

Crabapple Bloom Sequence and Length of Bloom Period in 1996

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Introduction

Crabapples (*Malus spp.*), like many woody landscape plants, have relatively short flowering periods. If weather conditions are favorable during the spring bloom period (mild temperatures, moderate breezes, and little or no rainfall), the floral display on individual trees may be ornamentally effective for up to 10 days (Fiala, 1994). Unfortunately for Midwesterners, high winds, frequent rainfall, and temperatures ranging from below freezing to 90° F often coincide with the first crabapple blossom. But by carefully selecting early-, mid-, and late-season flowering crabapples for the landscape, the threat of capricious spring weather ruining the entire floral display is reduced, and the long-awaited flowering period can be significantly extended.

Materials and Methods

Blossom times and/or bloom sequences have been reported for many crabapples (den Boer, 1995; Warren, 1987). But, similar information is not available for a number of other crabapple taxa commonly used in today's landscapes. During the spring of 1996, crabapples planted at the Iowa State University Horticulture Research Station (lat. 42°3'N) as part of the National Crabapple Evaluation Program, were evaluated for bloom sequence and length of ornamentally effective bloom period. Using the concept of a Blossom Time Index (BTI) developed by John H. den Boer, crabapples were assigned to four bloom period categories (very early season, early season, mid-season, and late season). The BTI's reported in Table 1 represent the average number of days to first flower after a reference crabapple taxon has flowered.

Results and Discussion

In this study, 'Pink Spires' was the first crabapple to flower (5/9/96) and thus became the reference point for categorizing all other taxa. Days of Effective Bloom, also reported in Table 1, represents the average number of days from first open flower to 50% petal drop. In 1996, favorable weather conditions during the very early season in Iowa promoted extended flowering periods. This helps to explain the unusually high number of days of effective bloom for 'Dolgo', 'Pink Spires', and 'Selkirk'.

Data from a single season cannot provide the same detail that would result from a multi-year study. Still, information from our investigations during the spring of 1996 lays the foundation for future observation, and classifies, in some cases for the first time, relative blossom times for several new crabapple taxa. Information about blossom times will be of particular interest to growers and retailers of crabapples as they plan future inventories, and to those who include crabapples in their landscape designs.

Literature Cited

- den Boer, J.H. 1995. Blossom times. *Malus* 9(1):10-16.
Fiala, J.L. 1994. Flowering crabapples: The genus *Malus*. Timber Press, Portland, Oregon.
Warren, K. 1987. Crabapple bloom sequence. *Malus* 2(3):7.

Table 1. Relative bloom sequence as indicated by a blossom time index (BTI) and days of ornamentally effective bloom for selected crabapple taxa during spring 1996.

Taxa	BTI^z	Days of Effective Bloom^y
<u>VERY EARLY SEASON</u>		
`Dolgo´	1.3 ^x	9.4
`Pink Spires´	0.0	9.3
`Selkirk´	3.0	8.0
<u>EARLY SEASON</u>		
`Adams´	6.0	5.0
<i>baccata</i> `Jackii´	4.7	5.3
Centurion [®]	5.0	6.0
<i>floribunda</i>	6.0	6.0
`Hopa´	4.0	6.0
`Indian Summer´	4.0	6.0
`Louisa´	5.3	5.7
`Morning Sun´	5.0	6.0
`Ormiston Roy´	6.0	5.3
`Professor Sprenger´	6.0	5.0
`Ralph Shay´	5.0	6.0
`Red Barron´	5.0	7.0
`Red Jade´	6.0	5.3
`Red Splendor´	5.7	5.3
`Sentinel´	4.0	7.0
`Silver Drift´	5.3	5.7
`Thunderchild´	5.0	6.0
Weeping Candied Apple [®]	5.7	5.3
`White Angel´	6.0	6.3
<u>MID-SEASON</u>		
`Canary´	7.0	4.0
`Candy mint Sargent´	8.0	4.3
Christmas Holly [™]	7.0	6.0
`David´	8.3	6.7
`Donald Wyman´	7.0	6.0
`Henning´ (`Henningii´)	7.0	6.0
`Indian Magic´	7.0	4.7
`Jewelberry´	7.0	5.7
Lancelot [®]	8.0	6.7
`Liset´	8.0	7.0
`Mary Potter´	8.0	6.0
Molten Lava [®]	7.0	5.0
Pink Princess [™]	8.0	4.0
`Pink Satin´	7.0	6.3
`Prairifire´	8.0	5.0
`Profusion´	7.0	5.0
Red Jewel [™]	8.0	4.0
`Robinson´	7.7	4.0
Royal Fountain [®]	8.0	4.3
`Ruby Luster´	8.0	6.3
`Sinai Fire´	6.3	5.0
`Snowdrift´	8.3	5.7
`Strawberry Parfait´	8.0	4.0
Sugar Tyme [®]	7.0	4.0
Velvet Pillar [™]	8.3	6.0
White Cascade [™]	7.7	5.6
× <i>zumi</i> `Bob White´	6.7	4.3

Taxa	BTI^z	Days of Effective Bloom^y
× <i>zumi</i> var. <i>calocarpa</i>	8.0	5.0
× <i>zumi</i> 'Winter Gem' ('Glen Mills')	7.0	4.0
LATE SEASON		
'Adirondack'	9.0	5.3
Camelot [®]	8.7	5.0
'Doubloons'	9.0	6.0
Golden Raindrops [®]	10.0	5.0
Harvest Gold [®]	9.0	6.0
'Prairie Maid'	9.0	5.0
'Silver Moon'	10.0	6.0

^zBlossom Time Index - number of days to first flower after the first crabapple blooms ('Pink Spires' = 0.0).

^yDays from first open flower to 50% petal drop.

^xAll values are means of three different trees randomized.