



GR42, the survival solution for trees/plants in the desert

The Gateway Project Australia

The Gateway WA Perth Airport and Freight Access Project is a \$1 billion road construction project, funded by the Australian and State governments, and is designed to improve the safety and efficiency of one of the state's most important transport hubs.

Gateway WA's mission was to deliver a sustainable landmark road infrastructure around Perth Airport and the Kewdale Freight Precinct. In doing so, Gateway WA was committed to achieving sustainable economic, environmental and social outcomes for the project, from inception through to completion and beyond.

Landscaping the roads to achieve these outcomes had its challenges but GR42 was confident its involvement would make a positive difference.

Challenges

Global water resources are being depleted at an alarming rate, with water scarcities becoming an ever-increasing problem. With a growing global population, changing climate and continual strain on water supplies, it is critical that advances are made to current water conservation and drought management practices as water resources will become increasingly more valuable.

With the exception of Antarctica, Australia is the continent that receives the lowest amount of rainfall. Despite this, Australia has one of the world's highest per capita water consumption rates. For cities such as Perth that are experiencing a rapid rise in population, the consequences could be severe (Vardon et. al, 2007). In addition to the lack of rainfall, nutrient poor soils are prevalent throughout Australia which provides a tough challenge for many plants to survive and for farmers to achieve large crop yields (Orians and Milewski, 2007).

It is essential that effective water-saving strategies are enforced.



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Test setup



A designated site was chosen for the long-term study. With periodical site observations, the progress and growth in mortality rates between seedlings grown with and without GR42 were determined and measured. At the seedling planting stage of the project, half the site was allocated for the growth of seedlings with GR42 and the remaining half without.

Over a period of three, quarterly observations (the fourth observation occurred 6 months after the third), plants were measured and photographed in order to clearly demonstrate the difference between those grown with and without GR42.

The result



At the end of the test duration it was clear to see that there is a difference in the average height of those plants grown with and without GR42—147cm for those with in comparison to just 120cm for those without. In terms of mortality rate; those grown without GR42 had a much higher mortality rate. In a normal environment only 30% of the trees survive within a three-year period. However, with GR42 70% survive.

In the test environment results demonstrated that just after the first three months, the mortality rate for those plants without GR42 was 20% and with GR42 only 3%. The reason for this result is due to the fact that those planted with GR42 have continual access to nutrients stored in GRc42, as well the absorption of water – both of which are slowly released to the plants, allowing them to survive the harsh weather conditions the plants are subject to, during the summer months GR42:

- creates an environment that supports and encourages strong and healthy plant growth and root development, whilst enabling a drastic reduction in water consumption.
- is a highly viable product for projects concerning sustainability and offers a ‘breakthrough’ in advancing current water conservation practices.



The conclusion



In conclusion, it is highly evident from the Gateway Project findings that, GR42 possesses a wide variety of benefits and can greatly enhance overall plant growth whilst drastically reducing watering and mortality rates.

GR42 has the ability to significantly reduce water and labour costs, due to the need to replace deceased plants reducing.

GR42, is flexible and can play a viable role in a wide variety of projects surrounding water conservation, ranging from sustainable government projects, through to mining rehabilitation and golf course maintenance.

GR42 has an opportunity to play a pivotal role in drastically improving current water conservation and drought management practices which, for dry regions such as Australia, is crucial.