

Scientific Name	<i>Centaurea strobe</i> L. subsp. <i>micranthos</i> (S.G. Gem ex Gul.) Hayek	x	Common Name	spotted knapweed	Import Fact	Class A Noxious Weed List, Wild Society Weed
Selected Synonyms	<i>Acosta maculosa</i> "of American authors", <i>Centaurea maculosa</i> Lamarck subsp. <i>micranthos</i> (S.G. Gem ex Gul.), <i>C. biebersteinii</i> DC		Other Common Names		Habit	Biennial to short lived perennial forb
Family	Aster, Sunflower, Daisy (Asteraceae[Compositae])		Counties Reported in New Mexico	San Juan, Rio Arriba, Colfax, McKinley, Sandoval, San Miguel, Bernalillo, Catron, and Otero.		
Meaning of Scientific Name	Centaurea: an ancient Greek name which has no clear meaning; stobe: Latin - inflorescence marked by scales. with scales; micranthos: Latin - small flowered.		Range in USA	All contiguous states except GA, MI, OK and Texas.	Origin	Alien. central Europe to western Siberia
Habitat	Roadsides, ditches, semiarid areas, moist meadows, ranges, forests, and grasslands. It likes well drained, light textured soil and summer moisture, but dislikes shade.		Bloom Time	June to October		
Identification Features	Taproot sturdy, +/- long. Stems numerous and branching, to <u>12 dm tall</u> , wings absent. Leaves resin-dotted, often grayish hairy, form a basal rosette the first year and over winter as such; stem leaves pinnately compound with narrow, entire, 10 to 20 cm (4 to 8") long leaflets. Heads <u>urn-shaped; single, terminal, to 15 mm long, 5 to 15 mm wide, erect</u> ; phyllaries unarmed, green with a <u>relatively large brown spot at the tip, coarse comb like fringe at tip</u> . Disk flowers many, bisexual, mostly pinkish purple, sometimes light purple to white, many. Ray flowers absent.					
Special Interest	Spotted knapweed has the capability of invading high seral forest and grasslands. It is a poor soil binder because of its tap root and biennial habit. Thus it increases water runoff and soil loss by erosion. This in turn causes sedimentation of streams. Not palatable to herbivores and a fierce competitor, it takes over from palatable grasses on range lands. This reduces the the livestock and wildlife carrying capacity as well as plant and animal biodiversity. One way it out competes grass is because its taproot can go lower to moisture than the shorter, fibrous roots of grass. It has a large ecological amplitude, growing up to <u>3000 m (10,000')</u> , and lives in areas that have from 20 to 200 cm (8 to 80") of precipitation. The "parachute" equipped seeds are very mobile, but people, their animals, and machines are by far the worse vectors of spotted knapweed. All three should be thoroughly cleaned after exposure to an infestation.					

Control Methods **Seed removal/destruction** is essential in controlling spotted knapweed, although it also reproduces by sending up sprouts from the lateral roots year and over winter as such; stem leaves pinnately compound with narrow, entire, 10 to 20 cm (4 to 8") long leaflets. **Mechanical Control** of spotted knapweed, of course is only possible when the terrain permits. It must remove 7 to 11 cm (3 to 4") of the root crown. **Fire** is not effective, and can help the weed to spread by removing other plants, thus creating a vegetation vacuum. **Mowing** is again only possible when the terrain permits, must be done before seed ripe. **Biological Control** is very promising. At least 13 different control agents for spotted knapweed have been introduced. The **Knapweed Root Weevil** (*Cyphocleonus achates*), very effective in area with a mesic climate, will lay at least 100 eggs at the base of the plant. The developing larvae will bore into and destroy the root tissue, causing root galls to form. The **Lesser Knapweed Flower Weevil** (*Larinus minutus*) is effective in more xeric areas. It is a long-lived insect that lays eggs on the flowers all summer. There the larvae hatch and feed on the flowers and seed. This greatly reduces the knapweed seed production. It is winter cold hardy, yet it can tolerate hot summer days. **Herbicides.** No fewer than 422 chemical formulations that control spotted knapweed have been approved for use in New Mexico. The pertinent County Agricultural agent will be able to tell which of there will be best for a given ecological situation. **Monitoring** for several succeeding years is always necessary to locate and destroy seedlings and surviving plants.

Historical Aspects Spotted knapweed reached North America either as a contaminant in alfalfa and maybe clover seed, or in discarded ship ballast. It was first recognized at Victoria, British Columbia circa 1883. it was widely spread in shipments of hay and in domestic alfalfa seeds before it was found to be a problematic weed. Relatives of spotted knapweed have been used since the 14th Century for sore throat and as an appetite stimulant. Seventeenth Century herbalist Nicholas Culpepper said that it "gently heals up running sores, both cancerous and fistulous (having a passage from an abscess to the skin surface for venting fluids) and will do the same for scars on the head" (Tilford 1997) American Indians used the plants for venomous bites, indigestion, jaundice, and eye disorders.



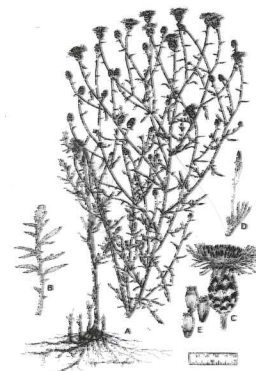
Note the black spots on the involucral bracts on the urn-shaped, terminal heads. NM State Agricultural Extension Service



Knapweed flower weevils. Image courtesy of Noah Portiz, Biological Control of Weeds.



A first year basal rosette. This is the form in which the plant over winters the first year. Image by NM State Agricultural Extension



Note that the drawing shows the plant bent down and up. This is to show its relative size. B. The deeply incised leaf. C. The head. D. A single flower. E. Seeds. Image by U.S.D.A.