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# **Working with Clay Soil**

Unfortunately, many new homes in the outer west are built on clay soil and many of the plants that we want to grow will either struggle or not survive in this soil. The best option is to change the clay soil structure so that it is plant friendly.

Clay soil is often hostile to plant life. Clay soil absorbs water when conditions are wet; it is slow to drain and becomes sticky. When it does dry out it is quick to harden, becomes compacted and is difficult to work with.

Clay is however, full of good things for your plants, but because it becomes so hard it is difficult for a plants roots to penetrate thus making them struggle to thrive and sometimes survive at all.

Planting into heavy clay without improving the soil is like leaving the plant in a pot, the roots never branch out and establish. Like with a pot-bound plant if the soil and the hole are not prepared properly plants can become constricted in the ground.

For your garden to be successful, the clay needs to be broken down using other components in order to make it workable. You cannot just put a layer of Organic Matter and or Gypsum over the top of your existing soil. This is like icing a bad cake. Mixing it in will help the roots of your plants grow deeper, which means that they are drought tolerant because they will have more moisture to draw on in the warmer drier weather

Anything that you do to improve clay soil is going to require a bit of work, we recommend that you use a rotary hoe for larger gardens or a shovel and garden fork for very small areas. Do not work clay soils when they are wet as it will become a sticky muddy mess.

# **Using Organic Matter**

A good way to improve clay soil is to add organic matter such as mushroom compost. This binds the particles together, improves the soil structure and allows water and oxygen to move through the soil more easily.

We recommend that you work out an organic layer of a minimum of 50mm (5cm) -100mm (10cm) depth (deeper if possible).

This now needs to be worked into the soil, the deeper the better using either the rotary hoe or shovel and garden fork. Organic matter should be dug into a least 150mm (15cm) depth (deeper if possible) of the clay soil, and then left for a few weeks and then worked in again. During that few weeks the organic matter will continue to break down and dilute the clay soil into a more workable nutrient rich soil.

## **Using Gypsum**

Gypsum is natural powdery mineral (Calcium Sulphate) Gypsum also releases minerals within the soil. Gypsum works on the clay by breaking it up into small crumbly pieces making it easier to work with and also improving drainage.

We recommend that you work out a layer Gypsum of 10mm (1cm)-20mm (2cm)

This now needs to be worked into the soil, the deeper the better using either the rotary hoe or shovel and garden fork. Gypsum should be dug into a least 150mm (15cm) depth (deeper if possible) of the clay soil, and then left for a few weeks and then worked in again.

Make sure Gypsum has been worked well into the soil as it can burn the roots of the plants if it has not been mixed in properly.

#### **Coarse Sand**

It is sometimes recommended that coarse sand such as washed concrete sand be used in breaking up clay. In order for this to be successful a very large amount of sand is required to make a difference in the clay structure, therefore it may not be a viable option. It will not hurt to mix it in, in conjunction with organic matter and or Gypsum.

### **Liquid Clay Breaker**

Ideal for use on established gardens. With this method no digging is required; a liquid clay breaker however does require many repeat applications. Using a liquid clay breaker avoids disturbing the roots of established plants. You can either hose it on or use it in a watering can as per manufacturer's instructions.

You can use a combination of both gypsum and organic matter, making sure that both are mixed into the soil well with a rotary hoe or shovel and garden fork so as to prevent burning of the roots.

When you have finished altering your clay soil and planted your plants we recommend that you mulch your gardens with wood chip mulch. This is beneficial in keeping your soil and plants healthy by retaining moisture and nutrient content. Thus reducing damage to the soil by the elements.

If you plan and prepare your garden beds properly you will reap the rewards of a happily flourishing garden.

# What Is A Rotary Hoe?

Rotary Hoes are motorized tillage tools that can be used to break up soil. The blades on the hoe flip and turn the soil and mix in any organic matter or gypsum that you are blending with the soil in order to make the soil easier to work with.

A rotary hoe typically runs on petrol and the speed at which they move across the ground is adjustable.

Using a rotary hoe is much faster and easier than using a shovel and garden fork. So it is recommended for use in larger gardens.



**Remember: Good Preparation Ends In A Good Result**