

**INFLUENCE OF TRUNK GIRDLING ON GROWTH AND FRUIT PRODUCTION OF 'ROCHA'/BA29**

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**Abstract:**

The influence of girdling on the vegetative growth and fruit quality of 8-year-old 'Rocha' pear/BA29 was evaluated. In 2005, 1 mm wide girdling, at the stages, full white and petal drop was performed and 3 treatments were considered, T0 – without girdling, T1 – half circle girdle and T2 – two opposing half circle cuts. In another experiment, 1 mm girdling at 3 weeks before harvest and the treatments T0, T2 and T3 – a complete circle cut were compared. The following year, the treatments were the same but the cuts were 3 mm in width and were carried out at petal fall in order to obtain a more pronounced effect. Shoot length, fruit set, yield and fruit quality were measured. Two opposite half circle 1 mm cuts at petal fall decreased shoot length by 13% in the same year but the effect of this cut on shoot growth in the following year was a 42% reduction ( $P < 0.05$ ) compared with non-girdled trees, without any significant effect on fruit set and fruit production. A 3 mm girdling cut at petal fall, comparing the two different methods T1 and T2, reduced shoot growth in the same year by 29% and 19%, respectively and again had no effect on yield. Girdling tended to increase fruit size particularly; the 3 mm cut at petal fall resulted in less fruit of smaller diameter compared with controls. TSS was higher in fruits of trees girdled at full white and petal drop, and moreover, the fruits of the double C girdled trees had higher TSS at harvest ( $P < 0.05$ ) and a significantly lower Streif index ( $P < 0.05$ ) compared with controls. However, girdling 3 weeks before harvest did not significantly influence fruit quality. Although the results need confirmation, girdling allowed vigour control without the need to use chemical growth regulator sprays and may even contribute to the production of fruits of better quality