Invasive Plants and the Nursery Industry©

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Federal agencies have identified invasive species as the second most important threat to the natural environment in the United States, behind only habitat destruction. Although members of the animal kingdom get most of the attention, invasive plants are a major threat to parks and forests, greenways and gardens, as well as to endangered species.

INVASIVENESS

Performance is the most important characteristic of a plant in any environment. The definition of an invasive species currently posted in Florida (www.nsis.org) is: "Invasive plants are those that multiply rapidly and overwhelm an area. They crowd out and smother other plants and clog wetlands and waterways. They are usually non-native plants that have escaped cultivation and spread rapidly." Other definitions don't define invasive plants as cultivated plants.

Invasive plants are not the same as noxious weeds. Noxious is a legal definition for plants that have been determined to be major pests of agricultural ecosystems. There are both federally listed noxious weeds (USDA) and state listed noxious weeds. There is only one North Carolina listed Class A non-aquatic noxious weed: mile-a-minute vine, *Polygonum perfoliatum*. Seven Class B noxious weeds exist in North Carolina — three are thistles and the only one likely to be planted in North Carolina landscapes is *Lythrum*.

Not all non-native plants are considered harmful or invasive. Of the 4000 species of exotic plants that have become established as free-living populations in the United States, roughly 10% have been identified as a threat to our native flora and fauna as a result of their invasive characteristics (Kastalerz, North Carolina Botanical Garden). Many non-invasive, non-native plants are important to the agricultural economy: apples, corn, soybeans, sweet potatoes, and tomatoes. Volunteers may reseed from these important crops, but they do not "crowd out and smother" populations of native plants.

In addition, some North American native plants can be considered invasive. For example, black locust, *Robinia pseudoacacia*, is native to the southeast but was planted for fence posts across the U.S. Outside its native range, black locust is considered an exotic and in some places it is considered invasive because of its rapid growth and reproduction.

WHERE?

Invasiveness of plants are a problem in two distinctly different areas:

- Undisturbed areas such as those that are being maintained as wilderness where natural succession is allegedly being allowed to occur, such as National Parks.
- Disturbed areas where humankind has left a mark by clearing land, building roads, lakes, draining swamps, etc.

UNDISTURBED AREAS

Rob Sutter of the Nature Conservancy has written that a large percentage of the species diversity in States and on managed sites is due to exotic plants: "It would be overwhelming and impossible to attempt to eliminate or control all exotic species at a site — there is not enough funding, expert personnel, and time." The National Park Service and the Fish and Wildlife Service spend an estimated 12 million dollars annually attempting to control exotic plants. Hence, natural area managers must prioritize control and subsequent monitoring of exotic plant species. Criteria Sutter suggests for classifying a plant as an invasive species include:

- Altering ecosystem functions. Examples include species that either reduce or increase fire likelihood or intensity or that alter the water table or hydrologic regime;
- Becoming established in UNDISTURBED, NATURAL communities;
- Out-competing native species after NATURAL disturbance; and
- Preventing or depressing the regeneration of native species.

DISTURBED AREAS

Natural disturbances such as wind, flooding, and/or fires provide opportunities for genetic mixing and nutrient recycling as well as reducing fuel loads in fire-prone areas. Natural succession may occur in such areas, or an opportunistic native plant such as native grape vines or blackberries may establish rapidly. The later creates a monoculture where cultural conditions have changed, such as an increase in sunlight within a forest or increased nutrient availability following a fire.

Man-made disturbances mimic these effects by removing trees, moving quantities of soil, or changing water availability. Plants will populate these disturbed sites through natural succession. These voids are filled by many of our most beautiful wildflowers, shrubs such as sumac, and early succession honeybee forage trees — such as black locust and sourwood in the North Carolina mountains. However, in these same mountain areas, exotics such as princess tree, tree of heaven, and vines such as kudzu (*Pueraria montana* var. *lobata*) or oriental bittersweet (*Celastrus oribiculatus*) are becoming dominant. Before labeling a plant as a problem, some of the same rules Sutter suggests for undisturbed areas should be applied to disturbed areas. If exotic plants can be reasonably controlled, they should not be listed as a problem.

GREEN INDUSTRY IMPACT

Most of those employed in the nursery and landscape industry are environmental heroes bringing beauty, cleaner air, and water into people's lives, healing the damaged earth and providing habitat for native fauna.

To maintain a positive reputation, we must be good neighbors. Selling or installing mile-a-minute vine or purple loosestrife, even *Lythrum salicaria* 'Morden Pink,' will bring regulators to your door because these plants are noxious weeds. However, there is a long list of plants that are considered invaders by managers of undisturbed areas (www.nps.gov/plants/alien/). If these plants are likely to become problems in your area, be aware of it and act appropriately. However, most plants like kudzu, Japanese honeysuckle (*Lonicera japonica* var. *repens*), rose (*Rosa multiflora*), and oriental bittersweet are not going to be sold by nurseries. Consider the plants you sell. If the shrub *Ligustrum sinense* is a problem in your area, perhaps you shouldn't sell it or support research to determine whether it is a REAL versus IMAGINED

problem. If a customer asks for a recognized invasive such as Japanese wisteria, suggest some non-invasive native alternatives like purple-flowering American wisteria, *Wisteria frutescens* 'Amethyst Falls,' or white-flowered Kentucky wisteria, *W. macrostachya* 'Clara Mack'.

Another impact, and one that is more likely, is that the Green Industry may be blamed as responsible for invasive plants by folks who do not understand what invasive plants are. If someone complains to you about the invasive characteristic of English ivy, ask them if they have tried to control it. Explain to them about physically removing invasive plants, or proper timing with herbicides (Roundup sprayed in spring, not fall, eventually controls English Ivy). But be nice … don't yell and don't drive customers away!

Be involved in what is happening where plant-related decisions are made. Landscape ordinances do not develop overnight. Locally developed lists of "bad" plants don't either. Well-meaning folks trying to be good citizens develop them. If you become involved, perhaps a more balanced plant list can be developed.