

S-ALLELE IDENTIFICATION IN JAPANESE PLUM VARIETIES BY PCR AND CROSS-POLLINATION

M.E. Guerra^{1,2}, J. Rodrigo¹, M. López-Corrales² and A. Wünsch¹

¹Unidad de Fruticultura, CITA de Aragón, Apartado 727, 50080 Zaragoza, Spain

²Departamento de Hortofruticultura. Centro de Investigación 'Finca La Orden-Valdesequera'. Apdo. 22, 06080 Badajoz, Spain

Japanese plum exhibits gametophytic self-incompatibility. This mechanism is genetically determined by a locus (*S*) with multiple alleles. This locus encodes an allele-specific *S*-RNase, which is expressed in the style, and that inhibits the growth of pollen tubes with the same *S* allele. Since Japanese plum varieties are self-incompatible it is necessary to use pollinator varieties to obtain fruit set. In this work, the *S*-alleles of 45 Japanese plum varieties were determined by PCR amplification of the *S*-RNase. The *S*-alleles of 38 of these varieties had not been described before. These results allowed grouping the varieties in 10 Incompatibility Groups, of which 4 are new, and the identification of a new *S* allele, *S*_o. Microscopy observation of pollen tube growth in self- and cross-pollinations among varieties of the different incompatibility groups, allowed to confirm the Incompatibility Groups of the varieties analysed.