

**Northern Territory**

**Charles Darwin University**

**DP0771427** Dr LA Cernusak

**Approved Project Title** **Water-use efficiency of Australian tropical trees: mechanistic analysis at multiple scales**

**2007 :** \$90,000

**2008 :** \$90,000

**2009 :** \$90,000

**Primary RFCD** 2704 BOTANY

APD Dr LA Cernusak

**Administering Organisation** Charles Darwin University

**Project Summary**

The proposed research will provide valuable information about the physiological functioning of trees in northern Australia. Experiments will elucidate mechanisms that can result in variation in water-use efficiency among different tree species. Such a mechanistic understanding will have multiple benefits: (1) results will be able to be incorporated into process-based models of carbon and water cycling in the north-Australian landscape; (2) they will provide valuable information for land managers interested in optimizing both plant biomass production and water resource management; and (3) they will provide a critical test of proxy methods for identifying high water-use efficiency in taxonomically diverse tree species.