



I will wash clothes in cold water. I will install a low-flow toilet. I will use a reusable water bottle in the fridge. I will only run the washing machine and dishwasher with full loads. I will turn off the tap while brushing my teeth. I will check my tires and hoses for leaks and repair them.

# One Simple Act project

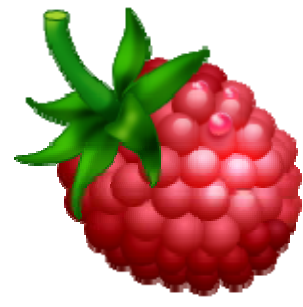
## From Farm to Fridge Resource Package

### Meal Maker Activity



**Blueberries**

Fruit



**Raspberries**

Fruit



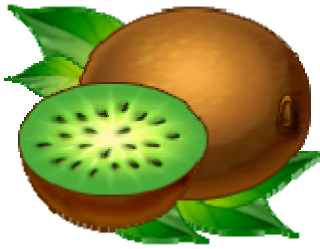
**Apple**

Fruit



**Orange**

Fruit



**Kiwi**

Fruit



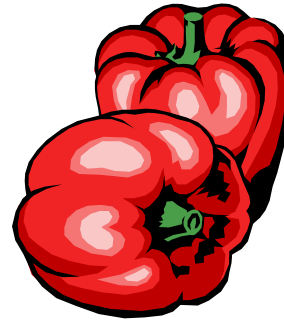
**Banana**

Fruit



**Carrots**

Vegetable



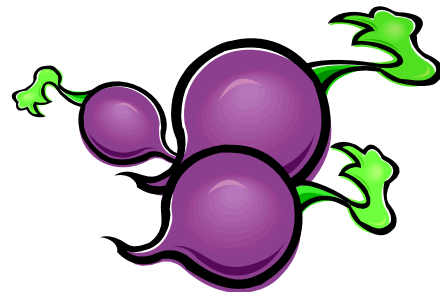
**Red Pepper**

Vegetable



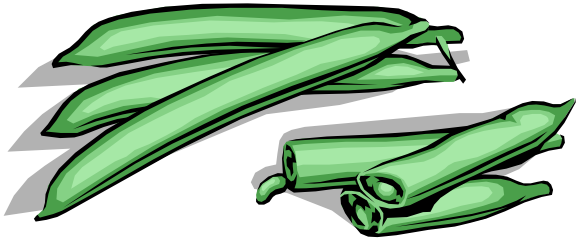
**Potato**

Vegetable

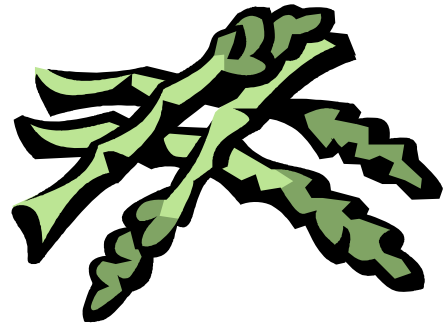


**Beets**

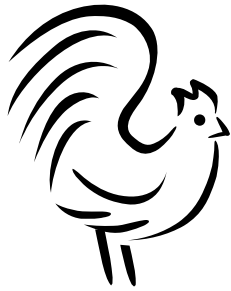
Vegetable



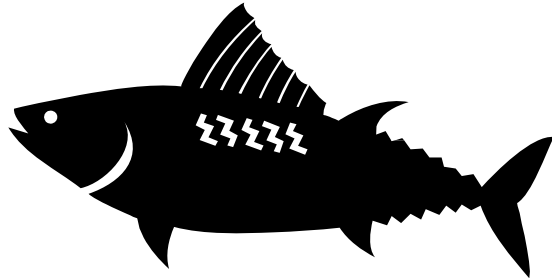
**Green Beans**  
Vegetable



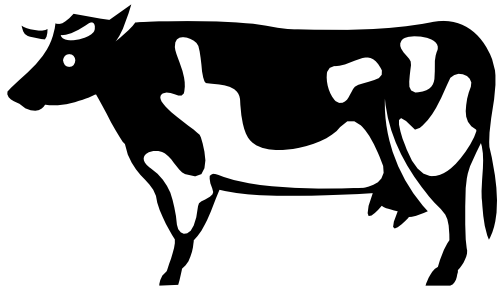
**Asparagus**  
Vegetable



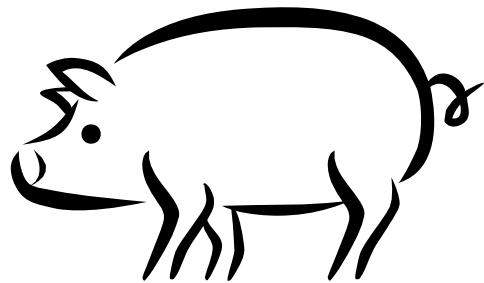
**Chicken**  
Meat



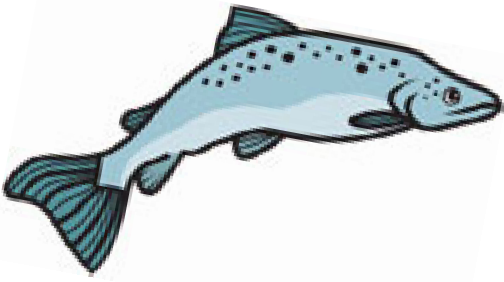
**Tuna**  
Meat



**Beef**  
Meat

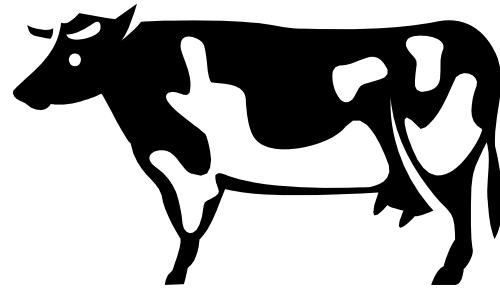


**Pork**  
Meat



**Salmon**

Meat



**Beef**

Meat



**Barley**

Grain



**Corn**

Grain



**Quinoa**

Grain



**Rice**

Grain



**Wheat**

Grain



**Oats**

Grain



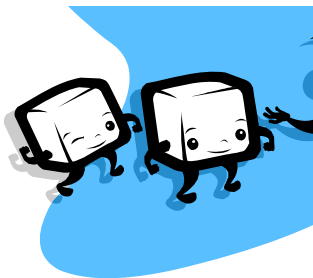
**Black Pepper**

Other



**Milk**

Other



**Sugar**

Other



**Coffee**

Other



Tea

Other



Oregano

Other

Blueberries

Origin: Local  
Distance: 100 km

Raspberries

Origin: Local  
Distance: 100 km

Apple

Origin: BC  
Distance: 800 km

Banana

Origin: Costa Rica  
Distance: 5 900 km

## Orange

Origin: Florida  
Distance: 4500 km

## Kiwi

Origin: New Zealand  
Distance: 12 500 km

## Carrots

Origin: California  
Distance: 1 900 km

## Red Pepper

Origin: Holland  
Distance: 6 900 km

## Potato

Origin: Idaho  
Distance: 1 600 km

## Beets

Origin: Local  
Distance: 100 km

## Green Beans

Origin: Local  
Distance: 100 km

## Asparagus

Origin: California  
Distance: 1 900km

## Chicken

Origin: Ontario  
Distance 3 100 km

## Tuna

Origin: Thailand  
Distance: 11 500 km

## Beef

Origin: Local  
Distance: 100 km

## Pork

Origin: BC  
Distance: 800 km

## Salmon

Origin: BC  
Distance: 800 km

## Beef

Origin: Local  
Distance: 100 km

## Quinoa

Origin: Peru  
Distance: 8 400 km

## Rice

Origin: India  
Distance: 10 500 km

## Wheat

Origin: Local  
Distance: 100 km

## Oats

Origin: Ontario  
Distance: 3 100 km

## Barley

Origin: Local  
Distance: 100km

## Corn

Origin: California  
Distance: 1 900 km

## Milk

Origin: Local  
Distance: 100 km

## Oregano

Origin: Local  
Distance: 100 km

## Sugar

Origin: Brazil  
Distance: 10 000 km

## Coffee

Origin: Brazil  
Distance: 10 000 km

## Tea

Origin: India  
Distance: 10 500 km

## Black Pepper

Origin: Vietnam  
Distance: 10 500 km

## Blueberries

None (Wild)



## Raspberries

None (Garden)



## Apple

270 kg/ha



## Banana

480 kg/ha



## Orange

250 kg/ha



## Kiwi

250 kg/ha



## Carrots

50 kg/ ha



## Red Pepper

75 kg/ha



## Potato

100 kg/ha



## Beets

None (Garden)



# Green Beans

None (Garden)



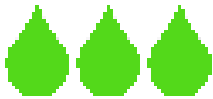
# Asparagus

75 kg/ha



# Chicken

2:1



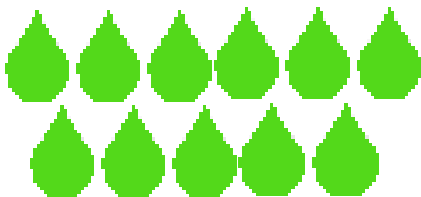
# Tuna

None



# Beef

10:1



# Pork

4:1



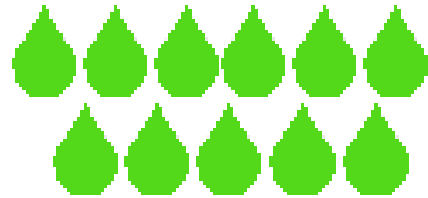
## Salmon

1.1: 1



## Beef

10:1



## Quinoa

50 kg/ha



## Rice

100 kg/ha



## Wheat

100 kg/ha



## Oats

75 kg/ha



## Barley

100 kg/ha



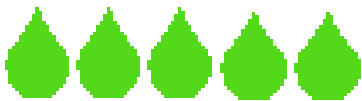
## Corn

125 kg/ha



## Milk

10:1



## Oregano

None (Garden)



## Sugar

200 kg/ha



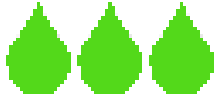
## Coffee

150 kg/ha



## Tea

225 kg/ha



## Black Pepper

75kg/ha



## Blueberries

200 L/kg



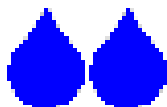
## Raspberries

200 L/kg



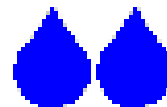
## Apple

500 L/kg



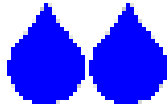
## Orange

500L/kg



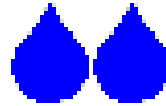
## Kiwi

500 L/kg



## Banana

500 L/kg



## Beets

200 L/ kg



## Green Beans

200 L/kg



## Asparagus

200 L/kg



## Carrots

200 L/kg



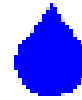
## Potato

200 L/kg



## Red Pepper

200 L/kg



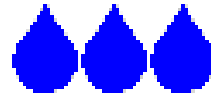
## Wheat

1 000 L/kg



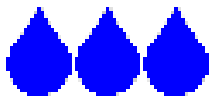
## Barley

1 300 L/kg



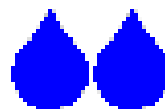
## Oats

1 000 L/kg



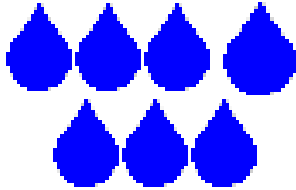
## Corn

900 L/kg



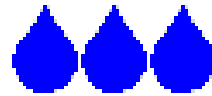
# Rice

3 400 L/kg



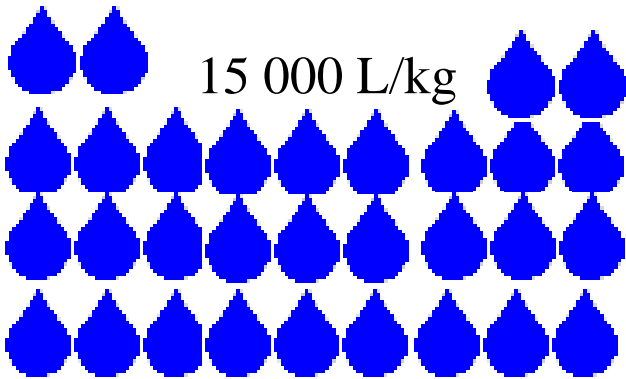
# Quinoa

1 000 L/kg



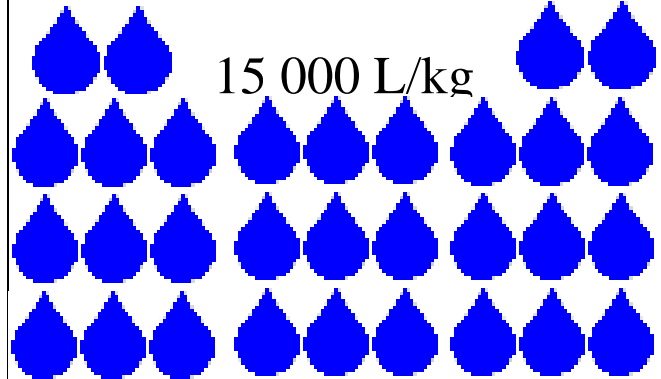
# Beef

15 000 L/kg



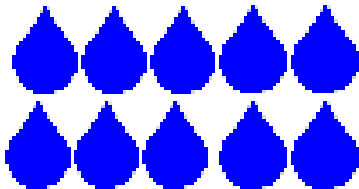
# Beef

15 000 L/kg



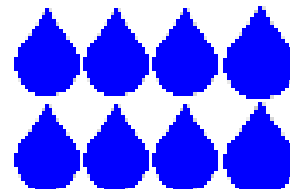
# Pork

4 800 L/kg



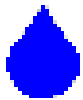
# Chicken

3 900 L/kg



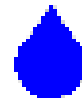
## Salmon

n/a



## Tuna

n/a



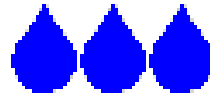
## Oregano

100 L/kg



## Milk

1 000 L/L



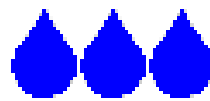
## Sugar

1 500 L/kg



## Coffee

1 100 L/L



# Tea

120 L/L



# Black Pepper

100 L/ kg



# Meal Maker: Food Information

\* Water and fertilizer use varies greatly depending on climate, soils, region, and farm practices. These numbers are not intended to be exact.

<b>Fruit</b>	<b>Origin</b>	<b>Distance (km)</b>	<b>Fertilizer (kg/ha)</b>	<b>Water (L/kg)</b>
Blueberries	Local	100	None (Wild) 1	100 1
Raspberries	Local	100	None (Garden) 1	100 1
Apple	B.C.	800	270 3	500 2
Orange	Florida	4 500	250 3	500 2
Kiwi	New Zealand	12 500	250 3	500 2
Banana	Costa Rica	5 900	480 5	505 2
<b>Vegetable</b>	<b>Origin</b>	<b>Distance (km)</b>	<b>Fertilizer (kg/ha)</b>	<b>Water (L/kg)</b>
Beets	Local	100	None (Garden) 1	200 1
Green Bean	Local	100	None (Garden) 1	200 1
Asparagus	California	1 900	75 1	200 1
Carrots	California	1 900	50 1	200 1
Potato	Idaho	1 600	100 2	200 1
Red pepper	Holland	6 900	70 1	200 1
<b>Grain</b>	<b>Origin</b>	<b>Distance (km)</b>	<b>Fertilizer (kg/ha)</b>	<b>Water (L/kg)</b>
Wheat	Local	100	100 2	1 000 3
Barley	Local	100	100 2	1 300 3
Oats	Ontario	3 100	75 1	1 000 3
Corn	California	1 900	125 2	900 2
Rice	India	10 500	100 2	3 400 7
Quinoa	Peru	8 400	50 1	1 000 3
<b>Meat</b>	<b>Origin</b>	<b>Distance (km)</b>	<b>FCR</b>	<b>Water (L/kg)</b>
Beef	Local	100	10 : 1 11	15 000 31
Beef	Local	100	10 : 1 11	15 000 31
Pork	B.C.	800	4 : 1 5	4 800 10
Chicken	Ontario	3 100	2 : 1 3	3 900 8
Salmon	B. C.	800	1.1: 1 1	n/a 1
Tuna	Thailand	11 500	n/a 1	n/a 1
<b>Item</b>	<b>Origin</b>	<b>Distance (km)</b>	<b>Fertilizer (kg/ha)</b>	<b>Water</b>
Oregano	Local	100	None (Garden) 1	100 1
Milk	Local	100	FCR = 10:1 5	1000 L/ L 3
Sugar	Brazil	10 000	200 3	1 500 L/ kg 4
Coffee	Brazil	10 000	150 2	1 100 L/L 3
Tea	India	10 500	225 3	120 L/ L 1
Blk pepper	Vietnam	10 500	70 1	100 1

# Research Summary

## Getting started

If we take responsibility for the impacts of the production, packaging, processing, transportation, and handling of our food, consuming food is one of our most polluting daily activities (*Carlsson-Kanayama et al., 2002*)

## Meal planning and food waste prevention

About one quarter of our household waste is composed of organic food waste (*Garnett, 2006*). In Edmonton, it's 23% (*Edmonton Waste Management Branch, 2003*).

It's been shown that more than half of this food waste, which consists mostly of fresh fruits and vegetables could be avoided with better shopping and meal planning. One study, determined that up to 70kg of food waste per person could be prevented each year with proper planning.

*(Desrochers and Shimizu are referring to a study conducted in the UK by the Waste and Resources Action Program which analyzed the trash of 2, 138 households).*

*(Meal planning tips based on information available at [www.lovefoodhatewaste.com](http://www.lovefoodhatewaste.com))*

Meal planning cannot completely eliminate food waste, but throwing it out is not your best option. Landfills are not giant composters; it can take decades or even centuries for materials to break down. (*Alberta Environment, 2006*)

## Use reusable grocery and produce bags

The average Canadian uses 272 plastic grocery bags a year. In Canada, collectively, we use over nine billion plastic bags a year. That is equivalent to 17 000 bags each minute. (*Statistics from Reusable Bag Program, Origin: [www.greenerfootprints.com](http://www.greenerfootprints.com) and [www.resuablebags.com](http://www.resuablebags.com)*)

## Walk to the grocery store

Our own transportation to the grocery store also has a big impact. In one study, driving a car to and from retailers where the food is purchased contributed almost half of the vehicle miles associated with the food items.

*Desrochers and Shimizu, 2008 are referring to a study in the UK which calculated that consumers driving cars to and from the retailers where they purchase their food contributed 48 percent of vehicle miles associated with their food purchases*

To make matters worse, both the number of trips people make to the grocery store each week, and the distance they travel to the store has been increasing.

*Jones, 2002, is referring to a study in the UK which found that from the mid-eighties to the mid-nineties, the distance traveled to the grocery store had increased by 57%, while the average number of trips/week increased from 1.68 to 2.42. (Although these studies were completed in the UK, the recent big box phenomena is likely producing similar findings in North America)*

### **Choose products with minimal processing and packaging**

These days, almost 75% of the food we consume has been processed in some way (*Pirog et al., 2001*)

A product is less environmentally friendly if it is preprocessed or frozen because these techniques are energy intensive (*Desrochers and Shimizu, 2008*). Such products include frozen dinners and ready-prepared fruits and vegetables which are processed and frozen, then remain frozen during transport and storage.

Shop the outer edge of the grocery store. This is where you will find fresh produce, dairy, and meats which have had little or no processing. (*Tip from: In Defense of Food, Michael Pollan*)

In Canada, packaging produces 30% of the waste-stream going into landfills (*Eco-Efficiency Centre, 2008*).

### **Food miles**

The average food item travels between 2,000– 2,400 km to reach us (*Hendrickson, 1996, has summarized the findings of various studies and adds that this estimate is based on an over simplified model and that the actual distances traveled is likely greater*).

Food miles can be a good indicator of the transportation of a product however; this does not translate directly to environmental impact or carbon emissions because not forms of transport are equal.

*Rama and Lawrence, 2008 argue that a realistic assessment of environmental impact must reflect the greenhouse gases created from both transportation and production. They also point out that different means of transportation produce different amounts of greenhouse gases depending on fuel.*

For example, air transport produces the most greenhouse gases but very few food products are shipped by air.

*The transport of food by air has the highest CO<sub>2</sub> emissions per tonne and although air freight of food accounts for only 1% of food ton kilometers, it produces 11% of the food transport CO<sub>2</sub> emissions (Sim et al., 2007).*

Sea freight is a much more efficient and common means of transport for international produce.

*In a study of intercontinental transport of foods, freight aircraft produced 8509.68 gCO<sub>2</sub>/kg, while shipping foods in bulk by sea vessel produces 2399.29 gCO<sub>2</sub>/kg (Saunders and Hayes 2007).*

The emissions produced in truck transportation vary dependant on load size and vehicle type.

*Larger trucks, with higher load factors, generate lower emissions for conventionally sourced produce (Saunders and Hayes 2007).*

It is also important to understand that transportation represents only a small portion of the greenhouse gas emission of food products (about 11%).

*The GHG emissions associated with food are dominated by the production phase, contributing 83% of the average U.S. household's 8.1 t CO<sub>2</sub>e/yr footprint for food consumption. Transportation as a whole represents only 11% of life-cycle GHG emissions, and final delivery from producer to retail contributes only 4% (Weber and Matthews, 2008).*

Consider a tomato grown in California, another grown near Edmonton in a greenhouse, and third grown in a garden near Edmonton. This example demonstrates how heating and/or cold protection technologies for production can require greater energy what is associated with the transportation of those products from further locations. So while eating locally can be beneficial, it only when local is also seasonal.

*For example Hospido et al., 2009, demonstrated that importing field-grown lettuce to the UK during winter produced fewer greenhouse gas emissions than lettuce produced regionally in protected systems at that same time (0.4–0.5 vs. 1.5–3.7 kg CO<sub>2</sub>-eq/kg lettuce) due to heating. In that same study, lettuce study, locally field-grown lettuce had the lowest overall environmental impact.*

*Another example: New Zealand is located in the southern hemisphere where the growing season coincides with the northern hemisphere's winter. Shipping freshly picked New Zealand apples and selling them quickly to UK consumers during their winter season entails less greenhouse gas emissions than the purchase by UK consumers of UK apples that have been in storage for several months (Saunders et al. 2006).*

## Organic foods

Typically, the production phase of food requires the most energy and produces the most greenhouse gases. In fact producing the food items contributes about 80% of the greenhouse gas emissions associated with the items.

*The GHG emissions associated with food are dominated by the production phase, contributing 83% of the average U.S. household's 8.1 t CO<sub>2</sub>e/yr footprint for food consumption. Transportation as a whole represents only 11% of life-cycle GHG emissions, and final delivery from producer to retail contributes only 4% (Weber and Matthews, 2008).*

The aspect of food production that requires the most energy is fertilizer production. (Marlow et al., 2009)

There are various different types of fertilizer but the dominant one is nitrogen.

*By far nitrogen fertilizer production is the largest energy input. Nitrogen fertilizers require about 10 times more energy to produce per ton than phosphorous and potassium fertilizers, and they typically account for 55–65% of on-farm energy use for high yield crops (Khan and Hanjra, 2009).*

The second way depends on bacteria in the soil but the natural fertility of our soils has been depleted due to intensive farming. Using pesticides decreases the ability of these soil bacteria to fix the much needed nitrogen and make us dependant on commercially produced fertilizers.

*The natural fertility of soil in the United States has been depleted and has been replaced by application of chemical fertilizers (Marlow et al., 2009). Synthetic chemicals compromise symbiotic nitrogen fixation, thus increasing dependence on synthetic agrochemicals and unsustainable long-term crop yields (Khan and Hanjra, 2009).*

We create our own ammonia to make fertilizer and it takes A LOT of energy! The production of a kilogram of N requires about 60 mega joules of energy. For comparison, a liter of diesel fuel has an energy content of about 37 mega joule. Natural gas is the primary source for this energy. That is why fertilizer is called the fossil fuel of food.

*Most fertilizer energy use is attributable to the production of nitrogen fertilizers with natural gas. Natural gas is the principal energy resource for creating anhydrous ammonia (Gellings et al., 2004). An ammonia factory requires very high pressures and temperatures to accomplish what bacteria accomplish at ordinary pressures and temperatures (Socolow, 1999). Producing ammonia is a very energy intensive process. Nitrogen production requires roughly 70 000 kJ per pound of nutrient (30 000 Btu per kg) (Gellings et al., 2004). In 1999, over 15 million metric tons (17 million short tons) of ammonia were produced in the United States, with almost 90% of that going to the fertilizer industry (Gellings et al., 2004). Depending on the type of nitrogen fertilizer produced and the efficiency of the process, production of a kilogram of N requires from 51 to 68*

*MJ (1 mega joule = 106 joules) of energy (McLaughlin et al., 2000). For comparison, a liter of diesel fuel has an energy content of about 37.4 MJ (McLaughlin et al., 2000).*

The production of red meat creates about 150% more green house gases than the production of chicken or fish (*Weber and Mathews, 2008*).

As far as other crops go, bananas have the highest use of fertilizer of any crop world wide. Citrus fruits, vegetable crops, and tea are also in the top ten. Cereals requires less fertilizer but grown over large area and thus contribute to greater fertilizer use worldwide (FAO, 2006).

Organic agriculture refers to a farming system which bans the use of chemicals such as synthetic fertilizers and pesticides and the use of GMOs. Instead, soil fertility is enhanced by crop rotation, intercropping, polyculture, and mulching. Pests control is achieved by using appropriate cropping techniques, alley insects and natural pesticides (mainly extracted from plants. Weed control is managed by appropriate rotation, seeding timing, mechanic cultivation, mulching, transplanting, flaming, etc

*(Description of organic agriculture taken from Gomerio et al., 2008)*

Organic agriculture is also beneficial because it increases biodiversity, decreases soil erosion, in addition to not requiring energy intensive fertilizers. (*Pazderka et al, 2003*) However, national and international trade of organic products has resulted in increased transportation and carbon emissions (*Pimentel, 2007*). This is especially true in Canada where much of the organic produce available is imported (*Pazderka et al., 2003*). So there is a trade off.

*Meisterling 2009, compared the Lifecycle Analysis of organic wheat and conventional wheat. While organic wheat produces less greenhouse gas emissions in it production, it was transported an additional 420km. The resulting greenhouse gas emissions of the two products were similar.*

### **Reduce Red Meat Consumption**

Unfortunately, our present consumption is unsustainable. In many places, groundwater and streams are over exploited and river basins around the world being depleted (*Lundqvist et al., 2008*). Agriculture is the largest human use of water (*Lundqvist et al., 2008*).

Keep in mind that these numbers are averages and that the actual water requirement of a food varies widely depending on climate, soils, and farm practices. For example, if this cow grazed on native prairie grass species in a native pasture that wasn't irrigated, its water requirements would be very different.

*While estimates of water requirements for crop and livestock products vary widely, most studies agree on the main points..... to produce one kilogram of meat takes 5,000–20,000 liters, mainly to grow animal feed. The production of meat from animals fed on irrigated crops has a*

*direct impact on water resources, much more so than if the meat is derived from grazing animals (Lundqvist et al., 2008)*

Looking at water and fertilizer, red meat products are the greatest contributors to greenhouse gases and water use.

*The production of red meat creates about 150% more green house gases than the production of chicken or fish (Weber and Mathews, 2008). Meat production and processing also requires a disproportionate amount of water (Pazderka et al., 2003).*

While a vegetarian diet would be ideal, the most significant environmental benefits can be achieved by simply reducing red meat consumption.

*Weber and Mathews, 2008 found that shifting only one day per week's worth of calories from red meat to chicken, fish, eggs, or a vegetable-based diet achieves more greenhouse gas reduction than buying all locally grown food.*

In Canada, we love meat. On average, we consume about 276 grams of meat daily (FAO, 1999). This is almost double the 150 grams per day recommended by the Canada Food Guide. (Health Canada, 2008)

## **How to**

When you support local farmers, the bonds between urban dwellers and producers are strengthened. As a result, these producers will be more responsive to consumer demands for more sustainable agricultural practices (Pazderka et al., 2003).

According to the U.S. Food and Drug Agency (FDA), approximately 35 per cent of purchased foods have detectable pesticide residues, with one to eight percent of these with levels above the legal limit (Wilson and Tisdell, 2001).

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# Green Grocery Shopping Tip Sheet



## Eliminate food waste

- ✓ Decide what meals you will eat for the next week before you shop
- ✓ Make your shopping list based on the meal you plan to eat
- ✓ Create standard grocery lists for recipes that you use often
- ✓ Cook appropriate portions, pay attention to how much your family eats
- ✓ Store your food properly
- ✓ Use your leftovers, and do it with style so that you can enjoy it

Visit [www.lovefoodhatewaste.com](http://www.lovefoodhatewaste.com) , here you will find:

- Find recipes organized by the ingredients you want to use up
- Cook once, eat twice recipes
- Best storage techniques for various different kinds of foods
- Recipes with their shopping list attached
- A portion planner that tells you how much to cook based on the food and the number of adults and children.

## Remember reusable grocery bags

- ✓ Write it on your shopping list
- ✓ Store it in your car
- ✓ Hang it on your door knob



## Green transportation

- ✓ Walk, bike, or take public transportation to the store
- ✓ Stop on the way home from work, don't make a separate trip

## Reduce packaging

- ✓ Look for fruits and vegetables that are not pre-packaged
- ✓ Look for packaging made from recycled materials or that is recyclable
- ✓ Purchasing non-perishable items in bulk

## Reduce processing

- ✓ Shop the outer edge of the grocery store
- ✓ Avoid frozen ready-made meals
- ✓ Avoid ingredients that you cannot pronounce

### Purchase from local producers

- ✓ Visit you local farmer’s market
- ✓ Ask questions about how your food was produced
- ✓ Pick your own berries at u-pick farms

Visit <http://www.albertafarmfresh.com> to find producers in your area

### Eat seasonally available foods from Alberta

Asparagus	May, June
Beans	July, August, September
Beets	July through March
Brussel Sprouts	September, October, November
Cabbage	July through March
Carrots	July through March
Cauliflower	July, August, September
Celery	August, September
Corn	July, August, September
Cucumbers	July, August, September
Lettuce	June, July, August, September
Onions	August through March
Peas	June, July, August, September
Peppers	July, August, September
Pumpkins	August through November
Radishes	June, July, August
Rutabagas	August through March
Tomatoes	June, July, August, September



### Organic foods

- ✓ The farmer’s market is a great source of local and organic foods
- ✓ In Canada, foods that are at least 95% certified organic will have this logo
- ✓ Use the shoppers guide to pesticides (see below) to avoid food that may have higher level of contaminants.



### **Eating meat**

- ✓ Follow the Canadian Food Guide's recommended servings of meat
- ✓ Include meat alternatives such as eggs and nuts
- ✓ Consider replacing some servings of beef with chicken, pork or fish
- ✓ Better yet, purchase grass fed or organic beef from local producers
- ✓ Use the seafood guide (included) to make environmentally conscious purchases

### **Be your own producer**

- ✓ Plant a vegetable or herb garden
- ✓ Join a community garden find one at: <http://www.edmcommunitygardens.org/>
- ✓ Hunt, fish, or berry pick

**SHOPPER'S GUIDE TO PESTICIDES**

<b>DIRTY DOZEN</b> <i>Buy These Organic</i>		<b>CLEAN 15</b> <i>Lowest in Pesticides</i>	
<b>WORST</b>	1 Peach	<b>BEST</b>	1 Onion
	2 Apple		2 Avocado
	3 Bell Pepper		3 Sweet Corn
	4 Celery		4 Pineapple
	5 Nectarine		5 Mango
	6 Strawberries		6 Asparagus
	7 Cherries		7 Sweet Peas
	8 Kale		8 Kiwi
	9 Lettuce		9 Cabbage
	10 Grapes (Imported)		10 Eggplant
	11 Carrot		11 Papaya
	12 Pear		12 Watermelon
			13 Broccoli
			14 Tomato
			15 Sweet Potato

ENVIRONMENTAL WORKING GROUP  
www.foodnews.org

## Why Should You Care About Pesticides?

The growing consensus among scientists is that small doses of pesticides and other chemicals can cause lasting damage to human health, especially during fetal development and early childhood. Scientists now know enough about the long-term consequences of ingesting these powerful chemicals to advise that we minimize our consumption of pesticides.

## What's the Difference?

EWG research has found that people who eat the 12 most contaminated fruits and vegetables consume an average of 10 pesticides a day. Those who eat the 15 least contaminated conventionally-grown fruits and vegetables ingest fewer than 2 pesticides daily. The Guide helps consumers make informed choices to lower their dietary pesticide load.

## Will Washing and Peeling Help?

Nearly all the studies used to create these lists assume that people rinse or peel fresh produce. Rinsing reduces but does not eliminate pesticides. Peeling helps, but valuable nutrients often go down the drain with the skin. The best approach: eat a varied diet, rinse all produce and buy organic when possible.

## How Was This Guide Developed?

EWG analysts have developed the Guide based on data from nearly 87,000 tests for pesticide residues in produce conducted between 2000 and 2007 and collected by the U.S. Department of Agriculture and the U.S. Food and Drug Administration. You can find a detailed description of the criteria EWG used to develop these rankings and the complete list of fruits and vegetables tested at our dedicated website, [www.foodnews.org](http://www.foodnews.org).

## Learn More at FoodNews.org

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## Healthy Choices for Healthy Oceans

Your consumer power can help the health of our oceans. Many Canadians are eating seafood for its health benefits. By buying green-listed seafood you are supporting sustainable fishing that can be maintained for years to come.

But don't stop here! Share your seafood smarts—download copies of Canada's Seafood Guide for your friends and get action updates at [www.seachoice.org](http://www.seachoice.org)

## How To Use This Card

Keep this wallet card with you—it will help you make more sustainable seafood choices. Some seafoods are listed in more than one column: look for the bolded term that shows where it is from or how it was caught. When you shop and dine, always ask:

- What type of seafood is this?
- Where was it fished or farmed?
- How was it caught or farmed?

Then check the listings on the card and the explanation of our traffic-light colour codes. Seafood that could contain harmful levels of toxins is marked by the symbols: ◇=mercury, and ⊖=PCBs, dioxins and pesticides.

If the seafood doesn't appear here, look for it in our database at [www.seachoice.org](http://www.seachoice.org)

SeaChoice is an Initiative of Sustainable Seafood Canada:



# Canada's Seafood Guide



## Best Choice

Catfish (US) *farmed*  
 Caviar/ Sturgeon *farmed*  
 Clams *farmed*  
 Cod: Pacific (US) *bottom longline, jig, pot*  
 Crab: Dungeness  
 Fish sticks: Pollock (AK)  
 Haddock (Canada) *bottom longline*  
 Hake: Pacific (Canada)  
 Herring: Atlantic (US), Pacific (Canada)  
 Imitation crab: Pollock (AK)  
 Lobster: American (Atl. Canada)  
 Lobster: Rock, Spiny (Aus., US, Western Baja)  
 Mussels *farmed*  
 Oysters *farmed*  
 Pollock (AK)  
 Sablefish (AK, BC)  
 Sardine: Brisling, Sprats (US)  
 Shrimp/ Prawns: Sidestripe, Spot (BC) *trap-caught*  
 Swordfish (Atl. Canada) *harpoon* ◇  
 Tilapia (US) *farmed*  
 Trout: Rainbow *land-based farmed*  
 \*Tuna *troll-caught* ◇

## Some Concerns

Catfish/ Tra/ Basa (Int'l) *farmed*  
 Clams: Atlantic soft shell (Atl.), Geoduck (US Pac.) *wild*  
 Cod: Pacific (Canada, US) *trawl*  
 Crab: King, Snow (Canada, US)  
 Haddock (US) *bottom longline*  
 Halibut: Atlantic, Pacific (Canada) *bottom longline* ◇  
 Lingcod ◇  
 Lobster: American (US Atl.)  
 Mahi mahi/ Dolphinfish/ Dorado  
 Mussels *wild*  
 Octopus (US)  
 Oysters *wild* ⊖  
 Sablefish (CA, OR, WA)  
 \*\*Salmon: Pacific *wild*  
 Scallops: Sea (NE Atl. US)  
 Shark (US Pac.) ◇  
 Shrimp (Atl., Gulf of Mexico) *trawled*  
 Sole (Pac.) ⊖  
 Squid: Jumbo, Humboldt, Shortfin, Summer (Int'l)  
 Swordfish (US Atl.) *pelagic longline* ◇  
 Trout: Rainbow (Canada) *open-cage farmed*  
 \*Tuna (US) *pelagic longline* ◇

## Avoid

Caviar/ Sturgeon (Int'l) *wild* ⊖ ◇  
 Chilean seabass/ Patagonian toothfish ◇  
 Clams (Atl.) *dredged*  
 Cod: Atlantic  
 Crab: King (Russia)  
 Flounder/ Sole: (US Atl.), Arrowtooth (Canada) ⊖  
 Grenadier  
 Haddock *trawl*  
 Halibut: Atlantic (US) *trawl* ◇  
 Lobster: Spiny (Int'l except Aus. + US)  
 Monkfish ◇  
 Orange roughy ◇  
 Rockfish/ Snapper *trawl* ◇  
 Salmon: Atlantic, Chinook *farmed* ⊖  
 Scallops: Sea (Canada, Mid-Atl. US)  
 Shark (Atl., Int'l) ◇  
 Shrimp/ Prawn: Tiger, White (Int'l)  
 Swordfish (Canada, Med., SE Atl.) *pelagic longline* ◇  
 Tilapia (China, Taiwan) *farmed*  
 \*Tuna (Pac. Int'l) *pelagic longline* ◇  
 Tuna: Bluefin ◇

## Alert Codes

**Green = Best Choice.** This species is currently fished/ harvested sustainably and represents a best choice. Enjoy, while supporting responsible fishing and coastal livelihoods.

**Yellow = Some Concerns.** Seafood that should be consumed infrequently, or when a green choice is not available. There are conservation concerns with the current populations or practices in this fishery.

**Red = Avoid.** Do not purchase these fish for now. They come from sources that have a combination of problems—habitat damage, discard of unwanted species, poor management, low populations, can be easily harmed by fishing or may be listed by governments as Endangered.

**Health advisory.** Regular consumption of one or more species in this listing poses a health threat from ◇ mercury or from ⊖ PCB, dioxins or pesticides. For further information visit: [www.seachoice.org](http://www.seachoice.org)

\*The category "Tuna" includes Albacore, Bigeye, Skipjack and Yellowfin tunas, but not Bluefin. \*\* Check seasonal recommendations for salmon at [www.seachoice.org](http://www.seachoice.org) Version: 04/2008  
 Abbreviations: AK=Alaska, Atl=Atlantic, Aus=Australia, BC=British Columbia, CA=California, Int'l=International, NE=Northeast, Med=Mediterranean, OR=Oregon, Pac=Pacific, SE=Southeast, US=United States, WA=Washington.