

## Variation in biomass production and relation to genetic diversity in three *Pinus* species

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Vast reforestation programmes in Spain during the early 20th century hardly considered seed origin. We evaluated the provenance effect on biomass production of the three main *Pinus* species used in plantations: *P. halepensis*, *P. pinaster* and *P. sylvestris*.

Dendrometric data was measured in provenance common garden experiments, covering the natural distribution range of these species in Spain, in order to estimate the individual tree biomass. Neutral genetic diversity through CpSSR (genotype) was also measured in a subset of populations in order to prove their possible correlation.

The three pine species showed significant intraspecific differences regarding provenance biomass production, without a clear geographic variation pattern. No significant correlation was detected between phenotype vs. genotype for any of the three pines. Allometric equations are required taking into account geographical distribution of natural populations in order to obtain accurate measurements of carbon stocks through forest inventories.