





*H. drangea paniculata* is hardy in USDA Zones 3 to 8 and is considered the cold-hardest species. Moist, well-drained soils in full sun to light shade ensures strong growth and good flower production. Plants are shallow-rooted so consistent moisture is essential, particularly in warmer and drier climates. Panicle hydrangeas are tolerant of most urban conditions including salt spray, but foliar chlorosis may be an issue in alkaline soils. Bacterial wilt, leaf spot, powdery mildew, rust, aphids, mites, and nematodes are potential problems. Maintenance requirements are minimal. Annual pruning is often recommended but not necessary except to reduce plant size or to shape the habit. Accounts vary on whether annual pruning improves stem strength or enhances inflorescence size.

Panicle hydrangea's workaday character gives way to something extraordinary at the onset of its impressive flowers. From midsummer onward, panicle hydrangeas put on a distinctive and dynamic flower show—the progression from creamy white to rich pinks and reds is delightful regardless of the size or fullness of the flower heads. Panicle hydrangeas are reliable hardy shrubs for woody and mixed borders, massed plantings, and hedging. While well-suited

**Table 1: Trial Periods**

<i>Hydrangea paniculata</i>	Trial Years
ANGEL'S BLUSH™ 'Ruby'	1999-2005
'Angustipetala'	1999-2005
'Boskoop'	1999-2005
'Brussels Lace'	1999-2005
'Floribunda'	1999-2005
'Greenspire'	1999-2005
'Kyushu'	1999-2005
PINK DIAMOND™ 'Interhydia'	2000-2006
'Tardiva'	1999-2005
THE SWAN™ 'Barbara'	2002-2007
'Unique'	1999-2005
'Webb'	1999-2005

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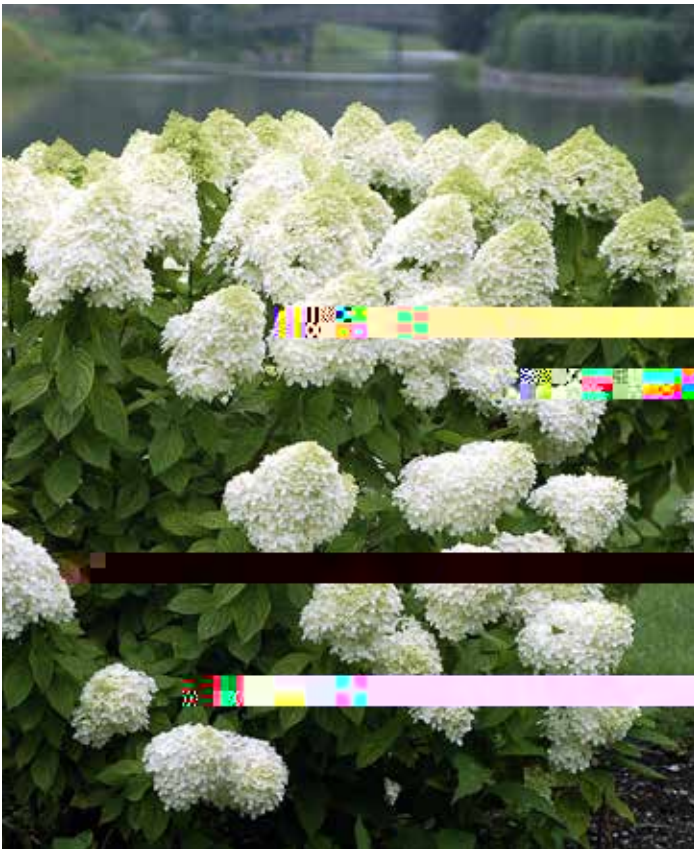
1999-2005



FIRE AND ICE™ ('Wims Red') was a consistent top-performer based on flower display and habit quality. The 8-inch pyramidal inflorescences, roughly as wide as tall, opened white and began changing to pink in late July to early August; the color darkened to red by autumn. The frothy look of the flowers was due to the many fertile florets accented by large sterile florets. Dark red to deep burgundy stems were a significant attribute setting FIRE AND ICE™ apart from most cultivars. Even with annual pruning, plants were 68 inches tall and 77 inches wide, which was nearly at the top of the expected height range of 3-6 feet.

The lacy flowers of HONEYCOMB™ (a.





LIMELIGHT®



LITTLE LIME®

The rotund inflorescences of LIMELIGHT® ('Zwijnenburg'), overstuffed with sterile florets, opened chartreuse, turned greenish white, and aged to green with a pink tinge by late September. The late mix of light green, pink, and browning flowers was surprisingly ornamental to the end of October. Stems were not strong enough to support the plump flower heads the first year in the trial, but stems were sturdier in subsequent years after annual pruning. The inflorescences—9 inches long and 7 inches wide—were well distributed over the generous habit, which reached 70 inches tall and 100 inches wide in nine years.

LITTLE LIME® ('Jane'), touted as a compact form of LIMELIGHT®, was comparable but not simply a smaller clone of it. The sterile florets opened light lime-green and transitioned to creamy white with yellow tones in summer. Flowers turned light green again in September, adding a soft pink blush. The bluntly pyramidal to nearly rounded panicles were 6 inches long and wide at maturity. Flower production and distribution were as good as LIMELIGHT® but on much shorter plants—46 inches compared to 70 inches tall.

LITTLE QUICK FIRE® ('SMHPLQF') is a compact version of QUICK FIRE®, reaching 39 inches tall compared to the nearly 6-foot height of the original. Within a few weeks of opening in late June, the sterile florets began turning pink-purple. By mid-August, the lace-cap inflorescences, to 8 inches long and 6 inches wide, were deep magenta. LITTLE QUICK FIRE® featured red stems and dark green leaves.



LITTLE QUICK FIRE®





## General Observations

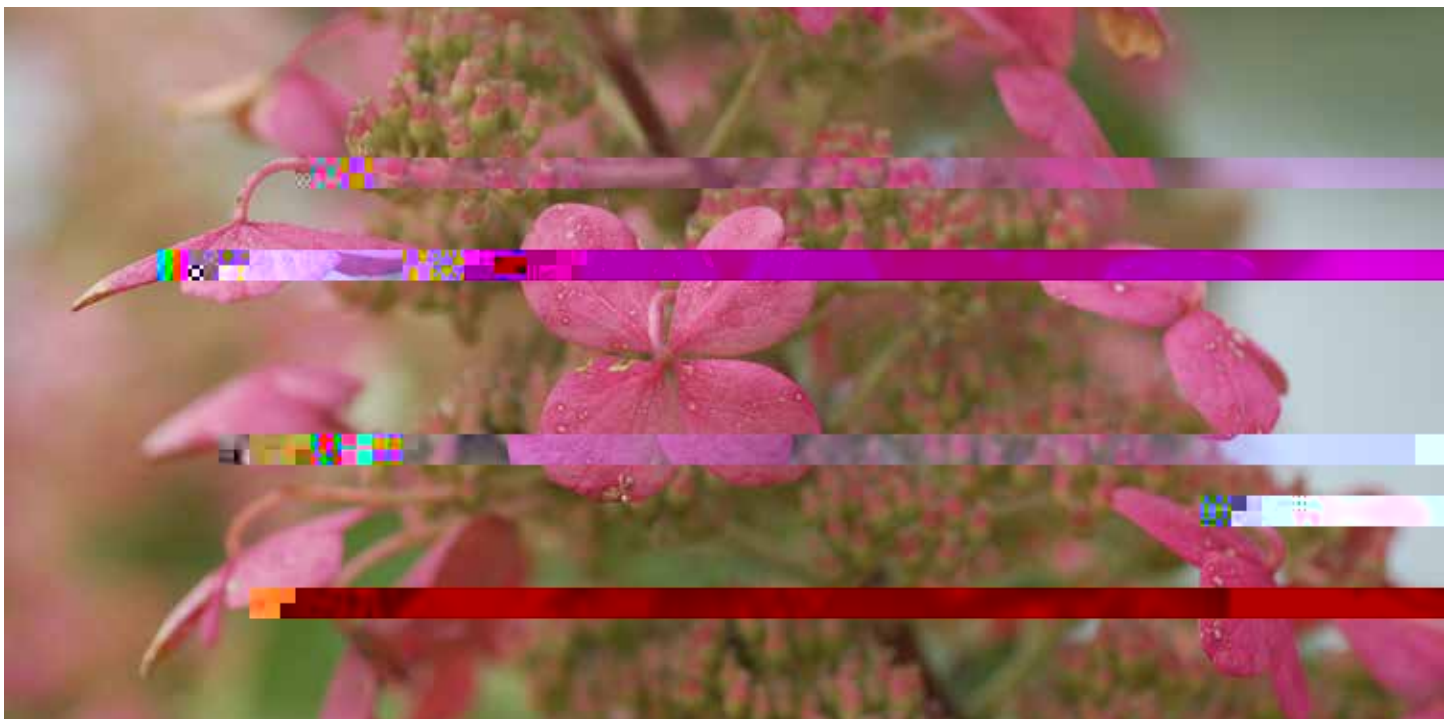
Floral, foliar, and habit traits were comparable among taxa in the trials, although subtle to distinct variations were noted. Inflorescences were not all strictly pyramidal in form but varied from strongly pyramidal to broadly rounded to nearly flattened; for example, 'Big Ben', LITTLE LIME<sup>®</sup>, and 'Dharuma' displayed these specific panicle shapes, respectively. While not commonly applied to panicle hydrangeas, lace-cap and mop-head conveniently describe the two inflorescent types, which ranged from 4 inches to 14 inches long or tall. Sterile florets ranged from  $\frac{3}{4}$  inch to  $3\frac{1}{4}$  inches wide; fertile florets were generally  $\frac{1}{4}$  inch wide, except in the case of the  $\frac{3}{8}$  inch flowers of HONEYCOMB<sup>™</sup>. Sepals of the sterile florets were typically ovate to obovate and held flat to slightly cupped. Pollinators, especially bees, were commonly observed on all lace-cap selections.

The sterile florets of most cultivars turned some shade of pink in the summer; however, 'Bombshell', GREAT STAR<sup>™</sup>, and HONEYCOMB<sup>™</sup> remained white until turning brown in September. Early browning was not enough to render a flower show inferior or to automatically reduce ratings, except in cases where the pink stage was fleeting, and/or browning occurred rapidly. For example, in 2012 and 2013, VANILLA STRAWBERRY<sup>™</sup> turned brown quickly after the color change began in mid-August, resulting in reduced overall ornamental ratings in both years. No cause was determined, but in subsequent years, the flowers exhibited the expected color gradation of strawberry red, light pink, and creamy white from the bottom upward before turning tan in early October. Although variable in length depending on cultivar, the pink stage usually began in late August to early September, but newer cultivars such as QUICK FIRE<sup>™</sup> and FIRE AND ICE<sup>™</sup> showed color change as early as mid-July to early August. Other taxa that regularly began

coloring up by mid-August included BOBO<sup>™</sup>, FIRE LIGHT<sup>™</sup>, LITTLE LIME<sup>™</sup>, MEGA MINDY<sup>™</sup>, PINKY-WINKY<sup>®</sup>, POLAR BALL<sup>™</sup>, SWEET SUMMER<sup>™</sup>, TICKLED PINK<sup>™</sup>, VANILLA STRAWBERRY<sup>™</sup>, and Peak bloom—when most fertile florets were open and/or sterile florets were full-sized—occurred approximately one month after flowers opened. A bloom period is usually delineated by the first and last open flowers; however, in the case of panicle hydrangea, the bloom period was more appropriately characterized as the floral display period since it extended beyond anthesis to the point when the sterile florets turned tan. For most cultivars, this period ended in late September to early October, although 'Kyushu' remained light green until mid-October. The sterile florets of 'Brussels Lace', 'White Moth', and the species were the earliest to open in mid-June, and subsequently turned brown by mid-August before any other taxa. 'Dharuma' opened in mid-June too but remained colorful until early September.

Foliage color did not vary significantly between taxa, whether in summer or autumn. The medium to dark green leaves typically turned yellow with orange or reddish tones in autumn. The best fall display was observed on QUICKFIRE<sup>®</sup>, with a strong orange color. Stem color ranged from reddish brown to red and was comparable among most cultivars. Taxa that exhibited especially deep red to burgundy stems included ANGEL'S BLUSH<sup>™</sup>, 'Chantilly Lace', FIRE AND ICE<sup>™</sup>, LITTLE QUICK FIRE<sup>™</sup>, MEGA MINDY<sup>™</sup>, PINKY-WINKY<sup>®</sup>, TICKLED PINK<sup>™</sup>, and VANILLA STRAWBERRY<sup>™</sup>.

All plant habits were uneven to irregular when planted. Habit quality issues were more prevalent in the first few years of a trial and improved naturally with age or were helped by shaping during the annual pruning process. However, in several cases, regular pruning did not overcome natural growth patterns, such as lopsided branching,

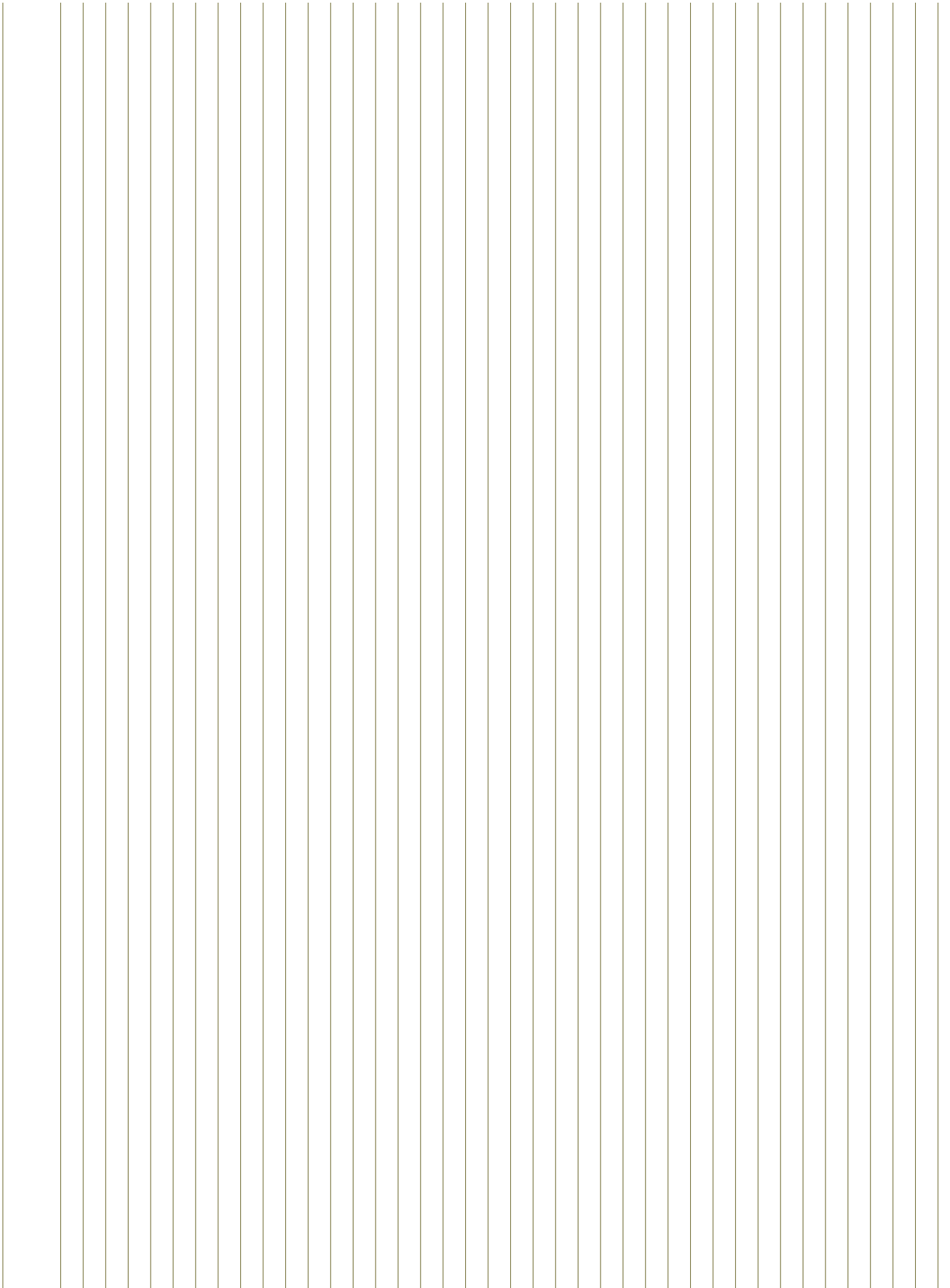


'Big Ben'

open areas within crowns, and/or long vigorous shoots arising randomly during the growing season. 'Bombshell' exhibited the weakest habit of any taxon—each year the stems were pulled down, exposing open centers during the flowering period; no recovery occurred later in the season. Conversely, the heavy flowers of VANILLA STRAWBERRY™ arched the stems slightly, which accentuated its fountainlike habit. Snapped branches and floppy stems were periodically observed on PILLOW TALK® and POLAR BALL™, although these traits were not noted in all years. Vertical stems randomly arising out of a plant created a two-tiered effect, which resulted in lower habit quality ratings as well as impacted bloom distribution on 'Mega Pearl, PINK DIAMOND™, QUICK FIRE™, and 'Skylight'. The observed and referenced plant sizes are cited in Table 2; observed heights and widths were affected by annual pruning to reduce plant size due to limited bed space.

The panicle hydrangeas were generally trouble-free. Foliar chlorosis was observed among the hydrangeas in all years, although severity levels were typically minor to moderate and varied by year and by taxon. Chlorosis was generally considered a cosmetic issue rather than a health concern and was not weighted





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