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## Tailored growth substrates for green roofs

### The Challenge

Green roofs help to control climate within buildings, to mitigate the effects of weather in cities and to provide islands of biodiversity in urban spaces. Included in green roof construction is a layer of soil-mimicking substrate which is crucial for plants' survival.

Very little scientific research has been carried out into green roof substrate composition and, to date, green roof performance has been variable. The challenge is to understand how composition affects performance in order to improve quality of commercial green roof installations.

### The Collaboration

Dr Duncan Cameron and Dr Gareth Phoenix, from the Department of Animal

and Plant Science, share research interests in the impacts of environmental change on vegetation and, more recently, in the area of developing new green roof technologies that allow us to utilise green architecture in a range of different climates.

Boningale Nurseries is one of the leading suppliers to the British landscaping industry. It creates innovative, high-quality products and provides best-practice advice to designers and installers of green roofs.

Collaborative R&D funding enabled a partnership to create a new range of green roof substrates, scientifically tailored to specific climatic zones and different plant species



Collaborative R&D Project

## The Result

Findings from the project's pioneering integrated approach have significantly contributed to the development of green roof technology. Boningale now has new substrates on the market. These products, tailored for regional climate and roof type, will make substrate selection and specification more straightforward for customers, commercial specifiers and architects and will ensure higher success rates of productive green roofs in the UK in the future.

Doctors Cameron and Phoenix have created real impact through applying their science to a real-life problem. They provided Boningale with a quick solution to required product development, with the added benefit of early-stage risk-sharing with the University of Sheffield. New findings arising from collaboration have led to research publications and the initiation of a PhD studentship between the Faculty of Science and Boningale.

**This project was funded through the Knowledge Transfer Account from the Engineering and Physical Sciences Research Council.**

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**This project is exciting for Boningale because it will provide reliable, scientific answers to questions that are very important to green roof designers and clients. It will enable us to establish our reputation as a leader by guiding the industry towards green roofs with much higher environmental performance, putting the expertise at the University into the hands of practitioners.**



Maggie Fennell, Green Roof Project Manager at Boningale.

 **boningale**  
Nurseries

[www.boningale-greensky.co.uk](http://www.boningale-greensky.co.uk)