

Growth and biomass partitioning of nine provenances of *Quillaja saponaria* seedlings to water stress

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© 2018, © 2018 NISC (Pty) Ltd. Information on the morphological and physiological responses of seedlings to stressors, such as water stress, is required for successful early establishment of seedlings. We examined provenance variation in morphological and physiological traits of *Quillaja saponaria* Molina seeds from nine provenances representing a latitudinal transect across the species range in Chile. The seedlings were subjected to two water regimes (well-watered vs water restriction) in a nursery experiment, and growth, biomass, survival, and gas exchange traits were measured. As expected, well-watered seedlings exhibited a superior performance in all traits analysed. Provenance effects were significant for most of the morphological and physiological traits. In the growth and biomass analysis, the northernmost provenance showed the lowest survival, growth and dry biomass, whereas in the gas exchange analysis, the southern interior provenance showed the highest net photosynthesis, tran