

# IVS Management Training Program

## Wild Four O'Clock-Fact Sheet

Mary McKinney

**Scientific Name:** *Mirabilis nyctaginea* (Michx.) MacMill

**Common Name:** Wild four o'clock

Other names: Heartleaf four o'clock, heartleaf umbrella wort, prairie four o'clock

**Image:** Mature plant.

URL: <https://www.minnesotawildflowers.info/flower/wild-four-oclock>

**Native Range:** *Mirabilis nyctaginea* is native east of the Rocky Mountains throughout the central portion of North America.



**Image:** Flowers

URL: <https://www.nwcb.wa.gov/weeds/wild-four-oclock>

**Description:** A deeply tap rooted (black) perennial species, Wild four o'clock can grow to heights of 4ft. Plant may look "bushy" due to many branched stems. Dark green waxy leaves are heart-shaped, and can grow up to 2 to 4 inches long x 3 inches wide and are oppositely arranged on square stems. Lower leaves with petioles, upper leaves sessile, smaller, and lance shaped. The plant is mostly hairless but upper stems near flower clusters are sparsely hairy. Pale pink to purple or magenta ½ inch flowers are clustered in groups of 3-5 at the tip of the stems, with five sepals fused to form a tube. There are 3 to 5 long pink stamens with yellow tips and a pink style extend past the sepals. Bracts are 5 triangular shaped green to purple lobes that fold around flower becoming papery after flowers wilt. The flowers open for only a few hours in the afternoon and drop the next day.



**Image:** Seed pods open/closed.

URL: <http://bugwoodcloud.org/images/384x256/1556076.jpg>

URL: <https://www.nwcb.wa.gov/weeds/wild-four-oclock>



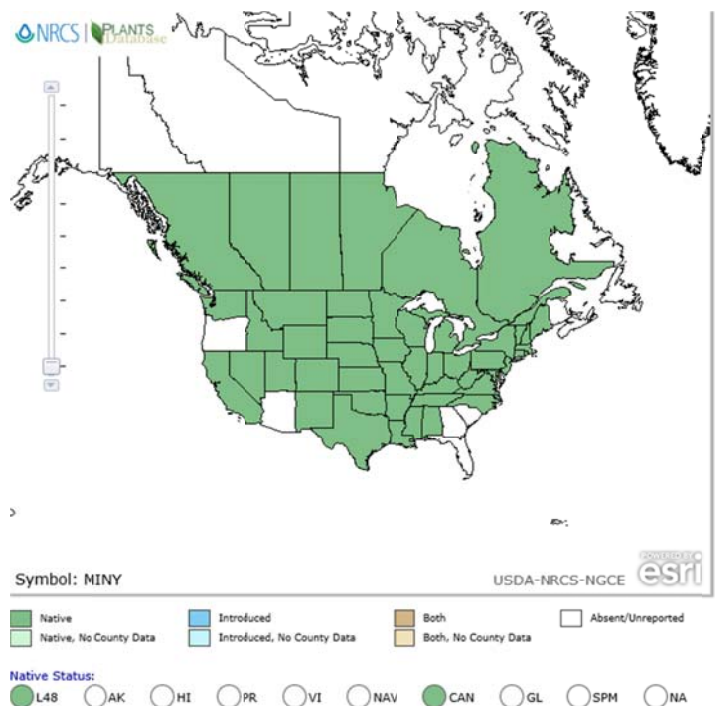
## Pathways of Introduction and Spread.

A native of central North America, *Mirabilis nyctaginea* can be weedy even in its native range. It has spread throughout the United States predominately through vehicles, equipment, and contaminated dirt. Wild four-o'clocks movement towards the east was the result of shipping agricultural products to eastern cities via the newly complete rail system in the 1850s. Seeds may also be spread on boots or hooves of livestock utilizing existing trails in recreation areas.

**Distribution in North America:** *Mirabilis nyctaginea* is found in almost every state in the US.

**Image:** Distribution map.

URL: <https://plants.usda.gov/core/profile?symbol=MINY>



**Ecological Impacts:** Wild four o'clock is highly adaptable to many conditions and is found in variety of habitats and soil types from dry meadows to riparian zones. Highly viable seeds make disbursement from human initiated activities a common mode of transport. Common along roadways, fences, trails, residential and industrial lots, and other areas of disturbance. Also grows in alfalfa and along irrigation canals. Competes with more desirable native species for resources.

**Economic Losses:** Increased costs associated with the control of this species in agriculture production fields and adjoining fences, irrigation canals, and roadways. It can rapidly form infestations on heavily grazed rangelands, pastures and cultivated fields.

### Management Strategies:

Integrated management plans that include all available tools should be utilized. Reproductive strategy of the species is mostly via highly viable seed, but also from root pieces being redistributed. It is important to ensure that vehicles and equipment avoid infested areas. Other preventative measures such as limiting disturbances and maintaining desirable vegetation are also effective. Young plants can be removed with hoeing or pulling; however, the entire root must be removed or resprouting will occur. Mold board plowing is more effective than disking which must be completed several times/season. Frequent mowing can reduce seed bank numbers. Wild four o'clock is not readily grazed so managed grazing techniques aren't effective. Herbicides such as *dicamba*, *glyphosate*, and *imazapic* can be effective when used in combination with other strategies. Applications should be made when plants are actively growing. **Site attributes should be considered.** Remember to manage for desirable species to gain long term control.

**Image:** Root with sprouts.



URL:

<http://bugwoodcloud.org/images/384x256/1556090.jpg>

### Notes:

Wild Four-o'clock is host to the larvae of *Embola ionis* a stem borer, *Neoheliodines cliffordi* and *N. nyctaginella* leaf skeletonizers, and *Aetole tripunctella* a leaf miner. There is little information regarding whether or not these species are considered a pest as they appear to only prefer *Mirabilis nyctaginea* over other species.

### Other Online Resources:

[http://wric.ucdavis.edu/information/natural%20areas/wr\\_M/Mirabilis.pdf](http://wric.ucdavis.edu/information/natural%20areas/wr_M/Mirabilis.pdf)

[https://en.wikipedia.org/wiki/Mirabilis\\_nyctaginea](https://en.wikipedia.org/wiki/Mirabilis_nyctaginea)