

different and practical application of known methods used to: revitalise plants following shipment, provide growing storage conditions that can result in improved plant quality, and as an intermediate stage between propagation and field planting to increase survival.

PRAIRIE RECONSTRUCTION AND PLANTS

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A prairie can be described as a meadow. So simple a definition describes the part of our country that is responsible for the soil that produces so much of the world's food. The pioneers broke the sod with their primitive implements and discovered some of the richest agricultural soil in the world, soil created by thousands of years of decomposing plant roots that extend as much as 10 ft deep. This breaking of the sod doomed the prairie.

Recently there has been a tremendous interest in not only preserving the remaining remnants of original prairies but reconstructing them, too. The Chicago Botanic Garden Prairie is a reestablished prairie of approximately 11 acres. Two acres, containing 155,000 plants, will be a mesic or tall grass prairie, the dominant type in Illinois where corn and soybeans are now planted.

All the seeds for this reconstruction were collected within a 200 mile radius of the Chicago Botanic Garden during the summer and autumn of the previous year. The seeds were cleaned and stored under refrigeration until sowing in late March. Mesic prairie plants propagated from seed in 1983 are shown in Table 1. Slow growing species, such as legumes, were sown first and the fast growing prairie grasses and silphiums were seeded last. Seeds are sown in either Jiffy strips or Rootmaster pots and put in a cool greenhouse for germination. Young plants were hardened-off outside several weeks before planting.

Site preparation is an important component in prairie reconstruction. The weedy vegetation is first destroyed by using the herbicide Roundup. Several weeks after Roundup application, the area is tilled several times. To control erosion on steep slopes, Curlex, an excelsior fiber blanket covered with a photodegradable nylon netting was used. Strips of Curlex al-

Table 1. Mesic prairie plants propagated by seed — 1983.

<i>Allium cernuum</i>	<i>Liatris pycnostachya</i>
<i>Amorpha canescens</i>	<i>L. spicata</i>
<i>Andropogon gerardii</i>	<i>Lilium michiganense</i>
<i>A. sullivantii</i>	<i>Lobelia spicata</i>
<i>A. tuberosa</i>	<i>Monarda fistulosa</i>
<i>Anemone patens</i>	<i>Oxypolis rigidior</i>
<i>Aster azureus</i>	<i>Panicum virgatum</i>
<i>A. ericoides</i>	<i>Parthenium integrifolium</i>
<i>A. laevis</i>	<i>Pedicularis canadensis</i>
<i>A. novae-angliae</i>	<i>Petalostemum candidum</i>
<i>A. sericeus</i>	<i>P. purpureum</i>
<i>Astragalus canadensis</i>	<i>Phlox pilosa</i>
<i>Baptisia leucantha</i>	<i>Physostegia virginiana</i>
<i>B. leucophaea</i>	<i>Potentilla arguta</i>
<i>Bromus kalmii</i>	<i>Prenanthes racemosa</i>
<i>Cacalia suaveolens</i>	<i>Pycnanthemum tenuifolium</i>
<i>C. tuberosa</i>	<i>P. virginianum</i>
<i>Ceanothus americanus</i>	<i>Rosa carolina</i>
<i>Cirsium discolor</i>	<i>Rudbeckia subtomentosa</i>
<i>Coreopsis palmata</i>	<i>Ruellia humilis</i>
<i>C. tripteris</i>	<i>Silphium integrifolium</i>
<i>Desmodium canadense</i>	<i>S. laciniatum</i>
<i>Dodecatheon meadia</i>	<i>S. terebinthinaceum</i>
<i>Echinacea pallida</i>	<i>Solidago riddellii</i>
<i>Elymus canadensis</i>	<i>S. rigida</i>
<i>Eryngium yuccifolium</i>	<i>S. speciosa</i>
<i>Filipendula rubra</i>	<i>Sorghastrum nutans</i>
<i>Gentiana alba</i> [<i>G. flavida</i>]	<i>Spartina pectinata</i>
<i>Gentiana andrewsii</i>	<i>Sporobolus heterolepis</i>
<i>Gentiana saponaria</i> [<i>G. puberula</i>]	<i>Thalictrum dasycarpum</i>
<i>Heliopsis helianthoides</i>	<i>Tradescantia ohiensis</i>
<i>Heuchera richardsonii</i> var. <i>grayana</i>	<i>Valeriana ciliata</i>
<i>Hierochloe odorata</i>	<i>Vernonia fasciculata</i>
<i>Iris virginica</i> var. <i>shrevei</i>	<i>Veronicastrum virginicum</i>
<i>Lespedeza capitata</i>	<i>Zizia aurea</i>

ternated with a row of bare soil seems to work well. Planting through the Curlex is time consuming as the nylon netting must be cut and excelsior fibers parted before a hole can be dug. Excelsior fiber makes an excellent nesting material for rodents and therefore rodent control methods must be used. Despite its disadvantages, Curlex is an excellent erosion control material and will continue to be used.

Prairie plants here at the prairie garden were planted on 1 sq. ft. intervals. Planting boards marking the intervals have been designed. This method of planting results in a very unnatural looking grid pattern. However, untrained volunteers find it easier to distinguish prairie plants from weeds knowing that prairie plants occur at one foot intervals.

Burning is an important tool in weed control. As soon as the new prairie can produce enough hay to support a fire, burning is recommended. In the Chicago area trees are begin-

ning to encroach on areas that are no longer burned. If not for the fires, the landscape of Illinois would have been woodland, not prairie. Fires are not only detrimental to woody plants but also to Eurasian weeds (which do not have the deep root system of our native prairie plants). Many Eurasian weeds are cool season growers and, therefore, resume growth in the early spring. Consequently early April in Chicago is the best burn time. In only a few short weeks growth begins anew.

ACCELERATED GROWTH OF *PIERIS JAPONICA* GROWN FROM SEED

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Propagators' efforts are not always richly rewarded. Sometimes we have failures which are beyond our control. For example, in June we had temperatures from 95° to 99°F, with equally high humidity, which caused us to lose about half of our *Pieris japonica* crop due to heat stress. This crop is the subject of my presentation today.

Pieris japonica seed capsules are gathered the first part of November. After the capsules open, the seeds are screened from the capsules. The seeding medium is prepared by mixing one 6-cu ft bale of peat moss with two 4-cu ft bags of coarse peat moss. Flats (20×14×3 in) are filled with this mixture and lightly pressed down to ½ in below the top of the flat. The flat is then filled with screened peat moss and leveled.

The flats are now ready for sowing. One level tablespoon of pieris seed is used per flat. After sowing, flats are watered well and a polyethylene cover is placed over the flat to retain moisture during the germination period.

After about 3 weeks the seeds have germinated and the poly cover is removed. Watering of flats is done as needed and, with every other watering, the seedlings are fertilized with Peter's 20-20-20.

In February seedlings are transplanted into flats (20×14×4 in) using Fafard No. 3 mix at the rate of 140 seedlings per flat. The same watering and feeding program continues. In April seedlings are trimmed the first time. After trimming, the seedlings are about 3 in tall. The second trimming is done in July. After the second trimming the seedlings are about 5 in tall. At