

The Dawes Arboretum
Newark, Ohio (USDA Hardiness Zone 5b)

2009 Annual Report

Climate Data and Summary

The American holly (*Ilex opaca*) is without a doubt one of the most durable broadleaf evergreens capable of withstanding frigid below zero temperatures without suffering significant winter damage. It is an exceptionally drought tolerant species with additional benefit of being highly resistant to deer browse. The Dawes Arboretum is fortunate in being one of the most northern of the Holly Society's (HSA) official experimental test gardens. Consequently, we have had the unique opportunity to evaluate the hardiness of not only *Ilex opaca*, the main constituent of our collection, but also the hardiness of other evergreen hollies, most notably Japanese holly (*Ilex crenata*). Consistent with the HSA's overall goal, that being to promote the widespread appeal of hollies in American gardens, we hope that our long-standing evaluations will motivate other northern gardens to include evergreen hollies in their collections. Thus, over time, our efforts may help to extend the range and popularity of evergreen hollies.

Temperatures and precipitation totals for 2009 in central Ohio were more or less normal with mean temperature of 51.8° F and total precipitation measuring 34.9 inches. Rainfall during the summer months was fairly even averaging 3.5 inches per month. November was the driest month with just less than one inch reported (.98). Our summer temperatures were slightly cooler than normal with the warmest month being August (70.1° F mean temperature) and no 90° F days reported. However, this belies the dynamic nature of our Midwestern climate especially in regard to winter extremes. In early January we reported a high temperature of almost 50°F (49.2°C) but 13 days later the mercury dipped to an unmerciful -20°F. The desiccating effects of high winds cannot be overlooked with sustained winds of over 30 mph on January 7 and 51 mph on February 11. The combination of below zero temperatures, high winds and frozen soils always represents a severe challenge to broadleaf evergreens which often are incapable of replacing moisture lost through transpiration. The resulting leaf "burn" and subsequent defoliation is particularly damaging to the establishment of young evergreen trees or shrubs.

Collections Data and Summary

Seven younger specimens of American holly unfortunately succumbed over last winter: 'Big Mack', 'Cape Cod Dwarf', 'Cave Hill No. 2', 'Cavhilor', 'Jersey Golden', 'St. Mary' and 'Winter Sun'. *Ilex opaca* 'Cavhilor' and 'St. Mary' were represented by only one specimen and are consequently lost to our collections. It should be noted that two of these seven had been growing poorly because of the suspected alleopathic effects of

adjacent walnut trees. Indeed, I have observed more than once the deleterious effect of walnuts upon the growth of American holly.

We also removed eight specimens of Japanese holly which were almost 100 percent defoliated and killed back to the ground: 'Black Beauty' (2), 'Howard', 'Ivory Tower', 'Soft Touch', 'Steed's Upright' and an unnamed pyramidal selection (2). All these cultivars, except for *I. crenata* 'Soft Touch', were duplicated and are still represented on Holly Hill.

This indicates the marginal status of this species for central Ohio and reinforces the need for ongoing evaluation and selection of hardy clones. It is noteworthy that The Dawes Arboretum's introduction of *I. crenata* 'Mistress' exhibited no winter damage.

Due to factors other than winter injury, additional removals included two common winterberries, *Ilex verticillata* 'Shaver' and 'Shortcake', and two specimens of inkberry, *Ilex glabra* 'Chamzin'. The sole representatives of two interspecific hybrids, *Ilex* 'Carolina Sentinel' and 'Mary Nell', were lost outright because of winter injury. *Ilex* 'Mary Nell', an interspecific cross between the Chinese holly *I. cornuta*, Perny holly *I. pernyi* and lusterleaf holly *I. latifolia*, had shown strong and sustained growth since it was accessioned and planted in the fall of 2000. But its rapid demise and death once again reminds us that these tender interspecific hybrid hollies will likely never have widespread use in central Ohio and are adaptable at best to the sanctuaries of sheltered microclimates.

In conclusion, we added no additional hollies to our collection in 2009 but a number of large and attractive specimens remain in the arboretum's nursery and will likely find a home in the collections soon. Although this report has a certain negativity affixed to it, much valuable evidence can be gleaned and gained through the losses we endured in 2009. Our holly collection continues to improve and mature providing much enjoyment to those passing through it. Presently our collection totals 364 taxa with an additional 56 taxa in the nursery. The youngest of our American holly plantings lie adjacent to the oak collection on one of the arboretum's highest and most exposed areas. Their overall performance has been nothing short of outstanding. It seems that each year a specimen or two captures my attention for the first time. The male cultivar, *I. opaca* 'David', comes to mind. It is an exceptionally dense small tree, with dark, lustrous leaves that are curled back, almost cucullate in nature. Some, on the other hand, capture my attention yearly and here I refer to a Dawes Arboretum favorite, Sunny Foster Topel holly, *Ilex* × *attenuata* 'Sunny Foster', whose hardiness and vigor has long been a most welcome surprise.

Rich Larson