The Native Plants Website: An On-line Source of Propagation Information©

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The demand for native plants continues to increase but published information on how to propagate natives is extremely limited. A wealth of propagation knowledge and experience exists in native plant nurseries but there isn't an easy way to share it. The Native Plant Network on the Internet offers basic propagation information as well as a searchable database of propagation protocols. An easy-to-use data input form allows growers to submit propagation information as well as update it as new information becomes available. Submitting propagation protocols to the Native Plants Website is a perfect way to practice the I.P.P.S. motto "To Seek and Share."

INTRODUCTION

Forest and conservation nurseries are being asked to propagate an increasingly wide range of native plants from ferns and forbs to shrubs and noncommercial trees. Learning how to propagate these new plants can be a formidable challenge. For example, native plant seeds come in a bewildering array of shapes and sizes (Fig. 1) that make them hard to collect, clean, and sow. Most native plant seeds also have some type or degree or dormancy and will need special treatment before they will germinate.

Research is the traditional source of new technology, but few scientists are working on new native plant propagation techniques in the United States, and most of that work is with threatened and endangered species. This problem can be traced to recent personnel downsizing as well as a lack of priority by research administrators. So, most new propagation techniques are being developed on-the-job by native plant

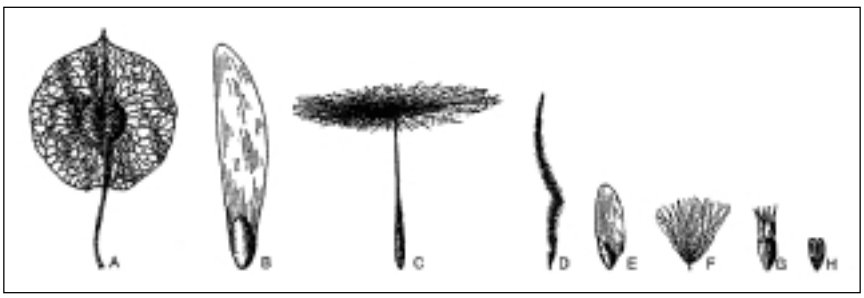

Figure 1. Propagating native plants is a particular challenge because of the wide variety of seed sizes.

nurseries but, unfortunately, this information is not being shared. There are several reasons for this. Obviously, private nurseries have an economic reason for not wanting to share their trade secrets. State and federal government nurseries have been a traditional source of nursery technology, but nursery workers just don't have the time to document what they know in writing. In addition, declining government budgets and fewer personnel makes sharing information a low priority.

THE NATIVE PLANTS WEB SITE

Recognizing this need, the Reforestation, Nurseries, and Genetic Resources (RNGR) team of the USDA Forest Service came up with the idea of developing a system for sharing propagation protocols for native plants. A propagation protocol is a comprehensive procedure on the cultural details of growing a specific native plant—in other words, a recipe. A typical protocol starts with target seedling specifications and then contains information on how to collect seeds or cuttings; how to grow the plant in a nursery; how to harvest the plants, seeds, or cuttings; and how to outplant them (Landis et al., 1999).Our basic idea was to publish propagation protocols on the Internet using a standard format. Internet publishing has several advantages: first,

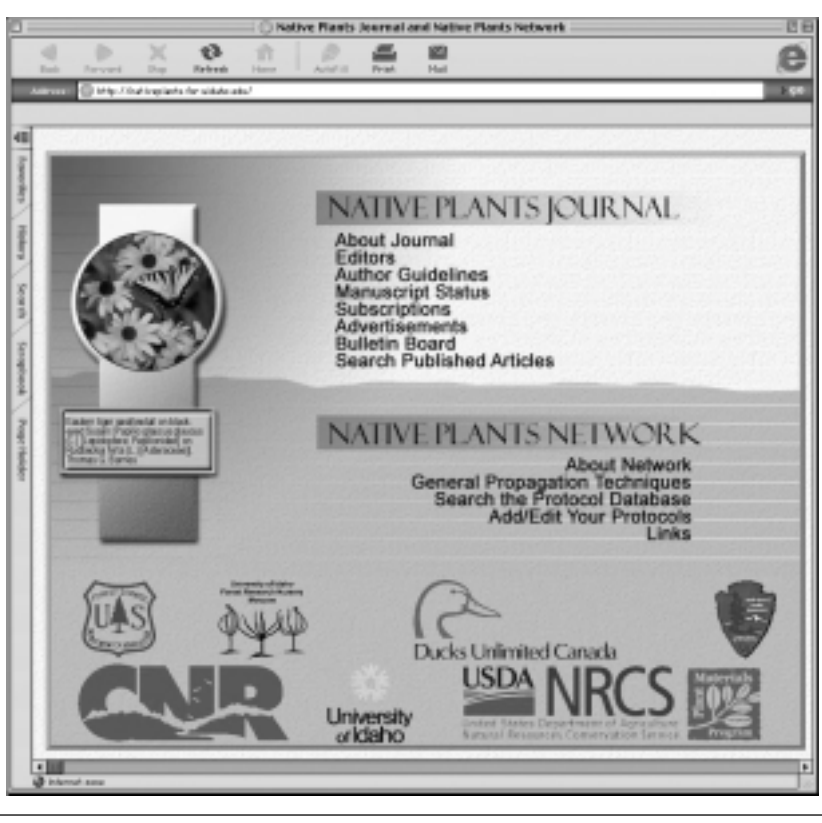

Figure 2. The Native Plants Website can be found on the internet at: <http://www.nativeplantnetwork.org>

it is relatively inexpensive compared to trying to publish in hard copy; second, it is quick; and third, computer files are easy to access and update. Working cooperatively with the Forest Research Nursery at the University of Idaho, the Native Plant Website was developed in the Year 2000 (Fig. 2).

The Native Plants Website currently consists of two sections and a third is planned. The first contains information on the Native Plants Journal, including a searchable database of past issues displayed as Portable Document Format (PDF) files. The second section is called the Native Plant Network and includes some basic plant propagation information and a searchable database of plant propagation protocols. Currently, there are almost 900 protocols on the website with 103 plant families represented. Growers searching this database can learn how to propagate everything from ferns and grasses to woody shrubs and trees. One interesting protocol on how to propagate poison oak (*Toxicodendron diversilobum*) was developed by past Western Region I.P.P.S. President, Mike Evans of Tree of Life Nursery in southern California.

Plant protocols in the Native Plant Network are organized by family name, Latin name, common name, species code, location (state, province, or country), and nursery or company. This organization is necessary because one species can be propagated by several different methods. Also, a wide-ranging species may have several ecotypes that have different cultural requirements. For example, the database contains four protocols for quaking aspen (*Populus tremuloides*). At the Glacier Park Native Plant Nursery in Montana, this species is propagated by either seed (Luna et al., 2001) or root cuttings (Johnson et al., 2001) collected in the wild. Seed propagation is also the method used at the Colorado State Forest Service Nursery but the cultural techniques are significantly different (Moench, 2001). At the Los Lunas Plant Materials Center in New Mexico, quaking aspen is propagated using root cuttings from stock plants held at the nursery (Dreesen, 2001; Dreesen and Harrington, 1999). By providing a range of protocols, novice growers can choose several propagation options and select the one that best matches their location and objectives.

USING THE NATIVE PLANT NETWORK DATABASE

To search the Native Plant Network, just click on "Search the Protocol Database" button (Fig. 2). You can search by species or family names using either common or scientific names or by other common categories including state or province, nursery or company, or propagator. You may also search for a listing of all families, genera, or species listed in the database. From the list of matches to your search, you may select particular protocols based on species, stock type, location, date of entry, and so on. One handy feature is the batch print function that allows you to accumulate and print several protocols at a time. Just place a check in the box next to the protocols of interest and they will be printed in a format that allows them to be 3-holed punched for storage in a loose-leaf binder.

We strongly encourage I.P.P.S. members to submit any propagation information they may have and have tried to make the process relatively easy. The first step is to click on the "Add/Edit Your Protocols" button (Fig. 2), and register as a propagator. Registering will allow growers to add multiple protocols without having to re-enter basic information like your name, address, and contact information. And, if at a later date you wish to update one of your protocols, you may access the file using your password. Submitted protocols will be checked for appropriateness of content before

being added to the database. We encourage growers to submit their nursery logos which are displayed whenever someone views that protocol. We are also coordinating with the USDA-Natural Resources Conservation Service to cross-link the protocols with their PLANTS database.

The third section of the Native Plants Website is still under development. Many people will access the web site with the desire to know where they can purchase certain native plants. We are working with the Ladybird Johnson Wildflower Center in Texas and the Plant Conservation Alliance to develop a Directory of Native Plant Nurseries and hope to have this project completed in a couple of years.

SUMMARY

The Native Plants Website is an excellent information resource for people who want to grow or use native plants. Propagation protocols offer an easy, yet comprehensive, way to share information on how to grow native plants. We hope that all I.P.P.S. members will use this new way to seek cultural information and share their propagation knowledge.

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