232/D

The effect of ethrel and some other chemicals on vase life of flowers

M G P Mahagamasekera[1&2*] and N A A D K Hirantha[1]
[1] *Department of Botany, University of Sri Jayewardenepura, Gangodawila, Nugegoda*

Thirty five flowers belonging to different families collected from the Rattanapitiya area were used to study the effect of ethrel (an ethylene releasing agent) on their vase life. This was done by dipping stem ends bearing flowers in 480 mg/ L ethrel solution continuously or for 30 min and then transferring to distilled water. When ethrel hastened the symptoms of senescence, the effect was compared with the controls (distilled water) and expressed as a percentage reduction of vase life or a percentage stimulation of abscission. The percentages were then grouped in to 5 classes as follows:

class 0: no response (not sensitive); class 1: up to 33% effect (low sensitivity); class 2: 33%-66% effect (intermediate sensitivity); class 3: 66%-99% effect (high sensitivity); class 4: immediate dramatic response (very high sensitivity). Of the 35 species (spp.) tested, there were 13, 3, 10, 5 and 0 number of flowers falling in to classes 0,1,2,3 and 4 respectively. All these flowers showed wilting or abscission as the initial symptom of senescence.

Of the 35 spp., 20 were treated with 15.8 g/ L Potassium permanganate ($KMnO_4$) either continuously or for 30 min and then transferred to distilled water. This treatment had extended the vase lives of *Mussaenda frondosa* (Ethrel sensitivity class 0) and *Hibiscus rosa-sinensis* (Ethrel sensitivity class 1) by 20% and 5% respectively. $KMnO_4$ treatment reduced the vase life of 11 spp while it had no effect on flowers of 5 spp.

Flowers of some selected spp. were treated with 100 or 300 mg/ L sucrose, glucose and fructose solutions continuously or for 30 min and transferred to distilled water. All sugar treatments reduced the vase life of *Thunbergia grandiflora* while fructose treatments reduced the vase life of *Osbekia octandra*. The sugar treatments used in this study did not alter the vase life of other tested spp.

Acknowledgement: Financial assistance by University of Sri Jayewardenepura the research grant (ASP/6/PR/2002/11)

Present Address:
[2] *Department of Plant and Microbial Sciences, University of Canterbury, Christchurch, New Zealand*

* mgm46@sjp.ac.lk