

actsmart[®]

the importance of soil

Canberra soil conditions can vary dramatically between locations, but the majority of suburban soils are high in clay content. Clay soils are easily compacted, can dry out in summer, stay wet and soggy in winter, and can be hard for plant roots to penetrate. Clay soil's valuable nutrients are not readily available to the plants due to its structure.



Soil improvement

In typical Canberra clay soil, digging or ripping will break soil crusts and allow water to penetrate to depth. Adding extra materials to the soil binds the particles, makes clay's nutrients available to plants, and allows water to infiltrate and to drain more freely. Try to dig to a depth of at least 40 cm.

Some options to improve your soil might include:

- worm castings
- aged animal manures (use chicken manure sparingly)
- well composted bark
- gravels (not bluestone)
- composted leaf litter
- homemade compost.

If you have decided to purchase quality top soil, avoid creating beds on top of clay soils with this material alone. Your plants will thrive in the quality mix but can then struggle when their roots reach the existing (impenetrable) clay. Mix imported soils with your newly dug clay at a rate of 50/50.

Gypsum can be helpful to some clay soils by temporarily changing their structure. Liquid gypsum can be watered into existing beds once established.

If you find that your soil isn't clay-rich but lacks colour, is impossible to wet, or has a powdery texture, the above method of adding organic matter will also work to help restore nutrients and water-holding capacity to old, nutrient depleted soils. Granular soil wetters (such as Saturaid) can be added along with animal manures to revitalise hydrophobic soils.



Choosing the right plants

Do some research and see what people around you are growing successfully in their gardens. Talk with friends and neighbours to see what has worked for them. Take time to look in Canberra's nature parks, creeks and rivers at plants occurring naturally in heavier soils or low-lying sites. Plants that have adapted to this soil type over a long period of time will be a more successful long-term option.

Plant species which occur in predominantly sandy or rocky soils are less likely to tolerate the heavier structure of Canberra's clay, so restrict these plants to raised beds or containers.

Find out a bit more about your favourite plants by talking with your local nursery staff. They will be well equipped to help you choose plants to suit Canberra's clay, and some will be able to provide a plant list for your information. You can also go online and search for plants that would be suitable for your garden using the Canberra Plant Selector tool: www.actsmart-plantselector.com.au

Dig wide holes when planting

Make the planting hole very wide. If you dig a small deep hole in clay, water will sit at the bottom and rot the roots of the plant. By digging a hole at least 50 cm wide, water can spread out instead of concentrating at the bottom. Use a mattock or a garden fork to make the sides of the planting hole rough, as roots can't easily penetrate smooth clay walls.

Mulch helps

Canberra's clay soils shrink and crack on the surface when they are exposed to dry, hot conditions for prolonged periods. Using mulches on the surface will help prevent this, and organic mulches will help condition the soil as they decompose.



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