

# Special Research Report #416: Postproduction

## Identifying Long-Lasting Cut Rose Varieties

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### BACKGROUND

Increasing the quality and vase life of cut flowers is critical to maintain growth in all segments of the floral industry. Identifying long-lasting varieties are important to improve the quality and performance of cut flowers. This study evaluated the performance of 16 cut rose varieties to determine which ones performed best.

### MATERIALS AND METHODS

The varieties were grown in Colombia, transported by air to Miami, FL and commercially transported on refrigerated trucks to the University of Florida. Flowers arrived 4-6 days after harvest.

Upon arrival, flowers were cut dry and placed in Floralife Crystal Clear flower food for 2 days at 35°F in the dark to simulate

wholesale/retail conditions. Stems were then recut and placed in vases containing flower food or water.

Flowers were maintained under postharvest conditions of 70°F and 70 ftc. (12 hrs/day)

Vase life was calculated from the time the flowers were placed in vases until the flowers declined to a point where they were no longer aesthetically pleasing to the consumer. Flower opening rate was recorded over time in the postharvest environment and ranged from 1=tight to 4=fully open with petals expanded. A flower open rate of 2.5 or above was considered satisfactory.

### RESULTS

#### *Variety Differences*

Vase life and flower opening varied markedly among varieties. Taking into account vase life and flower opening, varieties can be grouped according to overall performance (Table 1). A long lasting variety that opened fully was considered excellent, while good varieties opened adequately and lasted about 2 weeks. Below average varieties did not open and/or had

a short vase life. Vase life ranged from 10 days for 'Black Magic' to 20 days for 'Poison'. Some varieties opened fully, while others stayed tight.

Table 1. Vase life and flower opening of roses maintained in flower food.

#### Excellent Varieties

Variety	Vase life	Flower opening
Eliza	14.0	3.9
Light Orlando	13.6	3.7
Orlando	13.3	3.2
Poison	20.6	3.8
Reward	19.0	3.8
Valentino	18.0	3.3

#### Good Varieties

Variety	Vase life	Flower opening
Charlotte	13.0	3
Classy	13.6	2.6
Madame	13.3	2.7
Red Jewel	15.3	3

#### Below Average Varieties

Variety	Vase life	Flower opening
Black Magic	10.0	3.1
First Red	11.0	4
Gabrielle	13.3	2.4
Leonidas	11.0	2.4
Marylse	-	1.3
Red Unique	-	1.4

'Marylse' and 'Red Unique' did not open and, therefore, vase life was not obtained. On these varieties, the bud stayed at a tight stage and the flower petals did not expand. Other varieties such as 'Leonidas' and 'Gabrielle' opened only slightly.

Photo 1 'Light Orlando' (left) opened fully compared to 'Leonidas' (right).



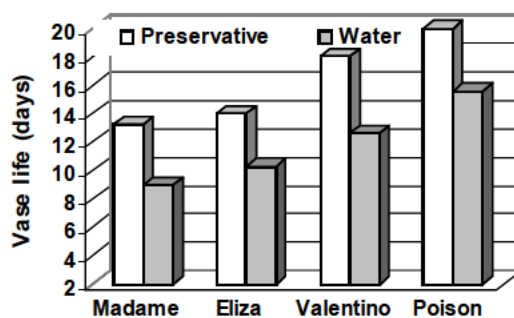
In contrast, 'Light Orlando', 'Reward', 'Poison', 'Eliza' and 'First Red' opened readily. The flowers opened fully and the petals fully expanded.

### *Effects of Flower Food*

Considering that not all consumers will use flower food, it was important to know which varieties could be maintained in water and perform satisfactorily for the consumer.

When flowers were maintained in vases of water instead of flower food, a significant reduction in vase life and flower opening occurred on with varieties.

Fig. 1. Vase life is reduced when maintained in water.



Only 'Poison' and 'Reward' performed satisfactorily in water and, although vase life was reduced, stems lasted at least 2 weeks and flowers opened adequately. The other varieties lasted 10 days or less when maintained in water.

Photo 2. 'Poison' (right) performed better in water than 'Madame DelBard' (left).



On the average, a 25-30% reduction in vase life and flower opening occurred when flowers were maintained in water. This demonstrates the importance of using flower food for cut flower arrangements and in supplying consumers with flower food packets when flowers are purchased.

Photo 3. 'Madame DelBard' lasted 5 days longer in flower food



Water Flower food

## **CONCLUSIONS**

Up to a 10-day difference in vase life was observed between varieties and only these with a good or excellent rating should be selected. Excellent ones include: 'Eliza', 'Light Orlando', 'Orlando', 'Poison', 'Reward' and 'Valentino'. Using flower food increases vase life significantly. Always supply consumers with flower food to enhance vase life and promote flower opening.

## **IMPACT TO THE INDUSTRY**

Identifying long-lasting varieties allows buyers, sellers, and consumers to have high quality flowers. This information permits breeders to incorporate these varieties and their long lasting characteristics into breeding programs.

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