



'Snow Crystal'™ PPAF crabapple flowers.

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A new day for crabapples

This flowering tree is on the upswing, thanks to disease resistance and all-season beauty

BY ERICA BROWNE GRIVAS

CRABAPPLES HAVE ENJOYED a bumpy history.

Originating in the mountains of Kazakhstan, crabapples' spring flowers landed in Chinese palace gardens and were carried along the Silk Road to Europe.

Beyond their beauty, crabapples can act as a blanket pollinator for an apple orchard, make jam or a decent hard cider, all while feeding the birds. There are more than 1,000 named cultivars grown today — and counting.¹ After being cultivated for thousands of years, horticulturalists have seen some swings in popularity. Older American cultivars like 'Hopa' and 'Radiant' gave crabapples a reputation as magnets for disfiguring diseases and larger, soft fruit that dropped early — making for messy sidewalks and crabby gardeners.

But thanks to careful selection by breeders, crabapples are on a major upswing. Today's varieties are highly resistant to the

main crabapple diseases — apple scab, fireblight, powdery mildew, and cedar apple rust — and offer beauty in all seasons.

"Crabapples have always been a cyclical crop," said Guy Meacham, head breeder for **J. Frank Schmidt & Son Co.** (JFS). "It might be five to eight years. They become popular and become unpopular. He wonders if a bad weather year puts customers off crabapples in a particular area.

Based out of Boring, Oregon, JFS has been breeding crabapples, among many other trees, for at least 25 years.

They are definitely having a moment. "Right now, they're hot — we sell every single one we have available," Meacham said.

Portland, Oregon-based **Motz & Son Nursery** is seeing a higher demand for crabapples, too, particularly in the last three years.

"Our sales for crabapples have increased and growers



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are trying new varieties,” said production manager Anne Marie Richards, who represents the fifth generation in this 100-year-old family operation. “They probably make up around five percent of our stock.” Crabapples offer an amazing variety, according to Mike Coleman of **Arrowhead Nursery** in St. Paul, Oregon.

“You can pick your foliage, flower color, and fruit. As a genus, I think that’s somewhat unique,” Coleman said.

Perhaps that’s why Arrowhead is carrying 27 varieties.

3½-season appeal

After the explosion of spring blossoms, the most popular crabapples offer attractive foliage through fall, compact branching, persistent smaller fruit, sustenance for birds, and sometimes — as with Molten Lava® and ‘Pumpkin Pie’ — strong fall leaf color.

“[When it comes to selecting ornamentals] people are gradually realizing there’s life after spring,” said Maria Zampini of



Royal Raindrops® tree.

PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.



Royal Raindrops® fruit.

PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.

horticultural marketing firm **UpShoot** and former president of the International Ornamental Crabapple Society (IOCS). “Why plant for just one season if you can plant to have beauty all seasons?”

Take JFS’s biggest seller: “The one we sell by far the most of, all over the country, is Royal Raindrops®,” Meacham said.

Introduced by JFS in 2003, it’s not new, but Royal Raindrops (*Malus* ‘JFS-KW5’ PP14375) draws attention for its unusual foliage — not just cut-leaf but purple. It takes on fiery orange-red tones in autumn.

Pink-red flowers become ¼-inch red fruits that hang on into winter while feeding wildlife. The JFS website says this cultivar is more vigorous than other purple-leaved crabapples, and gains caliper promptly while maintaining a balanced, upright spreading shape to 20 feet by 15 feet.

JFS is known for its pioneering introductions, particularly with crabapples, which is not the easiest group to work.

“There are so many bridges you have to cross to get a good introduction,” said Meacham. “In addition to an excellent flower, you need disease-resistant foliage. The market is also demanding good persistent, small fruit for a good show during the winter.”

Why is smaller fruit better? Larger is showier, right? Yes, but people disliked cleaning the messy sidewalks left by fat-berried cultivars. So, now breeders look for fruit that decorates the bare limbs as tiny, bright jewels through most of the winter.

For all-star winter interest, Zampini is enamored of Sweet Sugar Tyme® (*M. sp.* ‘Swesutyam’), a semi-dwarf introduced by her father and renowned breeder, the late James Zampini, who was also known for creating Weeping Candied Apple®.

“I feel there’s nothing else like it ... it holds onto fruit longer than any I’ve ever seen. You have persistent color all winter,” Maria Zampini said. Pink buds open to



Raspberry Spear® flowers.
PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.

white flowers followed by ½-inch glossy red fruit in a compact oval package, growing up to 10 foot by 10 foot.

Breeding is, of course, a long game, rewarding keen observation and patience — towards both the cultivation of the trees and responding to the needs of the consumer.

“Selecting seedlings from crosses we’ve made, it might be ten or 15 years

before a promising cultivar reaches sales potential,” Meacham said.

As an example, the seedlings that would hit the market in 2017 as Raspberry Spear® (M. ‘JFS KW213MX’ PP31008) and Ivory Spear® (M. ‘JFS KW214MX’ PP31076) were sown in 2006, along with 271 siblings from an open-pollinated cross. They were inoculated with diseases like apple scab, thinned, and grown on until only two patent-worthy candidates remained.

“Another tree doing well for us is Sparkling Sprite®,” Meacham said. Sparkling Sprite (M. ‘JFS-KW2017’ PP27954) is a compact variety introduced in 2015 that should approximate 12 feet by 12 feet in 10 years². It’s also >>



Raspberry Spear® tree.
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described as having excellent disease resistance. Persistent apricot-colored fruit is a major bonus. “In the landscape right [during the wintertime], Sparkling Sprite is still covered in hard, bright, yellow-orange berries.”

Like the popular Lollipop®, Sparkling

Sprite is top grafted onto a stem at four feet. “We think it’s better in every way,” Meacham said, thanks to disease-resistant foliage and berries lending long-lasting appeal.

Shape and size

When it comes to crabapples, the market dictates that size is an important consideration.

“Nowadays we look for smaller varieties that would fit in smaller gardens and patios,” Meacham said. “I think that’s been true not just in crabapples but in tree introductions in general for maybe 10 years or more. As gardens have gotten smaller, people are looking for narrow upright

trees that will still fit their space.”

That was the inspiration behind the “Spear®” series debuted by JFS in 2017 — a pair of columnar varieties, Raspberry Spear® and Ivory Spear®, with green foliage and carmine pink and white flowers,



Sparkling Sprite® flowers.

PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.



Sparkling Sprite® tree.

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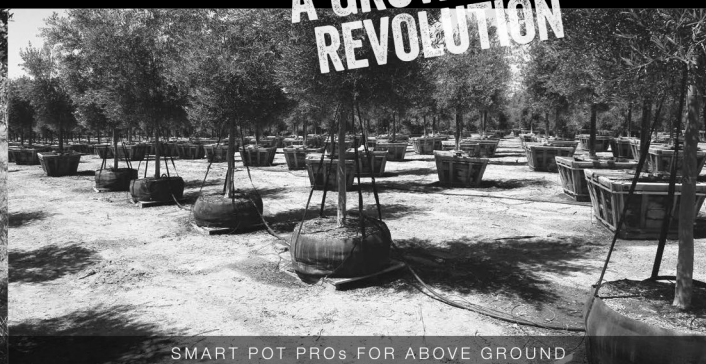
“We have almost zero mortality. Anecdotally, we’ve had customers say they choose us over other nurseries because our trees simply don’t die.”

Jim Barborinas, Urban Forest Nursery, Mt. Vernon, Washington

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Ivory Spear® fruit

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compact cultivars in all kinds of trees. Emerald Spire® (*M. × adstrigens* ‘Jefgreen’ PP23863) is a favorite columnar variety for him.

James Chatfield, associate professor and extension specialist at Ohio State University, has done extensive

research on crabapples and is the current president of the IOCS. Chatfield thinks the Spear® series illustrates how customers are becoming more involved in designing their spaces and expects to see form play a bigger role in selection.

respectively³. Raspberry Spear® patent notes describe it as having a diminutive fruit, purple leaves, and excellent resistance to apple scab, fireblight, and powdery mildew.

“Twenty years ago, a dramatic upright like that wasn’t an available option,” he said. “People are looking for more sophisticated examples of how plants play into design. People are much more aware of blending color, shapes, >>



Ivory Spear® tree

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and forms into that design characteristic.”

Newer JFS introductions for the designer's toolbox include 2018's Ruby Dayze® (M. 'JFS KW139MX' PP31232), sporting a clear oval form with magenta flowers and lasting red fruits, and 2020's Snow Crystal™



Snow Crystal™ PPAF tree.

PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.

PPAF (M. 'JFS KW218MX' PPAF) with white flowers in a pyramid.

Other Arrowhead offerings that hold their shape with minimal pruning are white-flowered 'Spring Snow', Show Time™ Crab (M. × 'Shotizam'), with small cherry-red fruit, and purple-leaved 'Perfect Purple', which Coleman admires for the dark crimson-colored blooms and disease-resistant foliage.

Climate-ready crabapples

Renowned for their resilience, are there crabapple varieties ready for increasing climate pressure?

Meacham thinks there will be breeding



'Snow Crystal'™ PPAF flowers.

PHOTO COURTESY OF J. FRANK SCHMIDT & SON CO.

for climate-ready crabs, but suggests growers and consumers look to plants that held up well during extreme events like 2021's heat dome in the Pacific Northwest instead of looking at USDA hardiness zones. Coleman agrees customers are looking for drought-

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Sparkling Sprite® fruit.

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tolerant crabapples and other plants.

Events like that provide teaching moments. “Crabapples held up very well,” Meacham said.

However, because the genetics of today’s hybrids are massively interbred,

breeders can’t single out species to pick attributes, a la carte. They are as hard to classify as your favorite mutt.

“When we do direct crossing in red maples we can see the parents in the seedlings, but crabapples are more mixed

up. You might direct-cross two dwarfs and end up with a weeper — there’s so much genetic information in all of them,” Meacham said. So, using the toughest customers for breeding extreme-weather varieties could be a start.

If customers do need an extra-cold tolerant variety, purple-leaved First Editions® Gladiator™ (*M. × adstringens* ‘Durleo’ PP20167), which hails from Manitoba, Canada, can brave temperatures through USDA Hardiness Zone 2. Most crabapples are hardy to zone 4.

The next generation

Overall, JFS has expansive plans for crabapples.

“We’d like to expand our Spear® series of narrow uprights,” said Meacham, “and those that can tolerate harsher conditions, and add some double-flow- ➤

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Ruby Dayze® fruit.

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ered cultivars with smaller fruit.”

Chatfield is seeing a flurry of breeding in China — where they hold a strong cultural significance — with both universities and farmers, creating a host of new varieties.

“The breeding we do in the U.S. is much more in the lines of selection — as in, there’s a *sargentii* with streaks through it, so it becomes ‘Candymint,’” Meacham said.

In China, there are dozens of breeders deliberately crossing strains creating double flowers, fragrance, columnar shapes, and more. ‘Duo Jiao’, claiming to be the world’s first least one gold-leaved variety, has been registered.¹ The question is, how long will it take, as the nascent garden industry in China develops, for those varieties to make it here? Nonetheless, Chatfield is excited about the prospects for the future of crabapples.

“I think the new generation of crabapples will increase potentially with new genetic material and we may see a little bit of a renaissance,” Chatfield said. ☺

Erica Browne Grivas is an award-winning journalist and gardener pushing zone boundaries in Seattle, Washington. She can be reached at ebgrivas@gmail.com.

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