Horticultural News and Research Important to American Gardeners


'American Dream' corn


'Onyx Red' pepper

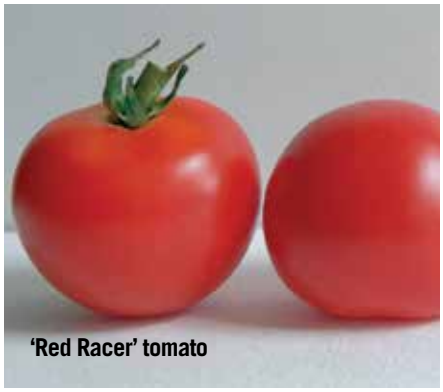
2018 ALL-AMERICA SELECTIONS WINNERS

All-America Selections (AAS), a non-profit organization dedicated to testing new cultivars of vegetables and ornamental annuals, has announced the first round of winners for the 2018 judging season. In the edibles category, judges selected 'American Dream' corn as the top national trial choice. This new selection from Illinois Foundation Seeds, Inc., is quick to germinate and produces yellow and white kernels on the seven-inch-long cobs in 77 days. The six- to seven-foot-tall plants don't require staking, and are resistant to northern corn leaf blight.

Another winner is the ornamental pepper, 'Onyx Red'. This cultivar, bred by Takii & Co., Ltd., grows only six to 10 inches tall and maintains a neat, rounded shape throughout the growing season. Its striking black foliage, purple flowers, and contrasting bright red fruits add splashes of color to beds, borders, and containers. It blooms from late spring to frost and sets fruit prolifically.

The third winner in the national ranking is a cocktail tomato named 'Red Racer' that is resistant to several common tomato diseases. A determinate type, it grows only three feet tall and two feet wide, making it a good choice for containers. It produces abundant clusters of fruits in 90 days from seed. The fruits are slightly bigger than cherry or grape tomatoes and have a balanced acidity-to-sweetness ratio that reportedly gives them a pleasing flavor whether eaten fresh, canned, or cooked. 'Red Racer' is bred by Earth-Work Seeds and distributed by Garden Trends Wholesale.

New plant submissions to AAS are evaluated by nearly 100 independent experts at some 80 trial sites located throughout the United States and Canada. Entries are judged based on factors such as earliness of bloom, and harvest, disease and pest tolerance, superior color or flavor, flower form, and overall performance. For more information about AAS, visit *www.all-americaselections.org*.


'Red Racer' tomato

COURTESY OF ALL-AMERICA SELECTIONS (3)

NATURAL PLANT DEFENSE SYSTEM COULD LEAD TO SAFER PEST CONTROL

Plants turning insects into cannibals might sound like something you'd encounter in a science fiction story, but it's actually an everyday occurrence in the plant world. This is the essence of a common plant defense mechanism that researchers are now looking to as inspiration for safe and effective pest control methods.

When physically damaged, some plants will release methyl jasmonate, a volatile organic compound that is bitter and unpleasant to herbivorous insects, such as caterpillars. Their aversion to this compound is so strong that once a plant releases it, caterpillars will begin to eat each other rather than the plant. Not only does this protect

the plant from being damaged further, it also decreases the insect population, reducing the plant's overall risk.

A team of researchers at the University of Wisconsin, Madison, tested this defense mechanism by spraying tomato plants with methyl jasmonate and then placing caterpillars on the plants. According to the study published online in July by *Nature Ecology & Evolution*, not only did the presence of the compound induce cannibalistic behavior in the caterpillars, but it also caused surrounding plants that had not been sprayed to release the compound themselves. This may explain why the caterpillars continued to eat each other even when given the choice to move to nearby unsprayed plants.

With further research and testing in the works, this natural defense mechanism may yield new pesticides that won't harm non-target species. To learn more about the original study's results, visit *www.nature.com.*

FOREVER STAMPS CELEBRATE POLLINATORS

In August, the U.S. Postal Service (USPS) unveiled the theme of five new Forever Stamp designs, named "Protect Pollinators" in tribute to the importance of America's diverse plant pollinators, which in many regions are threatened by a combination of habitat loss, overuse of pesticides, and climate change. Each individual stamp features a photograph of either the common honeybee *(Apis mellifera)* or a monarch butterfly *(Danaus plexippus)* atop a brightly colored native flower. The collection was compiled by USPS art director Derry Noyes.

New pollinator stamp designs include a honeybee on an aster, top, and a monarch butterfly on a goldenrod, above.

According to the USPS, the stamps were created to "exemplify the ecological service provided by all pollinators." The horizontally oriented stamps are available in sheets of 20, with four of each design included. More information about the "Protect Pollinators" Forever Stamp collection is at *www.usps.com*.

COCKROACHES PLAY UNEXPECTED ROLE IN SEED DISPERSAL

While we tend to think of cockroaches as indoor pests, some species of this insect are an integral part of forest ecosystems, where they feed on dead and decomposing plants. Researchers have recently discovered a previously unknown function roaches play as important seed dispersers.

While investigating how the seeds of a forest-floor plant called *Monotropastrum*

COURTESY OF USPS (2)

HEAD OF PERENNIAL PLANT ASSOCIATION RETIRES

Steven M. Still, the longtime executive director of the Perennial Plant Association (PPA), has announced his retirement, effective September 30. Still, along with three colleagues, founded the PPA in 1984 as a way for people involved with the production of herbaceous perennial plants to network and share best growing and marketing practices. Over the years, the trade organization, which is headquartered in Hilliard, Ohio, has expanded its membership and programs, which now include national and regional educational symposia, the Perennial Plant of the Year, and an award program.

Steven Still at the dedication of a perennial garden named in his honor at the Ohio State University's Chadwick Arboretum & Learning Gardens.

"No one in the last 35 years has been more devoted to educating North American gardeners about perennials than the humble and hardworking Steve Still," says Allen Bush, a friend and colleague who offered a tribute to Still and his family during the PPA's July symposium in Denver, Colorado.

An internationally recognized expert and leader in the field of herbaceous perennial plants, Still is an emeritus professor at the Ohio State University in Columbus, where he taught horticulture and mentored countless horticulture students for 25 years. Prior to that, he taught at Kansas State University. He is the author of *Manual of Herbaceous Perennial Plants*, first published in 1980. Still served on the American Horticultural Society (AHS) Board of Directors from 2003 to 2009 and continues to serve on the AHS's Awards Committee.

Among the many awards Still has received during his career are the Medal of Honor from the Garden Club of America, the Gold Medal Award from the Massachusetts Horticultural Society, the Liberty Hyde Bailey Award from the AHS, and the PPA's Award of Merit. In 2007, a garden area named in his honor opened at the Chadwick Arboretum & Learning Gardens at the Ohio State University.

—David J. Ellis, Editor

humile are spread, scientists at Kumamoto University in Japan observed that birds and mammals seemed uninterested in the seed-laden fruits, but that the fruits attracted a variety of invertebrates. Among the invertebrates, Japanese forest cockroaches *(Blattella nipponica)* were the most frequent consumers of the fruits, feeding primarily at night. Through painstaking inspection of the roaches' feces, the researchers found viable seeds of *M. humile*.

Considering that there are over 4,600 known cockroach species, the researchers conclude it is likely that cockroach-aided seed dispersal is a more common phenomenon than previously realized. For more on this study, originally published in the *Botanical Journal of the Linnaean Society*, read the summary by *Science Daily* in August at *www.sciencedaily.com/releases/2017/08/170803091907.htm.*

NEW TREE SPECIES IS 100 MILLION YEARS OLD

In the 1993 movie, *Jurassic Park*, dinosaur DNA preserved in amber is used to revive the giant prehistoric beasts. While scientists are nowhere near bringing dinosaurs back to earth, they have recently discovered in Myanmar resin-preserved prehistoric flowers that led to the identification of a new tree species. The tiny flowers, which are no larger than five millimeters in diameter, are all nearly 100 million years old.

According to George Poinar Jr., professor emeritus at Oregon State University (OSU) in Corvallis, who led the research on the ancient flowers, it's the first time seven complete specimens of this age have been reported in a single study. Poinar theorizes that dinosaurs may have bumped into the tree, causing the flowers to fall and become stuck in gummy resin deposits on the bark of a neighboring conifer. The deciduous

A recently discovered 100-million-year-old flower preserved in amber helped identify a new prehistoric tree species.

tree is named *Tropidogyne pentaptera*. Its species name—composed from the Greek words *penta*, meaning "five," and *pteron*, meaning "wing"—reflects that each flower is composed of five winglike petals.

The discovery, initially reported by Poinar and colleague Kenton Chambers in the journal *Paleodiversity* in July, builds on earlier research into amber-preserved flowers that led to the identification of a tree named *Tropidogyne pikei*. The genus has been assigned to the Cunoniaceae, a family of trees that is common throughout the Southern Hemisphere.

To learn more, visit *www.bioone.org/doi/10.18476/pale.v10.a10.*

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LEFT: AHS STAFF. RIGHT: COURTESY OF GEORGE POINAR JR.