

# Manhattan Plant Materials Center

Manhattan, Kansas



*A newsletter in support of the Plant Materials Program for Colorado, Kansas, Nebraska, and Oklahoma*

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## **Synthetic Weed Barrier Some Follow up May be Appropriate**

The use of weed barrier has become a fairly common practice in the Great Plains in the establishment of woody seedlings for windbreak and shelter belt plantings. The synthetic mulches have several positive advantages for improving tree seedling growth. They increase soil temperatures in the spring, reduce evaporative soil moisture loss during dry periods, and control herbaceous competition, often for an extended period of time.

It is the durability of the synthetic mulches that may cause problems later in tree plantings. It was initially assumed that direct sun and weathering processes would cause the mulches to breakdown in 5 to 7 years. However, with current experience and studies it has become apparent that many of the mulches are far exceeding life expectancy due to the shading of the material and covering by tree leaf litter and grassy vegetation. The higher priced UV-resistant woven fabrics can be more expensive initially and may present problems later. The problem of girdling can occur if the woven fabric will not expand easily as the tree grows and can eventually cause the tree to die. If trees are dying in a shelter belt situation for no apparent reason it might be a good idea to check the base of the tree and see if girdling is occurring. If girdling is observed the material at the base

of the tree must be cut to prevent further injury or eventual death of the trees.

## **Anatomy of a Study**

In an attempt to describe what is involved in an initial evaluation study, Common buttonbush will be used as our example of the typical woody plant material.

Countless hours have gone into the study which began in 1999. The clock started ticking when our field personnel went out and made the initial seed collections. Once seed collections were assembled at the PMC, the initial thirty-eight collections were logged in and processed. Seed units from each collection were counted out and planted in cone-tainers for plant production in the greenhouse. There were enough seedlings from 36 of the collections to be put under evaluation in an initial evaluation planting (IEP) at the Center. A plot plan was developed using a randomized complete block design with three replications and three plants per plot.

A crew of eight planted 324 plants for evaluation purposes and 64 border plants in the evaluation nursery in 2001. Sprinkler irrigation was set up to water the new plantings. Additional irrigation applications were made through the growing season to ensure establishment.

Annually, for the life of the study, a crew of five is needed to perform periodic maintenance to plots such as cultivation, hand weeding and moving irrigation pipe.

Electric fencing must be put up each fall to protect the plants from deer until the following spring. Annual evaluations consist of more than 1200 observations in data elements such as survival, disease, insects, vigor, flowering and amount, fruiting and amount, seed production, shattering, plant vigor, and leaf fall date; 1,080 measurements consisting of plant height and width; and 216 counts consisting of number of basal stems and total number of main stems. Once the data is collected and tabulated it boils down to 15 bits of data or means for each plant accession in the IEP.

This information is then published in the PMC's Annual Technical Report. Eventually a superior plant or plants will be selected and tested under field conditions at field office evaluation sites. After many years of evaluation and testing, a superior buttonbush variety will be named and released to the public for conservation use.

### **Kansas to Host 2003 PPFA Annual Meeting**

Kansas will host the 2003 Plains and Prairie Forestry Association (PPFA) Annual Meeting in conjunction with the National Black Walnut Council in Pittsburg, Kansas. The joint meeting will begin Sunday evening July 27 with the status and regional differences of black walnut production across the country. Participants will tour a tree farm on Monday that has extensive black walnut plantings. The Monday afternoon tour includes a visit to the Kansas State University Nut Crops Research Station with discussions of pecan and walnut research results. Monday evening will include seminars on various phases of black walnut management. Tuesday will include tours of the Kansas Technology Center at Pittsburg State University, which includes a sawmill, dry kilns, and architectural wood

panel production. The meeting will adjourn on Wednesday. Questions about the meeting content and specifics can be addressed to Charlie Barden at [cbarden@oznet.ksu.edu](mailto:cbarden@oznet.ksu.edu) or (785) 532-1444.

### **Native Seed Quality Workshop**

The third annual Native Seed Quality Workshop will be held February 25-26, 2003 in Omaha, Nebraska. This workshop will serve as a forum for those interested in the native seed industry. Sessions on the latest in native seed testing, conditioning, production, establishment and research will be presented. The meeting will begin at 8:00 AM on the 25th and run until noon on the 26th at the Sheraton Omaha. A tour of Stock Seed Farm (Murdock, Nebraska) is scheduled for the afternoon of February 26. For more information on meeting topics and registration information go to the web site: [www.mwseed.com/workshops.htm](http://www.mwseed.com/workshops.htm).

### **Sudden Oak Death**

Scientists in California are witnessing a new fast spreading disease known as sudden oak death syndrome. The story begins in the mid 1990's near Santa Cruz. Property owners reported dying oak trees, which often oozed a bloody red sap. It was discovered that a *Phytophthora* fungus species was isolated from the dying trees. The disease has already killed tens of thousands of trees in California and has spread to 17 different species, including hackberry, red oak, pin oak, big leaf maples and other species that are widespread in the East and Midwest states.

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