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P13- Induction of bud mutations in 'Early Bon Chrétien' pears

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Global climate change is modifying adaptation of different fruit species. Pear culture is one of them, therefore, having a cultivar that adapts to these changes is of real importance. With the induction of mutations, it is intended to generate variability and improve the adaptation of 'Early Bon Chrétien' pear to different production regions, modifying aspects such as chilling requirements, flowering time, harvest date, fruit size, and resistance to diseases. In August 2017, shoots from 'Early Bon Chrétien' were collected in an orchard in Canelones, Uruguay. Twelve shoots of 25cm were subjected to absorption of each of the different concentration colchicine solutions (0, 0.025, 0.050, and 0.10%). They remained with the basal end immersed in the solution in Bohemian glasses for six to thirteen days in darkness at an average temperature of 23°C. Then buds were over grafted on adult pear tree branches (chip budding), identifying the buds as basal or apical according to the portion of the shoots from where they were taken. After 30 days, sprouted buds were counted. Of 240 grafts performed, 14.2% of buds sprouted, with a lower sprouting percentage the greater the colchicine rate. The apical buds of the treatment that combined absorption during 13 days of the solution with 0.025% of colchicine presented the highest percentage of sprouted buds (43.8%). A morphological study of leaves and shoots was carried out. In the leaves differences were determined in regard to shape of the base, shape of the apex, incisions of the edge in the upper half, presence and distribution of stipules, and number and size of stomata. The length of shoots was measured showing differences among materials. These results indicating presence of mutations will be discussed, as determinations by flow cytometry.

Keywords: *Pyrus communis* L.; pear breeding; genetic variability; colchicine; European pear