A GUIDE TO SUSTAINABLE CATERING AT MACQUARIE UNIVERSITY
What is sustainable catering?

Sustainable catering is about considering not only the cost and quality of the products we consume but also their impacts on the environment and society. The goal of sustainable catering is to:

- Minimise environmental impacts such as land degradation, loss of biodiversity, water pollution and climate change;
- Contribute to thriving local economies and sustainable livelihoods; and
- Provide social benefits, such as helping people to make healthy and nutritious food choices.

What are the principles of sustainable catering?

There are seven main principles of sustainable catering:

1. Choose locally grown, seasonal produce;
2. Choose food produced by environmentally friendly production methods;
3. Minimise the use of animal products;
4. Choose sustainable seafood;
5. Promote fair trade products;
6. Minimise waste;
7. Promote health and well-being.

These principles are discussed in more detail below.

Choose Locally Grown, Seasonal Produce

Generally, food that is transported over long distances produces more greenhouse gas emissions than food that is transported over short distances. Greenhouse gases contribute to climate change, which is associated with rising sea levels, loss of biodiversity, extreme weather conditions, loss of coastal habitat and the spread of tropical diseases. It is a serious threat to the environment, the economy and society. A Victorian study found that a typical supermarket shopping basket contains food which has traveled 70 803 km (almost twice around the circumference of the globe), producing 11 327 tonnes of greenhouse gases. This is the same amount of greenhouse gas emissions produced by 2 832 cars driving on the roads for one year! The sustainable choice is to buy food that has been locally produced. This will lead to fewer greenhouse gas emissions being produced and will help support local farmers.

What is locally produced food?

There is no accepted definition of locally produced food. The general principle is to try to purchase food that has been grown as close as possible to the place where it will be consumed. Thus, food that will be consumed at Macquarie University should ideally be sourced from within the Sydney region. If this is not possible, other sources within NSW and Australia should be considered before purchasing food from overseas.

A seasonal fruit and vegetable chart is provided below.

## FIGURE 1. AUSTRALIAN SEASONAL FRUIT AND VEGETABLE CHART - FRUITS

<table>
<thead>
<tr>
<th>Orchard Fruit (Pome/Stone)</th>
<th>Spring</th>
<th>Summer</th>
<th>Autumn</th>
<th>Winter</th>
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<td>Pear (Red Sensation, Williams)</td>
<td>Pear (Beurre Bosc Packham)</td>
<td>Nashi</td>
<td>Apple (LW, Sun)</td>
<td>Apple (Lady Will, S'downer)</td>
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<tr>
<td>Apple (Jonathon, Gala, Bonza)</td>
<td>Apple (Golden/Red Delicious, Granny Smith, Fuji)</td>
<td>Quince</td>
<td>Apricot</td>
<td>Plum</td>
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<tr>
<td>Loquat</td>
<td>Cherry</td>
<td>Peach, Nectarine</td>
<td>Lemon, Yellow grapefruit (all year)</td>
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<tr>
<td>Citrus Fruit</td>
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<td>Tangelo</td>
<td>Lime</td>
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<td>Cumquat</td>
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<td>Mandarin (Ellendale)</td>
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<td>Mandarin (Ellendale)</td>
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<td>Mandarin (Murcot)</td>
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<td>Mandarin (Imperial)</td>
<td>Pink grapefruit</td>
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<tr>
<td>Pink grapefruit</td>
<td>Orange (Valencia)</td>
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<td>Orange (Navel)</td>
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<tr>
<td>Orange</td>
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<td></td>
<td>Orange (Seville)</td>
<td>Blood orange</td>
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<tr>
<td>Blood orange</td>
<td>Gooseberry</td>
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<td></td>
<td>Peanut</td>
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<tr>
<td>Berries and Nuts</td>
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<tr>
<td>Cashew nut</td>
<td>Strawberry</td>
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<td>Hazelnut</td>
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<td>Gooseberry</td>
<td>Mulberry</td>
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<td>Almond</td>
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<td>Blueberry</td>
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<td>Blackcurrant</td>
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<td>Redcurrant</td>
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<td>Blackberry</td>
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<td>Blackberry</td>
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<tr>
<td>Tropical Fruit</td>
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<tr>
<td>Pineapple</td>
<td>Prickly pear</td>
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<td></td>
<td>Custard apple</td>
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<tr>
<td>Papaya/Pawpaw</td>
<td>Mango</td>
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<tr>
<td>Mango</td>
<td>Lychee</td>
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<tr>
<td>Lychee</td>
<td>Banana</td>
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<tr>
<td>Banana</td>
<td>Passionfruit</td>
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<tr>
<td>Passionfruit</td>
<td>Rambutan</td>
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<td>Rambutan</td>
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<tr>
<td>Other Fruit</td>
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<tr>
<td>Rhubarb (all year peaks in Autumn - Winter)</td>
<td>Melon (Watermelon, Rockmelon, Honeydew)</td>
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<td>Persimmon</td>
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<td>Grape</td>
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<td>Fig</td>
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<td>Feijoa/Guava (Cherry guava)</td>
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<td>Kiwifruit</td>
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</tbody>
</table>

Source: Vegetarian Network Victoria (2009)
<table>
<thead>
<tr>
<th>Brassicas and Leafy Greens</th>
<th>Herbs</th>
<th>Pods</th>
<th>Fruiting Vegetables</th>
<th>Roots and Tubers</th>
<th>Shoots, Bulbs and Mushrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPRING</strong></td>
<td><strong>SUMMER</strong></td>
<td><strong>AUTUMN</strong></td>
<td><strong>WINTER</strong></td>
<td><strong>SPRING</strong></td>
<td><strong>SUMMER</strong></td>
</tr>
<tr>
<td><strong>BROCCOLI, CAULIFLOWER</strong></td>
<td><strong>BRASSICAS AND LEAFY GREENS</strong></td>
<td><strong>SPRING SUMMER AUTUMN WINTER</strong></td>
<td><strong>BRASSICAS AND LEAFY GREENS</strong></td>
<td><strong>BROCCOLI, CAULIFLOWER</strong></td>
<td><strong>BRASSICAS AND LEAFY GREENS</strong></td>
</tr>
<tr>
<td><strong>SAVOY CABBAGE</strong></td>
<td><strong>LETTUCE (BUTTER, COS, ICE, LAMB)</strong></td>
<td><strong>Lettuce (butter, cos, iceberg, lamb)</strong></td>
<td><strong>Lettuce (butter, cos, iceberg, lamb)</strong></td>
<td><strong>HELLEBORES</strong></td>
<td><strong>HELLEBORES</strong></td>
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<tr>
<td><strong>ASIAN GREENS (MOST)</strong></td>
<td><strong>SPINACH, SILVERBEET</strong></td>
<td><strong>SPINACH, SILVERBEET</strong></td>
<td><strong>SPINACH, SILVERBEET</strong></td>
<td><strong>ASPARAGUS</strong></td>
<td><strong>ASPARAGUS</strong></td>
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<tr>
<td><strong>LETTUCE (BUTTER, COS, ICE, LAMB)</strong></td>
<td><strong>SORREL/CRESS (WATERCRESS)</strong></td>
<td><strong>SORREL/CRESS (WATERCRESS)</strong></td>
<td><strong>SORREL/CRESS (WATERCRESS)</strong></td>
<td><strong>SWEET CORN</strong></td>
<td><strong>SWEET CORN</strong></td>
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<td><strong>CHERVIL</strong></td>
<td><strong>ROCKET</strong></td>
<td><strong>ROCKET</strong></td>
<td><strong>ROCKET</strong></td>
<td><strong>GREEN BEANS</strong></td>
<td><strong>GREEN BEANS</strong></td>
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<td><strong>BASIL</strong></td>
<td><strong>MINT</strong></td>
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<td><strong>MINT</strong></td>
<td><strong>PEAS</strong></td>
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<td><strong>BAY LEAVES</strong></td>
<td><strong>BAY LEAVES</strong></td>
<td><strong>BAY LEAVES</strong></td>
<td><strong>BAY LEAVES</strong></td>
<td><strong>AVOCADO (FUERTE)</strong></td>
<td><strong>AVOCADO (FUERTE)</strong></td>
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<tr>
<td><strong>CHIVES</strong></td>
<td><strong>CHIVES</strong></td>
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<td><strong>CHIVES</strong></td>
<td><strong>ZUCCHINI</strong></td>
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<td><strong>CAPSICUM</strong></td>
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<td><strong>EGGPLANT</strong></td>
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<td><strong>Celeriac, Jerusalem, Artichoke</strong></td>
<td><strong>Celeriac, Jerusalem, Artichoke</strong></td>
<td><strong>Celeriac, Jerusalem, Artichoke</strong></td>
<td><strong>Celeriac, Jerusalem, Artichoke</strong></td>
<td><strong>Celeriac, Jerusalem, Artichoke</strong></td>
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<td><strong>MUSHROOM (MOREL)</strong></td>
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</tbody>
</table>

Source: Vegetarian Network Victoria (2009)
Different methods of food production have different impacts on the environment. Conventional agriculture has been associated with loss of biodiversity, soil erosion, salinity, desertification, water pollution, climate change and the excessive use of pesticides and other agricultural chemicals. The sustainable choice is to choose food produced by environmentally friendly production systems. An example of such a system is the organic system. Organic agriculture seeks to conserve soils, enhance biodiversity, reduce pollution and minimise chemical inputs. To ensure food has been produced to the highest environmental standards choose food that is certified organic. The labels to look out for are shown below.

Figure 2: Certified Organic Product Labels

Minimise Animal Products (Meat, Dairy and Eggs)

Animal products are the most resource intensive foods to produce and are associated with numerous environmental problems. Livestock production, for example, is one of the largest sources of human-induced greenhouse gas emissions on the planet, producing approximately 18 percent of the world’s emissions. The livestock industry is also extremely water-intensive. It takes 50 000 litres of water to produce just one kilogram of beef. In addition, livestock production is responsible for approximately 92 percent of all land degradation in Australia. The reasons for this are complicated. However, there are a number of factors which lead to animal products being extremely resource intensive. For example:

- Large amounts of grain need to be grown to produce relatively small amounts of meat, milk and eggs;
- Livestock (particularly cows and sheep) produce large amounts of the greenhouse gas, methane, through their digestive systems;
- Forests, which naturally absorb greenhouse gases, are often cleared to make way for grain production or grazing land;
- Animal products may be transported over large distances in refrigerated conditions.

The sustainable choice is to minimise the use of animal products in the food we consume. There are now many tasty and nutritious vegetarian alternatives to traditional meat and dairy centred meals.

If animal products are to be used, organic varieties are preferred. This is not only because organic production is better for the environment but also because organic production is better for animal welfare. Many conventional agricultural practices lead to poor welfare outcomes for the animals. For example, the majority of Australia’s egg-laying hens are given less space than a single sheet of A4 paper. This is insufficient room for the hens to perform even the most basic natural behaviours such as nesting, foraging, preening and dust-bathing. Likewise, many of Australia’s pigs are housed in stalls so small that they cannot turn around or take more than a single step forwards or backwards. It is possible that pigs kept in these conditions are clinically depressed. Additionally, agricultural animals are often subject to painful procedures such as tail docking and teeth clipping without anesthetic. Certified organic products have high animal welfare standards. All organic products must be produced under free-range conditions and the animals are not allowed to undergo many of the painful procedures used in conventional agriculture. Thus, the sustainable choice is to minimise the use of animal products, where possible, and use organic varieties when necessary.

Choose Sustainable Seafood

Modern fishing practices have led to degradation of marine habitats and overexploitation of marine resources. Approximately 80 percent of the world’s fish stocks are considered fully exploited, overexploited, depleted, or recovering from depletion. There have also been dramatic worldwide declines in sea turtles, marine mammals, sharks and seabirds as a result of their incidental capture by fishing vessels. Ecosystems have also become degraded through the physical impact of fishing gear. A study by the CSIRO found that the biomass of heavily fished areas off Southern Tasmania was 83 percent less than lightly fished or unfished areas. The sustainable choice is to purchase seafood that is not subject to overfishing and has been caught using methods that do not harm the environment. Figure 3 provides a list of sustainable and unsustainable seafood choices in Australia. Further details of these fish species can be obtained from Australia’s Sustainable Seafood Guide. This is available to borrow from Sustainability.

Figure 3: Sustainable Seafood in Australia

- **Abalone – Aquaculture**
- **Abalone – Wild Fishery**
- **Atlantic Salmon**
- **Aust Salmon**
- **Balmain Bugs**
- **Barramundi – Sea Cage Aquaculture**
- **Barramundi – Pond Aquaculture**
- **Barramundi – Wild Fishery**
- **Big-eye Tuna**
- **Blue Grenadier**
- **Blue Mussel**
- **Blue Swimmer Crab**
- **Blue Warhou**
- **Blue-eye Trevalla**
- **Bream**
- **Broadbill Swordfish**
- **Bugs**
- **Calamari**
- **Cod and Groper**
- **Commercial Scallop**
- **Coral Trout**
- **Crab – Blue Swimmer**
- **Crab – Giant (King)**
- **Crab – Mud**
- **Crayfish (Marron, Redclaw, Yabby)**
- **Cuttlefish**
- **Deepsea Perch (Orange Roughy)**
- **Dhufish**
- **Dory**
- **Eastern Gemfish (Hake)**
- **Emperors (True Emperors)**
- **Flake**
- **Flathead**
- **Gemfish**
- **Gold-band Snapper**
- **Grenadier**
- **Groper**
- **Hake**
- **Hoki**
- **Kingfish – sea cage**
- **Kingfish – wild fishery**
- **King George Whiting**
- **Leatherjacket**
- **Ling**
- **Lobster**
- **Mackerel**
- **Marron**
- **Moreton Bay Bugs**
- **Mullet**
- **Mulloway – sea cage aquaculture**
- **Mulloway – Wild fishery**
- **Mussel**
- **Nor-west Snapper**
- **Octopus**
- **Orange Roughy**
- **Oreo**
- **Oysters**
- **Pink Ling**
- **Perch**
- **Prawn – aquaculture**
- **Prawn – Wild fishery**
- **Red Emperor**
- **Redfish**
- **Redclaw**
- **Rosy Snapper**
- **Salmon – Atlantic**
- **Salmon – Aust**
- **Scallop**
- **Shark (Flake)**
- **Silver Trevally**
- **Snapper (Pink) – sea-cage aquaculture**
- **Snapper (Pink) – wild fishery**
- **Snappers – Tropical**
- **Southern Blue-fin Tuna**
- **Squid**
- **Swordfish**
- **Tailor**
- **Trevalla – Blue-eye**
- **Trevally**
- **Trout (Coral)**
- **Trout (Ocean)**
- **Tuna (Big eye)**
- **Tuna (Southern Blue-fin)**
- **Tuna (Yellow-fin)**
- **Warhou**
- **Western Australian Dhufish**
- **Western Rock Lobster**
- **Whiting**
- **Yabby**
- **Yellow-fin Tuna**
- **Yellow-tail Kingfish – sea-cage aquaculture**
- **Yellow-tail Kingfish – wild fishery**

- **Better choice**
- **Think twice**
- **Say no**

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Figure 3 Source: Craig Bohm, Kate Davey and Ingrid Neilson, Australia’s Sustainable Seafood Guide (2007, Australian Marine Conservation Society).
5 Promote Fair Trade Products

The international market for commodity crops such as tea and coffee can be highly volatile. When market prices fall many producers in developing countries cannot afford basic necessities such as food and healthcare for their families. Fair trade products seek to secure fair working and trading conditions for people in developing countries. Fair trade producers receive a fair price for their goods, a secure source of income and the support necessary to develop their business. In May 2009 Macquarie University became the joint first Fairtrade University in Australia and New Zealand, under the Fair Trade Association of Australia and New Zealand’s (FTAANZ) accreditation scheme. This means Macquarie is committed to promoting fair trade goods across campus. The sustainable choice is to choose Fairtrade certified products (such as tea, coffee and chocolate) or fair trade products from companies with high working standards. The Fairtrade accreditation logo is shown below.

Figure 4: Fairtrade Certified Logo

6 Minimise Waste

The consumption of food is associated with large amounts of waste, both in the packaging and storage of food products and in the amount of food that is thrown out. To reduce waste, consider:

- Purchasing foods with minimal packaging;
- Ensuring any packaging is recyclable or biodegradable;
- Serving tap water instead of bottled water;
- Using fresh rather than frozen ingredients (frozen foods require a lot of energy to refrigerate);
- Using non-disposable plates, cups and utensils for serving;
- Serving appropriate portion sizes;
- Giving leftovers to participants to take home, or share it with others at the University.

7 Promote Health and Well-being

The type of food we consume is closely linked to our health. Many students make poor dietary choices due to lack of time or money or the availability of healthier options. The 2007/08 National Health Survey reported that 62 percent of Australian adults and 25 percent of Australian children are either overweight or obese. This is due to consuming foods high in fat and sugar and not getting enough exercise. Being overweight is associated with a range of illnesses including heart disease, type 2 diabetes, osteoarthritis, high blood pressure and certain types of cancer. The sustainable choice is to provide healthy and nutritious food options to help staff and students at Macquarie make healthy food choices. Healthy foods include large amounts of fresh fruit, vegetables, legumes and wholegrain cereals, small quantities of fish, lean meats, low-fat dairy products and nuts and minimal quantities of salt, sugar and fat. Providing healthier options fits in well with the University’s goal to become a healthy campus.

Making the Sustainable Choice

While the seven principles outlined above provide a guide to sustainable food choices it is acknowledged that there will be times when not all the principles can be fulfilled and important questions will be raised. For example:

- Is it better to buy organic food from overseas or conventional food that has been locally grown? or
- Is it better to buy over-packaged organic food or conventionally grown food with little or no packaging?

Such questions do not have an easy answer. The best option is to work with local producers and suppliers to ensure that the type of foods you want are always available. Try and obtain as much information as you can from producers and suppliers and make the best choice you can based on the information available. As long as a genuine attempt is made to adhere to the goals and principles of sustainable catering it will go a long way to making the Macquarie University campus more sustainable.

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18 National Health and Medical Research Council, Dietary guidelines for Australian Adults (2003, Commonwealth of Australia).
Additional reading & Resources

Australian Organic Food Directory
www.organicfooddirectory.com.au

Australian Vegetarian Society
www.veg-soc.org

Australia’s Sustainable Seafood Guide
www.marineconservation.org.au

Campus Experience Crunch Catering
http://www.campuslife.mq.edu.au/events--catering

Fair Trade Association of Australia and New Zealand
www.fta.org.au

Green Pages Australia
www.greenpagesaustralia.com.au

Organic Directory Australia

Organic Food Express
www.organicfoodexpress.com.au

The Organics Directory
www.theorganicsdirectory.com.au

The Truefood Guide
www.truefood.org.au/truefoodguide

Vegan Society NSW
www.vegansocietynsw.com