

Self-compatibility in Spanish Local Cherries

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Abstract

Self-compatibility is one of the main breeding objectives in sweet cherry, but most modern self-compatible cultivars derive from a unique ancestor, 'Stella'. As a result the genetic base of cultivated self-compatible sweet cherries is much reduced. It is necessary to identify and characterize new sources of self-compatibility that can be used in sweet cherry breeding. Self-compatibility has been detected in local Spanish cultivars from the Mediterranean basin. The self-compatibility of these cultivars is being investigated in order to elucidate its cause and to develop markers that allow marker assisted selection of this trait. Research so far indicate that the mutation of self-compatibility in the cultivar Cristobalina affects the pollen function and it is not linked to the S locus but located in the lower part of the LG3 of the sweet cherry linkage map. Recent advances in the physiology of this trait and other self-compatible local cherries are presented.