

## Effect of selected treatments on vase-life and freshness of rose flowers in home decoration

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### ABSTRACT

For studying in roses with stem, various concentrations of solutions used were Filtered water-control ( $T_0$ ), Sucrose – 1% ( $T_1$ ), Sodium chloride-1% ( $T_2$ ), Gibberlic acid – 60 ppm ( $T_3$ ) and Glycerin -5 ml / l. Two sets of all the treatments were used to assess the effect of daily addition of the solutions in the freshness of roses. In one set ( $V_0$ ) the respective solutions were added daily to initial level whereas the other set ( $V_1$ ) was kept without addition. Treatment with 1 per cent salt ( $T_2$ ) extended the vase-life of roses and had significantly better colour, freshness and firmness of stems. Every day addition of respective solutions to make up the absorbed volume extended the vase-life and had better floral appearance. Similarly, total rate of solution uptake was high and the fresh weight was also more when the volume was made up.

**KEY WORDS :** Roses, Vase-life, Freshness, Home decoration

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Flowers, the nature's bounty, are loved, admired and adored. Available in fascinating colours, forms and shapes, they express happiness, cheerfulness, reverence, on all occasions of social, cultural and religious functions.

The life span and freshness of flowers depend upon the factors such as rate of absorption and transpiration, season, cutting time (Devlin, 1968; Larmine, 1980). Prolonging the life span of flowers, after separating from mother plant, is attempted in laboratories and certain treatments have been successfully developed for commercial purpose and various materials have been recommended such as charcoal, sugar, common salt, aspirin, olive oil, camphor (Thamman, 1980; Mullik, 1981; Khanna, 1982). Preserving roses with glycerin helps them to maintain more of their colour, shape and texture than normal dried roses have so (Kitty Belendez, 2011).

Validity of such recommended treatments therefore, needs to be tested to help these assets. The present study has therefore been conducted with the following objectives : to find out the effect of selected household treatments in terms of vase-life and freshness of rose flowers and to find out the effect of daily addition of the solutions to make up the absorbed volume in retaining the freshness of rose flowers.

### RESEARCH METHODS

For the experiment, the roses with stem were

selected as these have been found to be used commonly. The flower was standardized for the stem length, size and weight, freshness in appearance.

For studying the roses with stem, sucrose, common salt were the materials selected (a recommended by Larmie, 1980 and Mullik, 1981). While gibberlic acid and glycerine were included as effective laboratory treatments. Standardization of the materials was done in respect to the quality of water, concentration and the initial amount to be used.

The length of roses was kept 7 inches and weight ranged between 10 to 15 g. Concentration of solutions used were: Filtered used –control ( $T_0$ ), Sucrose-1% ( $T_1$ ), Sodium chloride-1% ( $T_2$ ), Gibberlic acid – 60 ppm ( $T_3$ ) and Glycerine -5 ml/l ( $T_4$ ).

Two sets of all the treatments was used to assess the effect of daily addition of the solutions in the freshness of roses. In one set ( $V_0$ ) the respective solutions were added daily to initial level where as the other set ( $V_1$ ) was kept without addition.

### RESEARCH FINDINGS AND DISCUSSION

It is depicted from the results of Table 1 that the mean vase-life of roses treated with 1 per cent salt ( $T_2$ ) was longer (3.83 days) compared to control (3 days) and all other treatments. The same treatments ( $T_2$ ) secured highest mean score for six selected parameters compared

**Table 1 : Vase-life and sensory evaluation of roses with stem**

Treatments	Vase-life (in days)	Parameters					
		Colour of flower	Smell	Wilting	Firmness of stem	Colour of stem	Overall freshness
V <sub>0</sub> T <sub>0</sub>	3.00	7.66	7.66	7.33	10.66	12.33	8.66
T <sub>1</sub>	3.00	9.33	7.00	8.00	10.00	12.33	10.00
T <sub>2</sub>	4.00	9.66	9.66	9.00	11.66	13.00	11.00
T <sub>3</sub>	2.66	8.33	7.66	8.00	10.66	12.00	9.00
T <sub>4</sub>	2.33	7.66	7.00	8.33	10.66	11.33	7.00
V <sub>1</sub> T <sub>0</sub>	3.00	7.66	7.00	7.33	11.00	12.00	8.00
T <sub>1</sub>	3.00	8.33	7.00	8.33	10.00	12.00	10.00
T <sub>2</sub>	3.66	8.00	9.00	8.00	11.66	12.66	10.06
T <sub>3</sub>	2.33	7.66	7.00	7.66	10.66	11.33	9.00
T <sub>4</sub>	2.33	7.66	7.00	7.66	10.00	11.00	7.00
Mean							
V <sub>0</sub>	3.00	8.56	7.66	8.33	11.06	12.20	9.06
V <sub>1</sub>	2.86	7.86	7.40	8.20	10.86	11.80	8.93
S.E. ±	0.177	0.252	0.232	0.181	0.209	0.22	0.23
C.D. (P=005)	0.526*	NS	NS	0.538*	NS	NS	0.71*
Mean							
T <sub>0</sub>	3.00	7.86	7.00	7.33	10.86	12.16	8.16
T <sub>1</sub>	3.00	7.83	7.00	8.16	10.00	12.16	10.00
T <sub>2</sub>	3.83	8.83	9.33	9.00	11.66	12.83	10.83
T <sub>3</sub>	2.50	8.00	7.33	8.16	10.66	11.66	9.00
T <sub>4</sub>	2.33	7.66	7.00	8.16	10.33	11.16	7.00
S.E. ±	0.279	0.39	0.36	0.286	0.33	0.35	0.37
C.D. (P=005)	NS	1.18*	NS	0.851*	NS	1.05*	1.126*
(V x T)							
S.E. ±	0.355	0.565	0.565	0.405	0.467	0.500	0.536
C.D. (P=005)	NS	NS	NS	1.23*	NS	NS	1.59*

\* indicates significance of value at P=0.05, NS=Non-significant

**Table 2 : Total rate of absorption and fresh weight of roses with stem**

Treatments	Total rate of absorption in M <sub>1</sub>	Weight of roses in g			
		Initial weight	II day	III day	IV day
V <sub>0</sub> T <sub>0</sub>	30.20	12.31	11.66	9.99	--
T <sub>1</sub>	35.60	12.60	11.20	10.11	--
T <sub>2</sub>	41.60	12.76	13.00	12.33	9.33
T <sub>3</sub>	25.60	11.86	11.66	9.33	-
T <sub>4</sub>	40.90	13.16	12.16	10.33	-
V <sub>1</sub> T <sub>0</sub>	28.33	12.46	11.03	9.09	-
T <sub>1</sub>	35.96	12.89	12.37	8.78	-
T <sub>2</sub>	40.99	12.08	12.00	10.92	8.71
T <sub>3</sub>	39.33	12.19	10.16	7.38	-
T <sub>4</sub>	40.66	12.72	10.65	8.19	-
Mean					
V <sub>0</sub>	37.66	12.53	11.93	10.41	9.33
V <sub>1</sub>	37.05	12.46	11.24	8.87	8.71
S.E. ±	0.628	-	0.333	0.467	-
C.D. (P=005)	0.951*	-	0.730*	NS	-
Mean					
T <sub>0</sub>	29.26	12.38	11.34	9.45	-
T <sub>1</sub>	35.82	12.74	11.78	9.44	-
T <sub>2</sub>	40.99	12.42	12.50	11.62	9.02
T <sub>3</sub>	32.46	12.02	10.91	8.35	-
T <sub>4</sub>	40.83	12.94	11.40	9.62	-
S.E. ±	0.921	-	0.810	0.500	-
C.D. (P=005)	1.050	-	0.680*	1.480*	-
(V x T)					
S.E. ±	0.831	-	0.359	0.33	-
C.D. (P=005)	NS	-	0.1176*	NS	-

\* indicates significance of value at P=0.05, NS=Non-significant

to control as observed from the value obtained for colour of flower (8.83 and 7.66), for smell (9.33 and 7.00), wilting (9.00 and 8.16), firmness of stem (11.66 and 10.86), colour of stem (12.83 and 12.16), overall freshness (10.83 and 8.16), respectively. The treatment was also significantly superior over other treatments for wilting and overall freshness of roses and colour of roses and stem.

As seen from Table 2 the mean total rate of absorption for roses, was significantly increased in  $T_2$  from 29.26 ml in control to 40.99 ml in  $T_4$ , 35.82 ml in  $T_1$ , 32.46 ml in  $T_3$ . It was observed that the fresh weight of roses started decreasing from second day onwards in all the treatments except  $T_2$ . There was significant increase in fresh weight on second day, by 08g which was later followed by a gradual decrease on third and fourth day as shown by values of 11.62g and 9.02, respectively. The

treatments  $T_0$ ,  $T_1$  and  $T_4$  were found to be at par with each other with the fresh weights between 11.40g to 11.78g and from 9.44 to 9.62g on second and third day, respectively.

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