Nativars

Last fall the national Board established a committee to develop a position statement for Wild Ones on “nativars.” The following is the result of their deliberations and all have been approved wholeheartedly by the Wild Ones national Board.

First, the committee felt it was appropriate to update and restate the Wild Ones definition of native.”

A native plant species is one that occurs naturally in a particular region, ecosystem and/or habitat and was present prior to European settlement.”

Second, they defined “nativar.”

Nativar” is one term for a cultivar of a native species. Like all cultivars, nativars are the result of artificial selections made by humans from the natural variation found in species. Nativars are almost always propagated vegetatively to preserve their selected trait, which means they no longer participate in natural reproduction patterns that would maintain genetic diversity.

Satisfied that they had defined the two most important elements of the statement, they developed ***Wild Ones Position Statement on Nativars*** and we present it here for you.

What are Nativars and Should They Be Used?

Executive Summary:

Due to the loss of genetic diversity and other potential problems described in this position statement on nativars, and because nativars are understood to be very different from native species in the wild, Wild Ones does not encourage the use of nativars. We feel this is the only position on nativars that is consistent with Wild Ones mission statement.

Nativars, cultivars of native plants, are becoming increasingly popular and are marketed by nurseries around the country. It is important to know more about them when planning your landscaping.

What exactly is the difference between a nativar and a straight species native plant?

A native plant species is one that occurs naturally in a particular region, ecosystem and/or habitat and was present prior to European settlement. Nurseries that sell native species grow them from seeds or divisions, and don’t select a particular form of the species to the exclusion of the inherent variation found in nature.

Nativars are the result of artificial selections made by humans from the natural variation found in species. Nativars are almost always propagated vegetatively to preserve their selected trait, which means they no longer participate in natural reproduction patterns that would maintain genetic diversity.

As a result, a nativar was only truly native when in its original context. But once removed from its natural habitat and propagated vegetatively, it is no longer native in the same way -- since it no longer reproduces naturally as straight species do.

What are the pros and cons of using nativars?

Nativars are selected and perpetuated by horticulturists for many alleged reasons: atypical colors or forms of flowers, compact size, insect or disease resistance, tolerance of certain challenging environmental conditions, and many other reasons – all of which, if true, may be valuable in themselves and for gardeners.

However, there are a number of important concerns regarding the use of nativars.

Main Concern: Loss of Genetic Diversity

The premise behind the use of nativars is to isolate a single genetic sliver from the diversity of the natural gene pool of a native species. Therefore, the use of nativars inherently excludes as much genetic diversity as possible, resulting in nursery stock that is almost always genetically identical. The diversity of genes in straight native species gives species more flexibility (and adaptability) when confronting stress such as disease or climate change.

A small percentage of nativars in the nursery and landscape trades may not be a concern. However, the pervasive scale of mass-production, promotion and use of nativars is of concern to ecologists and environmentally-focused gardeners, horticulturists and native plant professionals. The longer we rely on nativars – clones – that are not cross pollinating in natural populations to produce their offspring, the greater the risk that we are left with only diminished selections of native plants – the nativars instead of straight species.

An easy example from recent history can serve as a cautionary tale: the Irish Potato Famine, where limited genetic diversity in potatoes resulted in a historic collapse of a biological system, and eventually, the growing popularity of heirloom food plants. While the horticulture industry promotes the use of nativars, our natural areas where species live, in the wild, are under constant pressure. By propagating, promoting and using straight species of native plants, gardeners and professionals alike can support a form of horticultural conservation—or at the very least, can avoid taking part in the continuing loss of genetic diversity.

Another less obvious concern with nativars is that, because they are by definition genetically un-diverse, any stress that kills a particular nativar could have the Irish potato effect — killing that same nativar in many places, quickly and at once. Just as the industry claims they are better or improved, they could easily be considered inferior once a threat begins to impact them – pest, environmental stress, changes in climate, etc. They could be considered more vulnerable by virtue of their sameness and ubiquitous presence.

“ keep every cog and wheel is the first precaution of intelligent tinkering,” advised the renowned environmentalist, Aldo Leopold, *(A Sand County Almanac with Essays on Conservation from the Round River*. 1966. Oxford Univ. Press. By planting straight native species instead of nativars, we will be preserving the amazing genetic diversity found in nature.

Other Concerns or Unknowns Regarding Nativar Usage

- Loss of wildlife habitat
- Loss of pollinator habitat
- Increase in allergies to pollen or other impacts on human health
- Invasiveness potential
- Increase as climate changes

- Maintenance costs to gardeners
- Economic loss to native species growers

There are too many unknowns and not enough research results on these other concerns to make the decision to use or not use nativars. But like decisions-makers before us, we prefer a precautionary principle approach, because we intuitively know these losses are possible and a proactive and protective stand is needed until research proves otherwise.

_____

Bottom Line:

Due to the loss of genetic diversity and other potential problems described above, along with the fact that nativars are not the same as native species in the wild, Wild Ones does not encourage their use. As stated in our mission statement, our goal is "to *preserve biodiversity* through the preservation, restoration and establishment of *native* plant communities." (Italics added.)

Nativars should certainly never be used in restorations to replicate native plant communities. Individual gardeners, on the other hand, are free to make their own decisions when landscaping their own yards and larger properties.

One of the major difficulties gardeners experience is that desired native plants may not be commercially available for landscaping. However, we can't allow the traditional nursery industry's marketing strategies to undermine our environmental and ecological goals. Only by customers' asking for straight species native plants will growers and garden centers begin to tune in to the environmental concerns presented here, and on the minds of countless ecologists and native plant gardeners all over the country.

To make your decisions, we urge gardeners to follow the advice of Douglas W. Tallamy, Ph.D., chair of the Department of Entomology and Wildlife Ecology at the University of Delaware and author of *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*: "It IS a bad idea to load the landscape with cultivars that have no genetic variability. I would go that route only if it is a choice between a nativar and a plant from China. I think the safest policy right now is to encourage the use of straight species. Ask for them at your local nursery to encourage nurserymen to start stocking more straight species. The nursery industry has not embraced the message that native plants are more about ecosystem function than about looks. We have to convince them that there is a market for plants with high function."

In time of climatic uncertainty, it is important to protect the natural environment we live in. Without it, we cannot survive. Part of that protection strategy is to create our own native gardens to:

connect corridors for songbirds, pollinators, etc.;
incorporate species of our natural heritage;
reduce use of potentially invasive garden plants;
reduce water, fertilizer and chemical usage;
educate our family and neighbors; and
support local native plant growers.

See attached for references related to this position statement.

References for definitions of a native plant species and a nativar

Cregg, Bert. September 27, 2010. Can cultivars be considered native plants? https://sharepoint.cahnrs.wsu.edu/blogs/urbanhort/archive/2010/09/27/can-cultivars-be-considered-native-plants.aspx (online)

Freckman, Robert. Jan. 13, 2013. Personal communication. Freckman is professor emeritus of biology at the UW Wisconsin Stevens Point.

Kelly Kearns, Wisconsin DNR. Personal communication.

MacKenzie, Jim. Personal communication. Dec. 20, 2012. MacKenzie is nurseryman at Octoraro Native Plant Nursery

Swink, Floyd and Geroud Wilhelm. 1994. Plants of the Chicago Region. Indiana Academy of Science, The Morton Arboretum, Lisle, IL.

National Invasive Species Information Center. U.S. Department of Agriculture. 1999. Executive Order 13112. http://www.invasivespeciesinfo.gov/laws/execorder.shtml (online)

U.S. Forest Service Native Plant Materials Policy. 2012. http://www.fs.fed.us/wildflowers/nativeplantmaterials/policy.shtml (online)

Wisconsin Department of Natural Resources. 2012. NR 40, Invasives rule.

References for evaluation of nativars

Allendorf, Luikart, Aitken. 2013. *Conservation and the Genetics of Populations*

Antilla,Carina K., Cutris C. Daehler, Nathan E. Rank, and Donald R. Strong. 1998. Greater Male Fitness of a Rare Invader (*Spartina alterniflora*, Poaceae) Threatens a Common Native (*Spartina foliosa*) With Hybridization. American Journal of Botany 85(11): 1597–1601.

Delong-Amaya. Dec. 6, 2012. Personal communication. DeLong-Amaya is Director of Horticulture, Lady Bird Johnson Wildflower Center.

Diboll, Neil. October 17, 2012. Personal communication. Diboll is owner of Prairie Nursery in Wisconsin.

Falk, Donald A. Eric E. Knapp, Edgar O. Guerrant. November 2001. An introduction to restoration genetics. Prepared by the Society for Ecological Restoration for the Plant Conservation Alliance, Bureau of Land Management, US Department of Interior, U.S. Environmental Protection Agency.

Gordon, Doria. November, 2012. Personal communication. Gordon is Director of Conservation, The Nature Conservancy, Florida

Grese, Robert E. 2013. Personal communication. Grese is Director, Matthaei Botanical .Gardens and Nichols Arboretum Professor, School of Natural Resources and Environment

Longcore, Travis. December, 2003 . Terrestrial arthropods as Indicators of Ecological Restoration Success in Coastal Sage Scrub (California, U.S.A.) *Restoration Ecology*.

Longcore,Travis, Rudi Mattoni, Gordon Pratt and Catherine Rich. April 18-91997. On the Perils of Ecological Restoration: Lessons from the El Segundo Blue Butterfly. 2nd Interface Between Ecology and Land Development in California. J.E. Keeley, Coordinator. Occidental College.

Magney, David. International Botanical Congress Code

Mattoni, Rudi, Tsrvis Longcore and Vojtech Novotny. 2000. Arthropod Monitoring for Fine-Scale Habitat Analysis: A Case Study of the El Segundo Sand Dunes Environmental Management Vol. 25, No. 4, pp. 445–452.

Policy on Living Collections. June 2008. Lady Bird Johnson Wildflower Center.

Powers, Joyce. December 3, 2012. Personal communication. Powers is the former owner of native plant nursery in Wisconsin.

Sun, Youping. May 2010. Genetic Diversity, Micro Propagation and Cold Hardiness of *Ilex Glabra* (L.) A. Gray. PH. D. Thesis, University of Maine.

Tallamy, Douglas W. November 30, 2012. Personal communication. Tallamy is chair of Department of Entomology and Wildlife Ecology at the University of Delaware.

Tenczar, Emily G. and Vera A. Krischik. 2007. Effects of New Cultivars of Ninebark on Feeding and Ovipositional Behavior of the Specialist Ninebark Beetle, *Calligrapha spiraeae* (Coleoptera: Chrysomelidae). Hortscience 42(6):1396–1399.

Wilhelm, Gerould. December 6, 2012 and March 13, 2013. Personal communication. Willhelm is co-author of Plants of the Chicago Region.