

## **Common bean (*Phaseolus vulgaris* L.) landraces in Catalonia, a Mesoamerican germplasm hotspot to be preserved**

### **Abstract**

Several landraces of common bean with high organoleptic value have resisted the rapid expansion of improved cultivars in Catalonia, in north-eastern Spain. To establish strategies for their preservation and use, we employed RAPD and AFLP markers to investigate the genetic variability within 15 landraces and to identify their original gene pools. A higher percentage of Mesoamerican landraces was found in Catalonia (40%) than in the rest of the Iberian Peninsula, or in Europe (approx. 20%). This is probably due to the exclusion of Catalonia from early trade with the American colonies and stronger commercial links with the Caribbean during the nineteenth century. Our results confirm that Catalan consumers prefer white-seeded common bean varieties of Mesoamerican origin. The landrace ‘Castellfollit del Boix’ showed 69.6% polymorphic RAPD primers, with 53.2% polymorphic bands, while at the other extreme ‘Tavella Brisa’ showed 47.8% polymorphic primers with 25.3% polymorphic bands. An AFLP approach yielded similar results. The high genetic variability found in ‘Castellfollit del Boix’, one of the landraces most threatened, suggests a considerable amount of introgression from improved inbreds.

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