also, If there's any possibility changing combo deals to have water as their only option or decreasing the price of water compared to the other products.

Education

- Educate students and staff, highlighting the importance of healthy eating for studying and work productivity and also showing them affordable ways to eat healthily. This could include posters on the benefits of balanced meals compared to energy drinks and the effects on their ability to concentrate and study.
- Free food tasters and recipes of cheap affordable meals and daily team sport activities with prizes of healthy products.
- As part of this education, having nutrition labels in obvious spaces for foods and having posters comparing the amount of energy, and nutrients in a drink or chocolate bar compared with what you can get from a whole meal.
- Price comparisons of what you get from a can of drink or red category snack compared to food.

What influences the food choices of University Students.?

An American study used qualitative focus groups to interview students and find from their perspective what were the major determinants influencing their food choice. Whilst the food service at UC isn't able to change all of the factors, by changing the environment students could be influenced to choose healthier food.

1. **Dietary knowledge.** The students surveyed believed it was necessary to know about good nutrition before they were able to make a change. Sometimes it isn't about not wanting to eat healthy, sometimes it is about not knowing how.
   Teaching students about what constitutes a healthy diet would hopefully help improve their food choices as they would have a better understanding of what foods and drinks would be a good choice. This could be done as a fun series of mini topics in the Undercroft.
2. **Stress** is another factor, however the results go both ways with some students tending to eat healthier and others eating worse. It was reported that the students felt stressed over periods such as exams and also for a range of other factors. Teaching that healthy eating can lead to better brain performance, higher grades, and increased information processing may help to also relieve the stress from the students.
3. **Vitality** was another factor that could be influenced via education. Tired students ate more energy dense foods to increase their energy levels. By educating students about how the body processes sugar, may result in students choosing a more balanced diet.
4. **Environment** - Changing the food services to have more accessible healthy options throughout the day, time and convenience will be less of an issue. When changing the food service, the products offered will still have to be appealing and be good value for the students. The wider university environment will also have to change focusing on advertising and marketing and introducing policy to ensure health standards are being met. Currently the marketing of food and beverages at UC focuses on predominantly unhealthy foods, some of these are even being marketed as healthy.

Further Research

A follow up review should be carried out, following the same processes in the future. Comparisons should be made regarding their results then, to how their food services are running now.

References

1. Gibson EL, Green MW. Nutritional influences on cognitive function: Mechanisms of susceptibility. Nutr Res Rev. 2002;15(1):169-206.
2. Florence MD, Asbridge M, Veugelers PJ. Diet quality and academic performance: Research article. J Sch Health. 2008;78(4):209-15.
3. Burrows T, Goldman S, Pursey K, Lim R. Is there an association between dietary intake and academic achievement: a systematic review. J Hum Nutr Diet. 2017;30(2):117-40.
4. National District Health Board Food and Drink Environments Network. National Healthy Food and Drink policy. 2016

Table of Product Categorisation for Food in the Cafes at Ilam and Dovedale Campuses at the University of Canterbury

Café	Green	Amber	Red
Collective Café	6.42%	20.18%	73.39%
Shilling Club	21.05%	31.58%	47.37%
Chilton's Store	3.03%	27.27%	69.70%
Café 1894	12.50%	25%	62.50%
The Shed	4.08%	14.29%	81.63%
The Wok	0%	30%	70%
The Greek	58.82%	41.18%	0%
The Burg	0%	0%	100%

Café			
Café 101	12.50%	19.64%	67.86%
Reboot Café	11.11%	20.37%	68.52%
DD01 Café	6.17%	34.57%	59.26%
Mix Café	9.52%	22.22%	68.25%

Table of Product Categorisation for Beverages in the Cafes at Ilam and Dovedale Campuses at the University of Canterbury

Café	Green	Amber	Red
Collective Café	3.51%	1.75%	94.74%
Shilling Club			
Chilton's Store	5.08%	0%	94.92%
Café 1894	8.82%	0%	91.18%
The Shed	6.06%	3.03%	90.91%
The Wok			
The Greek			

The Burg	7.14%	7.14%	85.71%
Café 101	3.45%	3.45%	93.10%
Reboot Café	3.85%	3.85%	92.31%
DD01 Café	3.16%	0%	96.84%
Mix Cafe	5.56%	0%	94.44%

Table of Product Categorisation for Food and Beverages in the Vending Machines at Ilam and Dovedale Campuses at the University of Canterbury

Vending Machine	Green	Amber	Red
Near Café 101	0%	10%	90%
Near Café 1894	1.37%	8.22%	90.41%
Near Shilling Club	2.56%	2.56%	95%
Near Reboot Cafe	4.35%	8.70%	86.96%

In Central Lecture Theatre	9.09%	0%	90.91%
In A Block	7.69%	0%	92.31%
Near Collective Cafe	7.69%	0%	92.31%

Figure depicting blood sugar effects of high sugar foods and beverages.

High GI foods raise blood sugar quickly. Within 30 minutes blood sugar falls. Notice: It falls below where it started. When It falls below normal levels, foggy thinking, tiredness and depression can occur.

Low GI foods increase blood sugar slowly. Within 30 minutes blood sugar gently falls. Notice: The level it finally reaches is where it started.
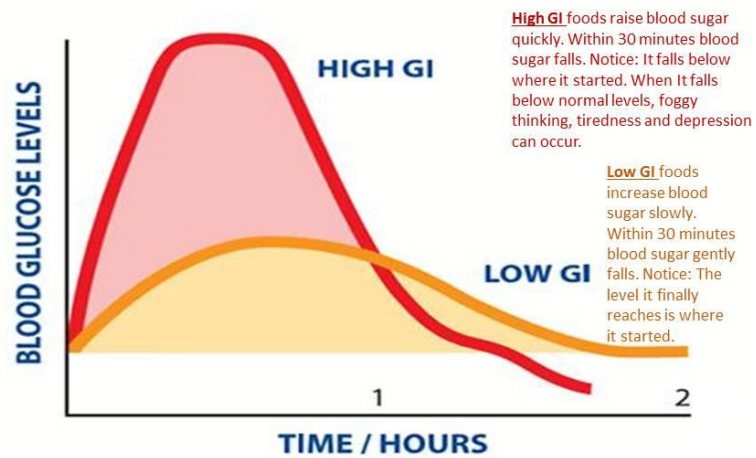
Proof that the Glycemic Index of a Meal Affects Your Happiness   Low Glycemic Happiness

Appendix 2: Additional Research

Nutrition
UC data

2014 survey undertaken by Kate Walsh

300 students surveyed.

70% of students reported barriers to accessing healthy and nourishing food.

Students reported missing fruit (53%) and vegetables (58%) from their diets.

Barriers to Healthy and Nourishing Food

Figure 3 Barriers that students have to healthy and nourishing food

Source: K. Walsh, "Understanding Students' Accessibility and Barriers to Nourishing Food" (University of Canterbury, 2014)

Regional data
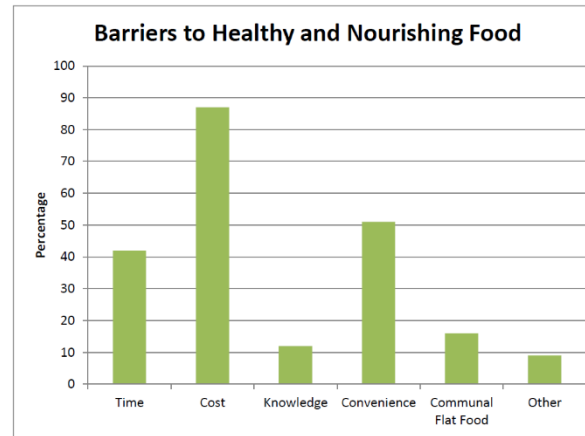Regional data is weak.

Fruit & Veg Co-op (CDHB, 2014): 28% of 345 participants "went without fresh fruit and vegetables often so that you could pay for other things you needed."

National data
National data on food security comes from several key studies, summarised in the table below. Relative food security is determined against a range of metrics, but the general picture is that between 4% and 12% of people experience low food security, meaning they find it difficult to eat enough food to maintain their wellbeing.

Survey	Full food security (%)	Medium Food security (%)	Low food security (%)	Very low food security (%)
National Nutrition Survey (1997)	72	24	4	
Children's Nutrition Survey (2002)	50	38	12	
Adult Nutrition Survey (2009)	59.1	33.7	7.3	
Family Food Environment Survey (2010)	60	30	10	
USA (1999)		11.1	0.8	
USA (2015)			7.7	5
USA (2016)			7.4	4.9

When considering consumption of fruit and vegetables, the trend in New Zealand is of declining access. This is summarised below against a range of demographics.[1]

	2006/7	2015/16	2016/17
% total population eating recommended fruit and veg	43	40	38.8
% total population eating recommended fruit	59	55.8	53.9
% poorest communities eating recommended fruit and veg	35.3	30.3	n/d
% Maori population eating recommended fruit and veg	37.5	32.6	33.2
% European/Pakeha pop. Eating recommended fruit and veg	45.3	43.8	41.6

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[1] Annual New Zealand Health Survey Reports, *Ministry of Health*

Other Research

There has been a lot of research undertaken to understand some of the food related issues at UC. Some of this has been undertaken by the UC Sustainability Office and includes:

Fichtner, M. (2011): Food Matters: Researching the Viability of a Sustainable Food System at the University of Canterbury

Fichtner, M. (2011): Fruit Tree Proposal for the University of Canterbury

Fichtner, M. (2012): Mapping the UC Food System

Gilmore, D. (2013): Community Food Resilience in the Avon-Otakaro Residential Red Zone: Christchurch and its future for community food security

Kainamu, A. (2013): An Assessment of the Value and Feasibility of Mahinga Kai at UC

Powell, T. (2013): On-site Composting at University of Canterbury

Walsh, K. (2014): Understanding Students' Accessibility and Barriers to Nourishing Food

This research helps us to understand what students are and are not eating, where food (including constituent parts) on campus comes from, possible waste management solutions, and how to grow food on campus in a culturally appropriate way. It has informed the present Plan.

An important additional study is

Roy, R., (2016) *et al.* "Description, measurement and evaluation of tertiary-education food environments," British Journal of Nutrition, 115, pp. 1598-1606