

### Abstract:

The effect of normal cold storage (NCS) and standard controlled atmosphere (CA) on quality and storage life of 'Bravo de Esmolfe' apple was investigated. Fruit samples were harvested on September 97 at 160, 171 and 183 days after full bloom (d.a.f.b.). One sample at each harvesting date was analysed immediately at the laboratory (UdL-IRTA) while the others were stored in commercial cold rooms and CA (of 150 t capacity) for 180 days. Additional analysis were carried out after 7 or 14 days shelf life (SL7 or SL14) at 20 °C and 90% R.H.. Quality attributes, including weight loss, titratable acidity (malic acid), color (CIE L\*a\*b\* or L\*C\*H\*), respiration, ethylene production and taste were determined. As expected, the percent weight loss increased with duration of storage and was highest on 180+SL14 (3.8%). Also, the firmness and titratable acidity was lower at 180+SL14 days than at harvest. Additionally, flesh degreening was lower at removal from cold storage than 14 days later (a\* and H° were significantly higher). Physical and chemical analysis of the quality attributes studied confirm that fruit were overmature at 180+SL14 (flesh firmness = 3.8 kgf·cm<sup>-2</sup>). Thus, 180+SL7 days could be the limit for fresh consumption.