

Invasive Plant Outreach Series

Defining Invasive Species: Weeding out the Words

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More people are becoming aware of the problems caused by invasive species. However, there is also confusion about what constitutes an invasive species as well as the meanings of related terms. Being precise in the language you use when discussing invasive plants can help avoid misunderstandings. This factsheet defines what “invasive,” “native,” “non-native,” and other related terms mean.

WHAT IS NATIVE?

Native plants are originally from an area.

According to the USDA, “a native plant is a plant that is part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem.” A native plant interacts with biotic and abiotic factors in its ecosystem in complex ways, through relationships that have developed in certain areas with other animals, plants, and microbes for years. The term “native” should generally be used with a geographic location (e.g., “native to ...”) since everything is native somewhere.

With so much global movement, it can be difficult to know where plants were originally native. In North America, plants are typically considered native if they were growing in a location prior to the arrival of Europeans (although prior to this time, Native Americans also moved species around to different areas). However, just because something is native to North America does not mean it is native throughout the continent. Some plants have broad ranges that cover great

expanses, while others have more restricted ranges. For example, the swamp-loving deciduous conifer bald cypress is native to Western Kentucky but not to the Bluegrass Region of Kentucky.

Even among those that do have broader ranges, there may be genetic specialization (ecotypes) adapted to different regions within a given range. For example, plants from the northern edge of the species range may look and develop differently than those from the southern edge. It is important to consider ecotypes when choosing what to plant for a native-plant garden. Choosing the correct ecotype for planting will promote the success of the plant and its interactions with other organisms in the ecosystem.

WHAT IS NON-NATIVE?

Non-native species are organisms that do not occur naturally in an area but were introduced.

The opposite of a native plant is a non-native plant. The National Park Service states, “non-native species are organisms that do not occur naturally in an area but are introduced as the result of deliberate or accidental human activities.” In addition, plants may naturally expand out of their historic ranges if changes to the habitat, climate, or their biology facilitate these “range expansions.” Some consider plants that have expanded their range as “new natives,” while others still consider them non-native. Non-native plants are not originally from a given area and did not develop with the same suite of animals, plants, and microbes over long periods of time.

However, this does not necessarily mean they are harmful. For example, tulips, a popular garden flower, are not native to Kentucky but they also are not known to spread, cause problems, or negatively impact the native organisms around them.

WHAT IS INVASIVE?

Invasive plants are non-native, and they cause harm.

Invasive plants are non-native plants that do have detrimental impacts. According to Presidential Executive Order 13112, an invasive species is “an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” An example of a plant species that is invasive in Kentucky is sericea lespedeza (*Lespedeza cuneata*). Sericea lespedeza overtakes open areas such as fields, and it harms the ecosystem by outcompeting native vegetation while providing little to no food for native wildlife and insect species. While sericea lespedeza was intentionally introduced, and is sometimes still used because of its ability to grow rapidly, even in poor sites, it is now broadly recognized as more problematic than beneficial.



Figure 1: Invasive sericea lespedeza crowding out other vegetation. Photo credit: Frannie Preston

This example also illustrates a common misconception about invasive plants: Even invasive plants can have some positive traits. Many invasive plants were intentionally introduced because of their beneficial characteristics—everything from beautiful flowers to quick growth. Unfortunately, we now know that, in addition to the positive traits that made them attractive species, these invasives have negative aspects such as taking over and excluding a diversity of species. However, just because we can now recognize that the downsides of these invasives outweigh the potential benefits, it does not mean they are devoid of value in certain ways, just that they are not worth the risk.

WHAT IS A WEED?

A weed is a plant that is unwanted. Just as beauty is in the eye of the beholder, determining which plants are weeds varies from person to person.

While “native,” “non-native,” and “invasive” have clear definitions, determining which plants are weeds is less clear. For example, milkweeds are native plants that can be considered weedy to some

but prized by others. Butterfly weed (*Asclepias tuberosa*) and common milkweed (*Asclepias syriaca*) are two native milkweed species that are vital to monarch butterfly life cycles, and they have vibrant blooms attractive to pollinators. However, their growth habit turns some people away from wanting them in their gardens since they can seed in and become dominant. Livestock owners also do not like seeing them in pastures because if their livestock consume these plants in large numbers, they can be detrimental to their health. Because of this, these species may be considered weeds by some and valued by others. Either way, they are not invasive since they are native to our region.

Many plants that are weedy (both native and non-native) have certain characteristics that make them successful at rapidly colonizing and establishing. Prolific seed production and rapid growth are characteristics that many weedy plants share. Weediness may also be defined as a plant’s ability to tolerate environmental degradation, rapidly colonizing and thriving even in poor sites. Some plants may be restricted to high quality natural areas while

others may be able to do well in heavily altered areas. Invasive plants are clear examples of this, but some native plants also have this ability.

OUR WORDS MATTER

Using a standardized set of words when talking about invasive plants creates ease of understanding for everyone, allowing scientists, land managers, citizen scientists, and homeowners to all be on the same page.

Some commonly used terms can be counterproductive, research suggests, because they are loaded with other meanings that can cause confusion. Some terms that you may see used but that should generally be avoided include:

- **Alien:** The term “alien” is used to mean non-native. But it should be avoided because it can have multiple meanings, generally negative.
- **Exotic:** The term “exotic” is also used to indicate non-native and is used in a variety of contexts from horticulture to the pet trade. However, this term carries with it more positive connotations, suggesting something is unique, mysterious, and desirable because it is from somewhere else. It is true that some invasive plants were planted because of their unique features, but it does not mean they should be presented as beneficial.
- **Native invasive:** The term “native invasive” is used to describe native species that can grow aggressively or colonize quickly. There are many native species that fit this definition, including eastern redcedar (*Juniperus virginiana*), which is a species that quickly colonizes old fields. However, it is an incorrect term to use because **an invasive plant must be non-native**. Thus, “native invasive” is an oxymoron. “Weed” or “nuisance” can be used instead to be more accurate in context.



Figure 2: Butterfly weed and common milkweed are both native species that are popular with pollinators. However, they may be considered weeds by some people and in some settings. Photo credit: Frannie Preston

When talking about invasive species, it is also important to stay positive. Including positive phrases such as “restoring the ecosystem” and “promoting biodiversity” can create feelings of hopefulness and the desire to create change.

For additional information on terms to use and avoid:

Iannone, B.V., Carnevale, S., Main, M.B., Hill, J.E., McConnell, J.B., Johnson, S. A., Enloe, S.F., Andreu, M., Bell, E.C., Cuda, J.P., & Baker, S.M. (2020). Invasive Species Terminology: Standardizing for Stakeholder Education. *The Journal of Extension*, 58(3), Article 27.

References

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