

**Title** Maintaining the quality of unripe, fresh hazelnuts through storage under modified atmospheres

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**Citation** Postharvest Biology and Technology, Volume 65, March 2012, Pages 33–38

**Keywords** Nitrogen; Carbon dioxide; Fresh product; *Corylus avellana* L.

#### **Abstract**

Unripe hazelnuts are used for fresh consumption due to their delicate taste, the tenderness of the kernel and the fact that they are easy to shell manually without having to use tools. This report focuses on the possibility of storing unripe, fresh hazelnuts (*Corylus avellana* L., cv. Tonda Gentile Romana) under modified atmospheres, with the aim of maintaining quality for a 12 d storage period. Unripe hazelnuts were harvested manually, and the unshelled fruit was stored for 12 d under  $100 \pm 1$  kPa CO<sub>2</sub>,  $100 \pm 1$  kPa N<sub>2</sub> or air and at 4 °C or 10 °C. Parameters including color, respiration rate, firmness, moisture, peroxidase and polyphenoloxidase activities and sensory quality were analyzed. A modified atmosphere of  $100 \pm 1$  kPa N<sub>2</sub> maintained the quality of the fresh fruit throughout the 12 d storage period.