

In conclusion, this planter has met our expectations and will for many years to come. I would like to thank Victor Villadsen, Judy Tournier, Jamie Hernandez, and the staff at Holland Transplanter in the preparation of this poster display.

Six-row planter specifics:

- Manufacturer: Holland Transplanter
- Uses: Plants a wide variety of bare-root perennials and rooted cuttings.
- Dimensions: 221 inches long × 100 inches wide
- Spacing: 6 rows 10 inches × 9.5 inches (can be adjusted by adding or removing pockets) 60-inch bed
- Units per acre: 50,000
- Units per hour: 2450 to 2800
- Tractor: 65 hp or larger with stepped-down transmission
- People: 8
- Cost: 14,500 (Tractor not include)
- Comments: Designed to plant bareroot perennials. Prior to this unit most perennials were hand planted. Planting rate has improved 125%.

Plant Propagation Education — A Community College Approach

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We are a community college in Nepean, Ontario, Canada (near Ottawa — Canadian Zone 5a) that offers a 2-year Diploma course in Horticulture and Landscaping. Our students graduate as Horticulture Technicians. Although much of the nursery business is conducted in the southern regions of our province, we do not overlook this aspect of horticulture in training and educating our students, as many of them will venture to seek employment in the larger nurseries after graduating. Thus, our approach to training students in the field of plant propagation focuses primarily on the nursery industry in eastern North America.

Although the plant propagation course is conducted in the winter semester of the first year, attention is given to propagation throughout the 2-year program in courses such as Herbaceous Plants 1 and 2, Woody Plants 1 and 2, and Greenhouse Applied 1 and 2. As students become familiar with plant identification, they are also taught cultural requirements including specific propagation techniques of the plants. For example, during a Woody Plants 1 class, *Caragana arborescens* 'Pendula' will be talked about as being a grafted plant, and the terminology of grafting is first introduced. Later in the plant propagation class, grafting of ornamental trees and shrubs will be shown in class through the use of slides taken at various nurseries throughout southern Ontario and Eastern United States. The students will then perform various styles of grafting in the propagation lab and grow the propagated plants in the greenhouse until time to plant in the nursery. Much of the grafting that we do is on *Malus* rootstock, where we bud ornamental crabapple cultivars by either

T-budding or by chip budding onto potted and actively growing *M. antanovka* or *M. baccata* rootstock. This is done in February using dormant scionwood collected in December and stored in our refrigeration units at 32 to 36°F. We have also bench grafted upright juniper cultivars using the side veneer graft onto *Juniperus ×media* 'Hetzii' 1-year hardwood cuttings, which the students rooted the previous winter. Our second year Greenhouse Applied 1 class will T-bud in September a range of nursery stock such as *Gleditsia tricanthos* var. *inermis* 'Shademaster' and 'Sunburst' and will also graft in early spring other rootstock in the nursery.

Space in the 4000 ft² greenhouse is limited during the winter semester for all the student projects. Timing and careful juggling of crops is critical for success. We have four greenhouse sections each approx. 1000 ft², one section dedicated to propagation. This area is equipped with misting lines down each bench and controlled by a digital HARDI misting controller, hot-water underbench heating pipes, and independent environmental temperature control. We can root a large range of cuttings including evergreen hardwood cuttings, herbaceous, and softwood cuttings. Students are encouraged to take cuttings from as many plants as they wish, usually learning by trial and error that for example, Boston ferns (*Nephrolepis exaltata* 'Bostoniensis') will not root from leaf cuttings.

Seeds are purchased from suppliers throughout the world as we attempt to increase our plant collections on campus. Our bedding plant seeds are purchased from Stokes Seeds Ltd. in St. Catherines, Ontario. The students appreciate the cultural information written on the back of each seed packet while we can order many taxa of seeds in small quantities. After germination and transplanting is done by the propagation students, the seedlings are grown in the greenhouses in spring and planted out by the student summer staff so that the plants are fully displayed at the start of semester in the fall for new and returning students to learn.

The Combined Proceedings of the International Plant Propagators is the basis for the readings and research material that our students use for their projects. This year, the Continuing Education class had to research a topic within the Proceedings and prepare a 15-min presentation on their findings. Our collection in the Resource Center is incomplete as we are missing some earlier volumes. There is a complete set of the Combined Proceedings locally at the Central Experimental Farm in Ottawa that our students have access to.

From time to time, an event presents itself which we feel would be of benefit to our students. For example, last February, we bussed a group of students to Drummondville, Quebec to attend a 2-day conference on plant propagation held by the "Institut Québécois du Développement de Horticulture Ornamentale" which is run along the same lines as the International Plant Propagators Society annual conference. Our students are encouraged to join the I.P.P.S. and at last year's annual conference in Toronto, Canada, a number of our students were in attendance.