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Apples in the Southern Brazil - Effect of Cultivars and Clones on Fruit Quality

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The apple Brazilian production has the challenge of finding cultivars more adapted to the particular geographic condition of the Southern part of Brazil. With the prediction of global warming it becomes very important to evaluate the performance of new genetic material – including plant/rootstock combination – under different climates and soil condition. This study aim to compare the fruit color, firmness and chemical composition of 2 cultivars and 10 clones of apple, grafted on M9 and Maruba rootstocks, the latter with M9 as interstem. Fruit of cultivars Pink Lady and Daiane and clones of Gala (MaxiGala, Gala Real, Galaxy, Royal Gala, Imperial Gala and Baigent) and Fuji (Fuji Suprema, Fuji Select, Fuji Precoce and Mishima), were harvested in orchards of the Experimental Station of Embrapa Grape and Wine, located in Vacaria/State of Rio Grande do Sul (latitude 28°30'48"; longitude 50°52'56", altitude 968m). Fruits were harvested from plants of 2 and 3 years old (in 2007/08 and 2008/09) and evaluated for starch (scale from 1 to 5), titratable acidity (Cmol/L), Soluble Solids (°Brix), firmness of mesocarp (N) , skin color (L*, a*, b*, C*, h*) and fruit size. The results showed a significant effect ($P < 0.01$) of year on the analyzed variables. There was only one significant effect caused by rootstock: M9 caused an increase on fruit diameter ($P < 0.05$). It was also observed an increase in fruit firmness of plants grafted on Maruba rootstock with M9 interstem this result, however, needs to be confirmed in further studies. Other quality variables were not influenced either by rootstocks, cultivar/clone, or interaction of these factors.