

Collecting DNA vouchers for the National Tallgrass Prairie Seed Bank

The National Tallgrass Prairie Seed Bank at the Chicago Botanic Garden is reinstating collection of DNA material to accompany our regular seed and herbarium voucher collection for the Seeds of Success/Millennium Seed Bank Project with the 2008 field season. DNA samples were collected along with each accession during the 2003 and 2004 collecting seasons, but for the past few collecting seasons DNA samples were not collected. Our aim is to make the National Tallgrass Prairie Seed Bank as valuable a resource as possible to researchers both here at CBG and at outside institutions. Because tissue samples for future DNA analyses can be collected relatively easily, below is a protocol for collecting DNA samples to accompany each seed collection made for the project.

The Seed Bank Coordinator will be sending a packet to each contract botanist currently signed up for particular species on our target species list online (<http://cbgseedbank.org/targetspecies.html>), including labeled DNA sample envelopes inserted into plastic baggies filled with silica for drying (1 paper envelope per seed collection). If you need more supplies as the season progresses, just email Emily Yates, Seed Bank Coordinator, eyates@chicagobotanic.org and more will be sent out to you.

How to collect a leaf sample for future DNA analysis

A piece of leaf tissue (roughly 1 x 5 cm) should be removed from one individual plant, or better yet, from one of the herbarium vouchers you have taken to accompany each seed collection. Remove the leaf (a younger leaf is better than a senescing one) and place it inside the labeled small paper envelope we've provided. Please fill out the information on the paper envelope label (except for the Identification Number, which our database here at CBG will generate and we will add). These samples will be stored in separate locations than your seed collections or herbarium vouchers so it's essential that they are accurately labeled. Then insert the paper envelope (with leaf sample inside), into the small ziplock baggie with provided silica, and seal.

Ship to Chicago Botanic Garden as soon as possible – DNA leaf samples can certainly be put into the same box with your seed collections for easier shipping.

We greatly appreciate your work with the National Tallgrass Prairie Seed Bank, and this additional genetic material collected as leaf samples for future DNA research will certainly contribute to conserving and restoring the tallgrass prairie ecosystem in the Midwest and Great Plains.

If you have any questions at all about protocols, etc. please contact Emily Yates, Seed Bank Coordinator, eyates@chicagobotanic.org, 847-835-6861