

October 2010

Dear Members and Friends,

This newsletter is about research. It is an important element of our mission. It might seem out of the ordinary and quite ambitious for a small, rather new institution such as ours. Let me explain to you what we are doing and why:

From our beginning in 1997 (first plantings) we have had a desire to not only be a place for people to relax, and enjoy; not only a place to learn, but an institution which would grow, study, experiment with woody plants in order to further the general body of knowledge about them and, of course, to view them. This seemed to us to be a worthy goal, a serious goal. If achieved, it would be an activity which could set us apart; lead to recognition by our peers, and, most importantly, an activity which would benefit the public.

Without a scientific staff, we know our work has to be in collaboration with others and be of a certain type; mainly observational and evaluative. What follows is what we are doing:

We are involved in four projects. Three (elm, Osage-orange, *Maclura pomifera*, and Kentucky coffeetree, *Gymnocladus dioica*) have lead to special collections. The conifer research project is a bit different.

Elms: The native American Elm, *Ulmus americana*, is mostly gone from our landscape. What an important tree it was! What a loss! However, there are other beautiful elms, many are from Asia; particularly northern China. Also, cultivars of the American elm have been developed. They all are pretty much resistant to the Dutch Elm Disease.

About ten years ago, the late Dr. George Ware of the Morton Arboretum in Lisle, Illinois, one of the world's most noted leaders in elm research, guided us in starting what is now a substantial, diverse elm collection. He gave us many Asian species; also cultivars and hybrids. Many of the Asian species and cultivars were personally grown by him from seeds he collected in China and elsewhere in Asia.

Currently, we have 42 different species, cultivars, or hybrid elms in our collection totaling 72 trees. Some of these cultivars and hybrids are being sold at nurseries. Some, we feel, could be important street trees of tomorrow, as the American elm was. With so many of these trees new on the market, our collection, with time and growth, will be an important place where people can see many mature types in one place. We are sure that some will select elms they first saw here.

Conifer Research Project: Iowa is not blessed with many native conifers. Here in central Iowa, and indeed, most of Iowa, we have one native: the Eastern Red Cedar. Consequently, we rely on other conifers; the Eastern White Pine prominently among them.

Other commonly used conifers have been plagued with disease and insect problems: the Austrian Pine, Scots Pine and the Colorado Spruce. We continue to lose old stands of conifer trees in the Midwest and particularly in Iowa. We must look to new and little used species and cultivars. This was our concern and our opportunity.

Enter Dr. Jeff Iles, head of the horticulture department at Iowa State University and Dr. Harold Pellett, founder of the Landscape Plant Development Center in Chanhassen, Minnesota. Nine years ago we asked them to come up with a list of little used conifers to plant out in an exposed site here; to determine, over ten years, those suitable for Central Iowa. Nurserymen were engaged in this selection process also. We asked Iles and Pellett to help us establish a thorough record-keeping system to chronicle these trees and also to help us evaluate them. Twelve species were selected. We planted ten of each type: Fraser Fir, Korean Fir, Rocky Mountain Fir, Japanese Larch, Wilson's Spruce, Chinese White Pine, Korean Pine, Bosnian Pine, Balkin Pine, Himalayan White Pine, 'Shawnee Brave' Common Baldcypress and 'Green Giant' Western Arborvitae.

These trees were planted, (some have been replaced) eight years ago. Most, but not all, have done quite well. We are now replanting many of them in our permanent collection.

Through articles, letters and emails we have spread the word about our findings; still a bit tentative. Replanting many of them into our permanent collection will conclude phase one of the project with phase two being further evaluation and making these trees more accessible to our visitors, who may wish to consider them for planting. With our substantial, first hand knowledge of their performance here, I believe we can contribute.

Osage-orange: Two years ago we started our Osage-orange initiative. This was done with the encouragement and urging of Guy Sternberg, a highly regarded tree expert who established and operates Starhill Forest Arboretum, in Petersburg, Illinois. This arboretum is particularly noted for the oak collection, which is second to none.

We were persuaded to enter the world of the Osage-orange by the evidence: the American elm is gone. We are losing our ash trees. Where do we turn? The Osage-orange may be a viable substitute, we feel.

Over the past 25 years or so, two gentlemen, John Pair of Kansas and Al Ferguson of Iowa have selected and planted close to thirty Osage-orange trees which are thornless or nearly so. This medium size, open appearing tree has excellent disease and insect resistant qualities. It is also extremely adaptable to drought, heat, wet sites, and poor soil. Most are male and so do not produce the large fruit or "hedge balls". Combining these qualities of thornlessness, disease resistance, and adaptability, with lustrous green leaves and interesting forms not seen here, appears to make this tree suitable for the urban landscape.

Over the past two years, Arboretum Manager, Andy Schmitz, has rooted hard wood cuttings for twenty selections from these trees. They are now being planted in our permanent collection at the Arboretum and in turn will be an impressive, one of a kind display for all to view.

Kentucky coffeetree: Our newest and perhaps most ambitious special collection is of the Kentucky coffeetree. This tree is native to Iowa and has many attributes which make it an outstanding tree to plant. Like the Osage-orange, this tree has no serious disease or insect problems and is very adaptable. It could potentially replace the ash as well as oaks, which are being seriously affected by oak wilt in our cities. This large tree has a beautiful, open appearance with very interesting multi-part leaves and highly textured, ridged bark; an outstanding tree.

Andy Schmitz is well on his way in collecting Kentucky coffeetree seeds from seventy known wild populations from across its native range; which starts in New York, moves across Iowa to Nebraska and south to Oklahoma and Tennessee.

This assemblage with its genetic diversity will allow us to gain information about the tree's cold hardiness, growth habits and phenology (leaf, expansion, flowering, fruiting, fall color, etc).

This very sizable collection will potentially generate for us a line of trees with superior qualities. It will also allow us to apply to the North American Plants Collection Consortium; certifying us with a nationally recognized collection, and help us to be known as an arboretum doing original research of trees.

With these assemblages, we are developing some of the finest and we hope, nationally recognized collections for both our visitors and academic research professionals. These collections show our commitment to preserve genetic diversity, conduct research and further the study and enjoyment on trees.

Important ending: On a final note, I wish to recognize those individuals who supported us well beyond normal membership status:

Carrie and Bruce Anders, Andrew and Lisa Bean, Marietta Brandt, Julie Brenton and R.D. Galbraith, Ken Brenton, Natalie Brenton, Natalie and William H. Brenton Foundation, Jean Burkett, Bob DeMeulenaere, Cathy and William Eddy, John Eddy, Wayne and Ann Gadelmann, Julia Gentleman, Helen Hubbell, Dave and Barb Hurd, Catherine Kirk, Warren and Susan Lammert, Jr., Richard Levitt, Carroll and Rick Michalek, John and Judith Nicholson, Bob and Mary Anne Rennebohm, Charles Rhinehart, Craig and Liz Sandahl, Tom and Kitty Stoner, Tom and Mary Urban, Fred and Emily Weitz, Steve and Linda Weitz, Melvin and Mary Beth Wilk and Anonymous.

Sincerely,

Buz Brenton