Growing Your Own Food at Home in Salisbury Series

Pack C Notes 2 SOILS WITHIN CITY OF SALISBURY


These notes contain useful facts to know about Salisbury's environment that affect growing food in our backyards.

This region has a typical Mediterranean climate of; cool, wet winters and warm to hot, dry summers, and is suitable for growing an extensive array of food. Microclimates can be created in backyards to grow topical food. Generally the soils of Salisbury Council support good food production, historically commercial crops of oranges, wheat and almonds have grown.

Understanding our soils

Looking at the geography in Salisbury Council our soils are layered (different types of materials on top of other). They can be grouped into associations. They which were formed over thousands of years of as a result deposition from rivers and streams. For most of the region the original soils are very good for growing in; with a high clay content, and high fertility. With bit of work improving drainage, the addition of organic matter to increase soil microorganism and soil fertility levels, the soil will be good for growing a large variety of vegetables, and a variety of fruit and nut trees.

Looking a bit more closely into the soils of your suburb can assist you in understanding what to expect from your soil, and guide which actions you take to improve it for home produce production. In City of Salisbury there are three distinct physiographic zones which have their own soil types. The three distinct physiographic regions are the:

- Coastal Plain, with mangrove swamps and samphire flats
- Lower Alluvial Plain, containing the outwash fans of Dry Creek and Little Para River
- Upper Alluvial Plain, containing the upper outwash of Dry Creek and Little Para River

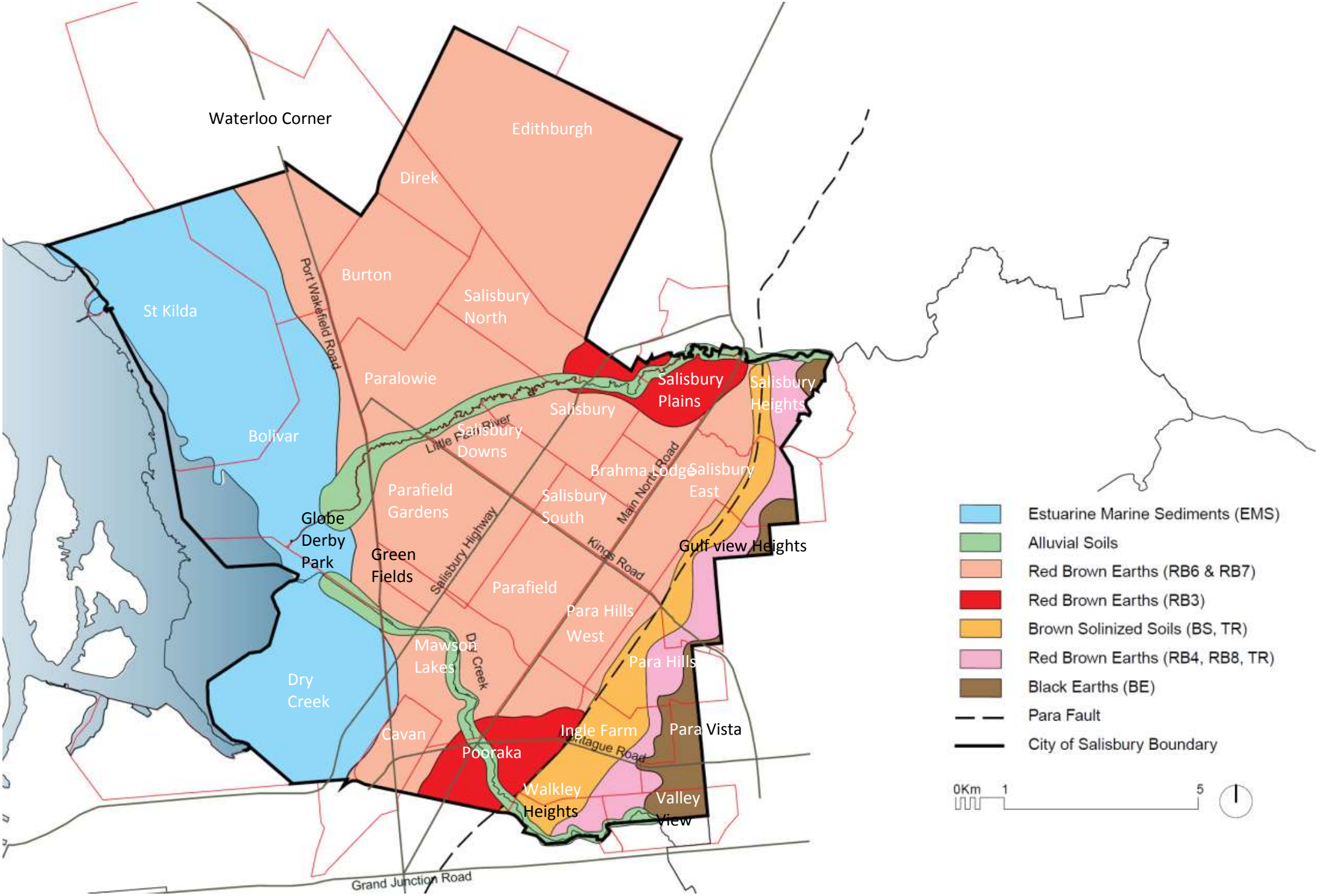
As gardeners, generally we can the divide region into two - suburbs close to the coast on sandy soils and those away from the coast with clay soils. Port Wakefield Road is nearly the dividing line, but not quite. Refer to the map on the next page. Different soil preparation measures will need to be taken for each of these types of soils for successful growing.

The information below is about the natural soils, and acts as a useful guide to soil preparation. Changes to the soil occur when houses are developed, and the soil in your backyard will need to be investigated to determine what exists there.

Where are you on the map?

Look at the map on the following page to find out what type of soil is in your backyard.

Soils Types in Suburbs in City of Salisbury



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Three soil regions of Salisbury Council

To increase your understanding of why certain plants will grow better in different region a brief summary of the soils in different suburbs in City of Salisbury follows. This supports the notes in Pack C which explain how to test your soil and measures to alter each of these type of soils in preparation for growing food plants at home.

Coastal plain region and its suburbs:
St Kilda, Bolivar, Globe Derby Park, Dry Creek and coastal sections of Waterloo Corner

The soils in the coastal plain are naturally of poor quality. Their pH can be mildly acidic, and nutrient levels low. Though these sandy soils drain well, the highwater table (up to 0.6 metres below the surface in some areas) makes them highly saline and prone to water logging. Formed by marine and river sediment, with estuarine mud and sand deposits they are predominantly grey to blue-grey sand. Naturally this region has a limited variety of plants: samphires, mangroves and other salt tolerant species. In urban development the area was either drained and filled, or the original soils covered.

Recommendations for the home produce grower
Growing in pots and containers, including in wicking beds is likely more cost effective than trying to build these soils. Refer to Pack B to help you to choose whether to grow in the ground or containers, Pack C notes on soils and testing what you have and how to improve it, and Pack E on growing in containers and wicking beds.

Lower alluvial region and its suburbs:
Brahma Lodge, Burton, Cavan, Direk, Edinburgh, Green Fields, Mawson Lakes, Para Hills West, Parafield, Parafield Gardens, Paralowie, Pooraka, Salisbury, Salisbury Downs, Salisbury East, Salisbury Heights, Salisbury North, Salisbury Park, Salisbury Plains, Salisbury South

Soils in this region are classed as red brown earth, and are considered some of the most fertile soils on the Plain. They are: well drained and also have a good ability to hold moisture; contain a high nutrient content; usually a neutral pH; and can support a wide variety of plant species. They result from material transported from the outwash of Dry Creek and Little Para River. Creek and river outwashes further affect variation in soils across your neighbourhood; you may have different soils from another house in the same suburb.

There are three types of red brown earth in this region.

The red brown earths of **Salisbury Park, northern sections of Salisbury Plains, northern section of Little Para River of Salisbury and Salisbury North**, and most of **Pooraka** are a sandy or silty grey to red-brown over a well-developed red clay horizon, with varying lime content. These soils are generally deeper and contain finer textured sediments than other red brown soils of the region.

The other two types of red brown earth found across the suburbs of **Brahma Lodge, Burton, Cavan, Direk, Edinburgh, Green Fields, Mawson Lakes, Para Hills West, Parafield, Parafield Gardens, Paralowie, Pooraka, Salisbury, Salisbury Downs, Salisbury East, Salisbury Heights, Salisbury North, Salisbury Plains, Salisbury South** These are young soils with little variation between their horizons.

Those soils formed closer to the outwash fans are affected by highwater tables and salinity. Where as in those soils formed closer to streams and creeks, you will see larger granular material closer to the surface.

There is another type of soil in this region; **alluvial** which is adjacent to **Little Para River** and **Dry Creek**. In these fertile, well drained young soils you will predictably see a high level of sedimentation with variation in texture – silts to large rocks.

Recommendations for the home produce grower
The news is good news for anyone living in these suburbs and wanting to grow food at home as these soils are fertile and can be highly productive. Planting in the ground is a viable option for these suburbs.

There are different variations of red brown soils. They are layered associations of soil: - you can easily see layers (horizons) of different material when you dig a section out. Commonly seen is brown or grey-brown sandy or silty soil top, strong red brown to red clays and under them a deeper chalky layer

Upper alluvial region and its suburbs:
Gulf View Heights, Para Hills, Salisbury East, Salisbury Heights, Valley View, Walkley Heights
This region lies east of Para Fault line and within it six types of soils occur, including alluvial soils continuing along next to Little Para River and Dry Creek. Overall, in this region the soil profile is thin with reactive clay underneath making these soils susceptible to movement. Adelaidean bedrock is under all the soils; it's a mixture of various rock formations usual calcareous, and its components are often high in lime. Naturally these soils support a limited variety of plant species, which presents challenges for gardeners.

The types of soils occurring include: two Red- Brown Earths, Alluvial Deposits, Terra Rossa soils, Black Earths and Brown Solonized soils.

Red brown earth soils:

- Found within the upper outwash fans of Para these soils have a sandy to silty top, then a clear division to red clay under, then a lower lime layer sitting on slate and shale bedrock.
- Type two has clearly defined top layers with a top grey-brown sandy top over a red brown layer. It is found in conjunction with Terra Rossa soils and often in close association with the other Red Brown Earth as described above.

Alluvial deposits: fertile, well drained young soils you will predictably see a high level of sedimentation with variation in texture – silts to large rocks.

Terra rossa soils: poorly defined layers and are generally a thin red-brown to brown sandy to clayey surface over a strong red-brown slightly more clay layer. Though it sounds mucky on the boots in wet weather, these are good growing soils. The underlying material is generally calcareous silts with lime content. These soils feature in specific sections of **Walkley Heights, Salisbury, Ingle Farm Para Vista, Para Hills, Gulf View Heights, Salisbury East and Salisbury Heights.**

Black earth soils are a problem for urban dwellers as they swell and go almost plasticky when wet, and when dry form large cracks from their shrinkage. They are well named, noticeable heavy clay soils grading from black to dark grey-brown top layer into black olive grey. They contain high amounts of

lime. They feature in **eastern sections of Valley View, Para Vista, Para Hills Gulf View Heights and Salisbury East and Salisbury Heights**.

Brown solinized soils consist of a thin brown to grey-brown sand layer over a brown to reddish-brown clayey sand to sand clay layer of varying thickness. Each layer contains calcrete which develops with depth to the underlying bedrock. They run along the Para Fault in the suburbs of **Walkley Height, Ingle Farm, Para Hills, Gulf View Heights, Salisbury East, Salisbury Heights**

The Black Earth, Brown Solonized and Terra Rossa soils are all particularly susceptible to movement.

In Urban development common practice is to cut the original (and often completely removed) soil and fill with soil from other areas. In some instances, the imported fill has improved the quality of the original soil. However, most often the fill has a lower humus and nutrient content than the original soil and completely destroys the soil profile, and micro-organisms that live there.

Complied by Shannan Davis, August 2020
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