

**Title** The influence of exogenous acetaldehyde solution on the vase life of two carnation (*Dianthus caryophyllus* L.) cultivars in the absence or presence of exogenous ethylene

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#### **Abstract**

The effects of acetaldehyde concentration (0, 0.025, 0.05, 0.1, 0.2, 0.3, 0.4 or 0.5%) in solution on the vase life and ethylene production of two carnation (*Dianthus caryophyllus* L.) cultivars contrasting in vase life (Sandrosa (long lasting) and Yellow Candy (shortlasting)) were studied. In Sandrosa, acetaldehyde solution (0.05%) increased the vase life by 3 days in the absence, or by 2 days in the presence, of exogenous ethylene; the increase in vase life was associated with a delay in the ethylene climacteric peak. In Yellow Candy, acetaldehyde (0.05%) increased vase life by 3 days, in an ethylene free environment. In the presence of exogenous ethylene there was no increase in vase life of Yellow Candy. Acetaldehyde failed to inhibit ethylene production in either of the cultivars. It is suggested that acetaldehyde is not involved in the inhibition of ethylene biosynthesis or sensitivity to ethylene in these two carnation cultivars.