

# RESEARCH DIRECTIONS

## Green Roofs

**Dr Charles Morris from the Centre for Plants and the Environment is researching which type of growing media produces the strongest plant growth and health for plants and gardens on roof tops (green roofs). This research is funded by The Hills Bark Blower.**

'Gardening has become a healthy and relaxing pastime for many Australians,' says Dr Morris. 'People take great pride in the flowers, shrubs and vegetables they are able to grow in their backyard. However, gardens that are confined to roof-tops can require different soil products and care compared to a backyard garden. Plants are confined to smaller spaces on green roofs and receive fewer nutrients, therefore, more care must be taken in their maintenance. In addition, a number of green roofs may be designed to help reduce urban heat and energy use and may not always be accessible by the building inhabitants, so the plants must be hardy and self-sufficient with a good growth media to support them. In this research we will aim to discover which type of soil mix (organic or mineral base) and depth is the best to use in green roof gardens, in order to produce healthy and beautiful plants, providing more green space in urban areas.'

This research will be made up of two separate runs of an experiment. In each run, different media combinations will be tested, involving three types of mix and three different planting depths. Researchers will measure the water quality, salt and nutrient content from each box (through levels of different minerals, such as sodium, phosphate and nitrate), as well as the number of plants alive, their height and leaf colour in each box. These measurements will be taken three times: at the beginning, at six weeks and at 12 weeks.



Determining the right combination of soil mixture and planting depth for green roofs will provide economic benefits by helping reduce pollution and building energy usage, reduce excess heat and improve air-quality in large urban areas where most green roofs are found. Some gardens may also provide the added bonus of producing flowers and edible plants.

**Project Title:** Growth Media for Roof-top Gardens  
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