Dissection of the Downy Mildew R-gene cluster on chromosome 8

Clémence PARIS

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Context

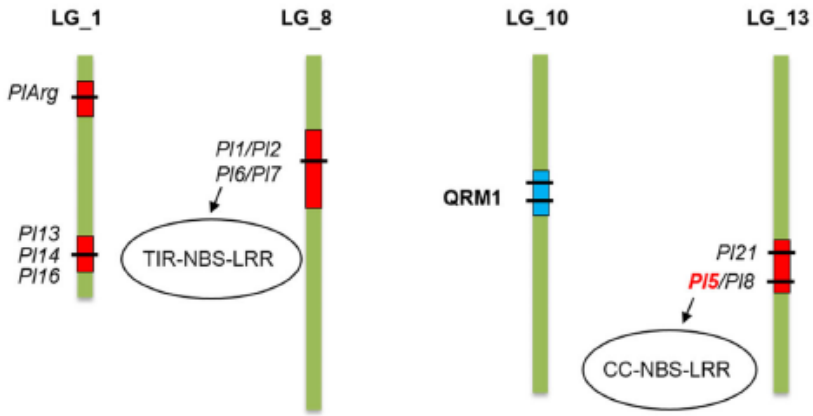
- Plasmopara halstedii, causal agent of sunflower downy mildew (DM)
- New pathogenic isolates are produced over the time

- Aim to develop sustainable resistant products
- Molecular markers used as tool to increase accuracy and speed up of the selection process

Plasmopara halstedii, France 2022

- Complexity of DM locus due to R-gene cluster

  example on chromosome 8
- Development an innovative approach to develop diagnostic markers



Q. GASCUEL *et al*. 2015

New insights for the purpose of breeding and resistance management

- Traits and origin description of our germplams
- Combining genetics and genomics legacy data over the last 10 years

➢ Haplotype based analysis of the Downy Mildew R-gene cluster on chrom 8

- Identify the different alleles represented in the germplasm
- *Pl6* showed multiple haplotypes in our germplasm related to the origin of the material
- Putative R-genes all map to interval from 6 to 7 Mbp in the region of interest

❖ Genes deployment strategy in the different breeding programs

Thank you for your attention