

### Abstract:

Various concentrations of sucrose (0, 2.5, 5.0, 7.5, 10.0 or 15.0%) were fed to cut spray carnation flowers cv. Barbara. Vase life, ethylene production, ACC production and ACO activity were measured. Sucrose at 5.0% extended flower vase life the most. Its effect on vase life was associated with a delay in the petal climacteric ethylene peak. The same delay was found in gynoecium ethylene production. It is concluded that sucrose apparently inhibits climacteric ethylene production by inhibiting ACO activity. This effect may be indirect, by affecting gene expression.