

How to tell the difference between exotic and native thistles

Some people assume that all thistles are bad, and the only good thistle is a dead thistle. There are five exotic and ten native thistle species in Montana. Exotic thistles can spread quickly, they have poor forage value, and their sharp spines can injure livestock and limit recreational activities. In contrast, native thistles are rarely invasive and play an important role in the ecosystem. For example, birds feed on thistle seed, and some birds time nesting around thistle flowering and use the downy seeds to line their nests. Bees, wasps, flies and beetles feed on thistle pollen and become food sources for other wildlife, and some native thistles are forage for deer and elk. Thistles can even be eaten by humans (check out the story of [Truman Evert and the 1870 Yellowstone Expedition](#))! Finally, native thistles fill a niche in plant communities. Consider native wavyleaf thistle, *Cirsium undulatum*, which may occur on roadsides. It's often sprayed because it's assumed to be weedy and exotic; once removed the resulting open niche may be filled by a noxious weed that is hard to control.

How to tell whether a thistle is exotic or native can be challenging. MSU Extension has a [guide for differentiating between native and exotic thistles in Montana](#). It includes a dichotomous key and pictures to illustrate thistles that grow in Montana. Get started by answering the following questions:

1) Does the thistle have rhizomes or a taproot?

Rhizomes...It's probably the exotic Canada thistle (*Cirsium arvense*), the only strongly rhizomatous thistle in Montana. Heads are small and clustered, and there are no spiny wings on stem.

Taproot...Continue to question 2.

2) Does the thistle have spiny wings the entire length of the stem?

Yes...It's one of four exotic thistles. Review key diagnostic features and photos below.

- Bull Thistle (*Cirsium vulgare*). Narrow, needle-like bracts, green foliage.
- Musk thistle (*Carduus nutans*). Broad triangular bracts point outward or down, heads often nodding.
- Plumeless thistle (*Carduus acanthoides*). Flower heads in clusters on short stalks, bracts collectively <0.8 inches high
- Scotch thistle (*Onopordum acanthium*). Silver gray foliage, plants grow up to 12 feet tall, spiny wings especially prominent

No... It's probably a native thistle. See descriptions in the MSU Extension thistle guide.



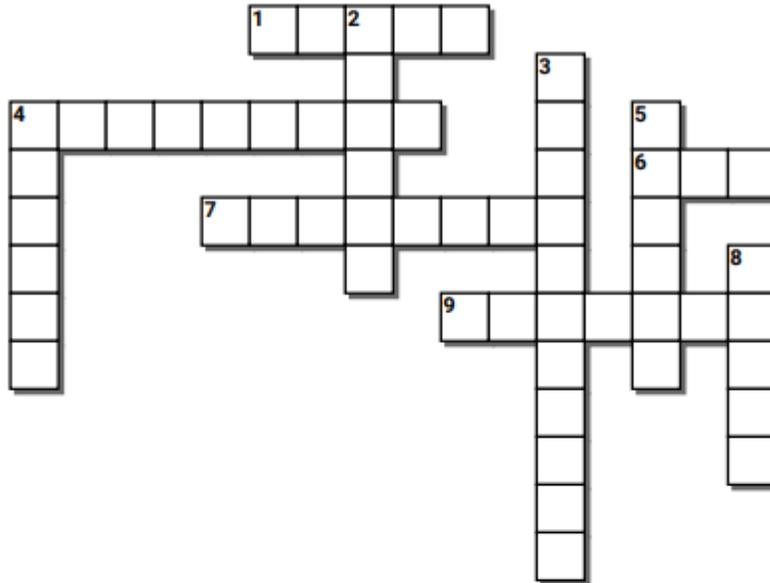
Exotic thistles, except Canada, have spiny wings on the stem.

Need help? Send a photo (a less painful option than sending a plant!) to your local Extension agent or the [Schutter Diagnostic Lab](#).



Bull, musk, plumeless, and Scotch thistle (left to right). Photos by Matt Lavin, MSU.

Weed Post Puzzle: How to tell the difference between exotic and native thistles



Across

- 1. you say "nich," I say "neesh," either way it's spelled like this
- 4. look for this along the entire length of the stem to point (pardon the pun) you toward exotic (2 words)
- 6. large ungulate that feeds on thistles
- 7. native thistle that spreads by underground roots; won't grow as densely as rhizomatous Canada thistle*
- 9. species name for exotic thistle with needlelike bracts that point more outward than upward*

Down

- 2. only strongly rhizomatous thistle in Montana
- 3. Evert's main staple for over a month* (2 words)
- 4. this thistle is the poster child for spiny wings, and check out that silvery gray foliage!
- 5. bees, flies and wasps feed on thistle
- 8. thistle part used in bird nests

*answer found in supplemental information

Solutions are posted to the [MSU Extension Invasive Rangeland Weed website](https://www.montana.edu/extension/invasive-rangeland-weed/)

