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# ***Sustainability@TheTop***

.....

## ***less waste workshops***



**[www.sustainabledarwin.com.au](http://www.sustainabledarwin.com.au)**



City of Darwin is committed to reducing waste and improving the Darwin environment. Waste is a topic that is often overlooked and poorly understood. By creating discussion around waste we hope this booklet will encourage you to make small changes at home to help reduce the waste we all create.

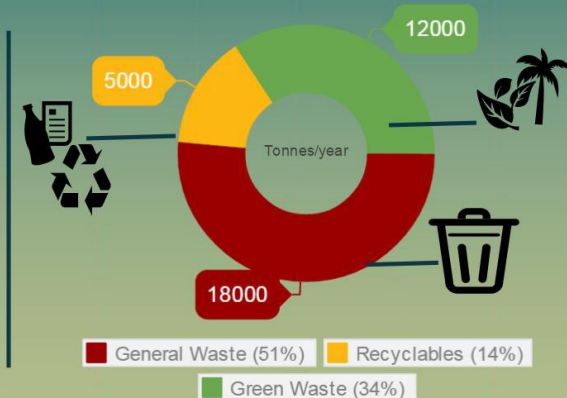
# DOMESTIC WASTE

## DID YOU KNOW?

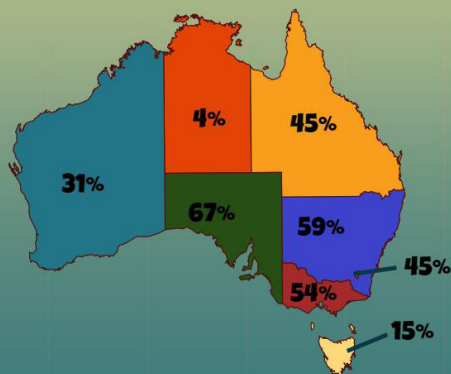
Every person in Darwin throws away



## Darwin's Waste



## Recycling rates Australia



## NT the worst recyclers!



Less than 4% of waste in Northern Territory is recycled

National  
Average





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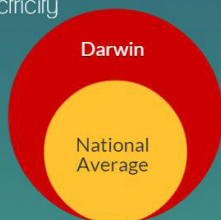
## TRASH TO TREASURE

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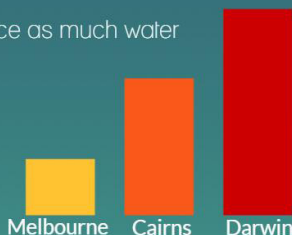
# REDUCE YOUR USE

## DID YOU KNOW THAT DARWIN USES.....

25% more electricity



Twice as much water



## SAVE WATER

fix leaks



**SAVES** 12,000L/year

use tap timers



17L/min

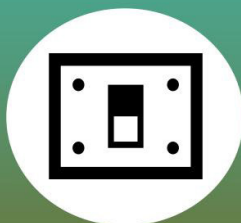
drip irrigation



35%

## SAVE POWER

turn off at switch



**SAVES** 10%

switch to LED globes



80%

look for star ratings



50%



# Food Waste

With over 870 million people going hungry every day it's time to rethink the food we throw out. Apart from the wasted resources required to grow, package and transport your food every item you throw away is costing you money.

## Food Waste

Australians waste  
4million tonnes of  
food each year



Wasted food  
equals 1 in every  
5 bags of  
groceries  
bought

**\$8Billion**

of edible food is thrown out every  
year that's over \$1036 per household



**40%**

**HOUSEHOLD  
WASTE IS  
FOOD**

## Why do we waste?



We cook too  
much



Dont reuse  
left overs



Forget a  
shopping list



Food goes  
past use by

# 10 ways to never waste food again

1. Plan meals and use a shopping list so you **don't buy** what you **don't need**.
2. **Freeze excess** fruit and vegetables for smoothies and soups or pickle it.
3. Blanch cut vegies and freeze in **individual portions** for quick side dishes or to add to soups and stews.
4. Dehydrate fruit or **make fruit leather**. Even without a food dehydrator, you can do this in a low oven.
5. Make jams, chutneys and sauces. Using the **hot water bath sterilization** method it will keep for a year!
6. Freeze **bones and carcasses** (raw or cooked) to **make stock**, add these to spring onion, carrot and celery tops you may have normally thrown away, boil in water and freeze the stock for when needed. Freeze in an **ice cube tray** for smaller ready to use portions.
7. Chop **excess herbs** and add place in plastic containers or zip lock bags to freeze. Soft herbs, such as basil, will turn black, but the flavour will still be great.
8. Still too many herbs? Make **pesto** or **dry them** in a very low oven.
9. **Slow roast** Mediterranean style vegetables such as tomatoes, capsicums and zucchini, cover in olive oil and they will keep for weeks.
10. If you cant think of a way to freeze it, pickle it or store it maybe you need a worm farm or **compost bin** to decompose excess food into soil improver for the garden.



# Top 5 Pickling Tips

1. Pickling food is so **versatile** and **easy** to adjust to your own personal taste. Add more sugar for a **sweet and sour** punch or more salt for a **brine-y** flavour.
2. Try different vinegars (except balsamic) for different flavours. Use rice vinegar for **Asian style pickle** or cider and malt vinegar for an English fish 'n' chip shop style.
3. Try **warming** the water/vinegar mix to **dissolve** the salt and sugar. This also makes spices more **aromatic** and **flavoursome**.
4. **Salt your vegetables** for an hour or two to draw out **excess water**, pat vegetables dry and **remove excess salt** before placing into jar and omit added salt in brining liquid. This will ensure **crisper** pickled vegies.
5. If adding **whole garlic cloves** simmer these for 5 minutes on their own in water and allow to cool before placing in jar. This removes the sulphur content and prevents discolouring.





# Quick Sticks Pickles

## INGREDIENTS

2 cups vegetables  
(such as carrots, onions,  
cucumbers, cauliflower  
florets, chillies etc.)

3 cups vinegar  
(white, rice or cider)

1 cup water

3 tsp sugar

1 tsp salt

1 Tbl spices  
(such as peppercorns,  
mustard seeds, celery  
seeds, coriander seeds,  
cloves, bay leaves).

Optional fresh herbs  
(sprigs of rosemary, dill or  
whole garlic cloves)



## METHOD

1. Cut vegetables into pieces small enough for the jar you are using.
2. Pour the water and vinegar together in a jug using a 3:1 ratio. Add sugar and salt, mix to combine until dissolved.
3. Pack cut vegetables tightly into a sterilised jar sprinkle in desired herbs or spices.
4. If using garlic cloves simmer for 5 mins in water allow to cool before placing in jars.
5. Fill jars to top with vinegar mixture and seal. Pickles will be ready to use after 3 hours but will develop in flavour the longer you leave them.

**Pickles will last for several weeks, when stored in the fridge.**



# Green Mango Chutney

## INGREDIENTS

4 cups green  
(under ripe) mangoes -  
peeled, seeded & diced

1/2 cup sultanas

1/4 cup red chillies,  
finely diced

6 cloves garlic, crushed

1 1/2 Tbl  
grated fresh ginger

1 1/2 tsp lemon zest

1 Tbl black pepper

2 Tbl golden syrup

1 small cinnamon stick

4 whole cloves

1 cup water

1 cup cider vinegar



## METHOD

1. Place the mango, sultanas, chillies, garlic, ginger, lemon zest, black pepper, golden syrup, cinnamon and cloves into a large saucepan.
2. Pour in the water and vinegar. Bring to a boil then reduce heat to medium/low and simmer uncovered until a jam like consistency is attained; about 30 minutes.
3. Stir frequently while cooking. Once thickened, store in airtight container cool and store in the fridge.

**This chutney may also be frozen.**



# HOW TO LOVE LEFTOVERS

AND REDUCE WASTE



Planning ahead  
saves time



make a  
list



Keep staple food  
items handy



know  
what you are  
throwing away



be creative



check use by date



store things  
correctly



cooking for  
2-3 people?  
halve recipes



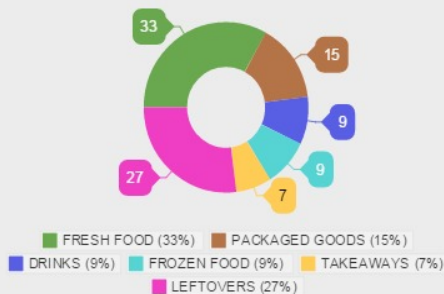
make a worm farm





# Wasted Food = Wasted \$\$\$

**\$8 BILLION EDIBLE FOOD THROWN OUT EVERY YEAR**



Households throw out equivalent to 100,000 cows per year



1KG BEEF

**\$30**

**\$30**



50,000L  
WATER



10KG  
GRAIN



170KM  
LARGE FAMILY CAR

[www.sustainabledarwin.com.au](http://www.sustainabledarwin.com.au)

# Shelf Life of Food

Product	Fridge	Freezer	Pantry	Tip & Tricks
Milk	7-10 days	3 months	-	If freezing ensure container has enough room to allow for expansion.
Cheese	1 month	6 months	-	In general, the harder the cheese the longer it keeps.
Eggs	2-4 weeks	6 months	-	To freeze eggs it is best to remove from shell and pierce the yolk and store in airtight container or heavy duty freezer / zip lock bags.
Vegetables	7 days	12 months	-	Root vegetables, including onions, store best at cool temps. However loss of moisture in the fridge ages vegetables. So higher moisture items like celery or spinach or lettuce are best stored in plastic bags or containers to minimise moisture loss and wilting.
Fruit	7 days	9 months	-	Leave fruit on bench to ripen then place in fridge to keep longer. Place in a paper bag with a banana to hasten ripening.
Bannans	7 days	9 months	-	Enzymes released by bananas cause them to ripen quickly. Separating individual bananas will slow the ripening process and increase their shelf life. Banana skin will go brown if placed in the fridge but are still edible. Peel bananas before freezing
Fresh Herbs	6 days	6 months	-	Place chopped herbs in zip lock bags to have them easily accessible to add to dishes.
Dried herbs and spices	-	-	2 years	Although dried herbs and spices are long lasting they lose potency the older they get and are always better fresh so buy small amounts to ensure freshness and quality.
Chicken	2 days	6 months	-	Chicken should be defrosted in the fridge
Beef/ Lamb	2 days	6 months	-	Try to vacuum seal (remove air) to prevent freezer burn
Seafood	1-2 days	3 months	-	Don't refreeze if you have defrosted
Deli Meat	4 days		-	If you freeze best to only use for cooking best not eaten raw.
Butter	3 months	9 months	-	To freeze butter, wrap tightly in aluminium foil or plastic wrap.
Cooked Pasta/ Rice	3 days	3 months	-	Cooked pasta and rice should be placed in the fridge within 2 hours of cooking to minimise bacteria growth.



What do your Festive season left overs look like?

Too much ?????



or



Have you thought about these?

#### Salad



Coleslaw? Wrap into springrolls or on top of sandwiches or tacos (great with fish), add it to a batter and make savoury pancakes or fritters.

Green salad? Pop in a blender add tomato juice, and Viola! gazpacho



#### Meat

antipasto, fried rice, pizzas, frittata, pies, burritos casseroles, pasties patties, pasta sauce, stir fry, biriyani, crepes, stock and soups

*"If more of us valued food and cheer and song above hoarded gold, it would be a merrier world."  
— J.R.R. Tolkien*





# Chicken Pad Thai

## INGREDIENTS

150g pad Thai noodles  
300g cooked chicken,  
sliced

2 cloves garlic, finely  
chopped

2 tblspn spring onions,  
finely chopped

1-2 tblspn peanut oil

2 tblspn chive, chopped

2-3 tsblspn brown sugar

½ cup unsalted peanuts,  
chopped

2 tblspn fish sauce

Juice of 1 lemon

1 egg, lightly beaten

½ cup bean sprouts

Chopped coriander



## METHOD

1. Soak rice noodles in hot water when soft rinse in cold water drain and set aside.
2. Put oil in a fry pan and add garlic and onion.
3. Add all the other ingredients except the egg and bean sprouts.
4. Add egg slowly and continue to mix.
5. Add bean sprouts and fry for 30 secs and place in serving bowl.

Garnish with coriander.

This recipe can use a range of vegetables and chilli if desired.



# Cheats Risotto

## INGREDIENTS

2 cups cooked rice

250g leftover cooked meat  
or tin of fish

Half cup Chicken stock  
or water

1 cup frozen peas  
(or other vegie bits)

1/2 - 1 cup cream cheese

Sprinkle torn basil or sage  
leaves

parmesan if desired

## METHOD

1. Fry onion in a large sauce pan in a little butter or oil until soft (add any other raw vegies if using).
2. Add already cooked rice into the saucepan.
3. Add in your stock/water and heat the mixture over medium heat, stirring a fair bit.
4. As soon as the rice is warm, add in your frozen veg and keep stirring to cook these through. Feel free to add more liquid if you need to.
5. When the vegies are pretty much done (2-3 mins), Add in your meat, cream cheese and herbs.
6. Stir until it's all heated through and your cream cheese has melted into a nice creamy cheesy sauce.

Serve & season with black pepper or grated parmesan

This recipe can easily substitute any left over meat and vegies simply change herbs to suit the meat i.e. salami or ham use basil and sundried tomatoes or if using fish use capers, dill and lemon juice instead.



# Bread & Butter Pudding

## INGREDIENTS

4 eggs  
2 cups milk  
300ml pure cream  
1/4 cup caster sugar  
1 teaspoon vanilla extract  
1/4 teaspoon ground cinnamon  
8 thick slices white bread, crusts removed  
40g butter, softened  
1/2 cup sultanas  
1 tablespoon demerara sugar

## METHOD

1. Preheat oven to 180°C/160°C fan-forced. Grease a 5cm-deep, 17cm x 28cm (base) baking dish.
2. Whisk eggs, milk, cream, caster sugar, vanilla and cinnamon in a bowl.
3. Spread both sides of each bread slice with butter. Cut each slice in triangle halves.
4. Arrange half the bread in rows in prepared dish. Sprinkle with half the sultanas. Repeat with remaining bread and sultanas.
5. Pour egg mixture over bread. Sprinkle with sugar. Bake for 30 to 35 minutes or until golden and set. Serve.







**The Kitchen**



**The Garden**



**The Office**

*Better soil can be made from  
all the rooms in the house!*



# 4 Easy Steps for Composting

## 1 Choosing the right location and size

How much waste will you be putting in your compost bin? If you intend to put grass clippings in, you will need a fairly large bin.

Compost bins need a sunny spot that's easily accessed for filling and emptying. If using a tumbling composter keep in mind that it still may leak.

## 2 Collecting waste

Most organic waste can be put into a compost bin. Collect organic waste from your kitchen and the garden. Take care not to compost cooked food, meat, fats or oils. Be sure to chop down larger branches and sticks to ensure they break down in the same time as your other additions

## 3 Green (nitrogen) to Brown (carbon) ratio

It's important to get the mixture of green and brown waste making sure your compost heap is effective and does not smell. Green includes grass clippings and kitchen scraps. Brown is old leaves, newspaper and cardboard. The carbon (brown) should be roughly twice as much nitrogen (green)

## 4 Maturing

Making compost can take a month or a year. The timeframe depends on volume of waste, weather, and frequency of turning. The mix should be turned once a fortnight, with time between turnings long enough for the pile to heat to 60oC . Heat assists the break down of material, kills weeds, reduces the likelihood of pests and bad smells.

For static bins the waste at the bottom will be ready first as it has been there the longest. For rotating bins it will be ready at the same time as it is constantly being mixed. For these bins you will need to stop adding new waste prior to collection. When the waste has turned in to a dark, crumbly material like soil and has a natural earthy smell then you have compost and can be mixed into the soil, placed on existing soil or used in pot plants.

## Make sure your ratio is 2:1

### 2 Carbon to 1 Nitrogen

#### Brown = Carbon rich:

Straw / Hay, newspaper, dried leaves and twigs, sawdust, vacuum cleaner and drier dust

#### Green = Nitrogen rich:

Green grass clippings and vegetation, kitchen scraps, tea bags, coffee grounds and eggshells

#### Compost Don'ts

Meat, bones, fish, dairy, oils, diseased plants or plants treated with pesticide



# 4 EASY STEPS TO COMPOST

**1**  
**GET  
THE  
SPOT**



## location location location!

- ✓ sunny
- ✓ easily accessed
- ✓ can be messy



## size matters

how much will you put in here?  
garden waste will take a lot of  
space



**2**  
**GET  
THE  
STUFF**

most garden  
waste can go in  
the compost  
chop larger  
branches

**From  
the  
Garden**

**From  
the  
Kitchen**

most kitchen waste can  
go in the compost  
no cooked meats  
no fats and oils

**3**  
**GET  
THE  
RATIO**



**4**  
**GIVE  
IT  
TIME**



the right ratio of brown (carbon) to green (nitrogen) will make sure your compost works best & doesn't smell. You need twice as much brown as green.

**Brown = old leaves and newspaper**

**Green = grass clippings and kitchen scraps.**

## The waiting game

maybe a month....or a year?  
depending on your set up.  
make sure you turn it regularly  
to aerate and help it  
decompose evenly.



# 4 Easy Steps to Worm Farming

## 1 Choose the site

Pick a well-shaded spot so that your worms don't get too hot. And raise it off the ground to increase airflow underneath to keep it cool in our tropical environment

## 2 Make a worm farm or bed

If you don't want to buy a worm farm you can build one with foam boxes. Worm farms can be any size as long as they:

- ✓ Have holes in the base to allow air in and for drainage and cover (use hessian, newspaper or other material).
- ✓ A base or tray underneath will provide good drainage and catch liquid 'worm tea' that you can use on your garden.
- ✓ Make some bedding from a combination of finished compost, and soggy paper. The bedding should be torn or shredded to allow the worms to move easily. Make the bedding layer 10–15 cm deep.
- ✓ Now add worms. Spread the worms out gently on the surface and allow them to burrow down.

## 3 Collect worm food

Worms like to eat vegetable and fruit peelings, pulp from the juicer, tea bags, crushed egg shells, bread and small amounts of paper and cardboard (including egg cartons).

Worms' least favourite foods are dairy products, butter and cheese, meat, fish, fat and bones, very oily foods and citrus, onion and garlic.

Start adding your kitchen scraps regularly and in small amounts by placing them in the box. Smaller scraps are easier and quicker to digest.

## 4 Harvesting

After 3 months you can start to harvest worm tea. A rich liquid, natural fertiliser created by the worms. You can also harvest some of your worms to give to a friend. Move the worm compost all to one side of the worm farm and add fresh bedding to the empty side. The worms will migrate to the fresh bedding in a few days so the castings can be taken out and used. Make sure new scraps only go on the new bedding side.

## Make sure your worm farm is:

**Moist** yet well-drained – worms breathe through their skins which need to be kept moist. But worms can also drown if the worm farm gets too wet

**Covered** – worms don't like direct light and covering your worm farm will also discourage flies and other pests

**Not acidic** – avoid feeding your worms too many acidic foods like citrus and onion

**Feed worms lots of...**  
Coffee grounds, tea bags, vegetable and fruit scraps, eggshells and shredded paper

**Feed only small amounts of...** Cakes, rice, citrus, onions

## Do not feed!

Meat, fish, dairy, oils or fat





# 4 EASY STEPS TO WORM FARMS

## 1 GET THE SPOT



### location location location!



shady  
raised off the ground

### Make a bed

create a bed of  
shredded newspaper



## 2 GET THE STUFF

Chop it small and  
dont over feed  
stops it smelling

### Feed Me!



### Right diet

worms can eat most  
kitchen and garden  
waste!  
limit citrus and onions  
NO meat fats or oils

## 3 WORM TEA



3months you can harvest  
worm tea  
fertiliser



## 4 HARVEST TIME



### Use the compost!

6months remove  
some give to a  
friend! Worms need  
space to breed!



# Reuse & Upcycling

*It's important for us to rethink the way we use and purchase things, with a stronger focus on upcycling and reusing what we already have. Consider applying the Waste hierarchy to all your purchases.*

**AVOID:** Do I even need this new item?

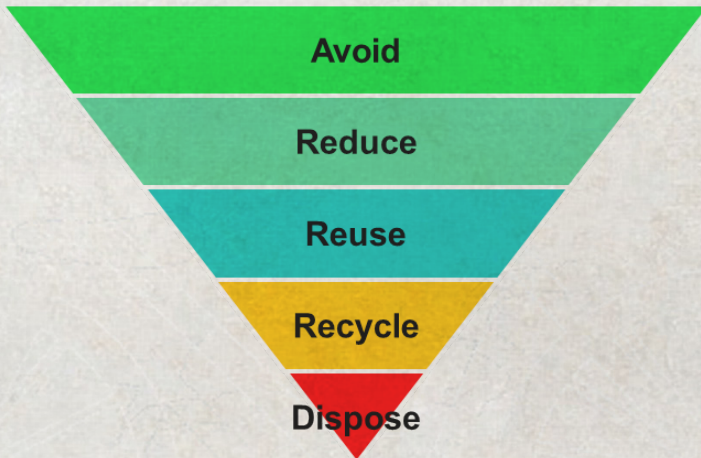
**REDUCE:** Do I need as much of this, or is there a more efficient version?

**REUSE:** How could this be used again?

Plastic bags = bin liners; takeaway containers = handy food storage

**RECYCLE:** Upcycle and repurpose items then recycle them.

**DISPOSAL:** the final resort is to put it in the bin for landfill!





*Over 4% of landfill is clothing  
that could have been recycled*

**Donate it Dont Ditch it**

*Why not update your wardrobe by swapping it!*

By  
donating  
goods it  
prevents  
items  
going to  
landfill

**Swap@TheTop**



**Swap your old stuff  
for other stuff!**



Do you know what it takes to make a T-shirt?



**RAW  
COTTON**

**76 cents**

To Farmer



22,000 L  
Water



3kg  
CO2



457gms  
Fertiliser





# TRASHION - What can we make?

Once you look at clothes and accessories differently you will be amazed what you can do to upcycle your fashion!



- Fabric paint stencils -



- Shirts into bags -



- Cut outs from stencils -



- Singlets from old shirts -



- Shirts into dresses -



- Braiding and tying -



- Cut jeans and scallop the hem -



- Gift bottle covers -





# Glass & Waste

## Did you know?

Glass is **made** from **soda** ash, **sand** and **limestone** and can be recycled an **infinite** number of times!

**Recycling** glass produces less than **half** as much greenhouse **gas** as making glass from **new** materials.

- Australia is the second highest producer of waste in the world only behind the USA.
- Each person in Australia throws out 206 glass bottles and jars each year.
- Last year Darwin residents recycled 330 tonnes of glass in their recycling bins.
- 28% of all glass bottles are placed in the general waste rubbish bin not in recycling.
- Glassware you drink out of cannot be recycled so don't put broken drink ware into your recycling bin. Just 5 grams of glass from drink ware is enough to contaminate an entire tonne of recyclable glass.
- Crushed recycled glass (fines) can be used as a substitute for sand in concrete and is used by City of Darwin as road base.
- 25% of new jars and bottles are made from recycled glass.



# What can we make?

Once you look at empty bottles differently and learn how to cut glass you will be amazed what you can do!



Chandelier



Soap dispenser



Painted



Oil dispenser



Candelabra



Self watering planters



Glasses



Etched Glasses

# Glass Cutting



## In 5 easy steps

1. Clean bottles including removing labels
2. Using a glass cutter etch a score line ensuring it is one clean line
3. Run hot to boiling water over the etched line rotating the bottle as you pour
4. Immediately submerge the bottle in ice cold water
5. Repeat steps 3 & 4 as necessary until glass splits in two





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Northern Territory  
Environment Protection Authority



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