Three Common Thistles Identification: the key to control

I have mixed feelings when it comes to thistles. In neglected perennial garden beds, they can become a painful nuisance, and for property owners and pasture managers, they can be invasive weeds. Despite their not so pleasant qualities as spiny, tall, prolific weeds, not all thistles are alike, and some actually benefit wildlife, while one in particular is an invasive weed on the Missouri Noxious weed list.

Many thistles found throughout Missouri are weeds from Europe and Asia. As an advocate of nature, I admire the native tall thistle for its benefits to insects and wildlife, therefore distinguishing between the native and invasive thistles can help improve the natural environment. Being prolific seed producers, all thistles can be found in a variety of habitats including disturbed spaces along roads, waste areas, fields and pastures.

Tall Thistle (*Cirsium altissimum*):

The tall thistle is a native thistle commonly found throughout the Ozarks. All three of the thistles mentioned in this article are biennials, producing a low rosette of leaves the first growing season and bolting or flowering the following season growing up to 10 feet tall. The best way I have found to identify this thistle is by looking at the undersides of the leaves at either the rosette stage or after the plant has bolted the second year. Unlike the other thistles mentioned the undersides of the tall thistle’s leaves, which can be deeply lobed or be found in other shapes and sizes, are consistently white. In observing these plants on a savanna, they are frequent by many species of insects; sticking out high above the grasses covering the ground.

Musk Thistle (*Carduus nutans*):

Musk thistles are considered a noxious weed in Missouri. I commonly see these thistles growing along roadsides and pedestrian paths in St. Louis, Rolla, and Springfield, and find the best way to identify them is by looking for their first year rosettes after a field or median strip has been mowed. The edges of the leaves almost appear as if they are dipped in a pale green wax. Unlike bull and Tall thistle, musk thistle has prominent wide spines at the base of the nodding flowers and the leaf tissue continues slightly below the point at which the leaf is attached to the stem when the plant has bolted. Leaves have a distinctive light colored center midrib, distinguishing it from the other thistles listed.
Musk thistle can grow up to six feet tall, but I have seen it flowering at heights of less than one foot off the ground in areas occasionally mowed.

Controlling musk thistles usually involves herbicide application, biological control using musk thistle weevils, and mowing at precise times to control its spread. Herbicides are usually applied to first season rosettes which are more sensitive to herbicide application.

**Bull Thistle** (*Cirsium vulgare*)

Bull thistles grow up to 6 feet tall and are another weed introduced into Missouri from Europe. Although very common throughout Missouri, I have seen this thistle in St. Louis growing along the Grant’s Pedestrian Greenway, but have not yet come across it in Rolla. Telling the difference between this and the other thistles can be done by following the subsequent guidelines. On the first year leaf rosettes, the **undersides of the deeply lobed leaves are green**, and when in its second year of growth, the leaf tissue forms **vertical ridges along the stem, commonly referred to as “wings”**. Unlike the field thistle, the bull thistle has thin **large green spines** covering the base of the flower bracts.

By definition, a weed is simply “…plants out of place…”¹ In pastures, vegetable gardens, and perennial gardens, all thistles are unwanted, native and invasive alike, but only musk thistles by law must be controlled. The next time you are hiking your property and come across the native tall thistle you might think twice before removing this great late summer nectar source.²³⁴⁵⁶⁷

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⁵ [http://courses.missouristate.edu/pbtrewatha/musk_thistle.htm](http://courses.missouristate.edu/pbtrewatha/musk_thistle.htm)
⁶ [http://courses.missouristate.edu/pbtrewatha/tall_thistle.htm](http://courses.missouristate.edu/pbtrewatha/tall_thistle.htm)
⁷ [http://courses.missouristate.edu/pbtrewatha/bull_thistle.htm](http://courses.missouristate.edu/pbtrewatha/bull_thistle.htm)