



Musk Thistle (*Carduus nutans*)



Musk Thistle	
General	Family: Sunflower (Asteraceae) Herbaceous Biennial (short lived perennial) Rosettes formed the first year and bolt early in May to June of the next year
Habitat	Pastures, rangeland, forests, disturbed areas, right-of-ways, ditch banks, and grain fields Elevation: Sea level to 8000 feet Grows in all soil textures, but the soils must be well drained Musk thistle out-competes desirable plants for resources
PLANT	
Vegetation	Mature plants are up to 6 feet tall Multi-branched Leaves extend onto the stem and give it a winged appearance Bolts in late March through May Leaves are hairless, dark green with light green mid-rib, deeply lobed, 1- 1.5 inches wide and 4-5 inches long with yellow to white spine near tip
Roots	Tap root
Flower	Purple May through August Buds 1 inch or less in diameter, Mature flowers are 1.5 – 3 inches in diameter. Droop from stem, giving it the name "nodding thistle". Each head produces an average of 1,200 to 1,500 seed 45-55 days after bolting. Seed dispersed 7-10 days after flowering



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Seed	Can germinate 6-8 weeks after falling to the ground May remain dormant in soil for over 10 years Dispersal by wind
Seedling	Seedlings emerge in mid to late July Rosettes can be up to 4 feet in diameter Overwinters as rosette
Reproduction	Seed

CONTROL			
BIOLOGICAL	<i>Rhinocyllus conicus</i> , Seed head weevil (May infest native thistles)		
CHEMICAL	Rosette	2,4-D Clopyralid (Curtail, Transline) Dicamba (Banvel) Escort Picloram (Tordon) (restricted use pesticide) Telar	Spring or fall
	Bolt to early flower	2,4-D Clopyralid (Curtail, Transline) Dicamba (Banvel) Escort Picloram (Tordon) (restricted use pesticide) Telar	Spring to early summer
CULTURAL	Prevention Hand pulling prior to seed set. Remove at least the top 2 inches of the root. Flowers need to be bagged and disposed of.		
MECHANICAL			
Burning	Fire has not been effective in controlling musk thistle because it does not get hot enough to kill the plant and its roots. Burning may improve grass growth, which will act as competition.		
Grazing	Grazing as a control method is ineffective because livestock only eat a few flowers. Heavy grazing and associated disturbances near water, salt, and loafing areas will increase establishment of seedlings.		
Mowing	Between first appearance of pink on the earliest buds and brown on the pappus. Plants may resprout.		

Other Info	www.ext.colostate.edu/pubs/natres/03102.pdf
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Use all chemicals according to the manufacturer's label. No specific recommendation or endorsement is made or implied by listing the above methods or products.