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## FERTILIZATION SUCCESS OF POLLEN FROM 'FUERTE' AND 'BACON' AVOCADOS ON 'HASS' FLOWERS

J. I. Hormaza

Estación Experimental la Mayora – CSIC. 29750 Algarrobo-Costa, Málaga, España.  
ihormaza@eelm.csic.es

In this work, the fertilization success of pollen from 'Fuerte' and 'Bacon' on 'Hass' flowers has been studied through paternity analysis with the help of microsatellite molecular markers. Two experiments were performed on two consecutive years, 2001 and 2002. The first experiment, carried out in 2001, consisted in applying a mixture of pollen from 'Hass' and pollen from either 'Bacon' or 'Fuerte' on stigmas of 'Hass' flowers. The second experiment carried out in 2002 consisted in applying a mixture of pollen from 'Fuerte' and 'Bacon' on stigmas of 'Hass' flowers. For both experiments, along the 'Hass' flowering season, several 'Hass' inflorescences were chosen every day and all the flowers, flower buds and small fruitlets were removed leaving just 3 to 7 flowers starting to open in the female stage. Controlled pollinations were then carried out by weighting the same amount of dehisced anthers obtained from each pollinizer and applying the anther mixture on the stigmas of open 'Hass' flowers at the female stage. For the experiment of the mixture of 'Hass' pollen with either 'Bacon' or 'Fuerte' pollen a total of 178 inflorescences were used (half for each cultivar) resulting in 134 fruits with a final yield of 14.5 %. For the experiment of the mixture of pollen from 'Bacon' and 'Fuerte' a total of 119 inflorescences were used resulting in 79 fruits with a final yield of 11.7%. Seven months later the fruits were harvested and the DNA of each fruit extracted from the embryos. The DNA was amplified with PCR using two microsatellite loci that were polymorphic among the parents studied and the paternity of the offspring established. The results obtained under our environmental conditions show a disadvantage of 'Hass' pollen compared to both 'Bacon' and 'Fuerte' pollen for fertilization success on 'Hass' flowers and an advantage of 'Bacon' over 'Fuerte' pollen both in the mixtures with pollen from 'Hass' and when pollen from both 'Bacon' and 'Fuerte' were mixed.