

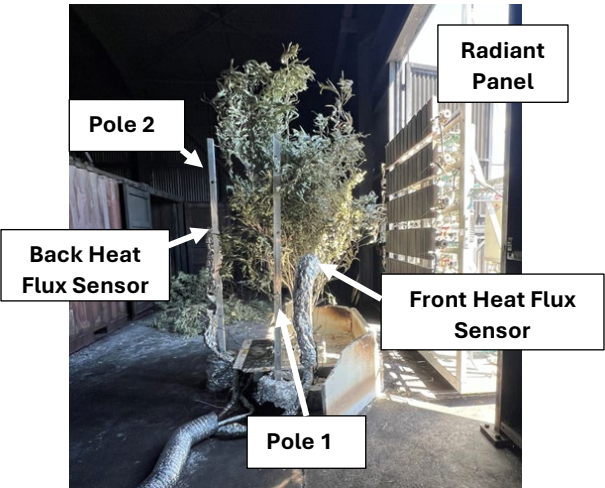
Ornamental plants elevate ignition risk; experiments and FDS modelling agree: evidence informs landscaping setbacks



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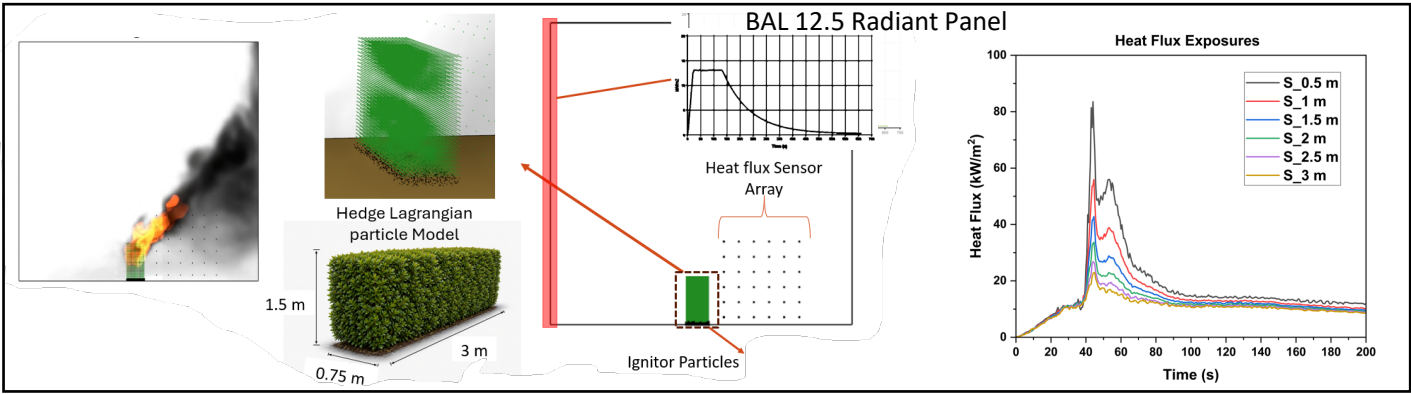
Assessing ornamental plant flammability for building safety

Ornamental vegetation can intensify radiant and convective exposure to nearby buildings. We conducted controlled burning tests on Lilly Pilly hedge with front- and back-face heat-flux sensors, determined material properties (STA/TGA-DSC, bomb calorimetry, CHNS/O) and validated FDS models. A planned parametric study will extend this workflow by varying hedge geometry, and wind/external heat flux, enabling generalised setback guidance for diverse landscaping scenarios.



- ✓ Ignition was delayed as the **moisture content increased**, and the burning duration was reduced in the wettest hedge due to **prolonged preheating**.
- ✓ Fine fuels, including **leaves and twigs < 6 mm**, were predominantly consumed.

Test	Ignition time (s)	Burning duration (s)	Mass loss (kg)
Test 1 (LP1)	36 s	~ 122 s	1.6 kg
Test 2 (LP2)	105 s	~ 106 s	1.8 kg
Test 3 (LP3)	164 s	~ 66 s	1.6 kg



For additional information scan the QR code or contact:
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