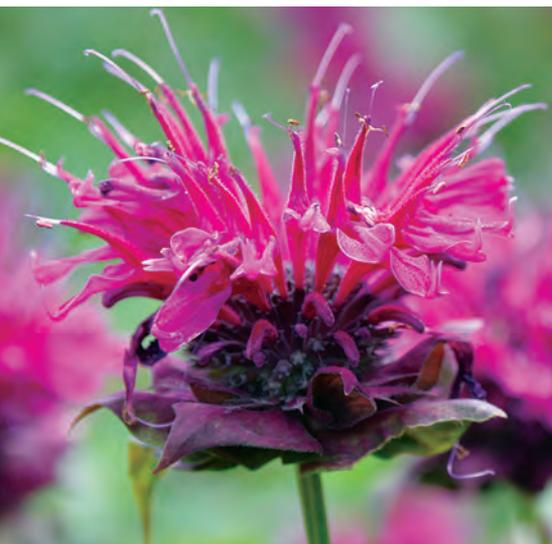


Horticultural News and Research Important to American Gardeners

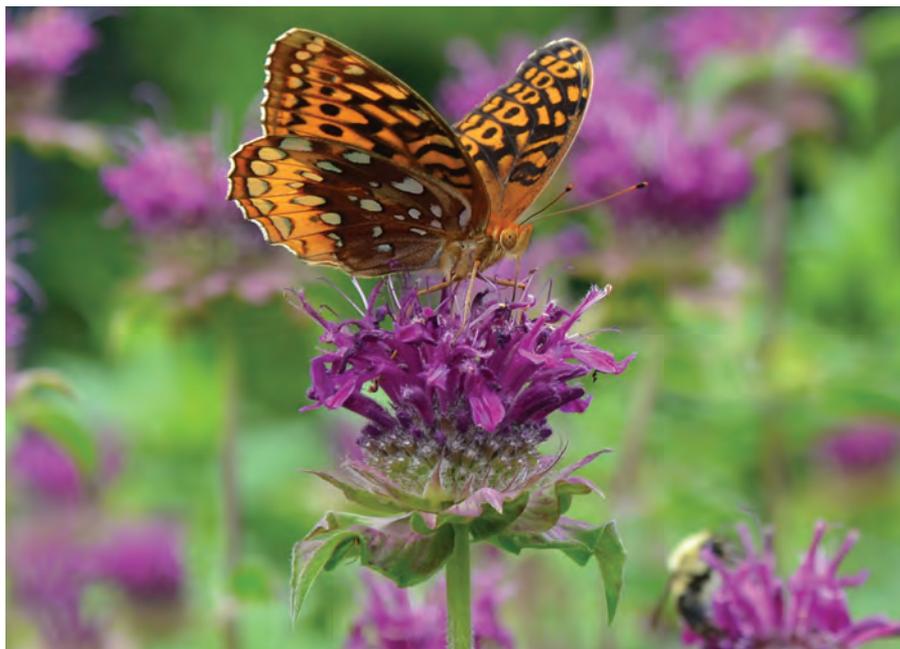
BEEBALM TRIAL RESULTS FROM MT. CUBA CENTER

The Mt. Cuba Center recently published a research report on the performance of 40 different species and selections of beebalm (*Monarda* spp.) grown in the center's trial garden near Wilmington, Delaware. A member of the mint family, the genus is popular for its large, brightly colored flowers, for supporting a wide variety of pollinators, and for being relatively easy to grow. In addition, many species are native to North America. The genus does have a few challenges, including a tendency of certain species to spread aggressively, and susceptibility to powdery mildew, a fungal disease that causes defoliation.



The three-year trial evaluated the beebalms on qualities such as floral display, habit, powdery mildew resistance, and leaf retention. The highest ratings went to *M. fistulosa* 'Claire Grace', *M.* 'Dark Ponticum', *M.* 'Violet Queen', and *M.* 'AChall' (Grand Marshall™).

For gardeners looking to try something out of the ordinary, George Coombs, Mt. Cuba's research horticulturist and the author of the study, recommends 'Purple Rooster', which has darker purple blooms than any other cultivar and a distinct vertical shape as



Among monarda selections that performed well in Mt. Cuba's three-year evaluation are Grand Marshall, left, and 'Purple Rooster', above. Both exhibited excellent disease resistance.

well as exceptional resistance to powdery mildew.

In terms of attracting pollinators, spotted beebalm (*M. punctata*) was the clear winner, although Coombs points out that it's not reliably perennial in USDA Hardiness Zones 6 or colder and often looks ratty later in the season.

The report also incorporates the results of a citizen science project comparing pollinator diversity and frequency, identifies and describes compact selections and less-cultivated species with potential. To read the complete report, visit www.mtcubacenter.org.

PLANT FIBER OPTICS

Through the process of photosynthesis, plants create food by collecting energy from the sun or other light source. To do so, plants use photoreceptors—proteins that detect light—on their leaves and stems. But the fact that many plants have photoreceptors in their roots, which typically are not exposed to light, has puzzled

scientists for years. A group of researchers from South Korea recently found an explanation, using *Arabidopsis thaliana*, a plant with photoreceptors in its roots that is commonly used in experimental research.

The study, published in December 2016 in the online journal *Communicative & Integrative Biology*, involved placing light detectors in the soil at this plant's root tips to see if the plant was sending light down to its roots. Sure enough, they sensed red light. This finding supports the theory that certain stem tissues act like fiber optic cables, internally reflecting light down to photoreceptors in the roots. The amount of light that travels in this way is not sufficient for photosynthesis, but when the researchers blocked the light from the photoreceptors, root growth was severely stunted. The reflected light activates a process that controls root growth and gravitropism—the way roots grow downwards in response to gravitational pull. However, exactly how plants move light to their roots through stem tissues remains a mystery.

DEVELOPMENT AD
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GRACE ELTON JOINS TOWER HILL

In February, Grace Elton became CEO of the Tower Hill Botanic Garden in Boylston, Massachusetts. Previously, Elton had



Grace Elton

been the director of horticulture at Lewis Ginter Botanical Garden in Richmond, Virginia, since 2011. Prior to joining Lewis Ginter, Elton served as adjunct professor and arboretum supervisor at the Ambler Arboretum of Temple University

in Philadelphia, Pennsylvania.

“Grace brings the talent and knowledge required to lead this 175-year-old society and its 30-year-old garden,” says James Karadimos, president of the Worcester County Horticultural Society, which oversees Tower Hill. “She is well positioned to strengthen Tower Hill’s reach and reputation, while staying true to our mission.”

To learn more about Tower Hill, visit www.towerhillbg.org.

BUTTERFLY WEED TAPPED AS TOP PERENNIAL

The Perennial Plant Association (PPA) has named butterfly weed (*Asclepias tuberosa*, USDA Hardiness Zones 4–9, AHS Heat Zones 9–3), its Perennial Plant of the Year for 2017. The plant earned this distinction because of its excellent deer



The bright orange flowers of butterfly weed produce nectar that attracts many pollinators.

resistance, drought tolerance, and attractiveness to both pollinators and people. Native to much of eastern and central North America, butterfly weed makes a low-maintenance garden plant that thrives in full sun. This milkweed relative takes its time emerging in spring, but soon produces eye-catching umbels of bright orange to yellow flowers in late spring through to midsummer on upright stems that reach two to three feet in height. The flowers’ nectar draws moths, bees, wasps, ants, beetles, and even hummingbirds. Its narrow, lance-shaped leaves serve as a larval food source for many kinds of butterflies—including monarchs.

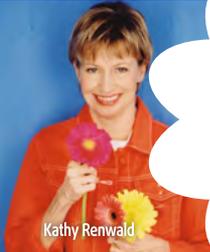
Headquartered in Hilliard, Ohio, the PPA is a trade organization for growers, horticulturists, garden designers, and educators involved in the herbaceous perennial plant industry. For more information about the organization and to view a complete list of winners of its Perennial Plant of the Year distinction, visit www.perennialplant.org.

Written by Associate Editor Viveka Neveln and Editorial Intern Julia Polentes.

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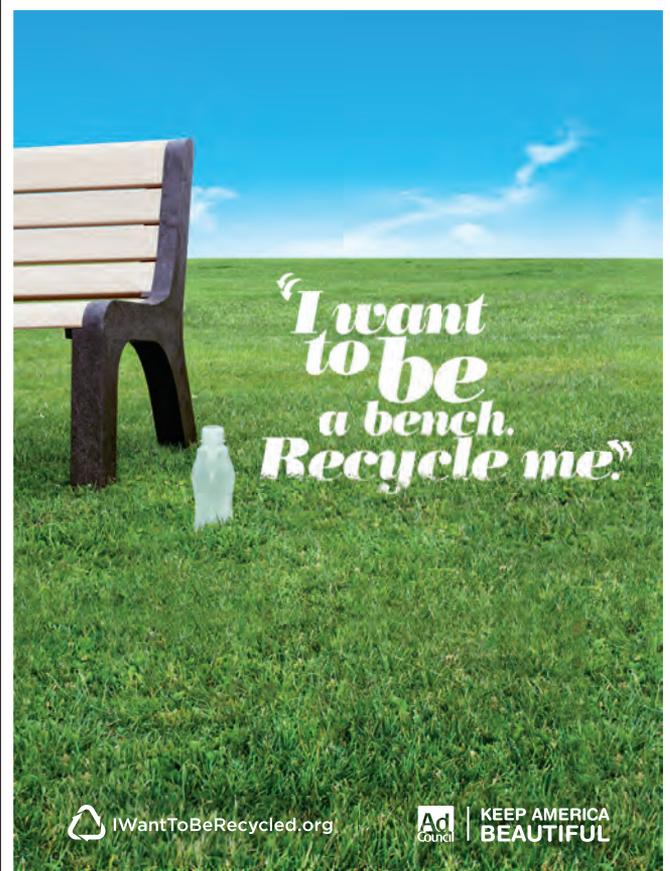


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