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SELECTION OF NEW GRAPEVINE GENOTYPES DERIVED FROM THE AUTOCHTHONOUS CV. CORVINA

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A main target of breeding programs in grapevine is the reduction of phytosanitary treatments needed to ensure yield and quality at harvest, by introgression of resistance sources. Besides that, more recently, climatic changes are also challenging grape cultivation in several areas leading to anticipation of phenological events with a negative impact on grape and wine quality. Therefore, adaptation of traditional varieties to changing climate is becoming an extra breeding target, which includes the selection of late ripening varieties among those introgressing resistance loci, while preserving distinctive performances and quality.

Selection of offsprings introgressing resistance in grapevine can be assisted by genetic markers (MAS) released by previous genetic studies, and several breeding programs relying on these have already been applied. On the opposite, the genetic determinism of phenology is more complex and less understood in grapevine, especially in the *cv.* Corvina, and few genetic markers are available for assisting selection, which rely therefore still mainly on phenotyping. Furthermore, phenotyping also remains necessary to finally assess the effective resistance levels of new varieties, thus validating MAS selection and for quality.

In this study we have crossed the autochthonous *cv*. Corvina, typical of the Verona province area, to a resistant grapevine hybrid. Offsprings introgressing resistance loci for downy and powdery mildew, selected by MAS and grown under field conditions, have been phenotyped since 2019 to investigate their phenology and further agricultural traits and to validate resistance to downy mildew. More in details, field phenotyping included so far the evaluation of the main phenological stages together with the assessment of some morphological and quality traits at harvest, beside assessment of field downy mildew resistance for two years. Furthermore, the introgression of resistance to *Plasmopara viticola*, the causative agent of vine downy mildew, was confirmed in some resistant genotypes by targeted infections on leaf discs in a controlled environment. Finally, based on genetic data and phenotyping, a few new promising genotypes have been selected and are being further propagated in multiple copies to be subjected to a more in-depth characterization in the coming years.