Abstract

Palms (Arecaceae) are an important component of many tropical rainforests. Many have also been cultivated widely for agricultural commodities with high economic value. They are also important components in rehabilitation of disturbed or marginal lands. Knowledge and application of germination strategies are essential in the cultivation of palms. Many species have seeds that do not germinate readily, even when light conditions are favourable. This research determined the effects of seed coats, light and temperature on germination of *Arenga australasica* (H. Wendl. & Drude) S. T. Blake ex H. E. Moore, *Calamus australis* Mart., *Hydriastele wendlandiana* (F. Muell.) H. Wendl. & Drude and *Licuala ramsayi* var. tuckeri Barford & Dowe. We examined physical treatments to promote germination or break dormancy, as well as different light and temperature conditions. The results showed that the hard seed coats of the four species slowed imbibition. Scarified seeds germinated best for *A. australasica*, *C. australis* and *L. ramsayi*. The germination of all seeds was inhibited by far red light. The red light requirement suggests that these species prefer to colonise open areas. This implies that dispersal agents, canopy gaps and forest margins may play important roles in promoting regeneration as well as conservation of these palm species.