

program. Taking stock of what your crop needs are, and the benefits being provided from compost over time, will help to maximise your vegetable production.

### **Why compost benefits the environment**

By using compost, not only can you help to reduce the amount of waste that goes into landfill, you can also help to reduce greenhouse gases.

Because compost can reduce the application of fertilisers, herbicides and pesticides, the need for harsh chemicals which can leach into waterways and groundwater can be eliminated.

### **Did you know?**

Compost can:

- reduce soil erosion by up to 30 per cent through adding structure to the soil
- assist in the slow release of macro and micro-nutrients in the soil that are vital for plant growth, reducing the need for fertiliser
- be applied at any time of year

- improve the flavour and nutrient content of fruits and vegetables
- assist in addressing the cause of nitrification and salinity of soil

And because compost can also assist in decreasing soil organic carbon over time, regular applications of compost can help to maintain the levels required for good vegetable production.



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*Focusing on the benefits of compost for...*

## VEGETABLE GROWERS

In Western Australia, where the soil is generally low in fertility and organic matter, the use of compost has been found to provide many benefits when growing vegetables. This is particularly the case when it has been subjected to intensive agricultural practices.

Research has shown the application of compost as part of the preparation and ongoing management of vegetable crops can increase both crop quality and production. At the same time the requirements for irrigation and artificial fertiliser are also decreased.

Compost also improves soil structure, helping moderate against unexpected fluctuations in temperature and moisture levels which cause plant stress and crop failure.

### **What is compost?**

Composting is the process by which waste organic matter is broken down over a specified period of time. Micro-organisms, including bacteria and fungi, break down the waste organic matter, recycling its associated nutrients into a

material that can later be reintroduced back into the environment. This process generates heat which helps to destroy weeds, pests and disease.

The process results in compost, a rich dark-coloured product, which can be spread on top of or dug into the soil to act as a conditioner and slow release natural fertiliser.

The benefits of applying compost to your soil include:

- improved organic matter levels
- increased nutrient availability
- improved soil structure
- improved water retention
- improved drainage
- assisted plant growth and disease resistance
- a reduction in unwanted insects
- less need for commercial herbicides or pesticides
- increased soil structural stability
- reduced soil temperature fluctuations
- suppression of weeds
- prevention of wind erosion.

### **Compost and water management**

Compost (often incorporated with a mulch material) can conserve soil moisture by preventing evaporation.



Even a shallow layer of organic matter on top of the soil can slow down the evaporation process. This can result in the need for less irrigation - an outcome that can benefit every grower economically and environmentally.

Compost mulches are a great option to decrease irrigation requirements while at the same time maintaining and possibly increasing crop yields. A number of studies throughout Australia have shown water savings of between 10 - 20 per cent through the use of compost mulch application.

### **Soil nutrients and compost**

Compost provides food for soil life and is an excellent source of essential plant nutrients, including manganese, zinc and iron, which are often missing from artificial fertilisers. Compost can also deliver a significant boost of potassium, with a slower release of nitrogen and phosphorous over time.

Because compost can reduce the need for fertilisers, herbicides and pesticides, the leaching of these products into waterways and groundwater can be dramatically reduced if not eliminated. Research has shown that fertiliser savings can cover at least one half to two thirds of the cost of applying compost - which is the best natural fertiliser of all.

### **Reaping the rewards**

Compost assists in binding clusters of soil particles together, helping to develop air channels into which roots can grow. This can increase the nutrients necessary for healthy vegetable growth and can improve crop growth and yield over time.

To achieve these benefits consistently it is important to implement a monitoring

