



Identification of Knapweeds and Starthistles in Nevada

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Knapweeds and starthistles are troublesome invasive weeds throughout much of Nevada. As of November 2003, eight species of knapweeds were named on Nevada's noxious weed list, including:

- *Acroptilon repens*, Russian knapweed
- *Centaurea calcitrapa*, purple starthistle
- *Centaurea diffusa*, diffuse knapweed
- *Centaurea iberica*, Iberian starthistle
- *Centaurea maculosa*, spotted knapweed
- *Centaurea melitensis*, Malta starthistle
- *Centaurea solstitialis*, yellow starthistle
- *Centaurea virgata* var. *squarrosa*, squarrose knapweed

These invasive weeds are easily misidentified, resulting in potential damage to desirable plant species and ineffective control measures. The table on the reverse side of this fact sheet provides descriptions to help identify the above eight species, as well as an ornamental species that is commonly mistaken for a knapweed, (*Centaurea cyanus*, bachelor's buttons). Plants can be identified based on flower color, bract shape and coloration, leaves, and stems. The flowers of each are pictured here



Malta starthistle



Yellow starthistle



Spotted knapweed



Russian knapweed



Purple starthistle



Iberian starthistle



Squarrose knapweed



Diffuse knapweed

Key Characteristics for Differentiating Knapweeds

Latin Name	Common Name	Origin	Flower Color	Bracts*	Leaves	Stems	Average Height	Growth Form
Yellow flowers								
<i>Centaurea solstitialis</i>	Yellow starthistle	Nonnative, noxious	Yellow	Long thorns at tips of bracts (up to 1-inch long)	Gray and hairy; lower leaves deeply lobed, upper leaf edges are smooth	Winged	0.5 – 6 feet	Annual
<i>Centaurea melitensis</i>	Malta starthistle	Nonnative, noxious	Yellow; flower is broader than yellow starthistle	Short thorns at tips of bracts (up to ½-inch long)	Gray and hairy; lower leaves deeply lobed, upper leaf edges are smooth	Winged	1 – 3 feet	Annual
White to pale pink flowers								
<i>Centaurea diffusa</i>	Diffuse knapweed	Nonnative, noxious	White to pale pink	Margins are divided like teeth of comb; tips are short and spiny	Lower leaves deeply lobed, upper leaves entire and smooth	Rough to touch	1 – 2.5 feet	Annual to biennial
<i>Centaurea iberica</i>	Iberian starthistle	Nonnative, noxious	Rose-pink to white	Thorns at tips of bracts slightly shorter than purple starthistle	Leaves resin-dotted, gray and hairy, coarsely lobed	Not winged	3 – 6 feet	Annual to biennial or short-lived perennial
Pink to purple flowers								
<i>Centaurea virgata</i> var. <i>squarrosa</i>	Squarrose knapweed	Nonnative, noxious	Pinkish; flowers are smaller than those of diffuse	Tips are short, spiny and recurved	Lower leaves deeply dissected; upper leaves short and narrow	Highly branched; not winged	1 – 1.5 feet	Perennial
<i>Acroptilon repens</i>	Russian knapweed	Nonnative, noxious	Pink to purple	Bracts have papery margins and are not spiny; flowerheads often cobwebby	Upper leaves are narrow and entire; lobed in rosette	Openly branched	1 – 3 feet	Perennial; rhizomes. Upper part of root is black.
<i>Centaurea stoebe</i> (formerly <i>maculosa</i>)	Spotted knapweed	Nonnative, noxious	Pink to purple	Tips of bracts are dark, giving a “spotted” look	Leaf margins of the lower leaves are divided and smooth; upper leaves are linear	Erect and rough	1 – 3 feet	Biennial to short-lived perennial
<i>Centaurea calcitrapa</i>	Purple starthistle	Nonnative, noxious	Purple	Thorns at tips of bracts, 2/5 to 1 inch long	Leaves resin dotted, green and hairy, lower leaves deeply divided, upper leaves entire	Not winged	1 – 4 feet	Annual to perennial
Multicolored flowers								
<i>Centaurea cyanus</i>	Bachelor's buttons	Nonnative, not on noxious weed list	Many colors (white, blue, purple, pink, red); showy flowers	Finely fringed tips on bracts	Leaves are narrow, generally not toothed except lower leaves; grayish and hairy	Usually loose white wool on stems, especially when young	Up to 3 feet	Annual

*Bracts: Leaf-like structure located below the flower, sometimes brightly colored or modified, as in a thorn.