

This contains a repeat article of a year ago about leaf mould and a new article about club root. We have new tenants which is why I am repeating the leaf mould article, this is a free resource that can make, a very good free soil conditioner, or a low cost seed/potting compost if mixed with compost, perlite and loam. Its very topical as we have many leaves on the ground. I have already collected a builders sack and have some 1 and 2 year old leaf mould that I will use as a trial to make some potting compost.

Improving your soil can cost little or nothing

Leaf Mould

Leaf mould is made from leaves and is one of the finest soil improvers. It's easy to make and it's free!

Leaf mould can be used:

- 1 As a mulch to retain moisture and suppress weeds. The worms will help incorporate it into the soil to improve the soil structure.
- 2 To Dig into the soil to improve the soil structure and improve drainage or aid water retention
- 3 Used to make low cost seed or potting compost.

Collect leaves in the autumn avoiding collecting leaves near busy roads to avoid pollution. Oak leaves make the best leaf mould. Evergreen leaves take a long time to decompose, and are better put in your compost heap.

Fungi decompose leaves it takes 1-2 years to make. This can be speeded up to as little as six months by chopping the leaves up first. Easiest way to do this is to run a lawn mower over them three or 4 times until they are shredded. As with compost making, make your leaf mould in the shadiest least productive part of your plot. One year old leaf mould is good to use as a mulch. Sieved older leaf mould is good for seed compost.

Leaf mould is not high in nutrient value, but it's a great soil conditioner.

Making leaf mould using black rubbish sacks.

Pack the leaves into a plastic sack and wet the leaves thoroughly and tie up the bag. Make some drainage holes in the sack. Then leave in a shady places to rot down.

Using a wire cage or compost bin or builders sack.

Using chicken wire and four sticks stuck in the ground make the sides of a cage or use your compost bin or builders sack. Add your leaves wetting the leaves well as you go. Fill the container up and cover the top. Leave them to rot watering periodically to keep the leaves wet. The fungi need moisture to rot the leaves down.

If you want an acidic leaf mould for acid loving plants like blueberry then make a separate cage full of pine needles, which are very slow to rot down.

Adding a handful of forest soil to your leaf mould will act as an activator for your leaves, its rich in fungi needed to break down your leaves.

Club root

Club root is a fungus like organism, a slime mould that can exist in soil and so is a soil bourned disease of brassica's. So it will affect all the plants in the cabbage family, which includes

swede, turnips, cabbages, cauliflowers and sprouts. Some flowers that belong to the cabbage family like stocks and wallflowers are also affected.

The symptoms of the disease is poor growth, poor heart formation. On hot days the plants may wilt, but recover in the evening. The plant may die.

You can identify club root by examining the roots of the plant. Club root will show itself by causing the roots to swell and become distorted. Another name for club root is called fingers and toes, which aptly describe what the roots look like.

Club root is caused by *Plasmodiophora brassicae*. It usually shows its ugly head in the summer when you remove the stump of your brassica and you see the roots. It is spread often through kindness as it is passed on when you receive some soil which is infected with the fungus. This may be on a brassica seedling, but equally it could be in the soil from any other seedling that you have been given. Always clean your tools and boots of soil if you have worked on an affected bed.

The organism causes the release of a growth hormone (auxin) in the roots. The roots then swell. The swollen roots then constrict and block the xylem, the tube inside the plant which carries water and some nutrients from the roots to the leaves of the plant. The plant cannot get enough water to the leaves, the "engine" of the plant. Water is used in the leaves to make sugar from water, carbon dioxide and sunlight. So the plant is then starved of sugar, used in the plants development as well as water. You also get a decrease in nutrient uptake from the roots as the xylem transports these to the plant, so you end up with plants that grow poorly and wilts on sunny days.

The club root infects the root hairs from spores in the soil. It then causes the root to swell and multiplies inside the root. When the root rots it re releases the spores inside the root into the soil, which then waits for a suitable host to start the cycle again.

It is particularly difficult to get rid of. Some weeds like shepherds purse are susceptible to club root, so help to keep the cycle going producing more spores. Added to this clubroot can last about 20 years in the soil if no suitable plants are grown in the soil. It has a half life of about three and a half years, i.e. about half of the club root will be gone after this period. After the same period of time again this amount would be halved again, so there would be a quarter of the amount left. Hence the 20 years of not growing brassicas in a susceptible weed free soil to eliminate the club root!

There is no cure for club root. It used to be treated using a chemical called calomel, which is mercury chloride! Rightly that has been banned for a long time now.

The best solution is to not grow brassicas in ground which has a club root infestation. If you have no choice then you can grow your plant in a 9 cm pot. Then transplant the plant into the ground. The plant will get club root, but it has a clean amount of soil near it so you can then get a decent plant.

The club root does not grow so well in alkaline soil. Lime will make your soil more alkaline. You can lime the soil to limit the club root. Some people sprinkle a generous handful of lime into the hole when transplanting brassicas.

Lastly you can grow varieties that have been bred to be resistant to club root infections. I grow crispus a sprout that gives me nice large buttons and stands well through the winter. It so happens, by chance, that it is also clubroot resistant.

December:

Plan what you're going to grow next year and where, keep in mind crop rotation.

Place your seed orders.

Why not try one new vegetable or fruit to grow next year?

Tidy and rough dig plot incorporating well-rotted manure/compost for next year if ground not too wet. Frost will break the soil for you. Just hit it with a fork in the spring at the time the soil dries out to form a fine tilth

Do not manure ground where carrots and parsnips are to grow next year, unless you are following no-dig cultivation.

Plant garlic, if your soil tends to be waterlogged then make a hole with a broomstick fill with sharp sand add the clove; top the hole with an inch of compost.

Sow onions in seed boxes/modules in a greenhouse at the end of the month

Removing any yellowing leaves from your winter brassicas. Keep them netted!

Turn the compost heap over to introduce air.

·Ensure compost bins are covered to prevent rain leaching the nutrients and to keep some of the heat of decomposition in.

·Take care not to harm hedgehogs or bumble bees when turning compost heap

Make leafmould from leaves, its free and improves soil structure. It helps water retention.

Take hardwood cuttings of soft fruit. Gooseberries, red, white and black currants, worcesterberries, jostaberries

Split rhubarb if plants they are old and becoming less productive.

Plant bare rooted fruit trees and bushes.

Prune apple and pear trees.

Cut down canes of autumn-fruiting raspberries.

Lift carrots to prevent pest damage. Store in damp sand or peat in a shed.

Check stored potatoes

Have a merry Xmas and keep safe

Kevin