Notes from the Gardening Group Meeting 7th May 2026

Composting

Introduction

These notes are taken from a talk on composting, very kindly given by James Hepburn at his and Alison's garden. Compost is an easy to use growing medium, mulch and slow release fertiliser derived from garden and household waste, which helps to promote a healthy soil structure.
James also showed his wormery, which is a useful way of breaking down kitchen vegetable waste, his leaf mould heap and how to make plant food from comfrey and nettles, and seaweed.

What can compost be made from?

To make compost two types of organic material are needed, nitrogen rich "green" material and carbon rich "brown" material.

Green materials are predominantly, but not always, green; though they all contain moisture. They provide water and nitrogen to the compost heap, which fuels the bacterial breakdown of the compost. Green materials include:-

- Grass clippings.
- Green leaves and soft stems from ornamental plants and vegetables.
- Weed leaves
- Kitchen vegetable peelings and trimmings.
- Coffee grounds
- Manure without bedding, from plant eating animals.
- Urine.

Brown materials are dry and brown, they help keep the heap aerated and they include:-

- Dry leaves.
- Woody hedge prunings.
- Paper and cardboard shredded into small pieces - **not glossy paper, or plastics such as sellotape and sticky labels.**

- Egg shells- finely ground in a kitchen grinder to ensure they get broken down.
- Wood ash - **though not if the ash contains coal or coal dust**.
- Soil.
- Old compost from seed trays and pot plants.
- Straw.
- Wood chippings - which have been left to partially decompose in a separate damp heap for about 6 months (wood is broken down by fungi that need fairly cool damp conditions).

Mixed materials can also be added, they include:-

- Green wood prunings from roses, trees, shrubs and hedges.
- Hay.
- Tough green stems of brassicas chopped up small
- Faded herbaceous perennial stems and leaves.
- Fresh manure with bedding.

What should not be composted?

Materials which should not be composted fall into four categories:-

- Those that will not break down at all, such as plastics, plastic treated packaging, sticky labels, parcel tapes, shiny paper.
- Materials that will not break down quickly in a garden compost bin, for example citrus peel and unground egg shells, both of which have a tendency to hang around for a long time. Note Charles Dowding regards compostable plastics as being in this group.
- Perennial weeds, weed seeds and diseased prunings, all of which may not be killed in a standard garden compost heap.
- Material that has had artificial chemicals applied to it, including manure from animals that have had antibiotics.
- Meat, dairy products and cooked foods.
- Ash from coal fires.

Compost heap construction

James has three compost bins set directly on the soil and in the Spring/Summer season, he uses the two side bins to fill with new compost material. The central “middle” bin is used to turn the compost into, to mature, after it has finished its initial breakdown phase in the side bins.

Prior to filling the compost bins with plant material James lines the sides of the bin with cardboard, which helps to keep the heap warm. Green and brown materials are added to the heap in layers, in roughly the proportion of 1 part brown material (partially composted woodchip, shredded cardboard, woody prunings, wood ash and egg shells) to 2 parts green material (mainly grass clippings with weeds, tea leaves and coffee grounds). James relies on keeping the heap healthy by having a

varied mix of materials in each layer, “much as you would eat a healthy variety of foodstuffs in a meal”.

The temperature of the heap rose remarkably quickly, as measured by a compost heap thermometer, but it will take the new heap a few days to reach the “hot” composting phase of 55 to 70^{o}c. To reach this phase, more compostable material will need to be added regularly to the heap, in order to feed bacterial activity. The higher the maximum temperature of the heap at this stage of the process, the greater the chance that unwanted weed seedlings will be killed. Always remember to add material to the heap in the proportions of 1 part brown to 2 parts green, this is important as it helps to prevent the heap from becoming too wet.

Note: Compost is created by aerobic bacteria, and aerobic bacteria need to be able to breathe oxygen, without it they will die. In a wet heap, water pushes out and replaces the air in the compost and as a consequence of this bacterial activity is reduced. The breakdown of the material in the heap will slow down, or could even stop. Charles Dowding advises to prevent the compost becoming too wet it is wise to put lids on compost bins, especially in wet weather. He also advises if you have a large quantity of lawn clippings to add to the heap, do so in approximately 2 inches (5cm) layers adding a half inch (1cm) layer of brown material between each layer of green material, to keep the heap aerated.

Eventually the hot phase will end and a cooling phase will begin and bacterial activity will slow down. This can be measured using a compost thermometer and be seen by a marked reduction in the volume of the heap. Once this phase begins, stop adding material to the heap.

The cooling phase can last from one to two months. Measure the change with a compost thermometer, it will be coming to an end when the temperature reaches 30^{0} to 35^{0}c. There should also have been a reduction in the volume of the heap. The heap is now ready to turn. Turning the heap will introduce oxygen and make food left on the margins of the heap available to bacteria, it also helps give the compost a more uniform appearance. After turning the heat of the compost will increase for a time.

The turned compost should then be left to mature, cool down and become a home for invertebrates, woodlice and possibly red tiger worms. James adds his wormery compost (including tiger worms) at this stage. The compost will now be ready to use when you need it. Though it will require sifting, especially if wood chippings have been used in the original mix.

Wormery

James also talked about and showed the group his wormery, in which tiger worms convert kitchen vegetable waste into compost and a concentrated liquid plant food. The wormery was clearly a damp environment. It consists of a number of stackable trays that have holes in, to allow the worms to move about, a lid and a sump at the base to collect the concentrated liquid plant food.

According to Charles Dowding tiger worms are active from Spring to Autumn, when the temperature is between 12ºc and 26ºc. In colder conditions they become dormant and do not feed. They can be killed by freezing temperatures, cannot tolerate very high temperatures and do not work in dry conditions. He advises, to keep worms healthy, they need to be fed small amounts of shredded or partially decomposed vegetable material often, (at least once a week). He also states that food should always be accompanied by a sprinkling of water, to keep the environment in the wormery moist.

Leaf mould

James has a separate heap for leaf mould in his garden, located under trees, (I assume for ease of filling and to give some shelter from the sun's heat), as the fungi that break down the leaves need cool moist conditions to thrive. The bin for the heap is a simple construction formed from four posts with chicken wire sides. As it takes a long time for leaves to be broken down into leaf mould, James speeds up the process by using his lawn mower to shred the leaves before adding them to the heap. Water is an important ingredient in making leaf mould, therefore the heap does not have a lid, and if the weather is dry, or the leaves being added to the heap are dry, water needs to be added to keep the heap moist.

Liquid fertilisers

Comfrey and nettle liquid plant food

To make this liquid feed you need a large plastic tub (or old dust bin) with a well fitting lid, make a number of drainage holes in the base of the container and then set the bin directly on soil. Choose the site for the bin carefully, as the mixture can be quite smelly. James then loosely adds to the bin a roughly 50:50 mix of chopped nettles and comfrey leaves and flowers (wear gloves as both of these plants can cause skin irritation). He then adds water to cover. The mixture will require stirring about every three to four days and straining into a container after 3 to 4 weeks putting the remaining sludge on the compost heap.
Do not worry if this process takes longer for you, Garden Organic says it can take from 4 to 6 weeks macerating in the tub before a liquid feed is produced.

Seaweed liquid plant food

Liquid seaweed plant food is made in a fairly similar way to the comfrey and nettle plant food above. Though, a smaller container is used and **NO holes are made in the base of the container**. Seaweed gleaned from a local beach, was thoroughly washed in cold water to remove salts and then roughly chopped, before being placed in a plastic tub with a well fitting lid (this liquid feed is also quite smelly). Cold water was added to the container to cover the seaweed and the lid put on. The mixture needs to be stirred every three to four days and strained into a container after 3 to 4 weeks; putting the debris on the compost heap.

Note you must never collect seaweed from beaches that are SSSI's (Sites of Special Scientific Interest) or are designated conservation areas. The public do not have a right to collect seaweed from beaches, so do so with care and always check with the land owner or council first. Collect only small amounts of dead seaweed washed up on the beach, **never cut living seaweed**.

Afterword

Thank you again James and Alison for hosting the Garden Group and giving us an excellent talk and demonstration. I think everyone agrees that this has been one of our best and most useful meetings.

Also many thanks to all of the Garden Group members who helped with the plant sales event at the Hub in May. Well done everyone.

References and further reading

Compost: Transform waste into new life
By Charles Dowding
Published in 2024 by Dorling Kindersley Ltd, London
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