

# Appendix 1: Seed germination records

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Records of seed germination times have been kept at Kings Park and Botanic Garden since 1962 after the Gardens initiated a programme to propagate native species required for living collections. The first two decades of germination records were published in booklet form in 1980 and proved to be a very popular source of information for nurseries and enthusiasts alike. The booklet provided practical information about the expected germination time for more than 2000 species of Australian native plants.

The records in this appendix have been compiled from more than 40 years of data collection. This information should enable growers and enthusiasts to plan their propagation and nursery operations and not waste time and space waiting for seeds that will not germinate.

The data provided in this appendix relate to the length of time for shortest, longest and mean time to germinate for over 2200 species of Australian native plants, together with the number of samples for which germination was recorded. If there was no germination then the sample has been excluded.

As many of the pre-treatments, especially the smoke applications, are fairly recent, the germination times reflect a mixture of germination with and without the pre-treatment.

No indication of success or otherwise of the germination has been provided as there are too many variable factors relating to germination success in the seed quality, collection, treatment and nursery environment, to provide any reliable indicator.

For each species, the data is arranged in columns as follows:

- M Mean time to germinate. This column records the mean number of days from sowing to first emergence of the seedling.
- Q Quickest time to germinate. The minimum period in days from sowing to first emergence of the seedling.
- L Longest time to germinate. The maximum period in days from sowing to first emergence of the seedling.
- T Times sown. The number of samples for a particular species for which germination was recorded. Samples

for which there was no germination at all have been excluded.

- R Recommended pre-treatment. Details of the recommended pre-treatment are provided below. If there is no pre-treatment code, then a reliable treatment is currently unknown.

## **Botanical names**

During the 40 years that this information has been collected, the names of many Australian plants have been changed as botanists have studied and refined the classification of many of the genera. Wherever possible, and when name changes have been clear and direct, old names have been updated to the more modern ones, but in some cases this has not been possible. In these cases, if the records were considered still relevant, then the original name has been included in this appendix. For this reason, the list of botanical names includes some names that are no longer recognised.

## **Reliability of the data**

These records have been compiled from data collected over many years from seed sown in a wide variety of conditions and times of year, and using mainly seed collected in the wild. They are intended as a guide to germination times only and are not definitive, as there are too many variables in the factors that impact on the germination. In particular, for many years the only pre-treatment with a recognised, reliable effect was hot water and it was not possible to artificially break the dormancy of many seeds. Thus, the longer germination times of many species may be due to the time required for a natural break in dormancy. At one time it was normal procedure to leave some seeds for over 18 months after sowing so that exposure to summer temperatures and then winter rains and cooler temperatures would assist with dormancy breaking.

The use of the recommended pre-treatments has helped to break seed dormancy and provide more reliable germination times and simultaneous germination.