

1993

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Lindgren, Dale T., "The Need to Register New Cultivar Names: *Penstemon*, a Case Study" (1993). *West Central Research and Extension Center, North Platte*. 37.

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The Need to Register New Cultivar Names: *Penstemon*, a Case Study

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The genus *Penstemon* of cultivated landscape plants contains many species (Kartesz and Kartesz, 1980) and named horticultural selections (Lindgren and Davenport, 1992). However, of the 443 names listed in a recent publication summarizing *Penstemon* cultivar and selection names, only 29 (7%) were registered with the American Penstemon Society's "Registrar of Cultivars" (Lindgren and Davenport, 1992). As with many ornamental crops, *Penstemon* cultivars are selected and developed by public and private plant breeders (professional and amateur) and other individuals. Many individuals who release and name *Penstemon* cultivars have little understanding of the cultivar release and registration process. Registering a new cultivar of a horticultural crop is useful and important, regardless of the crop's economic value. Registration guidelines and procedures should be followed by anyone who names a cultivar.

Difficulties encountered when cultivar names are not registered

Problems can occur when new cultivars of any genus are not registered. Using *Penstemon* as an example, I will highlight several of these problems.

Lack of parentage information. Not knowing the parentage of named cultivars can lead to research duplication. A summary of the genetic background of the 443 *Penstemon* names that have been compiled as of 1992 (Lindgren and Davenport, 1992) indicates that the parentage of about one-third (148) of the listed cultivars is unknown (Table 1). One hundred sixty-five are listed as having a single species parent. Fifty are listed as *P. barbatus* or *P. barbatus* hybrids. Sixteen of these hybrids are listed as having 'Flathead Lake' background; 19 are listed as having "Gloxinoides" origin, which is described as either a *P. hartwegii* x *P. cobaea* hybrid or a *P. hartwegii* variant; 60 are listed as specific crosses between two parents (other than *P. barbatus* and "Gloxinoides"); and one selection is listed as a three-way hybrid. Cultivar name, pedigree, and general characteristics

must be known before a new cultivar can be used intelligently in a breeding program (Lyrene, 1990). With a genus such as *Penstemon*, for which relatively few genetic studies have been published, it is even more critical to have background knowledge of all cultivars to help make initial breeding strategy decisions. This information could come from registration records if the cultivars were registered properly.

Misspelled names. Misspelling names may cause one cultivar to be listed as one or more similarly spelled cultivars. Some similarly spelled cultivar names in the *Penstemon* genus are 'Alice Hindley' vs. 'Alice Handley'; 'Middleton Gem' vs. 'Middleton Gen.' vs. 'Myddelton Gem'; 'George Holmes' vs. 'George Home'; 'Hewell's Pink' vs. 'Howell's Pink'; and 'Gadwood Hybrids' vs. 'Gladwood Hybrids'. Are these different cultivars with similarly spelled names or are they the same cultivar with a misspelled name? We do not know. Crosswhite (1967) discussed spelling variants for the genus *Penstemon* (*Penstemon* vs. *Pentstemon* vs. *Pentastemon* vs. *Penstemon*) and indicated that mere spelling differences do not create new names. The same applies to cultivar names. He also stated that "It is only natural for a bibliographer to list each spelling variant separately, merely because he does not know for certain whether separate names are involved or not." If a name were registered, much of this spelling confusion could be eliminated.

Duplicated names. If names are not registered, they may be duplicated. In the genus *Penstemon*, 'Snowflake', 'Blue Springs', and 'Castle Forbes' seem to have duplicate origins.

Inadequate description. An individual can only guess from a name what a selection might look like if it is not registered and an adequate description and genetic background are not included. About 20% of the *Penstemon* cultivar names refers to a color that describes the flower; ≈80% of the cultivar names listed gives little information on flower color or other plant traits (Table 1). Names that refer to a place (15.6%), such as 'Broken Top Mountain', 'Duncan Ranch', and 'Lost Lake Hybrid', and names that refer to a person (19.6%), such as 'Captain Penwall', 'Claude Barr', and 'Olga', are of no value in describing flowers or foliage (Table 1).

Similarly, it would be interesting to know why certain names were chosen for specific selections. For example, 'Martha Raye' is listed as being so named because of an extra wide "mouth" on the flower. Would this name selection criterion also apply to cultivars such as 'Creeping Thelma', 'Thorn', or 'Little

Chunky'? Why were names like 'My Pet', 'Waxworks', 'Sour Grapes', and 'Black Bird' selected?

Incorrect nomenclature. Sometimes the correct scientific nomenclature is not used in describing or listing a plant. In the summarized list of *Penstemon* cultivar names (Lindgren and Davenport, 1992), several species names that are not recognized species according to Kartesz and Kartesz (1980) were used to describe cultivar parentage. Correct nomenclature is essential for good communication in the plant trade. The role of scientific nomenclature for perennials has been discussed (Flint, 1991). Corrections in nomenclature can be made at the time of registration.

Lack of propagation information. Registering a cultivar provides a written description of the cultivar plus other information, such as propagation method and originator. 'Husker Red' *Penstemon* was released originally as a vegetatively propagated plant with red foliage (Lindgren, 1984). It is occasionally propagated by seed in the nursery industry. However, it can easily cross pollinate with plants of the same species that have green foliage, a cross that results in progeny that do not have the parent's red foliage. Propagation methods, along with other information, are usually included in registration information.

Lack of differentiation among new releases. Problems can occur when contemplating the release of a new cultivar with respect to whether similar selections have already been released. A registered cultivar usually includes a detailed description in the registration records, therefore making comparisons possible. For example, two *Penstemon* hybrids are listed as having a parentage of *P. cobaea* x *P. triflorus*

Table 1. Summary of sources of *Penstemon* cultivar names.¹

Source	Total no.	Percent total
No parents listed	148	33.4
Single species selection	165	37.3
<i>P. barbatus</i> hybrids	50	11.3
Flathead Lake ²	16	3.6
Gloxinoides types	19	4.3
Two parents	60	13.5
Three-way hybrid	1	0.2
Total	443	100
Color listed in name	91	20.5
Place listed in name	69	15.6
Person's name as cultivar's name	87	19.6

¹Based on Lindgren and Davenport (1992).

²Flathead Lake selections are also included in *P. barbatus* hybrids.

Received for publication 8 May 1992. Accepted for publication 19 Oct. 1992. Published as paper no. 9920, Journal Series, Agricultural Research Division, Univ. of Nebraska, Lincoln. The cost of publishing this paper was defrayed in part by the payment of page charges. Under postal regulations, this paper therefore must be hereby marked advertisement solely to indicate this fact.

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(‘Henry’ and ‘Gurney’ hybrids). Neither hybrid is registered with the American Penstemon Society. The society’s program is contemplating releasing a *P. cobaea* x *P. triflorus* hybrid. Because there is not a good detailed description of the ‘Henry’ and ‘Gurney’ hybrids and because original plants probably are no longer available, the society cannot determine if its selection is too similar to the ‘Henry’ or ‘Gurney’ hybrids to release the *P. cobaea* x *P. triflorus* hybrid.

Registration requirements

The international code of nomenclature for cultivated plants (Brickell, 1980) lists seven requirements that should accompany a cultivar registration request:

- 1) The name and address of the originator and the introducer (if any) or their assignees.
- 2) The name of the describer or namer, when the cultivar has been previously described or named, and a full reference to the date and place of publication.
- 3) The original name, if the name submitted for registration is a commercial synonym.
- 4) The parentage when known.
- 5) Particulars of tests for distinctness, including date and place of testing.
- 6) If awards are mentioned, their date.
- 7) A description, if none has been published.

These registration requirements are basic and should not be a hardship for anyone releasing a new cultivar.

Why are many cultivars not registered?

There are several possible reasons why cultivars are not registered, including the following:

- Individuals who release cultivars may not realize there is a registration authority for a particular genus.
- Individuals who release named cultivars may not understand the registration process and its importance.
- Individuals may feel the registration process serves no useful purpose.
- Individuals may feel they cannot document the parentage of a selection and, therefore, will not register it.
- Cultivars are sometimes named to honor someone when there is no intention of officially releasing the plant (Apps, 1991).
- Announcing a cultivar release in a journal or publication does not always substitute for registering the cultivar with the proper registration authority.
- Sometimes, named selections are not propagated in adequate numbers to be released. However, they still should be registered. If there are not adequate numbers for release, they probably should not be named in the first place.
- Individuals who release cultivars may not understand that a registration authority is international. It is not limited to one country or one continent. A directory of international registration authorities for horticultural

cultivar names is available (Vrugtman, 1990) and contains the registration authority for specific plants.

Registration would eliminate much of the confusion that occurs with cultivar names of horticultural crops. We all need to do a better job of registering cultivar names.

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