

Breeding New Plants and a New Breeder

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Summary

The breeding program at Intrinsic Perennial Gardens is discussed with special emphasis on the criteria for breeding and selecting new cultivars. Successfully breeding new

plants comes from years of observation including taking inspiration from peer mentors. It is also important to mentor the next generation of breeders.

INTRODUCTION

What is plant breeding and how does it differ from other methods for obtaining new plant introductions such as selecting?

Plant breeding is more intentional, can be done at home or at work, and is performed with specific goals in mind. In contrast, plant selection can be more haphazard, made in or by nature, and is opportunistic.

Reasons for plant breeding

There are many reasons to breed new plants. Included would be the following:

- Hybrid vigor
- New colors
- Height differences, usually shorter
- Disease resistance
- Sterility or a longer bloom time
- Rebloom
- Foliage that differs from the parent, selection based on variegated and colored foliage

Getting a new plant to market includes a number of steps including:

- Naming the new plant
- Propagate the new plant
- Decide who to give or sell it to
- Decide to protect it or not

Propagating at Intrinsic

Plants in the nursery are primarily propagated from cuttings or seed (Table 1).

Table 1. Common plants at Intrinsic nursery and their primary propagation method.

<p><u>Cutting produced plants</u></p> <p><i>Amsonia</i> <i>Aster taxa</i> <i>Geum</i> <i>Leucanthemum</i> <i>Nepeta</i> <i>Rudbeckia</i> <i>Sedum</i> <i>Stachys taxa</i></p> <p><u>Bought as unrooted cuttings</u></p> <p><i>Aster</i> <i>Monarda</i> <i>Salvia</i> <i>Veronica</i></p> <p><u>Tissue Culture</u></p> <p><i>Andropogon</i> <i>Geranium</i> <i>Geum</i> <i>Polemonium</i> <i>Rudbeckia</i></p>	<p><u>Top Seed produced plants</u></p> <p><i>Calamagrostis brachytricha</i> <i>Echinacea</i> <i>Heuchera</i> <i>Liatris</i> <i>Penstemon digitalis</i> ‘Husker’s Red’ <i>Rudbeckia fulgida</i> var. <i>deamii</i> <i>Schizachyrium scoparium</i> <i>Sporobolus heterolepis</i> and other native grasses</p> <p><u>Division</u></p> <p><i>Allium</i> <i>Andropogon</i> also doing some from tissue culture <i>Bouteloua gracilis</i> ‘Honeycomb’ <i>Calamagrostis</i> <i>Carex</i>- many species <i>Festuca</i> ‘Cool as Ice’ <i>Molinia</i> <i>Panicum</i> <i>Pennisetum</i> <i>Schizachyrium</i> <i>Sesleria</i></p>
<p>Seed collecting and cleaning is a necessity for a breeder. However, we also buy seed Prairie Moon Nursery and Jellito Perennial Seeds.</p>	

Identifying potential new plants

How do you learn a new plant?

- See it in catalogs or pictures or advertisement
- See it in real life
- Have someone recommend it
- Read about it in a book or magazine
- But you really only learn a new plant by planting it and observing it!

Mentoring

My inspiration and my mentors:

- My high school horticulture teacher — Jeff Yordy
- My Dad
- Alan Bloom — specifically his book *Hardy Perennials*
- George Radtke — I can always call George
- Roy Klehm
- Roy Diblik — teaches me something every time we meet.

As a personal mentor, I have been working with a new breeder — Jake Letmanski (Figure 1); I got lucky, but I hope this inspires you to mentor someone in your company.



Figure 1. Jake Letmanski, Arie Blom, and Brent Horvath (left to right).

Jake Letmanski came to me at 15 years old as a hobby breeder and I quickly turned him into a commercial breeder (Figure 2).

His grandparents are farmers and his mom is a school teacher. He has a wide interest in different plants. So, I fed him with a wide range of new plants and shared a lot of information and books with him.

I helped him on his search for a college with horticulture by reaching out to fellow breeder Rick Grazzini. I've encouraged and helped his pet projects including desert willow, and other woodies including *Ceanothus*.

I've introduced him to other plant people and breeders. Including Rick Grazzini, Mike Yanny and Kim Shearer who intern introduced him to Jeffery Carsten with USDA.

Today he is a sophomore at Iowa State studying agronomy and horticulture. What does success in breeding look like to him: peer, trade and consumer acceptability. In 3–5 years he hopes that people know more about the benefits of garden plants besides just the ornamental qualities.

His favorite books are *The Manual of the Trees of North America* by Charles Sprague Sargent and *Jewels of the Plains* by Claude Barr. His favorite plants include peonies, *Silphium laciniatum* (the compass plant), and oak trees.

His obstacles are the learning curves related to a new genera and new people.



Figure 2. *Dianthus* 'Fuchsia Fire' pp#14,895.