COMPOSTING FOR BEGINNERS!

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WASTE IS MY RESOURCE

WHAT IS COMPOST?

Composting is commonly called Nutrient Cycling (or Nature's Recycling)

'Compost is a whole universe of diverse soil food web organisms", Jeff Loenfels, Teaming with Microbes

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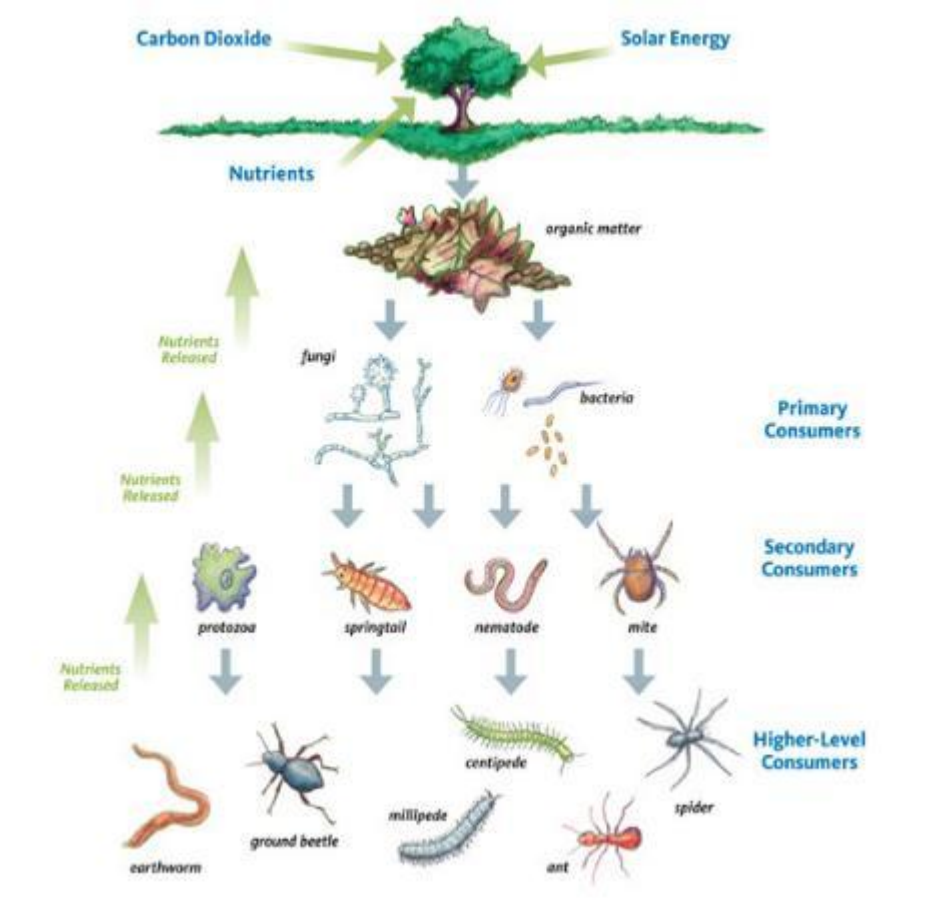
HOW DOES IT WORK?



Composting is a natural process that involves macroscopic (visible) and microscopic creatures (invisible), eating organic matter. They turn the organics into humus (carbon) and also release plant soluble enzymes, minerals and amino acids

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WHY SHOULD WE COMPOST?

- *Over 50% of household waste is organic*
- *Closes the waste loop, reduces waste in landfill*
- *Feeds plants through addition of microbes*
- *Reduces spread of plant disease reducing pesticides*
- *Reduces use of chemical fertilisers*
- *Increases aeration of soil*
- *Increase the water holding capacity(carbon sponge)*
- *Reduces salinity*

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HOW DO WE COMPOST

- *Domestic*
- *Industrial (FOGO bins)*

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DOMESTIC COMPOSTING

Most home composting is referred to as cold compost ...below 60 degrees celsius

Cone or Gedye Bin

Tumbling composters

Worm Tubes

Bokashi Bin

Compost Bays

Vermicomposting

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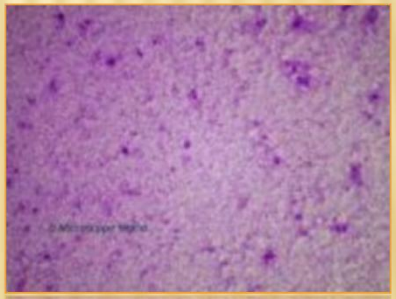
AEROBIC AND ANAEROBIC COMPOSTING

Aerobic, meaning oxygen is present
Anaerobic, meaning low or no oxygen present in the compost

- Aerobic composting is associated with compost cones, tumblers, compost bays, worm tubes, worm farms

- Four Important microbes present: Bacteria, fungi, protozoa and nematodes. Essential to heathy soils and healthy plants

- Anaerobic composting is associated with Bokashi and fermented composting used in Asia (Asian Natural Farming, Korean Natural Farming)
- These conditions often associated with bad odours/ putrifying smells/bad bacteria. Properly created these conditions are fermented and support pro biotics like lactobasillus which is the basis of all Asian farming.



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ESSENTIALS OF AEROBIC COMPOSTING

1. Air
2. Water
3. Food
4. Temperature

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WHAT DO THE MICRO ORGANISMS LIKE TO EAT?

"If it was alive once , they will eat it!"
Peg Davies, Waste Education Officer, Mindarie Regional Council

1. *Fruit and vegetable scraps(N)*
2. *Bread…small amounts(N)*
3. *Tea leaves and coffee grinds(N)*
4. *Paper and cardboard, egg cartons(C)*
5. *Straw(C)*
6. *Hair(N)*
7. *Sawdust(C)*
8. *Old flowers(N)*
9. *Weeds(N)*
10. *Chipped green waste(N)*
11. *Dry prunings, leaves(C)*
12. *Grass Clippings(N)*
13. *Vacuum waste(c)*
14. *Ash(C)*
15. *Egg shells(N)*

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NITROGEN AND CARBON BALANCE

Hint:
Keep your carbon source close by in a waterproof container

1. ***Compost needs an approximate ratio of 1 part nitrogen to 30 parts carbon (depends on how wet the source is and how dense the carbon is. ie woodchips are 90% carbon, newspaper 40%)***
2. ***Sometimes these foods are referred to as browns (carbon) or greens (nitrogen). Check the previous table of what materials to put in the compost***

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WHAT NOT TO COMPOST!

1. ***Fats and oils****
2. ***Meat, Fish and dairy products****
3. ***Diseased plants***
4. ***Chemically treated wood***
5. ***Glossy Magazines***
6. ***Pet waste***
7. ***Human waste***
8. ***Weeds with a lot of seeds***

**** These organics can be processed in a bokashi bin***

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COMMON PROBLEMS AND SOLUTIONS (CONES, TUMBLERS, BAYS etc)

PROBLEM	CAUSE	SOLUTION
Smells	Too wet, acidic	Add more dry materials, turn. Add wood ash or dolomite
Flies	Tiny flies are vinegar flies and harmless Blowflies attracted by meat	Keep well covered Avoid meat or dairy products
Ants or slaters	Too dry	Add water or more moist organic matter
Cockroaches	Pretty normal!	
Vermin (rats etc)	Attracted by uncovered food	Bury cone in 10cm of dirt
Slow to breakdown	Too dry Mix of Nitrogen and Carbon not right	Add more water Add 2-3 times more carbon to nitrogen Turn more frequently

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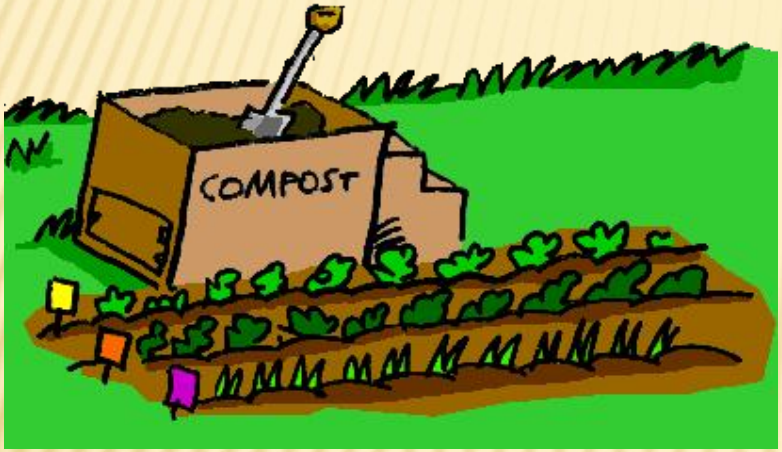
HOW TO USE COMPOST



- Bury the compost...make a trench and cover. This protects the microbes (It can be used as a mulch but it can become hydrophobic and the light kills microbes)
- Use no more than 30% by volume to the soil/potting mix
- There is no need to wait until all organic matter has broken down and turned black. It will continue to break down and feed the plants via the roots

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WORM TUBES

- *Worm tubes are a set and forget method of composting so great for Beginners!*
- *It is very slow*
- *Works on local earthworms (slow eaters) and microbes*
- *Feeds garden direct as foodwaste breaks down*
- *Based on African Keyhole Garden concept*
- *Suits foodscraps rather than greenwaste*
- *Prevents vermin entering*
- *Fill quickly so many are needed around garden*

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ANAEROBIC COMPOSTING-USING BOKASHI BINS

- *Bokashi translated means fermented organic matter*
- *Generally uses inoculated bran(contains microbes) to ferment the foodscraps*
- *Quick process...normally takes 2-4 weeks*
- *Produces a liquid fertilizer*
- *Requires little space*
- *Liquid smells a bit like pickles*
- *Can be added direct to garden or to the compost bin. (Note Bokashi compost is acidic so bury it at least 1m away from any existing plants)*
- *Perfect for apartments*
- *Juice will help clean blocked drains*

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HOW TO USE A BOKASHI BIN

- *Add 1 X 2 litre icecream container of food to the bin, pack down and add 2 small handfuls of bran (my scientific calculation!)*
- *Cover with cardboard to keep the air off fermenting food*
- *Replace lid tightly.*
- *Try and only add food once per day*
- *Remove Bokashi juice every couple of days. Dilute as above*
- *Continue layer process until bin is full.*
- *Set bin aside for 2 weeks to continue fermenting and commence a second bin*

- *Note:White mould is fine...all part of the process*

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HOW TO USE BOKASHI WASTE

- *Bury the fermenting food approximately 30cm underground. Don't be alarmed that it looks the same! The cellulose structure has been altered by the microbes.*
- *Alternatively, add the food to a compost bin to reactivate the composting process with the active microbesor*
- *Add to a large container with potting mix on top of the bokashi waste and leave fro 2-4 weeks before using as potting mix.*
- *Delay planting for approximately 2 weeks to allow for the acidity to neutralize*

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SOME TIPS FROM ME!

- *Keep a container next to your compost bin for carbon matter...saves looking for it!*
- *Add approximately 50/50 of carbon and nitrogen matter but more carbon if the organic matter is wet and squishy!*
- *Keep the compost bin close to the back door....no more than 20 steps away!*
- *Use the corkscrew regularly and if a citrus smell appears add paper or dry leaves immediately.*
- *Keep your worm farm under deep shade. Cover with a canvas rug and leave rug wet everyday.*

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CAN I COMPOST GUM LEAVES?

- *Absolutely!*
- *Simulate the Pemberton Forest…dark and moist*
- *I layer mine in stockfeed bags with horse manure, in deep shade with overhead sprinkler….leave for 4-6 months*

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BIO AMMENDMENTS: AERATED COMPOST TEA

- *A brewing process using oxygen and additives to encourage microbes, already present in compost, to breed*
- *Multiplies the number of microbes and hence soluble nutrients to plants*
- *Creates a healthy soil through the addition of the necessary microbes...bacteria, fungi, protozoa and nematodes*
- *Spray onto soil or foliage*
- *Safe, inexpensive and extremely effective for home gardens and broadacre farming*

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BIO AMMENDMENTS: FERMENTS

- *Fermented innoculants are often used to spray as a foliar or soil drench.*
- *Bokashi juice can be used for both A soil and foliage innoculant. It needs to be watered down 1:1000 or 2 tablespoons to 4 litres.*
- *It can also be poured down sinks to remove smells and fat*

- *LAB serum is a pro biotic, easily and cheaply made from fermented rice and can be used as a foliar and soil spray.*

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IF ALL ELSE FAILS, BURY IT.

NATURE WILL FINISH THE PROCESS!

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THANK YOU FOR LISTENING

Bert always found plenty of rubbish for his compost bin.

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