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**Background**

Successful storage of cut roses for a long duration without compromising the postharvest quality is of commercial importance for several reasons. It will allow growers and bouquet makers to maintain “safely stocks” of harvested flowers during peak seasons. It will also allow shipping flowers in sea containers as it takes several weeks of transport from growing regions to consumers.

Several key factors are important in maintaining the quality of cut roses during long-term storage or sea shipment.

1. Selecting varieties that generally withstand long-term cold storage.
2. Controlling ethylene damage.
3. Controlling Botrytis damage during storage.
4. Maintaining hydration levels of cut flowers.
5. Controlling proper temperature and humidity during storage.
6. Effective “re-hydration” after the storage.

**Research**

An experiment was conducted with 4 rose varieties grown in farms in Colombia. The varieties tested were:

- Red Rose ‘Freedom’
- Yellow/Red Bicolor Rose ‘High & Magic’
- Orange Rose ‘Orange Crush’
- Light Pink Rose ‘Novia’

Immediately upon the receipt of flowers, they were divided randomly into two sets. One set of flowers were treated with the “FloraLife long-term storage protocol”, and the other set of flowers served as control. The following treatments were applied:

Treatment	Control	Floralife Protocol
Dip treatment of flower heads (for 10 seconds)	Dipped in plain water	Dipped in FloraLife® Shield Ultra (1.25 ml/L)
Hydration treatment	In plain water	Mix of FloraLife® EthylGuard Ultra (0.5 ml/L) and FloraLife® Hydraflor 100 Powder (0.42 g/L)

After the dips were applied, stems were re-cut to remove 1 inch off, and placed into the hydration bucket solutions described above. The flower heads were allowed to dry at room temperature while in the bucket treatments for 2-3 hours. Then they were placed into the cooler for 24 hours at 1-2 C.

After 24 hours in the cooler in the bucket hydration solutions, the flowers were then removed from buckets placed into flower boxes lined with FloraLife® Transport bags. Flowers from control and FloraLife treatments were placed in separate boxes. Flowers in boxes were then stored in cooler (temperature maintained at 1-2 C) up to 5 weeks.

Flower boxes were taken out of the cooler after 2 weeks storage (Varieties ‘Freedom’ and ‘High Magic’) or after 5 weeks of storage (varieties ‘Orange Crush’ and ‘Novia’). Flowers from both “control” and “FloraLife protocol” went through the following steps. Stems were re-cut to remove about 1 inch and placed into buckets filled with FloraLife® Express Ultra 200 solution for re-hydration. Flowers in buckets were placed back into the cooler for 3 days, and then moved to room temperature for 2 days to simulate store phase. After the store phase, flowers were re-cut to vase length and placed into vases with FloraLife® Express 300 flower food. Vases were placed on the tables in an observation room at a temperature of 18 C with 12 hours light & 12 hours darkness for vase life observation.



**Results**

Vase Life (Days) of Flowers Stored for 2 Weeks

Variety	Control	FloraLife Protocol
'Freedom'	6.6	12.9
'High & Magic'	9.3	16.3

Vase Life (Days) of Flowers Stored for 5 Weeks

Variety	Control	FloraLife Protocol
'Orange Crush'	3.5	16.9
'Novia'	8.3	11.0

Photos on day 7 of 2-week stored Flowers



Control



FloraLife Protocol

Photos on day 7 of 5-week stored Flowers



Control



FloraLife Protocol



## Conclusion

- FloraLife protocol improved the vase life and quality of cut roses stored up to 5 weeks compared to control flowers
- Data indicate the potential of long-term storage of cut roses with proper treatments