



Research Directions

Office of Research Services

PUTTING THE HEAT ON GREVILLEAS



Dr Charles Morris from the Ecology and Environment Research Group is investigating the germination process of Australian *Grevillea* species. This Australian Flora Foundation project will build upon earlier work that established that the seed coat is responsible for dormancy in *G. linearifolia*.

'Currently, we know that the seed coat controls dormancy in the seeds of eastern Australian *grevillea* species but we don't know how it does this' said Dr Morris. 'One possible way, which this research will explore, could be related to the presence of inhibitor compounds in the embryo which escape after the seed coat has been exposed to smoke. This characteristic has been found in a species of fire-responsive North American plants'.



Grevillea sericea

Intact seeds of *G. linearifolia* and *G. sericea* will be exposed to dyes and microscopy will be used to examine how much dye penetrates both intact and dissected seeds to identify any barriers to diffusion. Once barriers to seed germination have been identified, investigations will be repeated using seeds that have been heated, smoked or both, to discover whether such barriers are modified by heat and/or smoke.

When dormancy mechanisms have been correctly identified, dormancy will be able to be manipulated, which is particularly useful in horticultural and revegetation applications.

Project title: *Do heat and smoke affect the permeability of the Grevillea seed coat molecular weight compounds?*

Funding has been set at: \$14,000.

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