P19- Williams pear (*Pyrus communis* L.) productivity and fruit quality, grafted onto different rootstocks

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Williams, the most cultivated pear (*Pyrus communis*) in Uruguay, was grafted on: three P. communis rootstocks ('OH×F333', 'OH×F51', 'OHxF97'); one P. calleryana ('D6'); and two *Cydonia oblonga* (quince) rootstocks ('BA29' and 'EMC'). To evaluate the performance of these combinations in the South of Uruguay, trees were planted in 1999 at the INIA Las Brujas, 'Wilson Ferreira Aldunate' Experimental Station (34° 67' S - 56° 34' W). Rows were 5 m apart and 1,5 m between trees (1333 pl/ha). The experimental design used was randomized blocks with six treatments, each composed of six plants, with four replications. The crops considered were from 2014 to 2018. Productivity was evaluated as well as average fruit weight, firmness, diameter, soluble solids and number of fruits. The data were submitted to analysis of variance by the F test and, when significant differences were detected, the means were compared through the Tukey test at 5%. The different rootstocks evaluated had no influence on diameter, firmness and soluble solids of fruits. For average fruit weight, it was observed that the quince 'EMC' presented the highest value in the first three cycles evaluated, and the cultivar on 'OH×F51' presented lower fruit weight during the same period. Regarding productivity, the rootstocks 'OH×F333', 'OH×F51' and 'OH×F97' were higher in the 2013/14, and 2016/17 cycles. These periods comprise good years of precipitation and cold units. However, in cycles of unsuitable climatic conditions, the 'BA29' rootstock was superior in productivity showing higher stability among years. Main withdraw for quince rootstocks was high rate of plant death occurred, being a possible reason the incompatibility which can be solved with an interstem. According to the results there is need of further research to identify the proper combination which will achieve maximum pear production potential under Uruguayan conditions.

Keywords: *Cydonia*, incompatibility, climatic condition, OHxF, Uruguay