Title Can a post-harvest ripening treatment extend the longevity of *Rhododendron* L. seeds?

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Abstract

Pre-dehiscent capsules were collected from two *Rhododendron griersonianum* (Balf.f. & Forrest) trees and either immediately dried in a dry-room (15% relative humidity, 15 °C) or placed in a high humidity room (80% relative humidity, 15 °C) for 30, 60, or 90 d. Further capsules were also collected from the trees at 30 and 60 d, but seeds had been dispersed by 90 d. Seed ageing experiments (60% relative humidity, 45 °C) carried out on these seed-lots and on seeds from a further 10 *Rhododendron* (L.) species confirmed that short seed lifespans is a trait of the genus, with a mean P_{50} value of *ca.* 20 d for this storage environment.

Placing the pre-dehiscent capsules at high humidity allowed some continuation of maturation, but the longevity of these seeds was never as good as seeds collected from the plants after the same maturation period and had declined by 90 d, suggesting that 80% RH and 15 °C does not mimic the natural drying rate that the seeds would have experienced *in situ* and that, despite the high RH irreparable ageing commenced.

The results emphasise the importance of maintaining a good storage environment for *Rhododendron* seed collections which are likely to be short-lived compared with species from other families and/or genera and the importance of collecting seeds as close as possible to the point of natural dispersal.