

**UNL Forestry-Related Activities with the NRE project Jan 1, 2004 to October 6, 2004**  
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**Hazelnut/specialty forest product research.**

With commercialization and development of native foods identified as a priority activity by all the tribal colleges, we (Beth Hammond, Scott Josiah, and several student workers) have pursued an aggressive research program to identify superior cultivars from the Arbor Day Farm 9-acre hazelnut planting in Nebr. City. We again in 2004 assessed all 5000+ plants to identify those with greater than average yields, as well as recorded the incidence of disease and other characteristics. We then hand harvested all nuts from selected heavy yielding plants (about 150), as well as those that had superior nuts (based on size) and are now in the process of husking, weighing, and cracking these nuts to document nut characteristics. This past summer, we also processed (husked) the 2003 harvest from over 500 plants, and sampled, cracked and monitored a variety of variables from all plants from the 2003 and 2002 harvests. Thus far, we have identified at least 5 and possibly 15 plants that produced between 10 and 20 lbs/plant, and equivalent to 4-6,000 lbs of husked nuts/acre. This is 2 to 3 times what is considered to be a commercial rate of production of hazelnuts in Oregon, an indicator of the significant potential of this plant as an alternative crop in Nebraska and the Great Plains states.

We distributed seed from superior hazelnut plants to Fort Berthold, NICC and possibly Sinte Gleska for outplanting this fall on those campuses.

**On-Site Educational Visits**

I visited Fort Berthold CC from May 3 to May 6. While there I worked with Ruth Shortbull to develop and deliver a seminar on trees and forests to all of the 4th Grade classes on the reservation. We covered why trees are important, tree and shrub based products - both modern and traditional products important to Native Americans. We taught them the basics of tree identification, with some outdoor work at some schools. And we talked about careers in natural resources, the opportunities and the requirements (why it is important to study hard and stick with school). I came away from this experience convinced that if we want to increase the number of people entering natural resource careers, we need to "capture" them while they are young, 9-10 years old. Waiting until they are 17 is likely too late. And Native Americans are strongly oriented to natural resources culturally - which seems to me to be a good foundation upon which we could build programs that would eventually lead them to natural resource careers.

A side note: New Town ND is now experiencing Dutch Elm disease which will likely take out a considerable part of their urban forest in that town and others on the reservation. This will be an opportunity to promote community tree planting as people will acutely miss those elms.

More recently, FBCC (Ruth) asked that I come up this winter and do a program with the 4th graders again, this time on birds. I am currently working with UNL faculty to locate someone with interest to do this. I may have found someone from the Neb Game and Parks Commission,

but being outside UNL, it might be better if Ruth locates someone from NDSU for this particular project. I do plan on going up this spring to work with her on the Elder tree planting program.

From May 31 to June 3, I visited Sinte Gleska University and worked with Lisa Columbe. We also visited schools, and conducted a tree planting workshop for grade school children at the SG Ranch. We machine planted a windbreak, as well as a number of trees around one of the SG offices in town - creating a kind of edible landscape. What struck me there was the reaction of people (adults) who were going to the office and seeing the tree planting activities - they were genuinely excited to see that happening. The lesson to me was that we will need to take tree planting to where people live, not focus on rural plantings if we want successful tree planting programs on the reservations. I also brought a wealth of printed tree-related materials to both SG and FBCC for their permanent use.

NICC requested last winter some assistance in wild rice culture. I checked around and found a faculty member - Dr. Bill Zanner - soil scientist with the School of Natural Resources had done his masters research on wild rice. Bill and I travelled to NICC on June 16-17 to consult with Shelly Avery and Hank Miller. We looked at a number of locations for possible wild rice culture, and post visit provided them with contacts in Minnesota for more technical assistance and seed sources. While on site, we visited a farmer and identified a site on his farm to test some plantings of hybrid poplar as an alternative crop on the lands adjacent to the Missouri and Niobrara with increasing water tables. While at NICC we also did some advance planning for the upcoming Annual Meeting at Niobrara State Park. I have been working with Hank since last winter to identify species of shrubs appropriate for testing as woody florals. I also visited Hank's woody floral plantings in June and provided some on-site technical assistance. Hank also asked and I agreed to serve on his graduate committee at SDSU, which has since been formalized.

### **Technical Assistance**

Also, last fall, NICC and other TCs requested support from UNL on remote sensing/geographic information system technologies. I connected CALMIT from UNL with ISU to determine the scope of this technical assistance. ISU funded a "consultancy" by CALMIT to NICC. CALMIT personnel visited NICC and determined their equipment and training needs.

### **Potential Projects**

I spoke with the Director of the National Agroforestry Center related to their interest in working with the project. They are interested, but are going through some re-organizational flux at the moment, so I don't think we'll see any big commitments. I mentioned that we are currently completing an Agroforestry curriculum for high school vocational agriculture students (in conjunction with the Neb. City Ag Magnet School and the Kimmel Foundation) and would like to revise/redesign these publications for use by the tribal college community. He thought we could find the funds to do this if we are serious.