

Post-harvest vases life evaluation on *Hydrangea arborescens* 'Annabelle'

Todd Leeson, Robert E. McNeil, John S. Snyder, Sharon Bale, R. Terry Jones,

and Winston C. Dunwell

University of Kentucky

Lexington, KY 40546-0091



Materials and Methods: *Hydrangea arborescens* 'Annabelle' is a noted landscape plant in USDA hardiness zones 5-7 which includes a significant portion of central United States of America (Figure 1). The inflorescence is quite showy and has excellent stem length for use as a floral cut stem. Two evaluations were conducted to determine post harvest life using four floral preservatives and three storage techniques. Floral preservative treatments included: Floralife Original Flower Food (FLF), Pokon & Chrysal Professional #3 (PKC), Aquaplus (AQP) and Flora Novus-XL(FNV) singly and in combination with FNV. Storage treatments included: no storage at two sites (Univ. of Kentucky Research Stations at Princeton and Quicksand, KY), cold dry storage (Princeton) and cold wet storage (Quicksand)(2°C and 90% relative humidity). Stems were harvested between 9:00 and 10:00 AM and placed in hydration solution (Pokon & Chrysal Professional #2 at Princeton and Hydraplus at Quicksand) for an hour. After hydration, stems were placed in treatments or storage for 5-6 days. Stems were divided into lots of 8 to provide 8 replications for each treatment. Each stem was placed in a tube with 500 ml of solution and held at 22°C.



Plant of *Hydrangea arborescens* 'Annabelle'



Freshly cut stems during hydration



Stems being graded and measured

Results and Discussion: Stems were evaluated daily and with the first indication of wilt or discolor they were removed and the date recorded.

The cumulative stems treated at the Princeton site were significantly different when treated with either the Floralife(FLF) or Pokon & Chrysal(PKC) preservatives, whether alone or in combination with Flora Novus-XL(FNV), than with the Aquaplus(AQP) preservative, whether alone or in combination with FNV, or the Control. Stems harvested on 10 JUN 03 (Princeton) that did not enter storage responded with post harvest longevity of 12 to 22 days (Figure 1). Stem treated in Floralife(FLF) or Pokon & Chrysal(PKC) preservatives, whether alone or in combination with Flora Novus-XL(FNV), averaged 20 or more days of vase life (Figure 4). Stems that were dry stored for 6 days in a cut stem shipping box responded with post storage vase life of 6 to 18 days (Figure 1). Floralife(FLF) or Pokon & Chrysal(PKC) preservatives, whether alone or in combination with Flora Novus-XL(FNV), averaged over 16 days of vase life in addition to the 6 days in storage (Figure 4). No interaction occurred between preservatives and storage.

The cumulative stems treated at the Quicksand site were significantly different when treated with either the Floralife(FLF) or Pokon & Chrysal(PKC) preservatives, whether alone or in combination with Flora Novus-XL(FNV), than with the Aquaplus(AQP) preservative, whether alone or in combination with FNV, or the Control. Stems harvested 25 JUN 03(Quicksand) that did not enter storage responded with post-harvest longevity of 11 to 18 days (Figure 2). Stem treated in Floralife(FLF) or Pokon & Chrysal(PKC) preservatives, whether alone or in combination with Flora Novus-XL(FNV), averaged 16 or 17 days of vase life (Figure 3). Stems that were wet stored 5 days in a Procona container responded with post storage vase life of 7 to 17 days (Figure 2). Floralife(FLF) or Pokon & Chrysal(PKC) preservatives, whether alone or in combination with Flora Novus-XL(FNV), averaged over 14 days of vase life in addition to the 5 days in storage (Figure 3). A significant interaction did occur between preservative and storage when Floralife was used alone or in combination with FNV. Whether the stems were fresh or wet stored, vase life was 17 days (Figure 4).

Preservatives Floralife and Pokon & Chrysal approximately doubled the vase life of *H. a.* 'Annabelle' compared to a water control. Storage shortened the vase life of stems except in the case of Floralife in combination with wet storage. The floral extender, FNV, did not increase vase life beyond water control or preservative values whether stems were fresh or had been wilted during dry storage.

Figure 1. Vase life comparison between fresh vs. dry storage at Princeton

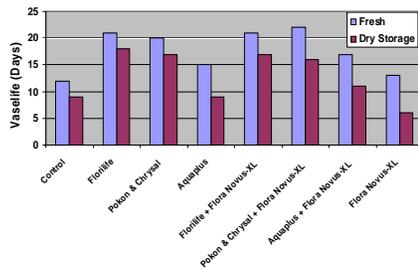


Figure 2. Vase life comparison between fresh vs. wet storage at Quicksand

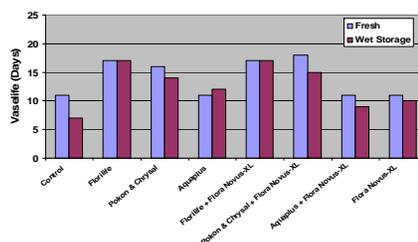


Figure 3. Vase life comparison between treatments at Quicksand

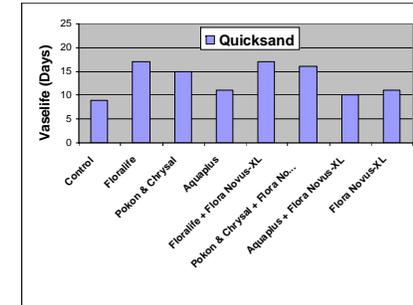
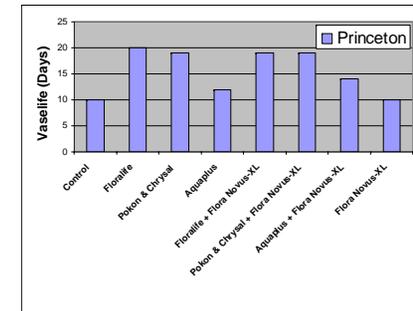


Figure 4. Vase life comparison between treatments at Princeton



Stems placed in Procona containers and ready to enter cold treatment



Individual stem while in preservative treatment phase.