

Ventenata

By Audrey Harvey and Jane Mangold, Department of Land Resources and Environmental Sciences

Invasive grasses such as ventenata may degrade plant communities and reduce suitable habitat for livestock and wildlife. Prevention and early detection can help slow the spread of new invaders and maintain weed-free areas. Contact your Extension agent or county weed coordinator for more information.

VENTENATA, ALSO KNOWN AS WIREGRASS OR NORTH AFRICAN GRASS, is a non-native winter annual grass that is relatively new to Montana and has the potential to impact range, pasture, wild lands, and annual crops. Its low forage value and shallow root structure can lead to decreased agricultural production and increased risk of soil erosion.

Species name: *Ventenata dubia* (Leers) Coss. Family: Poaceae

History and status: *Ventenata* originates from southern Europe, western Asia, and northern Africa and was first found in North America in the early 1950s in Washington and Idaho. *Ventenata* was first documented in Montana in the mid-1990s. Montana listed *ventenata* as a Priority 2A noxious weed in 2019 due to known infestations and continual spread in native rangeland, pastures, and along roadsides. Isolated infestations occur from western Montana through southern Montana (**Figure 1**).

Identification: *Ventenata* is a winter annual grass that typically grows 6-18 inches tall. It has a distinguishing long, membranous ligule (up to 0.3 inches in length) with reddish-black nodes along the stem (**Figure 2**). Seedlings and mature leaves are narrow and folded lengthwise. Open and airy panicles emerge in late May through June (above photo), at which

time the stems noticeably harden. *Ventenata* seeds have bent and twisted awns (**Figure 3**), similar to other species in the *Avenaceae* tribe, like wild oat (*Avena fatua*). The awns are developed, bent and twisted by July, reaching about 0.1 inch in length.

Not to be confused with: Cheatgrass or downy brome (*Bromus tectorum*) and Japanese brome (*B. japonicus*). At the seedling stage, the leaves of cheatgrass and Japanese brome seedlings are twisted and hairier than *ventenata*. *Ventenata* seedlings emerge later and are thinner, more needle-like. At maturity, *ventenata* has awns like cheatgrass and Japanese brome but awns of *ventenata* are bent. *Ventenata*'s panicle is upright and open in contrast to the drooping panicles of cheatgrass and Japanese brome. In addition, cheatgrass turns reddish-purple upon maturity while *ventenata* remains green to tawny brown. *Ventenata* can also be confused with the native grass, annual hairgrass (*Deschampsia danthonioides*), which has similar open and airy panicles with bent awns. It may be found overlapping with *ventenata* in wetter areas, particularly in western Montana.

Habitat: *Ventenata* mostly germinates in fall, but some germination can take place in spring. It is adapted to characteristic Mediterranean climates with cool, wet winters and hot, dry summers. *Ventenata* can invade rangeland,

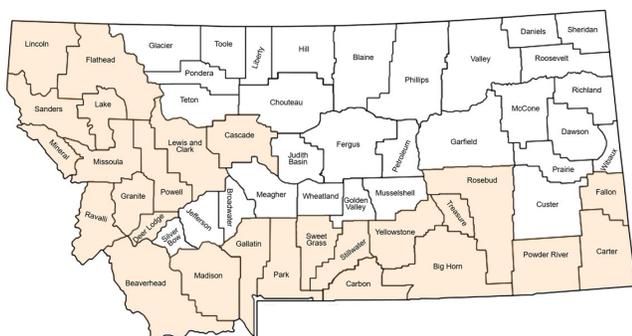


Figure 1. Counties in Montana where *ventenata* has been reported.



Figure 2. Reddish-black node and long, membranous ligule of *ventenata*. Photo: Tim Prather, University of Idaho.



Figure 3. Seeds have bent and twisted awns. Photo: Tim Prather, University of Idaho.

pastures, winter grain and hay fields, Conservation Reserve Program lands, and sagebrush steppe habitats (Figure 4). Field observations suggest it can grow in areas with moderate annual precipitation ranging from 14 to 44 inches and elevations ranging from 33 to 5,900 feet.

Spread: *Venttenata* reproduces by seeds. Each plant produces about 15-35 seeds. Dense stands of *venttenata* can produce from 2,800 to 3,700 seeds/ft². It is known to spread via roadways and contaminated forage. Contaminated seed and hay as well as vehicles and equipment are suspected as a major source for infestations in Montana. Seeds can easily attach to fur, clothing, and machinery. Some canyon grasslands in Idaho that were once dominated by cheatgrass are now infested by *venttenata*, and in sagebrush steppe communities, *venttenata* is associated with medusahead infestations.

Impacts: Of the five known species in the genus *Venttenata*, *V. dubia* is the only one established in North America. Particularly in the Intermountain Pacific Northwest, it has caused substantial ecological and economic impacts in perennial grass habitats. *Venttenata* is generally unpalatable for livestock and wildlife and can decrease forage value. Additionally, the shallow root system creates conditions conducive to soil erosion. In Idaho an estimated reduction of 50 percent forage yield and crop quality occurred a few years after initial infestations.



Figure 4. *Venttenata* can invade pastures, reducing forage production. Photo: Jane Mangold, MSU.

Management: Foremost, maintaining healthy productive stands of perennial grasses and early detection of infestations can limit invasion by *venttenata*. Mowing has limited success for small infestations as the wiry grass is difficult to cut and a second flush of seeds may occur. Grazing is not an option as livestock avoid the grass due to its high silica content and thin wiry stature.

The active ingredients indaziflam (Rejuvra[®]), imazapic (Plateau, Panoramic 2SL), sulfosulfuron (Outrider[®]), and rimsulfuron (Matrix[®], Laramie 25DF) are chemical options for controlling *venttenata*. In a field trial in southwestern Montana, a single application of indaziflam resulted in over 90 percent control of *venttenata* over six years and evidence showed the single application depleted the seed bank during that time. Other research in Montana has shown products containing imazapic or rimsulfuron are also effective for providing shorter-term control. Some injury to perennial grasses can occur with these treatments and bare ground created by *venttenata* control can create openings for potential plant community changes. Further research is underway and management recommendations will continue to be refined.

Additional resources

plants.usda.gov/plant-profile/VEDU

fs.usda.gov/database/feis/plants/graminoid/vendub/all.html

Mangold, J. M., Sencenbaugh, L., Harvey, A. J., Rebis, M. E., Rew, L. J. Responses of *Venttenata dubia* and other species seven years after herbicide applications to an improved pasture in Montana. *Invasive Plant Science and Management*. 2024; 17(3):208-218. doi:10.1017/inp.2024.20.

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If you suspect that you may have found *Venttenata*, contact the Montana Department of Agriculture, your Extension agent or county weed coordinator, or the Montana State University Schutter Diagnostic Lab, montana.edu/extension/diagnostics.



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