



PRESS RELEASE

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NEW GREEN ROOF RESEARCH IDENTIFIES PLUGS ARE THE BEST WAY TO ESTABLISH HEALTHY SOIL ECOSYSTEMS

Maggie Fennell, Head of Boningale GreenSky, reveals the findings of a first-of-its-kind PhD study that was recently conducted with University of Sheffield's Animal and Plant Science Centre to identify the best way to ensure that beneficial micro-organisms thrive on green roofs.

How to introduce micro-organisms on to a green roof in a beneficial and cost-effective way has long been a problem for green roof specialists.

These valuable microbes, bacteria and fungi combine to improve plant nutrient uptake, which means that flowering performance on a green roof is likely to benefit. They can also help plants develop natural resilience to stressful conditions, to which they are subjected in a rooftop environment.

In the first analysis of its kind, Boningale GreenSky sponsored PhD researcher, Dr Tom Young, to scientifically investigate with experts at University of Sheffield's Animal and Plant Science Centre, how microscopic creatures can best be introduced to a sterile roof substrate.

Beneficial soil organisms perform many functions which influence soil fertility and plant health. Substrate mixes are known to have a low level of biological activity which makes plants more susceptible to stress and disease.

Our study found that applying arbuscular mycorrhizal fungi (AMF) inoculum directly throughout the substrate is expensive and not very effective. However, applying SRD inoculum to the plugs, or growing plants in pre-inoculated plugs, is a far better way to ensure that the micro-organisms establish successfully and form a biological relationship with the plant.

AMF is a specific type of micro-organism that helps plant roots take up nutrients and our production team combine it with additional beneficial bacteria and organisms that make the plants more naturally resistant to disease. The inoculum is watered onto the plants as they grow, beginning a symbiotic relationship that sustains both the plants and the microbes.

We use a range of carefully audited “Species rich diversity” (SRD) products which redress the imbalance in the green roof growing medium.

This is a proven organic method that has been successfully used by our nursery, Boningale Nurseries, to improve plant health and reduce the affect of pests and diseases, with minimal chemical intervention.

The findings from the study are an exciting development because they provide further information on the organic building blocks of a natural, healthy ecosystem, which is one of the key drivers of green roofs.

- Young et al. Using AMF inoculum to improve the nutritional status of *Prunella vulgaris* plants in green roof substrate during establishment. Urban Forestry & Urban Greening. Volume 14, Issue 4, 2015. [doi:10.1016/j.ufug.2015.08.012](https://doi.org/10.1016/j.ufug.2015.08.012)
- Our PHD researcher Dr Tom Young is now a recognised expert in substrate design and research, and is a leading independent scientist working with STRI and GRO on industry green roof standards (<http://strigroup.com/research-sector/green-infrastructure/>).
- Work was conducted at the University of Sheffield Animal and Plant Sciences department under the supervision of Dr Gareth Phoenix.

Boningale GreenSky is the green roof division of Boningale Nurseries, a member of BALI and GRO. Visit <http://www.boningale-greensky.co.uk/> or follow the latest news on Twitter [@boningaleroofs](https://twitter.com/boningaleroofs).

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