Floralife®
The Care and Handling Experts™

Research Update

April 2008
Volume 10, Issue 4

Anil Ranwala, PhD.
Chief Scientist

In-House Vase Life Experiments

Whether you want to compare the cut flower quality from different suppliers, or are considering the use of a new flower food, a properly conducted vase life test will give you the information you need to make a sound decision. It will tell you how many days a flower will last in a typical consumer environment.

It is highly recommended you conduct these important tests in a professional vase life testing facility. However, should you not have access to one, it is important to make sure you follow correct in-house procedures for accurate, reliable, and repeatable results. In essence, improper testing can result in drawing conclusions from a poorly conducted experiment which can have great impact on flower quality and your business financially. There are several test factors in which to pay careful attention.

Objective:

The way to set up your experiment depends on your objective. If you want to test a new flower supplier, test flowers from your current supplier against flowers from the new supplier. Should you desire to test a new flower food, test it against your current flower food and plain water (no flower food). For both tests, use the same flower types, variety, and quantity. Keep all the other parameters constant.

Flowers:

Use typical flower types for the test, make sure they are fairly uniform in size and general appearance. Do not use discarded, or poor grade flowers, for testing unless this is your objective.

Replication:

One vase test (replicate) is not enough to achieve reliable results. A minimum of 3 replicates (vases tests) per treatment are recommended.

Testing Environment:

The testing environment should be uniform for all the vases in the experiment and representative of a typical consumer home environment (temperature, light and humidity).

Test for Effectiveness of Flower Food

Test Procedure:

To test the effectiveness of a particular flower food on two different varieties of flowers (both rose types for example), follow these guidelines to ensure reliable results:

Set-Up

1. Obtain 30 stems each from two varieties to be tested. Flowers for each variety should come from the same shipments, from the same grower. Be sure the flowers you select for the test are of good quality and have no obvious defects.
2. Obtain 6 identical jars or vases (a quart/litre vase is ideal). Label 3 vases, "Water", and fill them with plain tap water. Label the other 3 vases "Flower Food" and fill them with flower food solution mixed as recommended. All 6 vases should be filled with the same volume of solution, or water.
3. Cut the flower stems to a similar length, about 18-20 inches (45.7 – 50.8cm), and remove the leaves which would otherwise appear below the water level. Place flowers in the vases. Each vase should have 5 flowers of each variety (total 10 flowers per vase).

Floralife, Inc.
751 Thunderbolt Drive
Walterboro, SC 29488
Ph 800.323.3689
843.538.3839
Fax 800.471.4248
E-mail: info@floralife.com
www.floralife.com
A Smithers-Oasis Company

Floralife®
The Care and Handling Experts™

Research Update

4. Locate the vases on a table or a desk in a room. Vases should be placed near each other and should receive similar environmental effects (e.g. temperature and light). Do not place them near a draft or in direct sunlight.

Observations

1. Observe the flowers daily and record the vase life data. When a flower is dead (would be discarded by a consumer), it needs to be recorded on that day. You have to observe several characteristics such as petal wilting, petal discoloration, petal fall, bent neck, leaf yellowing/ browning and make a determination if a flower should be terminated from the test. The same person should take the data for the entire experiment so that the observations/ decisions will be consistent.
2. For each flower, record the number of days the flower lived. Do not count the set-up day. For example, if the experiment was set up on Monday and the flower was dead on Friday, the vase life of flower is 4 days.
3. Take photos each day to document your results.

Calculations for Conclusions

1. Calculate the average vase life for each individual vase (add vase life data for the 5 flowers in each vase and divide by 5). Calculate vase life for the different cultivars separately.
   e.g. 6 + 6 + 7 + 5 + 7 = 30; 30/5 = 6.2 days average vase life for one vase

2. Then, calculate the average vase life per treatment (water or flower food) by adding the average vase life for 3 vases and dividing by 3.
   e.g. 6.2 + 7.4 + 6.6 = 20.2; 20.2 / 3 = 6.7 days

The average vase life values for water and flower food can now be compared to get an idea of the extent of vase life improvement. It is recommended you do multiple tests to increase the validity of your conclusions before you make recommendations or changes.

A Professional Flower Testing Facility

Water **Flower Food**
Day 7 Vase Life

Floralife, Inc.
751 Thunderbolt Drive
Walterboro, SC 29488
Ph 800.323.3689
843.538.3839
Fax 800.471.4248
E-mail: info@floralife.com
www.floralife.com
A Smithers-Oasis Company

For further information on the Research Update, contact Anil Ranwala at aranwala@floralife.com.
Postharvest Care and Handling information can be obtained at www.floralife.com or e-mail: info@floralife.com.