

Snottygobble hacks up propagation mystery

March 31 2016, by Jo Fulwood, Sciencenetwork Wa



The fruit of the snottygobble. Credit: Kerry Chia

Local researchers have unravelled the germination secrets of WA's strangely-named snottygobble tree (*Persoonia longifolia* R.Br.), thereby opening the door for the species to help rehabilitate WA's landscape.

UWA research has found that summer thunderstorms are just one of the critical factors required by the seeds from one of WA's most unusual and iconic plants to germinate.

In what has been a biological mystery that has baffled scientists for many years, these extensive findings could prove extremely valuable in attempts to germinate other [species](#) with hard woody endocarps (nut-like structures) throughout WA and the rest of Australia.

For the seeds to germinate a very specific set of circumstances are required, which is why the return of this species to restored areas has, to date, been unsuccessful, UWA PhD student Kerryn Chia says.

P. longifolia is found in WA's jarrah forests, areas which are also mined for bauxite.

But mining companies have often found returning this species to mined areas to restore it is challenging, this is despite the species being included in seed mixes or direct return of topsoil.

In a major coup for these [mining companies](#), Ms Chia says her studies show one of the most critical factors in the snottygobble's [germination](#) is exposure to between two and four summer thunderstorms and extended [warm temperatures](#) of above 30⁰C over the summer months.

"Nursery, laboratory and burial trials have shown the seeds require between two and four summer thunderstorms of greater than 10mm of moisture each, to break the seed dormancy," she says.

"We also found the length of the warm summer period was critical with seeds needing to be exposed to summer temperatures for up to 20 weeks and germination finally occurring at fluctuating winter temperatures of 10–20 degrees.

"The seed of *P. longifolia* has physiological dormancy and requires both warm wet conditions in summer combined with a wet cold burst in winter before germinating in early spring, showing how complex natural

germination systems can be."

Now that the germination formula has been discovered, seedlings can be grown in a controlled environment before planting in restored areas of the jarrah forest.

Ms Chia says many hard woody endocarp species across Australia are also difficult to germinate including other species of *Persoonia*, plus *Astroloma*, *Leucopogon*, *Eremophila* and *Scaevola* species.

She says the technologies developed through this study could be transferrable to these other plants.

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Provided by Science Network WA

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