

FY08 Application for Nursery Research Funding
Washington State Department of Agriculture - Nursery License Surcharge
 (Please use one application packet including the Progress Report page for each proposal.
 You must use our form - failure to do so may result in not funding your project.)

Project Title: Evaluating Grevillea for Landscape Use in the PNW

Project Leader: Neil Bell and James Altland

Institution (if any): Oregon State University Extension Service

Mailing Address: 3180 Center Street NE #1361 Salem, OR 97301

Project Phone Number: (503)361-2671 FAX Number: (503)585-4940 Cellular/Pager Number: (503) 949-2010

Note: Project leader or his/her designee must be available at above project phone number on March 2, 2007 between the hours of 10:00-12:00 and 1:00-3:00.

Amount Requested for (FY08) July 1, 2007 to June 30, 2008: \$4,200.00

Start Date: July 1, 2007 Completion Date: March 1, 2010

(Check One) New Project Continuing

If this is a multiple year project, please estimate and list the following information for each future July 1 - June 30 period listed below through project completion:

Fiscal Years (FY)	July 1, 2008 to June 30, 2009	July 1, 2009 to June 30, 2010	July 1, 2010 to June 30, 2011	July 1, 2011 to June 30, 2012	July 1, 2012 to June 30, 2013
\$ Amount Needed	\$1,200.00	-0-			

If you are increasing the above amounts since your last application, please explain why:

*Please list all other sources and amounts of funding for this project for the current year only: (Please notify us by February 15 if other funding has been approved and from where.)

Source	\$ Amount Applied For	Approved	Pending Date of Notification
Caners Foundation	\$4,200.00	No	January 2007

Total Amount Needed to Fund Project (Include all sources) \$4,200.00

If total amount from all sources is not granted, will you be able to complete the project? No
 Explain:

The budget covers basic travel costs and supplies needed to establish the evaluation. Most of the cost occurs to acquire, propagate and plant the evaluation. Subsequent costs in future years are minimal because of volunteer assistance.

Submit 15 copies of this proposal to: Tom Wessels, Plant Services Program Manager, P.O. Box 42560, Olympia, WA 98504-2560. All applications must be postmarked by December 31, 2006.

Evaluating *Grevillea* for landscape use in the Pacific Northwest

Purpose of this research:

Grevillea is a genus of about 250 woody, evergreen shrubs or trees native primarily to Australia. Their habit ranges from prostrate and wide-spreading to upright shrubs to tree forms. The common name "spider flower" refers to the unusual flowers which are long and slender and borne in dense bunches. The flowers are found in shades of red, yellow or white.

Grevillea have become popular in Mediterranean climates of the world for their evergreen habit, showy flowers and particularly their drought tolerance. Most species and hybrids bloom in late winter and spring. An additional ornamental characteristic of these plants is the foliage. When the plants are out of bloom, the soft green, silver or grayish foliage is still attractive.

Because of their origin in drought-prone, warm areas, *Grevillea* are well adapted to summer drought, and are suitable for growing in coastal regions or in poor soil. They can be grown successfully along dry banks, parking lot islands and other locations where water is limiting. *Grevillea* perform reliably in these difficult situations, where many common landscape plants struggle.

Most of the many *Grevillea* varieties that exist are unknown to cultivation in the Pacific Northwest, or have been grown only by enthusiasts. Only rarely have they been used in landscaping and they are currently produced in only small numbers by specialty nurseries in the PNW. The *Grevillea* most commonly used in landscaping in the PNW are *G. rosmarinifolia*, *G. juniperina* and *G. lanigera*. The primary reason for lack of use is unawareness of this group of plants or the misperception that *Grevillea* lack hardiness or landscape adaptability here.

Nevertheless, this group of plants should be attractive to industry, landscapers and gardeners, as they are exceptionally attractive, evergreen shrubs with a diversity of form. They are exceptionally drought-tolerant and carefree plants, tolerating poor soils and requiring little or no fertilizer or water after establishment. They are also highly ornamental, most having attractive leaves and being spectacular in bloom. If more cultivars could be obtained and planted in an evaluation locally, then the most successful varieties could be identified and made available to local nurseries and landscapers.

We feel that *Grevillea* offer a great opportunity, because of the variety of ornamental characteristics they possess, and also because so few of the varieties have been available to, or been tested by, the industry. The cooperators listed at the beginning of the proposal will enable us to trial a great number of new varieties for the nursery industry over the next two years.

Methods of research:

A field planting of the cultivars will be established at NWREC adjacent to the Agrimet weather station. Each cultivar will be planted in a Completely Randomized Design with 3 replications. The data to be collected are:

1. Plant height and width (collected twice per year: April and October).
2. Flowering data (collected weekly in season, to give data on flowering time and color).
3. Winter injury data (collected each spring or as required).
4. Pest and disease information
5. Propagation information

Much of the effort for establishing the trial and its management will be done by OSU Master Gardeners, who have adopted this evaluation as a core project of their organization. They will provide the majority of the personnel for establishment of the evaluation and for subsequent maintenance and will assist with data collection, as part of their commitment to providing volunteer support to public education.

We have also received considerable support in the form of plant material from several sources in Oregon and California. Several local nurseries, such as Cistus Design offer a number of *Grevillea* varieties. Many more have been offered to us by The Arboretum of the University of California, Santa Cruz, which hosts the largest collection of Australian plants in North America. This collection also offers a tremendous amount of information on cultivation, hardiness and taxonomy of these plants. Cuttings will be rooted and grown on at NWREC prior to planting in the trial.

Data collection will begin at planting. Plant size will be recorded twice per year, in early April, and early October. This consists of measuring the height of the plant, and two widths, at right angles to each other, to create a plant growth index. The collection will be surveyed during spring and summer, with presence of flowers, flower color and flower truss size being recorded. Other qualities that influence ornamental value, such as foliage color and shape, will be recorded. Cold hardiness will be evaluated on a 0-5 scale, with 0 indicating no damage, and 5 indicating death of the plant. The collection will also be observed for pests and diseases.

When plants have reached an established size, digital images will be taken of each cultivar to display on the Internet. These images will highlight the ornamental character of each cultivar, while written descriptions will describe bloom time, fragrance, and other pertinent information. While visitors are welcome to see the collection in person, this will allow homeowners and nurserymen to sift through the large amount of collected data, in an easy-to-read and photographically intense format while at their home or office.

Estimated Duration of Study:

After two years, we expect to have narrowed our large initial population to those species and cultivars that have great promise for landscape use. However, with an established plot such as this, further data collection is possible, as are other uses, such as taxonomic work and plant breeding.

Expenditure Breakdown:

	<u>WSDA request</u>
Salaries and Wages:	\$0
Services and Supplies:	\$2,750
• Fertilizer	\$75
• Potting supplies	\$170
• Mulch	\$775
• Herbicides	\$450
• Plot labels	\$375
• Contract labor	\$650
• Shipping/postage	\$125
• Photo supplies	\$130
Equipment:	\$0
Travel:	\$1,450
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Total:	\$4,200