

LIKE GRANDFATHER, LIKE FATHER, LIKE SON: FOLLOWING THE FATE OF RESISTANCE GENES IN COMMON BEAN (*PHASEOLUS VULGARIS* L.)

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genomic pedigree, NBS LRR, Resistance Gene Homologues, evolution, nematodes

A double cloning and sequencing strategy was used to establish a genomic scaffold of resistance genes in common bean (*Phaseolus vulgaris* L.). This certified gene tree let us to follow the dynamics of NBS-LRR gene family and to measure its evolution in the Mesoamerica *vs.* Andean genepools and in wild *vs.* domesticated genotypes.

We observed different evolutionary forces regulating the development of different clades and a birth-and-death model for evolution of these gene clusters.

Further, this genomic scaffold let us to validate the gene sequences obtained in different accessions and cultivars resistant to root-knot nematodes (*Melodogyne* spp.) and to track the inheritance of 2 resistance genes from a Mesoamerican “grandfather” resistant source, PI165426, to an Andean “grandson” cultivar, Blanco laran mejorado.

Specific PCR primers were developed on these sequences and their characterization on F3 segregating progenies is ongoing.