

## Session 5 – Soil and Composting



### Assessing the Soil Health of your garden

Some definitions:

**Soil texture** – the inherent composition of subsoil, specifically the proportions of clay, silt, and sand. Soil texture is the outcome of millions of years of geology. You don't have much control over this.

**Soil structure** – the way that soil particles relate to each other and form aggregates. Good soil structure develops naturally through the soil food web and is fuelled by the addition of organic matter. It is destroyed by digging, heavy machinery (e.g. tractors) and the addition of herbicides, pesticides and fertilisers.

Types of soil:

**Clay** dominated soils are harder to dig but contain a lot of nutrients. They hold onto water during winter and take a while to warm up in spring. When they dry out, they go rock hard and develop cracks.

**Silty** soils are also rich in nutrients, but they tend to be easier to work and don't hold onto as much water as clay. They are quicker than clay to warm up in spring but can be prone to compaction, in dry weather.

**Sandy** soils are easy to dig but they don't contain many nutrients. They don't hold onto water well but are quick to warm up in spring. They are prone to erosion and more likely to be acidic, with a low pH.

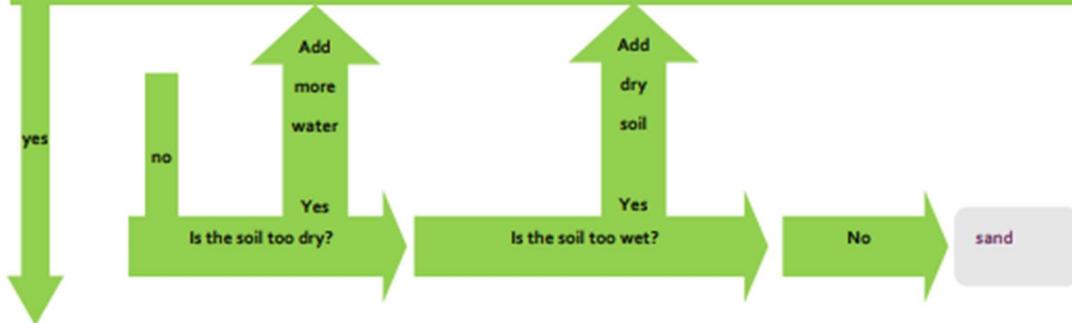
How to test your soil:

- ❖ Ribbon test (assesses soil texture)
- ❖ Soil pH
- ❖ Worms/soil food web

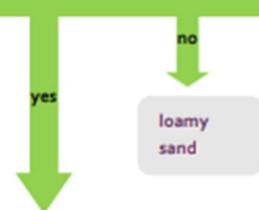
## Soil Testing – the Ribbon and Ball Test

### TEST 1 - START

Place soil in palm of hand. Add water drop and knead the soil into a smooth and plastic consistency – like moist putty. Does the soil remain in a ball when squeezed?



Place ball of soil between thumb and forefinger, gently pushing the soil between with the thumb, squeezing it upwards into a ribbon. Form a ribbon of uniform thickness and width. Allow the ribbon to emerge and extend over the forefinger, breaking from its own weight. Does the soil form a ribbon?



### What kind of ribbon does it form?

#### TEST 2 - START

Moisten a pinch of soil in palm and rub with finger

Does it feel very gritty?

yes

Does it feel equally gritty and smooth?

yes

Does it feel very smooth?

yes

Forms a weak ribbon less than 2.5cm before breaking

#### LOAM

sandy loam

or

loam

or

silt loam

or

Forms a ribbon 2.5-5cm before breaking

#### CLAY LOAM

sandy clay loam

or

clay loam

or

silty clay loam

or

Forms a ribbon greater than 5cm before breaking

#### CLAY

sandy clay

or

clay

or

silty clay

or

Improving Soil

- ❖ Principles of Soil Health: keep roots in the ground, mulch/cover the soil as much as possible, minimize digging, avoid synthetic fertilisers, grow a diversity of plants
- ❖ Green Manures
- ❖ Plant feeds (nettle, comfrey, perennial weeds)
- ❖ Lasagne beds
- ❖ Composting
- ❖ Leaf mould
- ❖ Wormery
- ❖ Bokashi

## Composting

- ❖ Compost is made by micro-and macro-organisms breaking down organic matter
- ❖ You can compost anything that was once living, but some items are best avoided
- ❖ Make a heap, or buy a bin
- ❖ Make sure to get a good balance, roughly 50/50 Greens (food scraps, garden trimmings, coffee grounds and tea bags, manure, annual weeds etc) and Browns (wood chip, woody material chopped up small, straw, cardboard, egg boxes, shredded paper etc)
- ❖ Introduce oxygen by turning it
- ❖ If too dry add water, if too wet add more browns

## Further info

- ❖ Glasgow Composting Connections FB Page
- ❖ “The Compost Coach: Make compost, build soil and grow a regenerative garden - wherever you live!” By Kate Flood
- ❖ Garden Organic Composting page [www.gardenorganic.org.uk](http://www.gardenorganic.org.uk)