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WOODY NOTES

MANHATTAN PLANT MATERIALS CENTER

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New Woody Observational Plantings

Eleven recent woody acquisitions were added to the woody observational plantings at the Manhattan Plant Materials Center (PMC) in 2013: bottlebrush buckeye, *Aesculus parviflora* Walter; Kentucky coffeetree, *Gymnocladus dioicus* (L.) K. Koch; eastern red cedar, *Juniperus virginiana* L. cv. 'Burkii'; tulip tree, *Liriodendron tulipifera* L.; Meyer spruce, *Picea meyeri*; pear, *Pyrus* sp.; Gambel oak, *Quercus gambelii* Nutt.; dwarf chinkapin oak, *Q. prinoides* Willd.; red oak, *Q. rubra* L.; Shumard oak, *Q. shumardii* Buckley; and gum bully, *Sideroxylon lanuginosum* Michx.

Highlighted below are three of the recently added tree species.

Bottlebrush buckeye, *Aesculus parviflora* Walter. (SAPINDACEAE) Native to the southeastern United States, distribution of *Aesculus parviflora* is essentially described to Alabama, but is of course known to Georgia and northern Florida. The genus *Aesculus* is comprised of thirteen species and includes many cultivars and varieties. While most recognize the outstanding and extremely long (8 to 12 in) flowering panicles of this genus, other common characteristics include the palmately compound leaves and large (1 to 3 in) characteristic seeds for which the common name "buckeye" is thought to be derived. Other attractive attributes include the consistent bright yellow fall color which is termed better than all other Aesculus species and also the striking, bronze-red colors of leaves during emergence that eventually turn dark green. Bottlebrush buckeye can be found in rich, moist woodlands as a dense, suckering multi-stemmed shrub reaching 3 to 13 feet tall. If allowed, this species will continue to spread similar to *Prunus americana*, *P. pensylvanica*, *Populus tremuloides*, and *Cornus racemosa*. While most Aesculus species seem to suffer in the Midwest to leaf scorch and leaf blotch, *A. parviflora* is resistant. *Aesculus parviflora* is best suited for moist soils under part or full shade.

Ames 30126 was originally identified by George W. Wood Jr. and Tom Dilatush in the mid-1980s. The population is located near the Savannah River in Aiken County South Carolina, close to Augusta, Georgia. George W. Wood Jr. (deceased July 17, 2006) was the principal founder/editor of the Alabama Wildflower Society (AWS) in 1971 and served as the first AWS President from 1971 to 1973, and again in 2000 to 2005. Tom Dilatush has made numerous selections and contributions of high quality woody ornamentals to the landscape/nursery industry. Seed for Ames 30126 was harvested from cultivated plants grown from seed originally collected in the wild by George Barrett.

Probable hardiness to USDA Zone 4.

Tulip tree, *Liriodendron tulipifera* L. (MAGNOLIACEAE). *Liriodendron tulipifera* is a noteworthy species gaining interest in the nursery trade throughout the Midwest. The native range of tulip tree extends from southern Michigan and southern New York, south to northern Florida and west to portions of Louisiana. It is typically found in mesic woods as very large specimens reaching well over 100 feet in height. The name tulip tree is derived from the tulip-like flowers that bloom in spring. Unfortunately, the large leaves tend to hide the flowers as the leaves are fully expanded before flowering. This species always tends to maintain a dominant, central leader. Other positive attributes include brilliant yellow fall color and also little to no insect/disease problems.

Tulip tree foliage and tulip-like flower
~Rob Routledge, Sault College, Bugwood.org

Ames 29821 was collected by Heidi Gray (Fernwood Botanic Gardens) as seed from native specimens growing in Fernwood Botanic Gardens near Niles, Michigan. This accession would represent germplasm from the northern edge of the species native range. No winter injury has been noted on field-grown seedlings of Ames 29821 in Ames, Iowa.

Probable hardiness to USDA Zone 4.

Eastern red cedar, *Juniperus virginiana* L. cv. 'Burkii'. (CUPRESSACEAE). Commonly referred to as Burk eastern red cedar, it is a male cultivar of eastern red cedar. An evergreen growing 15 to 25 feet tall in a pyramidal form and spreading 8 to 15 feet when given a sunny location. Its summer foliage is blue-green turning to a brownish tint in winter in the north. This cultivar is fruitless and does not attract birds as the species does, which is a big problem due to the spread of eastern red cedar in pastures. If Burk lives up to the claim of being fruitless, it could begin to solve the spreading problem for a species that is the ideal windbreak tree. There is no better coniferous tree suited to windbreaks than the eastern red cedar, rugged, adapted to a wide variety of soil types over a wide area of the country. Accession 9050662 was obtained from Charles R. Bessey Nursery.

Hardiness: USDA Zones 3 through 9.

Bur Oak Seed Source Study Update

In cooperation with the former Great Plains Tree Improvement Committee (GP13) the Manhattan PMC put in a bur oak seed source study in the fall 1992 and spring 1993. For the past 20 years, the PMC has been evaluating the performance of 26 accessions of bur oak whose origins are primarily Kansas, Nebraska, Oklahoma, and Missouri.

Rows of trees in the Bur Oak Seed Source Study at Manhattan PMC, December 2013 *~John M. Row, USDA NRCS*

Missouri sources were among the tallest bur oaks in the study and ranked high in diameter at breast height (DBH) as well. The tallest tree at 20 years stood 39.9 feet, originating from Lafayette County, Missouri. Ten trees equaled or exceeded 36.9 feet. Of those, 4 were from Platte County, Missouri. Six of the top 10 were Missouri sources (Table 1). Three Missouri sources had the greatest mean height of the 26 accessions in the study (data not shown). The greatest DBH was in a single tree from accession 9050168, Holt County, Missouri. Five Missouri sources were in the top 10 with 4 dominating the top 5 slots. A Riley County, Kansas, source was second with a DBH of 13.4 inches. Three Missouri sources were also among the top 4 for mean DBH.

Table 1. Top 10 trees in the Bur Oak Seed Source Study for plant height and DBH at Manhattan PMC

Rank	Source ID	County	State	Accession Number	Plant Height (ft)		Source ID	County	State	Accession Number	DBH (in)
1	520	Lafayette	MO	9050170	39.9		501	Holt	MO	9050168	15.5
2	510	Platte	MO	9050169	38.8		275	Riley	KS	9050065	13.4
3	510	Platte	MO	9050169	38.7		510	Platte	MO	9050169	13.4
4	554	Creek	OK	9050173	38.7		510	Platte	MO	9050169	13.2
5	510	Platte	MO	9050169	38.7		520	Lafayette	MO	9050170	12.3
6	241	Thayer	NE	9050164	38.7		556	Sequoyah	OK	9050174	12.3
7	520	Lafayette	MO	9050170	37.9		267	Richardson	NE	9050162	11.6
8	567	Woodward	OK	9050175	37.5		556	Sequoyah	OK	9050174	11.6
9	556	Sequoyah	OK	9050174	37.1		510	Platte	MO	9050169	11.4
10	510	Platte	MO	9050169	36.9		225	Doniphan	KS	9050157	11.4

Manhattan Plant Materials Center: A Trial Site

The purpose of this newsletter is to inform cooperators and others interested in woody plants about woody plant trials at the PMC. Many of the entries are part of the USDA Agricultural Research Service (ARS) Plant Introduction System, North Central Regional Plant Introduction Station's (NCRPIS) NC-7 Trials for which the PMC is a cooperating trial site. Additional entries are provided by cooperating PMCs, NRCS field offices, and university forestry programs desiring the testing of promising woody plant materials.

Plant descriptions appearing in this newsletter were a major contribution by Jeffery D. Carstens, Research Technician, NCRPIS, Ames, Iowa, with edits and additions by John M. Row, Plant Materials Specialist, NRCS, Manhattan, Kansas.

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