

Columbia, Missouri Attempts to “Stop the Spread!” of Callery Pear

Story and photos by Brett O'Brien, Park Natural Resources Supervisor, Columbia, Missouri



Starlings and other birds eat the hybrid Callery pear fruits and disseminate them.

In 2002, the Columbia, Missouri Park Department saw the first hint of the impending spread of hybrid Callery pears (*Pyrus calleryana*) in our community. A park forestry crew working on a prairie restoration project in Columbia’s Grindstone Nature Area noticed a surprising number of what appeared to be self-seeded ornamental Callery pears. By most accounts, Callery pear cultivars such as ‘Bradford’, ‘Aristocrat’, or ‘Redspire’ were considered self-sterile, so our forestry staff didn’t initially worry about the discovery and simply removed these Callery pear trees as they continued their restoration work. In the following years, however, we became increasingly concerned as we began to see more and more of these pear seedlings in Grindstone Nature Area and other parks.

We soon learned that in communities across the United States, where substantial numbers of ornamental pear trees were planted, the same phenomenon was occurring as a result of these trees unexpectedly interbreeding and hybridizing. Genetic analysis of Callery pear cultivars in research by Theresa Culley and Nicole Hardiman at the University of Cincinnati

linked the origin of these invasive pear populations to cross-pollinations between genetically differing ornamental pear cultivars planted nearby. If you added into the mix the parentage from resprouting Callery rootstock, a whole stew of viable hybrid Callery pear seedlings was possible.

Seedlings are spread when the fruit of these intraspecific hybrids is eaten by starlings and other birds and the seeds dispersed into nearby fields, rights-of-way, parks, or other natural open areas. Highly variable, many of the seedlings show characteristics, such as thorniness, that had been bred out of their parent cultivar.

By 2007, it was clear that the spread of invasive pears was beginning to gain a foothold in our community and action was needed in able to manage this invasive plant threat. Due to the nature and scope of this problem, we turned to the Missouri Department of Conservation and the Missouri Community Forestry Council for assistance. They provided funding and support through their Tree Resource Improvement and Management

(TRIM) cost-share program and helped us generate a multi-faceted plan to address this crisis in our community.

Our plan involved creating an informational program through brochures, posters, and newspaper ads to increase awareness among our citizens of the cause and potential long-term effects of this hybridization. In addition to this publicity campaign, the TRIM program also funded a demonstration planting of alternative native tree species at a recently developed park.

The educational feature of this plan, referred to as the “Stop the Spread!” campaign, focused on encouraging homeowners and landscapers to begin planting non-invasive alternatives to Callery pear trees in new landscaping projects and developments.



This wild hybrid pear seedling assumes a strict columnar shape.



Invasive Callery pear hybrids can be killed with the “hack and spray” method, but it’s very time consuming.

We also wanted to communicate to our citizenry the potential costs and consequences of this plant invasion such as ecological damage caused by displacing native plant communities, increased economic costs due to vegetation management problems in parks, near transportation corridors, or under power line rights-of-way, and potential threat to electrical and transportation services from falling branches or toppled trees because of these notoriously fast-growing, weak-wooded trees.

story continues page 36...

References:

Culley, Theresa M. and Nicole A. Hardiman. 2007. “The Beginning of a New Invasive Plant: A History of the Ornamental Callery Pear in the United States,” *Bioscience* Vol. 57, no.11.

Vincent, Michael A. 2005. “On the spread and current distribution of *Pyrus calleryana* in the United States,” *Castanea* Vol. 70, no. 1.



Invasive Callery pear hybrids can create a nuisance when growing under and around power lines.

u n s u r p a s s e d

 **connections 2008**

Your once in a lifetime experience—every year

2008 ASCA Annual Conference

December 3 – 6, 2008 • Loews Ventana Canyon Resort • Tucson, Arizona



Planted Bradford pears seen in the background were potentially parents to the wild Callery pears in the foreground.

Unmatched. Unequaled. Unparalleled. The energy, exchange, inspiration and views you'll experience at the 2008 ASCA Annual Conference. Connect with other like-minded and ambitious professionals like yourself. Attend the outstanding **Risk Assessment Pre-Conference Workshop** and experience the finest learning in arboriculture!

Go to www.ascaconsultants.org/conferences.html and register now!



*Co-sponsored by
ISA Western Chapter &
Rocky Mountain Chapter*

asca AMERICAN SOCIETY OF
CONSULTING ARBORISTS

SOIL MOIST GETS TO THE ROOT OF WATER MANAGEMENT

Soil Moist Water Management Polymers and Mycorrhizal Products put you in control: to reduce water maintenance and plant stress, increase growth rates, improve soil porosity and do more with less... beautifully.



Available in the forms, formulas and custom blends you need, eco-safe Soil Moist granules, disks, tabs and spikes absorb water, then release it gradually as the soil dries.

Whether it's original Soil Moist, Soil Moist Mycorrhizal for stronger root development, or Soil Moist Plus nutrient blends, each watering lasts up to 50% longer for 3-5 years.

Soil-Moist. There's never been a better time to call for technical data and expert advice.



JRM Chemical, Inc.

4881 NEO Parkway, Cleveland, OH 44128
1-800-926-4010 • 216-475-8488
fax: 216-475-6517

www.soilmoist.com

We also wanted to bring up the sensitive issue of what to do with existing Callery pear cultivars planted in the home or commercial landscape. We know how everyone becomes attached and committed to their trees, so we conceded that it is neither absolutely necessary nor feasible for homeowners to remove all of the healthy pear tree cultivars planted on their property. Instead, we suggested that as these trees deteriorate or become unhealthy through the usual manner (ice, wind, etc.), the homeowner replant with a more desirable tree species. It is a policy our department will be pursuing as well since between the mid-1970s into the early 1990s our parks department had planted a number of ornamental pears in our parks and downtown streets. Fortunately, ornamental pear cultivars now comprise less than four percent of our park and street tree inventory, and we believe we can gradually reduce that number to zero in the next three to five years.

Controlling and eliminating invasive *Pyrus calleryana* hybrid seedlings in our parks and natural areas is going to be a lot harder, but we are moving in that direction too. Burning, a practice we have used in our prairies, has not proven very successful. The “hack and spray” method of using machetes and herbicides to attack the seedlings is more effective but labor intensive.

The feedback we have received from the Columbia community has been heartening, as we have met many people who, once made aware of the problem, were eager to know of alternatives to Callery pear cultivars they could plant. I've had several local arborists and landscapers request brochures to hand out. One nursery in Columbia has embraced the program wholeheartedly and has our “Stop the Spread!” brochures available for their customers. However, not all of our local nurseries are as enthusiastic about the campaign—I suspect because it threatens the sales of one of the industry's most marketable and adaptable ornamental trees. A drive through Columbia's neighborhoods illustrates the popularity of ‘Cleveland Select’, ‘Redspire’, and other Callery pear cultivars, so it is inevitable some nurseries and landscapers will chose to ignore the invasive pear problem for now.

It is critical, then, to focus on changing the consumer's perception of ornamental pears as desirable landscape trees. It is why the “Stop the Spread!” campaign encourages voluntary participation by homeowners, landscapers, and developers to plant non-invasive alternatives to Callery pear trees in new landscaping projects and developments. The campaign is not going to solve our pear problem overnight—but it does get the message out that a reduction in the number of Callery pear cultivars and hybrids within our community would be beneficial for all residents of Columbia in terms of potential reduction of power outages, savings in trimming and removal costs, and an improved and more ecologically balanced community urban forest. 🍃

Berkshire Earthwings™
patented tree staking systems --
the professional's choice

- Fast
- Easy
- Economical

Also available as
Rootball Anchors and
Theft Deterrents

Drive and Pull
to lock in place

Call (413) 229-7919 or visit www.BerkshireEarthwings.com