



Research profile: Dr Julian Moreno Chan

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Research profile

Dr Moreno Chan's research focus at the ICFR is the development and implementation of an advanced-generation breeding program for *Acacia mearnsii* (black wattle) to improve growth, disease resistance, frost hardiness and wood and bark properties. In addition to black wattle, he has experience in breeding strategies for a range of species and diverse end products in Mexico, Australia, and South Africa. In recent years he has focused on breeding for pests, diseases and abiotic factors leading to the identification of rust resistant and frost tolerant clones, as well as the establishment of new clonal seed orchards. Dr Moreno Chan's work and expertise have contributed significantly to the progress and development of ICFR's Wattle Tree Improvement Program and to the benefit of South Africa's wattle tree growers.

Research Gate: <https://www.researchgate.net/profile/Julian-Moreno-Chan>

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Publication Record

ICFR Reports

Moreno Chan J. Results frost screening Australian provenance families, batch one, evaluated in winter 2022. *ICFR Report TRC2022/201/03*.

Moreno Chan J. Results frost screening BGCT Clones evaluated in winter 2022. *ICFR Report TRC2022/201/02*.

Moreno Chan J. Preliminary report 11-month assessment Wattle Hybrid Trial 1 (WHT1). *ICFR Report TRC2022/201/01*.

Moreno Chan J, Beck-Pay S, Bairu MW. Acacia 2014: Sustaining the future of *Acacia* plantation forestry, Report of the IUFRO Conference and post-Conference tour, Vietnam, March 16 – 25, 2014. *ICFR Bulletin 06/2014*.

Moreno Chan J. Performance and realised genetic gain of twelve production seed orchards of *Acacia mearnsii* at half-rotation. *ICFR Bulletin 10/2013*.

Moreno Chan J. Frost tolerance in *Acacia mearnsii*: A review of past breeding research. *ICFR Bulletin 04/2015*.

Moreno Chan J. Damage assessment and current status of the ICFR black wattle seed orchards after January 2013 storm and implications on the future supply of improved seed. *ICFR Bulletin 07/2013*.

Peer-reviewed Publications

Hechter U, Little K, **Moreno-Chan J**, Crous J & da Costa D. (2022). Factors affecting eucalypt survival in South African plantation forestry. *Southern Forests 84(3): 253-270*
 DOI: [0.2989/20702620.2022.2147874](https://doi.org/10.2989/20702620.2022.2147874).

Moreno Chan J, Isik F. (2019). Genetic variation in resistance to *Uromycladium acaciae* fungus, growth, gummosis, and stem form in *Acacia mearnsii* Populations. *Tree Genetics and Genomes*, 15:1-13, DOI 10.1007/s11295-019-1341-x.

Moreno Chan J. (2019). Frost tolerance of six seed or of *Acacia mearnsii* (black wattle) and the effect of developmental stage and tree size on frost hardiness. *Australian Forestry*, 82:1, 35-47, DOI 10.1080/00049158.2019.1583112.

Fraser S, McTaggart AR, **Moreno Chan J**, Nxumalo T, Shuey LS, Wingfield MJ, Roux J. (2019). An artificial inoculation protocol for *Uromycladium acaciae*, cause of a serious disease of *Acacia mearnsii* in southern Africa. *Southern Forests: a Journal of Forest Science*, 81:1, 85-90, DOI 10.2989/20702620.2018.1468985.

Moreno Chan J, Day P, Feely J, Thompson R, Little KM, Norris CH. (2015). *Acacia mearnsii* industry overview: current status, key research and development issues. *Southern Forests* 77(1) 19-30.

Moreno Chan J, Raymond CA, Walker JCF (2013). Development of heartwood in response to water stress for radiata pine in Southern New South Wales, Australia. *Trees: Structure and Function* 27, 607-617. DOI 10.1007/s00468-012-0815-3.

Moreno Chan J, Walker JCF, Raymond CA. (2012). Variation in green density and moisture content of radiata pine trees in the Hume region of New South Wales. *Australian Forestry* 75, 31-42.

Moreno Chan J, Walker JCF, Raymond CA. (2011). Effects of moisture content and temperature on acoustic velocity and dynamic MOE of radiata pine sapwood boards. *Wood Science and Technology* 45, 609-626. DOI 10.1007/s00226-010-0350-6.

Moreno Chan J, Raymond CA, Walker JCF. (2010). Non-destructive assessment of green density and moisture condition in plantation-grown radiata pine (*Pinus radiata* D. Don.) by increment core measurements. *Holzforschung* 64, 521-528. DOI 10.1515/HF.2010.067.

Current student projects

Hechter U (PhD.), The optimisation of *Eucalyptus* regeneration practices for improved survival in South African pulp-wood plantations. NMU, Supervisors: Little K, **Moreno Chan J**.