

'Non-invasive' cultivar? Buyer beware

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Cultivars of popular ornamental woody plants that are being sold in the United States as non-invasive are probably anything but, according to an analysis by botanical researchers published in the October issue of *BioScience*. Tiffany M. Knight of Washington University in St. Louis, Missouri, and her coauthors at the Chicago Botanic Garden write that the claims of environmental safety are in most cases based on misleading demographic evidence that greatly underestimates the plants' invasive potential. What is more, the offspring of cultivars do not usually "breed true" and may be more fecund than their parents, especially if they cross with plants from nearby feral populations.

Many [invasive plants](#) were once ornamental [cultivars](#), because the characteristics that the "green" industry looks for are the same ones that make a plant potentially invasive -- being adaptable to wide range of conditions, forming dense stands good for erosion control, and having a long flowering period, for example. In recent years the nursery and horticultural industries have responded by creating cultivars of top-selling plants that produce reduced numbers of viable seed and are advertized as "safe to natural areas." Such cultivars of Japanese barberry, buckthorn, and burning bush are now widely sold, as they avoid bans on growing [invasive species](#).

Yet simple population modeling demonstrates that reductions of even 95 percent in the number of viable seed will leave a long-lived species quite capable of spreading -- and many of the new cultivars do not achieve even that much of a reduction. More sophisticated modeling would likely reveal even stronger invasive potential of the "safe" cultivars.

Knight and her co-authors conclude that only completely sterile cultivars can be considered truly safe without further testing, and that other types should be tested for breeding true and having a low growth rate before they are sold as non-invasive.

Provided by American Institute of Biological Sciences

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