

# INTERNATIONAL HYDRANGEA CONFERENCE 2007

GHENT, BELGIUM  
AUGUST 16-20, 2007

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Tours during the conference included:

Kalmthout Arboretum, BE where J. De Belder collected and bred hydrangea. This is the home garden of the original seedlings which brought us H. p. 'Unique'.

The Belgium Hydrangea Society collection and demonstration garden. This is a relatively young garden site but already has an extensive collection of species and cultivars. The Society has been very interested in sorting and documenting introductions developed by breeders during the past century.

Shamrock Collection, Fr is the home garden of Corinne Mallet and her 1200+ hydrangea cultivars. Shamrock Garden is noted internationally as the repository for the largest collection of hydrangea in the world. The Normandy coast is hydrangea climate as the genus thrives and flowers annually.



Photos, to the right, are from the tours and include a couple of newer cultivars that might interest cut stem growers.

Comments by Peter Kolster, Kolster BV, NL(excerpt from his abstract):

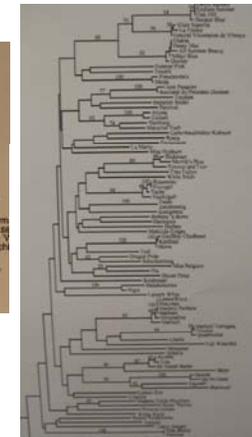
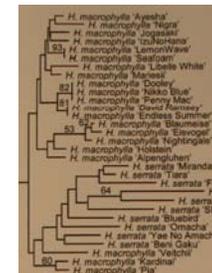
One of Kolster's important items is Hydrangea as a cut flower. Only in Holland there is roundabout 100 hectare of greenhouses that are used for this culture. This means two million plants that produce more than 15 million stems, which had a value at the auctions in 2006 of over 15 million euros. They are exported all over the world; big markets are next to Europe: the USA, Japan and the Middle East. The breeding of Hydrangea is different from the breeding of normal Hydrangea: wanted are long and sturdy stems, hard flowers that develop from a fresh flower to a classic flower on the plant. A good classic flower has a vase-life of half a year or more! Cultivars will be developed in the very near future with long stems, small leaves and small flowers to be used in the mixed bouquets for supermarkets, etc., which will be an addition to our traditional markets.

Comments by Walter Horst, Institute for Plant Nutrition, Leibniz University, Hanover, DE (excerpt from his abstract):

Although the principles of the formation of the blue sepal color(aluminium-delphinidin-quinonic co-pigments) of Hydrangea are understood, the production of blue Hydrangea with excellent quality is still a challenge for the grower. The main reason is the rather narrow low-pH window (pH 4.0 – 4.5)in the substrate which allows sufficient Al availability to the plants but does not lead to proton toxicity. A further challenge in Hydrangea production is the lack of appropriate growth regulators reducing stem length and thus enhancing the compactness and stability of the plants. Reducing the phosphorus supply to a level of latent deficiency has proven to be a means of reducing elongation growth and at the same time, facilitating the bluing of the sepals

Comments by Henry D. Schreiber, Dept. Chemistry, Virginia Military Institute (excerpt from his abstract):

Spectrophometric studies show that the transition from red flavylium cation to blue quinoidal base is insufficient to explain all details of the bluing of hydrangea sepals, as modeled by this chemical system. With increasing Al<sup>3+</sup> added to the delphinidin-containing solution, not only does more and more of the blue complex form (to a limit of about half of all delphinidin), but the absorption wavelength of the normally red flavylium cation of delphinidin also systematically increases (resulting in a "blue" flavylium cation). The change in color of the flavylium cation, enhancing the blue color of the solution, may be due to the formation of an ion pair with the Al<sup>3+</sup>-complex. Red sepals have most of the delphinidin present as the red flavylium cation, while blue sepals form in excess Al<sup>3+</sup> with about 50% of the delphinidin complexed as the blue quinoidal base and the other 50% present as the "blue" flavylium cation.



The above four cultivars (left to right) are new introductions from European breeders. Apparently the propagation rights to these plants are not being released. You will be seeing cut stems show up at wholesalers who have obtained them from the Aalsmeer Auction, etc. The attempt is to obtain better cultivars for classic (antique) colors for they bring a higher price in the market place.

Left two figures: Research in North America (Rinehart, USA) and Europe (Gürtler, DE) have been determining the DNA makeup of a range of Hydrangea species and cultivars. Note, that at this point in time, DNA cannot distinguish between some cultivars.