

Randomized Controlled Trial

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## 8 weeks of 2 *S*-hesperidin prevents a decrease in $pO_2$ at submaximal intensity in amateur cyclists in off-season: randomized controlled trial

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### Abstract

Although chronic supplementation with 2*S*-hesperidin has been shown to improve performance, to date, the possible mechanisms underlying this effect have not been explored. Therefore, the aim of this study was to assess whether changes in gasometry may be associated with improved performance after the intake of 2*S*-hesperidin (500 mg d<sup>-1</sup>, 8 weeks). Forty amateur cyclists ( $n = 20$  2*S*-hesperidin,  $n = 20$  placebo) performed a rectangular test, during which capillary blood samples were taken at the baseline, FatMax1, ventilatory threshold 1 and 2 (VT1 and VT2), power maximum ( $P_{MAX}$ ), FatMax2 and excess post-exercise  $O_2$  consumption (EPOC) to measure gasometry parameters. Significantly increased  $CO_2$  and  $tCO_2$  was found at FatMax1, VT1, FatMax2 and EPOC ( $p = <0.05$ ) after 8 weeks of 2*S*-hesperidin ingestion. Conversely, the placebo group had a significant decrease in  $pO_2$  at VT2 ( $p = 0.04$ ) during the rectangular test, with no changes in the 2*S*-hesperidin group. Therefore, chronic supplementation with 2*S*-hesperidin prevents decreases in  $pO_2$  at submaximal intensities in amateur cyclists in an off-season period.

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