Australian Journal of Botany 66(3), 278–285

http://dx.doi.org/10.1071/BT18003_AC

Supplementary material for

Germination biologies and seedbank dynamics of Acacia shrubs in the Western Desert: implications for fire season impacts on recruitment

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Text S1

Prior to undertaking the removal experiment all standing vegetation was cleared to ensure consistent spatial conditions across all treatments and replicates. For the ‘no exclusion’ treatment, 10 seeds of each species were randomly sown on the soil surface, with a layer of fly screen beneath the soil to assist in soil retrieval when seeds were exhumed. For the ‘full exclusion’ treatment, metal frames (50 cm x 50 cm x 10 cm) were constructed from galvanized sheet metal. These frames were placed onto the soil surface and a 2-cm band of Fluon [TM] was smeared around the upper lip of each frame to restrict ant access. A layer of 1 cm chicken wire was secured to the top of each exclosure to discourage bird and small mammal access, and a sheet of fly screen was buried beneath each exclosure to restrict access for ants and other invertebrates from below. For the cage control treatment, open ended exclosures that were identical to the ones used in the full exclusion treatment but with one side partially open, were placed around the seeds.

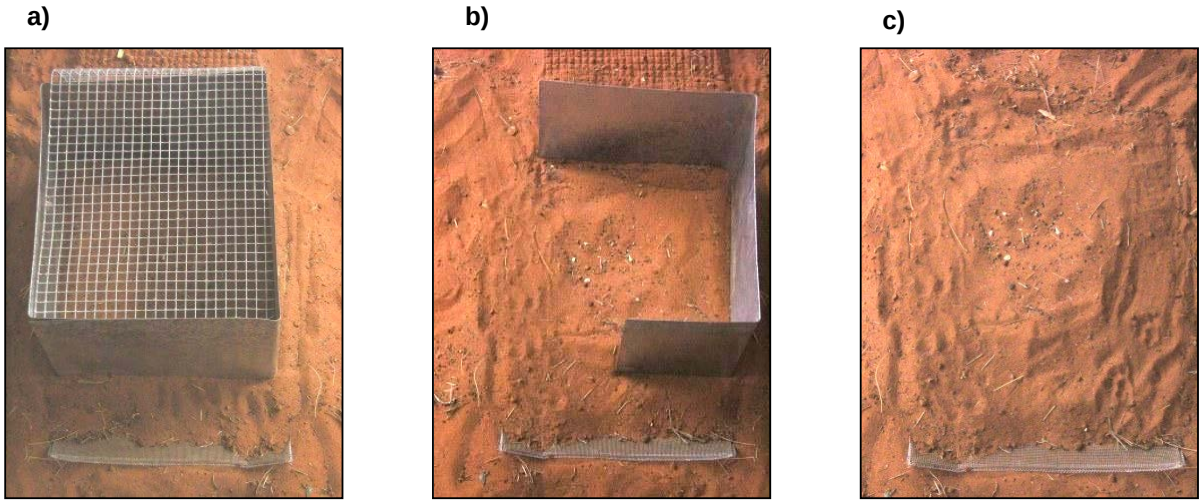

Figure S1. Exclusion treatments used in seed removal experiment: a) full exclusion of seed predators (FX); b) exclusion control, whereby a sham exclusion was used to test for exclusion effects on seed removal rates (CC); c) no exclusion of seed predators (NX). A sheet of fly screen was also buried beneath the exclosures to restrict access from below.

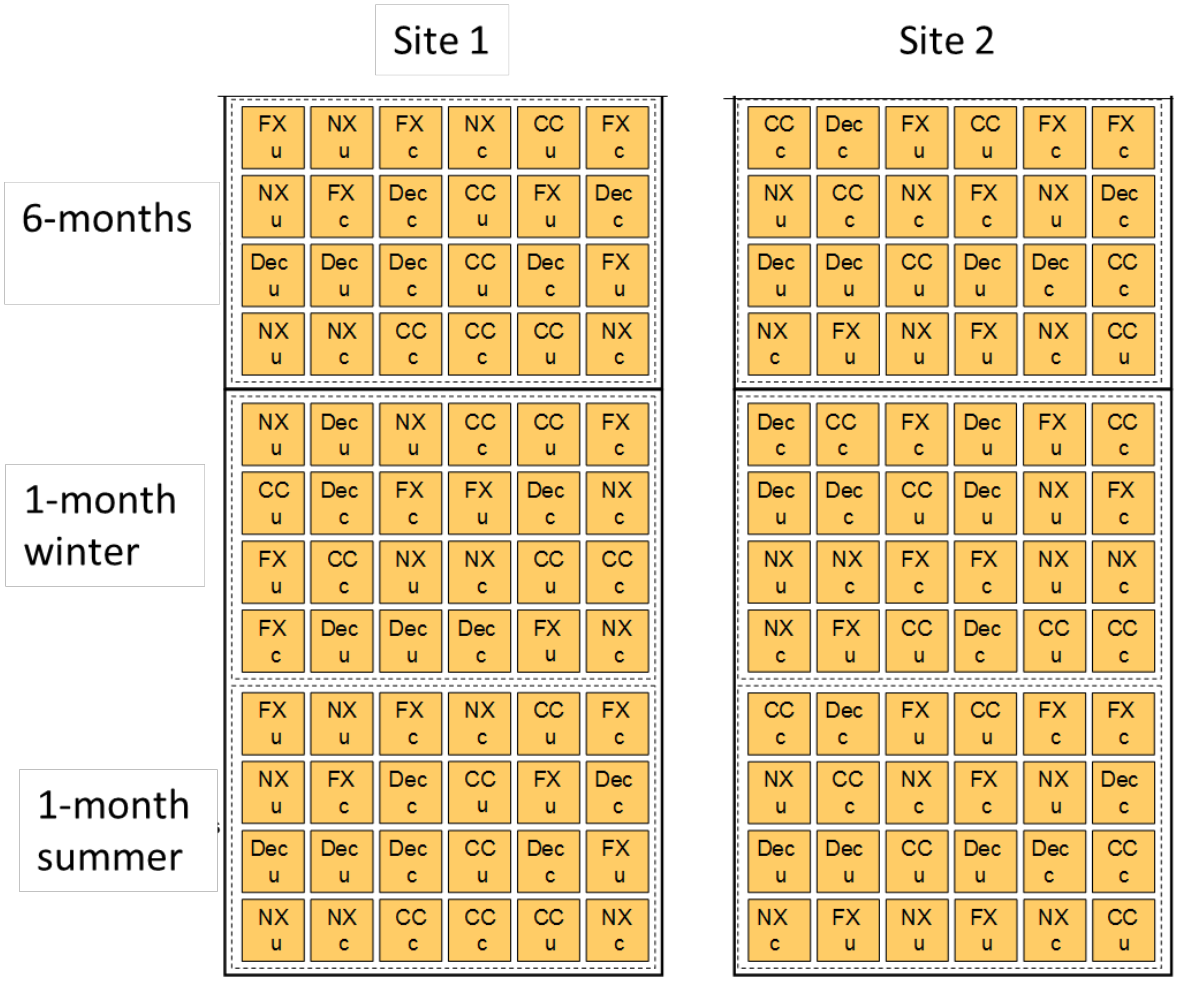

Figure S2. Schematic representation of experimental design for seed removal and seed decay experiments. Levels of the removal treatment were FX (full exclusion of predators); NX (no exclusion of predators); and CC (cage control). Plots used to bury seed caches are indicated by 'Dec', while 'u' and 'c' indicate whether the seeds used in each plot were exposed to a heat shock (c) or not (u).

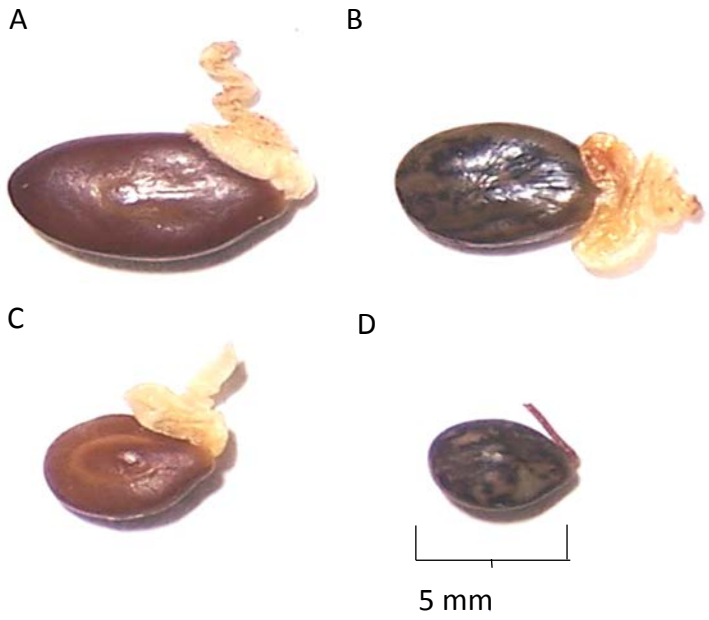

Figure S3. Seeds of four species of *Acacia* (A – *A. aptaneura*, B – *A. kempeana*, C – *A. melleodora*, D – *A. maitlandii*) used in removal, decay and germination experiments.