

## **COMPOST MAKING AND OTHER ORGANIC MULCHES AND FEEDS AT STRATHKINNESS COMMUNITY GARDEN**

**All communal areas of our 2-acre Community Garden are managed organically. We have in the past imported large trailer loads of municipal compost from Fife and Dundee, particularly when making the communal no dig fruit and veg garden. However now we make all our bed compost in house in 12 large compost heaps that also contain layers of straw/ manure kindly transported to us by a villager from his paddock. Any imported material is tested for residues of the herbicide aminopyralid that could come from the treated hay or forage and then eaten by livestock. Beans, potatoes and tomatoes are particularly affected and a simple test before acquiring and using the manure is to mix some of the of the manure with potting compost and sow broad beans.**

**Contamination is indicated by irregular growth of the leaves of the beans compared to a control sample sown in potting compost only. Lawn clippings that have been sprayed with weed killer are also excluded from the heap. Our heaps are not turned and are left for a year before using the compost.**

**Bacteria and fungi are produced at composting temperatures which in turn encourages worms that are abundant in our 12 heaps. It is important to get a balance of carbon rich materials such as straw and cardboard referred to as “browns” and nitrogen rich materials such as grass and weeds referred to as “greens” to give good compost. After many years of using our compost we have measured the pH of our growing beds to be 6.5 to 6.8 which is ideal for growing both fruit and veg.**

## Compost Sign

**PLEASE ADD TO  
THIS HEAP ONLY**

**SUITABLE MATERIAL** (spread in layers where possible)

- ✓ ALL WEEDS, SHAKE OFF SOIL IF POSSIBLE
- ✓ GRASS CLIPPINGS FROM THE COMMUNITY GARDEN OR YOUR OWN GARDEN IF UNCONTAMINATED BY WEEDKILLER
- ✓ CHOPPED OR CHIPPED WOODY MATERIAL INCLUDING BRASSICA STALKS WITH ROOTS REMOVED, NOT WHOLE STEMS
- ✓ TORN PAPER, TORN NEWSPAPER, SHREDDED OFFICE PAPER, TORN CARDBOARD WITH PLASTIC TAPE REMOVED
- ✓ STRAW AND BEDDING FROM HENS AND PETS, FRESH MANURE
- ✓ WOOD ASH, SEAWEED, COMFREY LEAVES, HAIR INCLUDING DOG HAIR FROM GROOMERS, CONTENTS OF OLD GROWBAGS, EGG BOXES, VEGETABLE/ FRUIT WASTE, COFFEE GROUNDS, TEA BAGS, EGG SHELLS, AND ANYTHING COMPOSTABLE YOU CAN THINK OF
- ✓ APPLE PULP FROM JUICING, TAVERN SPENT BREWING GRAINS

**UNSUITABLE MATERIAL**

- ✗ ANYTHING PLASTIC INCLUDING PLANT LABELS AND PLASTIC STRING
- ✗ ANYTHING TOO WOODY AND TOO DIFFICULT TO CHOP/ SHRED SUCH AS SUNFLOWER STALKS, PLANTS WITH A LARGE SOIL BALL ATTACHED e.g. DUG UP CLUMPS OF HERBACEOUS



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### ***Signage to help manage the composting process***

***We have tried to make the composting process as simple to manage as possible by encouraging gardeners to place all organic materials with few exceptions in layers to include most perennial weeds but to exclude or chop fine any woody material and remove all traces of plastic material.***

***We have also used the fresh manure to make hot beds where we successfully grow winter squash.***

**COMFREY is a very useful fertiliser in the organic garden. It can be used as a surface mulch, laid in a potato trench or**

**made into a concentrated high potash feed as we do in Strathkinness. Russian comfrey, Bocking 14 from Garden Organic is good to cultivate in a garden as being sterile it doesn't seed around. We use this and any comfrey foraged from surrounding wasteland. The roots of comfrey are thought to penetrate deep into the subsoil and mine beneficial nutrients that end up in the leaves and stems. We then harvest the comfrey throughout the Summer and add it to our comfrey stations that consist of two large plastic bins, the inner one having holes drilled in to allow the concentrated juice to drain into the outer bin for collection and use. It is important to prevent rainwater entering the station avoiding the bad smell of a "comfrey tea". The resultant dark liquid is bottled and when used diluted 30 parts water to 1 part comfrey liquor.**

## Comfrey station

### COMFREY STATION



- In Strathkinness Community Garden we make a concentrated low odour **HIGH POTASH LIQUID FEED** that is diluted and used to feed mainly our glasshouse and polytunnel plants.
- At the station we have several double bins, with inner bins with holes.
- Comfrey leaves are piled into the inner bin and liquid **CONCENTRATED COMFREY FERTILISER** containing NPK and trace elements drains into the outer bin.
- This is **DILUTED** 1 part comfrey liquor to 30 parts water.
- Please ask our gardeners the best location to gather comfrey leaves during the Spring and Summer to keep the station topped up.
- Please ensure no rainwater enters any of the bins.



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## TABLE COMPOSITION OF COMPOSTS AND FERTILISERS

Composi- tion	N%	P%	K%	Mg ppm	Ca ppm	Fe ppm	Zn ppm	Mn ppm	S ppm	Cu ppm	c/n ratio	pH
<b>Fife Council compost</b>	0.7	0.3	1.14	2.4k					1500		16/1	7.2
<b>Garden compost</b>	0.9	0.4	0.4	6k	6k	21k	120	570	2.3k	25	9.4/1	6.3
<b>manure</b>	0.8	0.5	0.7	8k	22k	2k	240	530	6.4k	87	9.6/1	8.8
<b>Mush room compost</b>	0.9	0.5	0.1	3k	30k	10k	105	274	5.6k	32	16/1	7.4
<b>Leaf</b>	0.4	0.4	0.1	6k	18k	22k	126	576	1580	35	22/1	6.7

mould												
comfrey	0.7	0.2	1.2								10/1	

The ppm values referred to in the table above are parts per million of the dry material, most of the materials being approximately 75% water e.g. Fife Council compost contains 2400 ppm or 2.4 k ppm calcium. All the organic materials contain beneficial trace elements.

Nitrogen N promotes strong plant growth. Phosphorus P helps root growth. Potassium K encourages flowers and fruit.

Although the quantities of N P and K are small compared to manufactured inorganic fertilisers e.g. the general-purpose fertiliser Growmore contains 7% of each nutrient N P and K, the organic materials listed are applied in kg quantities/ sq. metre compared to the g/sq.metre of the inorganic materials. The organic materials are also slow release and feed the soil rather than directly feed the plants. The organic materials are produced locally whereas the commercial fertilisers are mined from across the world or produced from petrochemicals.

Referring to the table above

Advantages of organic composts:

Contain a range of essential trace elements

Slow release, feeds the soil

Promotes soil health by increasing beneficial organisms

Weed suppressants

Increased soil moisture retention and improves drainage

**Insulates soil from temperature extremes**

**Reduces nutrient leaching in soils**

**Fixes stable carbon at a soil depth of 25 cm to the value of  
of 5.7% or 9.9% organic matter as measured in our**

**Community Garden by the Hutton Institute app.**

**Fife Council data was published by Earthcare Technical and point out that although P and K is available in year 1 of application, N becomes available mainly in year 2. Municipal compost from both Fife and Dundee is tested to PAS 100 which means the material is not contaminated with pathogens such as E. coli or salmonella. The bio security of of imported materials is important.**

**Soil microorganisms are thought to have a carbon to nitrogen ratio (c/n ratio in the table) of approximately 8 and must acquire enough carbon and some nitrogen from the soil to maintain that ratio in their cells. They can achieve this with a diet of organic materials applied in the range of C/N 10 to 20.**