

# A Comparative Evaluation Study of *Geum* spp.

**Richard G. Hawke, Plant Evaluation Manager and Associate Scientist**

Photo by Brent Horvath

## *Geum* 'Wet Kiss'

Avens (*Geum* spp.) are certainly not counted among the most common perennials, despite having been cultivated in gardens for many years. Evocative of miniature roses, their brightly colored flowers bloom freely for many weeks in late spring and early summer. Avens are without doubt extroverted perennials—Graham Stuart Thomas fittingly proclaimed avens to be “one of the gayest of early summer plants.” And yet, avens have been uncommon in contemporary gardens until recently.

Avens in Great Britain far surpass what's commercially available in the United States based on a review of the Royal Horticultural Society's online plant finder (<https://www.rhs.org.uk/plants/search-form>) and the University of Minnesota Libraries' Plant Information Online (<http://plantinfo.umn.edu/>). Developments in plant breeding and selection

has drawn these lovely and tough perennials out of obscurity. Much of the enhancements to avens in the past few years can be attributed to Brent Horvath, plant breeder and owner of Intrinsic Perennial Gardens in Hebron, Illinois. His *Geum* Cocktails Series™ has reimagined avens, offering gardeners a variety of flower colors ranging from soft pastels to fiery tones of red, orange, and yellow. As gardeners discover or rediscover avens, they will find that the offerings are greater than ever before.

It's not surprising that the single to semi-double flowers resemble small roses, since *Geum* is in the rose family (Rosaceae). Single flowers are saucer-shaped with five broad, showy petals and a central boss of stamens; whereas, semi-double flowers possess many more petals and fewer stamens. Red, orange, and yellow are the

standard flower colors, but color intensity ranges from soft to deeply saturated, and may be blushed with other colors or bicolored, too. The flowers are held above the foliage on wiry stems and each blossom may be up-, out-, or down-facing depending on the species or cultivar. While the majority of avens show off their petals, the nodding flowers of water avens (*G. rivale*) and prairie smoke (*G. triflorum*), hide their understated corollas within cup-shaped coronal bracts. The feathery plumes of ripening fruit aid in seed dispersal but can also be exceptionally ornamental as in the case of the ethereal prairie smoke.

Avens form rosettes of large hairy green leaves, which are comprised of a prominent terminal lobe above pinnately arranged pairs of smaller leaflets. The true leaf form and size is often masked since only the

large terminal lobes show, while the small lateral leaflets are well hidden within the congested crowns and are often misshapen. Due to the hybrid nature of many cultivars, foliar shapes can be highly variable, thereby making taxonomic verification challenging. Leaves may be evergreen to semi-evergreen in mild winters. Their foliar mounds range from six inches to a foot or so tall without flowers; flowers are held above the plants on branched or unbranched leafy stems. Avens have clumping to rhizomatous growth forms.

There are about 50 species of *Geum* indigenous to cool regions in Europe, Asia, Africa, and the Americas, although only a handful of species are commonly cultivated. Many species, such as Chilean avens (*G. chilense*) and scarlet avens

(*G. coccineum*), grow naturally in moist, rich soils in meadows or woods; whereas prairie smoke (*G. triflorum*) is native to dry prairies and rocky places. Avens generally prefer moist, well-drained soils in full sun to light shade but do not like wet winter soils. They flourish in full sun gardens in cooler zones if ample water is provided but will appreciate afternoon shade in hot and humid climates. Avens are generally hardy in USDA hardiness zones 3-9.

From a gardening standpoint, avens are easy to grow and require minimal maintenance. However, leaves may turn brown in hot, droughty conditions. The dead leaves can be removed to improve the display, but new leaves will eventually sprout and cover up the brown foliage too. Additionally, under these conditions,

leaves can become scorched, which increases their susceptibility to spider mites. Avens may also be troubled by powdery mildew, downy mildew, fungal leaf spots, aster yellows, and nematodes. Some avens species and hybrids are short-lived, for example, *Geum chilense* and *G. coccineum*. Given this trait, crown division annually or every other year is recommended to keep plants healthy and vigorous. Deadheading encourages repeat bloom in late summer, improves the bedraggled appearance that sometimes occurs after flowering, and reduces the potential for reseeding. Avens can reseed freely and hybridize readily. Some common cultivars such as 'Mrs. Bradshaw' and 'Lady Stratheden' are seed-grown, but not all cultivars grown from seed will be true to type.



*Geum triflorum*



*Geum* 'Citronge'

Avens are perfectly sized for the front of the perennial border, as a single specimen or in groups. They are great companions for a variety of perennials and grasses such as cranesbills (*Geranium* spp.), sages (*Salvia* spp.), catmints (*Nepeta* spp.), coral bells (*Heuchera* spp.), prairie dropseed (*Sporobolus heterolepis*), and little bluestem (*Schizachyrium scoparium*). Brightly colored avens are nicely paired with other strong colors—deep blues and purples are

particularly enticing companions to fiery oranges and reds. Avens are also good in naturalized landscapes and container plantings, and in the case of prairie smoke (*Geum triflorum*), in rockeries, gravel gardens, and green roofs. The wild look of white avens (*G. canadense*) and herb bennet (*G. urbanum*) work best in naturalized landscapes.

### The Evaluation Study

The Chicago Botanic Garden (USDA Hardiness Zone 5b, AHS Plant Heat-Zone 5) evaluated 49 *Geum* taxa between 2007 and 2015. Forty-six taxa completed at least two years in the trial, although the majority of the taxa were evaluated for four years. Three taxa were excluded from the final results because they were evaluated for one year only. The goal of the comparative trial was to identify outstanding avens for upper midwestern gardens.

Five plants of each taxon were grown in side-by-side plots for easy comparison of ornamental traits and landscape performance. The evaluation garden was openly exposed to wind in all directions and received at least ten hours of full sun daily during the growing season, which averaged 181 days per year for the trial period (see Table 1). The clay-loam soil had a pH of 7.4 throughout the evaluation term. The site was normally well drained, but at times the soil retained moisture for short periods in summer and winter. *Geum canadense* was planted in a partially shaded site that had a similar soil type and alkaline pH as the full-sun garden.

Maintenance practices were kept to a minimum, thereby allowing the plants to thrive or fail under natural conditions. Trial beds were irrigated via overhead sprinklers as needed, mulched with composted leaves once each spring or summer, and regularly weeded. Moreover, plants were not deadheaded, fertilized, winter mulched, or chemically treated for insect or disease problems.

Photo by Brent Horvath



*Geum* 'Rijnstroom'

Photo by Christine Whitacre



*Geum* 'Mai Tai'



*Geum* xintermedium 'Diane'

Photo by Heidi Petersen



*Geum* 'Limoncello'

Photo by Brent Horvath

### The Performance Report

In the spring of 2007, 26 taxa were planted in the full-sun trial garden; the remaining 23 taxa were added to the trial between 2008 and 2012 as new introductions became commercially available. All plants were evaluated for their cultural adaptability to the soil and environmental conditions of the test site; disease and pest problems; winter hardiness or survivability; and ornamental qualities associated with flowers, foliage, and plant habits. Final performance ratings are based on flower production, foliage and habit quality, plant health and cultural adaptability, and winter hardiness during the trial period. The plant traits and final performance ratings for 46 taxa are shown in Table 2. *Geum* 'Feuerball', *G.* 'Lady Stratheden' and *G. quellyon* 'Double Bloody Mary' died the first winter and were not retested, and are not included in the table.

Sixty percent of the taxa received five-star excellent or four-star good ratings for their overall performance in the trial. Top-rated plants displayed superior flower production, attractive foliage, robust habits, adaptability to the growing conditions of the site, and winter hardiness. The outstanding five-star rated avens included *Geum* 'Mai Tai', *G.* 'Sangria', *G.* 'Totally Tangerine', and *G. triflorum*.

*Geum* 'Mai Tai' is one of the new avens with midwestern roots—bred by Brent Horvath in Hebron, Illinois. Apricot-flowered 'Mai Tai' is a delightful departure from the hot-color palette so typical of the group. Flowers open a muted red, fading to apricot with striking burgundy sepals and flower stems. The outward-facing, semi-double flowers bloomed generously from late April to early June and then again

sporadically later in the summer. 'Mai Tai' averaged 24 inches tall and wide with flowers; without flowers the rounded foliar mound was 10 inches tall.

Like 'Mai Tai', *Geum* 'Sangria' is also part of the *Geum* Cocktail Series™, and was one of the last avens to begin blooming, typically in early to mid-June. Its dazzling scarlet flowers—semi-double and upward-facing—were borne profusely for more than a month and then rebloomed in August. The robust mounds topped out at 16 inches tall and 30 inches wide but the flower stems extended the height to 30 inches.

*Geum* 'Totally Tangerine' (synonym 'Tim's Tangerine') shared an exuberance of bloom and plant size with 'Sangria'. The branched floral stems, to 29 inches tall, were crowded with upward- and

Table 1: Weather summary for 2007-2015

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Lowest temperature °F (°C)	-10(-23)	-6(-21)	-17(-27)	0(-18)	-7(-22)	2(-17)	-3(-19)	-16(-27)	-13(-25)
Lowest temperature date	3/5	1/20	1/16	1/3	2/10	1/21	1/22	1/6	2/28
Highest temperature °F (°C)	96(35)	93(34)	96(35)	97(36)	102(39)	105(41)	96(35)	91(33)	94(34)
Highest temperature date	7/9	7/17	8/9	7/23	7/20	7/5	7/18	7/17	7/17
Number of growing season days <sup>a</sup>	196	181	175	177	192	165	185	186	176
Number of days below 0°F (-18°C)	11	16	8	16	5	0	3	24	17
Number of days above 90°F (32°C)	20	6	7	6	22	40	15	5	13
Last frost date	4/16	4/30	4/18	4/28	4/21	4/24	4/20	4/16	4/24
First frost date	10/28	10/28	10/10	10/22	10/30	10/6	10/22	10/19	10/17
Annual rainfall in inches (cm) <sup>b</sup>	41.0(104.1)	49.5(125.7)	38.8(95.5)	35.6(92.5)	48.2(122.4)	31.1(78.9)	39.1(99.3)	42.5(107.9)	43.6(110.7)
Annual snowfall in inches (cm) <sup>c</sup>	38.5(97.8)	78.5(199.4)	28.8(75.2)	51.8(131.6)	35.3(89.7)	23.4(59.4)	40.3(102.4)	66.4(168.7)	45.5(115.6)

<sup>a</sup>Normal growing season: 162 days

<sup>b</sup>Average rainfall: 37.5 inches (92.3 cm)

<sup>c</sup>Average snowfall: 32.7 inches (83.1 cm)

Data collected at Chicago Botanic Garden weather station

Latitude: 41°51'N. Longitude: 87°37'W. Altitude: 578.74 ft. (176.4 m)

outward-facing tangerine-orange blossoms from late May to mid-July, and sometimes a bit longer due to the sterile nature of the flowers. We described the floral form as semi-double because each blossom had a few more petals than a typical single flower but far fewer than other semi-double cultivars. A robust mounded habit and an exceptionally floriferous nature set 'Totally Tangerine' apart from most other avens.

*Geum triflorum*, prairie smoke, is often characterized as a native plant, but its superior ornamental traits and cultural adaptability make it a great garden perennial. Its curious flowers—in groups of three—nod like a shepherd's crook with the creamy

white petals hidden beneath rosy pink spurred caps. The distinctive fruits developed while flowers were still blooming strongly; long feathery tails on maturing seeds turned silvery and pink, looking like puffs of smoke above the plants. The ferny foliage, strongly dissected into many leaflets, stayed attractive as long as the plants were kept moist. Prairie smoke is known to go dormant in severe drought conditions.

Ornamentally, avens offer an array of flower colors and forms, generally prodigious flower production, attractive albeit somewhat coarse foliage, and variably mounded habits. Floral forms ranged from single to semi-double, and nodding to upward- and/or

outward-facing; flower size ranged between 1 and 2 inches wide. The five petals on single-flowered forms were either overlapping or separated by a gap; the number of petals on semi-double flowers varied by cultivar, from a few more than five to many. Frankly, the generous floral display of *Geum urbanum* was underwhelming because of the wide gaps between the five petals. In the case of the nodding flowers of *G. rivale* and *G. triflorum*, the understated petals were hidden within colorful, cup-shaped coronal bracts that provided the real floral show. The nodding apricot flowers of *G. rivale* 'Leonard's Variety' featured flared petals, which were far showier than the introverted flowers of the species. In some instances,



Photo by Jessie Vining Stevens

*Geum* 'Flames of Passion'



Photo by Christine Whitacre

*Geum* 'Fuzzy Navel'



Photo by Christine Whitacre

*Geum* 'Starker's Magnificum'

**Table 2: Observed plant traits and performance ratings**

Overall	Geum	Flower Color	Flower Form	Flower Size	Flower Bloom Period <sup>2</sup>	Plant Production <sup>3</sup>	Plant Height <sup>4</sup>	Plant Width
★★★	'Alabama Slammer'	red-orange	semi-double, up-facing	1¼ inches	mid-May to mid-June	fair	9/14 inches	21 inches
★★★	'Banana Daiquiri'	lemon yellow	semi-double, up-facing	1½ inches	late April to late May	fair	9/17 inches	19 inches
★★★★	'Beech House Apricot'	light yellow	semi-double, up-facing	1¼ inches	late April to early June#	good	8/16 inches	18 inches
★★	'Blazing Sunset'	orange-red	double, up-facing	1¾ inches	early May to late May	poor	14/24 inches	27 inches
★★★★	'Borisii'	dark orange	semi-double, up-facing	1¼ inches	early May to mid-June#	excellent	12/18 inches	24 inches
★★★★	'Cherry Cordial'	orange-red	single, out-facing	1½ inches	mid-May to mid-June	good	7/18 inches	14 inches
★★★★	'Citronge'	creamy orange	semi-double, up-facing	1½ inches	early May to early June	good	8/15 inches	15 inches
★★	'Coppertone'	apricot	double, up-facing	1¼ inches	early May to early June	fair	9/13 inches	16 inches
★★★★	'Cosmopolitan'	orange	semi-double, up-facing	1¼ inches	mid-May to mid-June	good	7/18 inches	17 inches
★★★	'Dolly North'	orange	semi-double, up-facing	1½ inches	early May to mid-June#	good	10/20 inches	24 inches
★★★	'Fire Lake'	orange	semi-double, up-facing	1¼ inches	early May to early June	poor	9/18 inches	18 inches
★★★★	'Fire Storm'	yellow-orange	semi-double, up-facing	1¾ inches	mid-May to early July	excellent	12/24 inches	22 inches
★★★★	'Fireball'	yellow-orange	semi-double, out-facing	2 inches	mid-May to early July	excellent	13/24 inches	27 inches
★★★★	'Flames of Passion'	red	semi-double, out-facing	1 inch	early May to mid-June	excellent	10/21 inches	16 inches
★★★★	'Fuzzy Navel'	yellow	single, out-facing	1 inch	mid-May to early July	excellent	12/24 inches	32 inches
★★★★	'Georgenberg'	yellow-orange	single, up-facing	1½ inches	early May to mid-June#	fair	6/16 inches	19 inches
★★★	'Gimlet'	light yellow	semi-double, up-facing	1¼ inches	mid-May to late June	good	13/18 inches	22 inches
★★★★	'Limoncello'	yellow	single, up-facing	1¼ inches	early May to mid-June#	good	8/14 inches	16 inches
★★★★	'Lisanne'	light yellow	single, out-facing	1¼ inches	mid-May to late June	good	11/21 inches	22 inches
★★★★	'Mai Tai'	apricot	semi-double, out-facing	1½ inches	late April to early June#	excellent	10/24 inches	24 inches
★★★	'Mango Lassi'	apricot and rose	semi-double, out-facing	1¼ inches	early May to early July	fair	10/14 inches	22 inches
★★	'Mrs. Bradshaw'	red	semi-double, up-facing	1¾ inches	early June to early July	poor	8/21 inches	16 inches
★★	'Pumpkin'	orange	semi-double, up-facing	1¼ inches	early May to early June	poor	6/12 inches	13 inches
★★★★	'Rijnstroom'	orange	semi-double, up-facing	1¾ inches	mid-May to early July	good	14/26 inches	34 inches
★★★★★	'Sangria'	scarlet	semi-double, up-facing	1¾ inches	early June to early July#	excellent	16/30 inches	30 inches
★★★★	'Sea Breeze'	dark orange	semi-double, up-facing	1¾ inches	mid-May to mid-June	good	11/15 inches	22 inches
★★★★	'Spanish Fly'	yellow-orange	single, up-facing	1¼ inches	mid-May to late June	excellent	10/22 inches	20 inches
★★★★	'Starker's Magnificum'	orange	semi-double, up-facing	1¾ inches	late May to mid-July	good	15/28 inches	30 inches
★★★	'Summer Hummer'	deep yellow	single, up-facing	1¼ inches	mid-May to mid-June	fair	8/14 inches	18 inches
★★	'Sunrise'	orange-yellow	semi-double, up-facing	1¾ inches	mid-June to early August	poor	14/24 inches	28 inches
★★★	'Tequila Sunrise'	soft yellow, red tips	semi-double, out-facing	1¼ inches	mid-May to mid-June	fair	6/12 inches	14 inches
★★★★★	'Totally Tangerine' (Tim's Tangerine)	orange	semi-double, up-facing	1½ inches	late May to mid-July	excellent	10/29 inches	20 inches
★★★★	'Wet Kiss'	red-orange	semi-double, up-facing	1¼ inches	mid-May to late June	excellent	10/18 inches	18 inches
★★★★	<i>G. canadense</i>	white	single, up-facing	½ inch	early June to late June	excellent	27 inches	31 inches
★★	<i>G. coccineum</i>	bright orange	single, up-facing	1¼ inches	mid-May to early June	poor	7/11 inches	22 inches
★★★	<i>G. coccineum</i> 'Borisii Strain'	dark orange	single, up-facing	1½ inches	early May to mid-June#	fair	8/20 inches	18 inches
★★★★	<i>G. coccineum</i> 'Cooky'	bright orange	single, up-facing	1½ inches	early May to early June#	good	9/21 inches	22 inches
★★★	<i>G. coccineum</i> 'Eos'	bright orange	single, up-facing	1 inch	early May to early June	poor	6/12 inches	16 inches
★★★★	<i>G. coccineum</i> 'Werner Arends'	dark orange	semi-double, up-facing	1½ inches	mid-May to early June	fair	7/14 inches	21 inches
★★★★	<i>G. ×intermedium</i> 'Diane'	golden-yellow	single, up-facing	1½ inches	early May to mid-June#	excellent	11/23 inches	24 inches
★★	<i>G. montanum</i>	yellow	single, up-facing	1 inch	early May to late May#	poor	3/6 inches	10 inches
★★★★	<i>G. rivale</i>	orangey pink	single, nodding	½ inch	early May to mid-June	good	14/28 inches	27 inches
★★★★	<i>G. rivale</i> 'Album'	creamy white	single, nodding	½ inch	early May to early June#	excellent	14/25 inches	32 inches
★★★★	<i>G. rivale</i> 'Leonard's Variety'	apricot	single, nodding	½ inch	mid-May to mid-June	good	13/21 inches	30 inches
★★★★★	<i>G. triflorum</i>	white and rosy pink	single, nodding	1¼ inches	early May to early July	excellent	10/17 inches	20 inches
★★★★	<i>G. urbanum</i>	yellow	single, up-facing	1 inch	late May to mid-July	excellent	16/28 inches	32 inches

<sup>1</sup>Overall ratings: ★★★★★ excellent, ★★★★ good, ★★★ fair, ★★ poor, ★ very poor

<sup>2</sup>Bloom period: # denotes sporadic repeat flowering in late summer

<sup>3</sup>Flower production: excellent 100-80%; good 79-60%; fair 59-40%; poor 39-20%; very poor <20%

<sup>4</sup>Plant height: height to top of foliage/full height with flowers



*Geum* 'Sea Breeze'

Photo by Brent Horvath



*Geum* 'Cosmopolitan'

the calyces and flower stems were exceptionally colorful, ranging from burgundy to maroon to reddish purple. Among the taxa exhibiting colorful calyces and stems were 'Alabama Slammer', 'Cherry Cordial', 'Cosmopolitan', 'Mai Tai', 'Spanish Fly', 'Tequila Sunrise', 'Wet Kiss', *G. rivale*, and *G. rivale* 'Leonard's Variety'. The plumose fruits of *G. triflorum* and *G. montanum* were the most ornamental among the avens; whereas, the fruits of *G. coccineum*, *G. rivale*, and *G. urbanum* were not as strongly feathered nor as colorful. Although seedlings were infrequently observed in the trial, *G. urbanum* was a consistently vigorous reseeder.

All in all, leaves were large, variably pinnately dissected with prominent terminal lobes, medium to dark green, and remained healthy and ornamental as long as soils were consistently moist. *Geum coccineum* 'Eos' foliage started out bright yellow in the spring, turned mostly green in June but held about 20 percent yellow leaves all season. Plant habits were generally robust mounds, either rounded or flattened. The avens with low, flattened mounds included 'Georgenburg', 'Pumpkin', and *G. coccineum* 'Eos'. *Geum canadense* was the only taxon that had a messy, sprawling habit

Photo by Brent Horvath

in summer. Uneven or open habits were usually due to the varying degrees of crown loss during the previous winter.

Continual moisture is essential to keep avens healthy and green all summer, especially during hot periods. The most significant health or cultural issue that affected ornamental displays was the decline of foliage in mid- to late summer during hot, dry weather. While the crispy brown leaves created an unsightly display for a time, new leaves were eventually produced and covered up the dead foliage. The only avens that was consistently troubled by brown foliage each summer was 'Summer Hummer'. Conversely, the leaves of 'Starker's Magnificum' were lushly green and never burned nor bronzed even in the hottest weather. The yellow leaves of 'Eos' were prone to sunscald in full sun. Japanese beetles were an infrequent and insignificant pest in the trial; minor damage of little consequence was noted on a few plants over the years. Powdery mildew was limited to several taxa and considered an

insignificant problem overall. However, minor mildew was observed each year on *Geum rivale*, *G. rivale* 'Album', and *G. rivale* 'Leonard's Variety'. Minor to moderate mildew was noted on *G. montanum* in one year, and moderate to severe mildew was observed on *G. urbanum* in all years.

The petals of all avens dropped cleanly, so the display immediately after flowering was not unpleasant. Avens are commonly touted as having good repeat bloom if deadheaded, but we made no determination one way or the other since we did not remove spent flower stems. Rebloom was noted on a number of taxa every summer (see Table 2) without deadheading. Left alone, the flower stems eventually blackened and created an unsightly display. Frequent division is commonly recommended to keep plants healthy and robust, but we did not observe any decline in crown vigor over the course of the trial. Crown injury during winter affected the habit quality of some avens but they usually rebounded the following summer.



*Geum* 'Spanish Fly'

Photo by Brent Horvath



*Geum* 'Totally Tangerine'

Photo by Walters Gardens



Photo by Christine Whitacre

*Geum* 'Sangria'

Photo by Heidi Petersen

*Geum coccineum* 'Fire Storm'

Photo by Walters Gardens

*Geum* 'Totally Tangerine'

The majority of taxa were determined to be winter hardy with some exceptions noted. 'Banana Daiquiri', 'Coppertone', and *Geum montanum* were winter-killed after growing successfully for two years. Plants of 'Mrs. Bradshaw' lived for three years before dying in the winter of 2011–2012. All plants of *G. urbanum* died during two consecutive winters—2008–2009 and 2009–2010—but vigorous seedlings replaced the plants in each of the following springs. Only in the winter of 2010–2011

did all plants of *G. urbanum* make it through winter without injury—seedlings were also present in spring 2011. *Geum* 'Blazing Sunset' was never successfully overwintered despite being replanted in 2008, 2009, and 2010. *Geum* 'Feuerball', *G.* 'Lady Stratheden' and *G. quellyon* 'Double Bloody Mary' died the first winter (2007–2008) but were not retested. Incidentally, 'Lady Stratheden' is also known as 'Gold Ball', but plants sold under that name were not included in the trial.

The greatest plant losses and crown injury were observed during the winters of 2007–2008 and 2013–2014, although winter injury was noted in every year of the trial between 2007 and 2015. In addition to the losses noted above, the highest attrition or crown damage was incurred by 'Cherry Cordial' (first attempt failed, second attempt succeeded), 'Pumpkin' (first attempt failed, second attempt died in third winter), 'Sunrise' (severe crown injury in first winter, complete plant loss the second winter), and



Photo by Christine Whitacre

*Geum triflorum*

*Geum coccineum* (severe crown loss in multiple winters). Avenas with no winter losses or crown injury observed during the trial period included 'Beech House Apricot', 'Borisii', 'Citronge', 'Cosmopolitan', 'Fire Lake', 'Fire Storm', 'Flames of Passion', 'Georgenburg', 'Gimlet', 'Limoncello', 'Lisanne', 'Mai Tai', 'Rijnstroom', 'Spanish Fly', 'Summer Hummer', 'Totally Tangerine', *G. canadense*, *G. coccineum* 'Eos', *G. coccineum* 'Werner Arends', *G. xintermedium* 'Diane', *G. rivale*, *G. rivale* 'Album', *G. rivale* 'Leonard's Variety', and *G. triflorum*.



Photo by Christine Whitacre

*Geum coccineum* 'Werner Arends'

Photo by Christine Whitacre

*Geum coccineum* 'Cooky'

## Summary

Avenas are not common garden plants but their performance in the trial demonstrated that they should be grown more widely. The avens of old are being supplanted by a new crop of contemporary hybrids with a wider range of flower colors. Just over 60 percent of taxa in the trial received good or excellent ratings—'Mai Tai', 'Sangria', 'Totally Tangerine', and *Geum triflorum* were the highest rated plants. In the end, there was a good mix of old and new varieties among the top performers.

Avenas are notably ornamental—exhibiting a range of flower colors and forms, bountiful floral displays, bold-textured foliage, and robust habits. Whether single or semi-double, nodding or up-facing, the miniature rose-like flowers are generously produced for a long period from late spring to midsummer. While not as exuberant in bloom, the nodding flowers of avens such as *Geum triflorum* and *G. rivale* possessed a certain charm despite the petals being hidden. Foliage was generally bold-textured and remained attractive all summer unless troubled by hot, droughty conditions.

Deadheading was the only maintenance deemed necessary to improve the ornamental display after flowering. Since we did not deadhead, there was no way to determine whether deadheading increased or promoted repeat bloom.

A good number of avens bloomed again later in the summer without deadheading. Removing spent flower stems would eliminate the unsightliness as they turn black, as well as reduce the chances of reseeding. Seedlings were rarely observed in the trial plots; however, *Geum urbanum* reseeded freely and was almost weedy in the garden.

By and large, the avens were winter hardy in zone 5 and grew vigorously for at least four years. With a reputation for being short-lived, more plant losses were anticipated than were observed. 'Blazing Sunset', 'Mrs. Bradshaw', 'Lady Stratheden', *Geum quellyon* 'Double Bloody Mary', and *G. urbanum* were either short-lived or possibly not winter-hardy. Based on our observations, these particular avens are probably best treated as annuals. Providing sufficient moisture throughout the growing season is important for maintaining strong, healthy plants. Foliar desiccation in hot, dry periods was observed but no plants were killed. In light of this, planting avens in afternoon shade in warmer regions is recommended.

The introduction of so many new and unique avens in recent years is exciting for gardeners. Avenas are proven to be tough plants that require minimal maintenance and offer a variety of flower forms and colors. Gardeners looking for something different need look no further than vibrant spring-blooming avens.

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