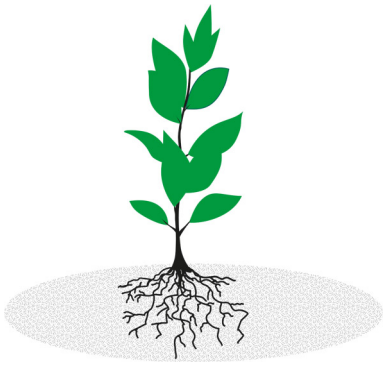
Improving garden soils with Watheroo Bentonite clay

Clays added to sandy soils have documented positive impacts on:

- Improved soil wettability
- Improved soil water retention ability
- Increased cation exchange capacity (CEC), reduced nutrient leaching and increased availability of nutrients and trace elements
- Improved soil structure and aggregate formation
- Increased survival of good bacteria like rhizobia, and general increase in soil microbes, earthworms and other soil animals.
- Increased yields in crop plants.



Soils of the Swan coastal plain are poorly structured, sandy soils. Such low levels of clay and organic matter result in low fertility, low water-holding capacity, poor nutrient retention and poor soil wetting. *Watheroo Bentonite* soil-improver consists of *calcium bentonite* clay, with no chemical or other additives. Bentonite clay is a very effective soil-improver for ornamental gardens, vegetable gardens, lawns and native plants. This clay, together with organic matter will improve the soil structure, water and nutrient retention, soil wettability and soil biological activity. These soil characteristics are beneficial to all plant categories, including drought-resistant natives.

Soil microbes and soil animals (such as worms) are a vital part of stable, healthy soils and are essential to healthy plant growth - leading to nutritious vegetables and abundant blooms. Adequate levels of appropriate clays make nutrients from manures and fertilisers more available to be used by microbes and other soil life – which, in turn leads to healthier and stronger garden plants[1, 2].

Untreated Perth coastal plain soils can contain almost no clay at all. The addition of clay to levels of between 1% and 3% of the top 20cm of soil (the root zone) has very beneficial effects on soil quality—including wettability, water retention, nutrient retention—and hence plant growth and yield. Leaching of nutrients, from fertilizers and manures, into the water table, and thus into rivers and wetlands, is an increasing environmental problem[3]. The addition of clay to sandy soils reduces the rate at which nutrients are leached, reducing this hazard and allowing your plants increased access to the nutrients, thereby reducing your expenditure on fertilisers for your garden.

1 Dixon, J. B. (1991). Roles of clays in soils. Applied Clay Science, 5, 489-503.

2 White, R. E. (2006). Principles and practice of soil science: The soil as natural resource (4th ed.). Melbourne: Blackwell Publishing.

3 Water Corporation of Western Australia: www.watercorporation.com.au

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Preparing for new garden beds or lawns presents a great opportunity for ensuring long-term soil health by adding 3kg to 5kg of clay per square metre (in addition to other organic matter).

Using bentonite clay at the right application rate in conjunction with compost, manures and organic matter is a cost-efficient and effective way to upgrade your garden soils without the unnecessary hassle and expense of purchasing commercial top-soil (and the removal of the existing sandy soils).

Gardeners should consider carefully the purchase of other 'soil-improvers' where the clay content may be less than that needed to have a beneficial effect on plant growth. Moreover, industrial clays often contain chemicals added to improve their performance in particular processes, such as drilling for oil. These additives may harm plants and soils. Care should be taken in handling such finely milled industrial clays as they may present a hazard to respiratory health.

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