Wheeler SWCD
&
Mid John Day-
Bridge Creek WC
Fall 2020

Conservation Connection

Wheeler SWCD Annual Meeting Scheduled for December 9th in Spray

The Wheeler Soil & Water Conservation District's annual meeting and dinner will be held at 6:00 pm, December 9, 2020 at the Spray School Gym.

Join Oregon State University Rangeland Sciences Instructor Pat Shaver as he speaks on grass and rangeland management. Dr. Shaver has a Bachelor's of Science in Range Science from New Mexico State University and a PH.D. in Rangeland Ecology and Management from Oregon State University. In addition to the speaker, there will be photos and displays of District projects, the annual report will be presented, and staff can answer your questions about future projects you may want to do on your property.

Please RSVP as soon as possible (deadline is December 3rd). There is limited seating at this very popular dinner meeting so don't wait! This delicious prime rib dinner with all the trimmings is $20 per person. Please plan to arrive early as the event begins promptly at 6:00 pm. You must be in attendance to receive a dinner. Spray Grange will prepare the dinners and deliver them in To Go containers.

This is a wonderful time to meet with other landowners, district staff and directors, and to learn about Wheeler SWCD's and the Mid John Day-Bridge Creek Watershed Council's activities.

RSVP by email: Administration@wheelerswcd.org or call 541/468-2990

Rangeland in the Pine Creek Watershed

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Statewide Pesticide Applicator Training

Oregon State University's Pesticide Safety Education Program is planning over 40 webinars this season. Due to the COVID-19 status in Oregon all events will be delivered as seminars that can be viewed in the comfort of your home or office. More information on the course contents, dates, times, and how to register can be found on the website:

https://agsci.oregonstate.edu/psep/recertification/live-webinar-courses?fbclid=IwAR01qcJvhW-R99VktjluVH_c6dGj-i86unBfCWdZAkHhq9skAgIYu4p6WnM

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"B" Rated Weeds

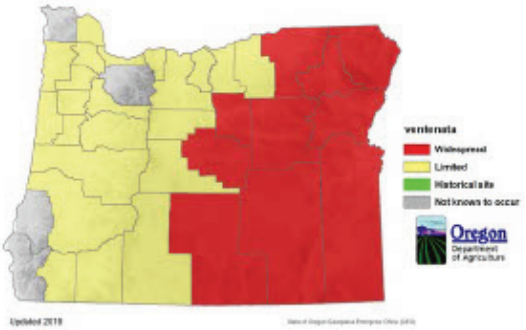
A weed of economic importance which is regionally abundant, but may have limited distribution in some counties

Ventenata grass
Ventenata dubia

Other common names: Voodoo grass, North African grass and wire grass.

USDA symbol: VEDU
ODA rating: B

Introduction: Ventenata dubia is native to southern Europe, western Asia and northern Africa. Ventenata grass is a relatively new invader in the Pacific Northwest with the first confirmed siting in 1952 in Washington State. Since that initial siting, the plant has rapidly increased its range throughout the West including most counties in Oregon. Ventenata invades habitats similar to Medusahead rye and cheatgrass but thrives better in slightly wetter conditions enabling it to include western Oregon in its ecological range. Rich in silica, the grass provides very poor forage, contaminates valuable timothy hay crops, reduces small grain yields, reduces rangeland productivity and out-competes most other native and non-native grasses in its optimum ecological zone.



Distribution in Oregon: Ventenata is known to exist in most counties in Oregon. In Western Oregon, it is abundant in the landscape and is found growing on right-of-ways, dry foothills, log landings and disturbed landscapes though it is thought to be poorly competitive in healthy west-side ecosystems. In Grant County and other Blue Mountain counties, Ventenata has often first appeared in ponderosa pine forestland, later moving out into more arid rangeland. Harney, Lake and Malhuer Counties report Ventenata is increasing and dominating medusahead sites. Initial colonies establish in ditches and low-lying areas that receive additional moisture from snow accumulation and runoff and from these areas, the grass spreads out into the dryer rangeland.

Description: Ventenata is a winter annual that germinates in the fall when temperatures are 64°- 82° F). Seed heads are produced May through June, about one month later than cheat grass and two weeks following medusahead rye. The plant has slim, erect culms, characteristic reddish-black nodes, and grows from 4 to 18 inches tall. The culms sport microscopic hairs that give the stem the appearance of being smooth. Seedling leaves are in-rolled or lengthwise folded and appear very narrow. Leaf ligules are long ranging from 1-8 mm in length. The leaves contain very little biomass, offering scant forage to herbivores.

Impacts: Ventenata's expansion in recent years to areas of sparse vegetation within the Blue Mountain Eco-region have significantly altered fire behavior. Ventenata is directly impacting the production and value of forage in the Pacific Northwest. Damage to Timothy hay, an important export crop can be particularly costly. The stand life for hay such as brome, timothy and bluegrass is reduced, from eight to ten years to four or five years. Ventenata damage to bunchgrass pastures is worse than for seeded pastures, with a 50% to 75% average reduction in the stand.

Biological controls: No bio control is available for Ventenata grass.

Oregon Department of Agriculture

Oregon Department of Agriculture Noxious Weed Control Program
635 Capitol Street NE Salem, OR 97301
503-986-4621
https://oda.direct/NWP

Photos by Matt Lavin and ODA, Pamela Scheinost, USDA NRCS Pullman Plant Materials Center

Weed-Suppressive Bacteria Update

Weed-Suppressive Bacteria, or WSB, are bacteria strains of the soil bacterium Pseudomonas flourescens (D7, ACK55, and MB906) developed and marketed as a natural way to control exotic grasses, such as cheatgrass. In the late 1900s and early 2000s, scientists began experiments that looked for biological ways to selectively eliminate or inhibit growth of exotic annual grasses.

Does WSB work?

The answer has been "No" across a wide range of field and potted soil conditions and WSB application methods, to date. WSB trials in laboratory studies have also shown mixed results. WSB was developed to target invasive weeds with minimal impact to non-target plant species, such as native or agriculturally important plants. Testing and trials of WSB have been conducted independently by US Geological Survey and many other scientists and land managers across semiarid areas of the western U.S. WSB strains or products tested include D7, ACK55, and soil amendment MB906.

What problem is WSB trying to solve?

Invasive annual grasses, such as cheatgrass (Bromus tectorum) and medusahead (Taeniatherum caput-medusae), are significant stressors to rangeland ecosystems in the western U.S. These grasses have origins in Europe or Eurasia and the Mediterranean region. Both species were introduced to North America in the mid to late 1800's as a contaminant in seed and straw. They germinate in fall or early spring, grow rapidly, and produce lots of seeds, making them highly competitive with western native rangeland species. Once established, they are very difficult to eliminate.

Why do these species matter?

In later stages of growth, these species are unpalatable to grazing livestock and can cause injury as well. Both create a thick thatch when they dry out and die in the summer. This thatch creates a continuous "carpet" that prevents native plant revegetation and is very flammable wildfire fuel.

What are the specific findings?

Special Journal Issue Focuses on WSB

A special issue of Rangeland Ecology and Management focused on weed-suppressive bacteria and includes reports from five trails of WSB that collectively provide a spatially and temporally robust test of WSB in the western U.S. None of the five studies detected consistent effects of WSB. An introductory article summarizes the findings.

WSB Fail to Control Bromus Tectorum

Researchers tested effects of ACK55 and D7, two weed-suppressive bacteria strains of P. fluorescens, on cheatgrass both in the laboratory and at field sites in Montana and Wyoming. The bacteria strains reduced cheatgrass germination and root and shoot lengths in Petri-plates but had no effect on plants during field experiments. Findings contribute to growing evidence that these strains do not reliably control cheatgrass in the Northern Great Plains, Central Rocky Mountains, and elsewhere.

WSB have no Effect on Exotic or Native Plants in Sagebrush Steppe

USGS researchers evaluated the effects of two strains of P. fluorescens - D7 and MB906 - on exotic annual grasses at three sagebrush steppe sites with contrasting soils and climate. Neither bacteria strain affected exotic annual grasses, perennial bunchgrasses, or total community cover, either applied alone or in combination with herbicides or discing. Results indicate a low likelihood of these strains to reduce annual grasses.

WSB Did Not Control Bromus Tectorum

USGS and USFWS researchers tested the ability of a bacterial bioherbicide known as D7 to control cheatgrass in south-central Washington. D7 applied as a spray or seed mixture did not significantly affect cover, biomass, or density of cheatgrass. This negative result can be useful to document D7's effectiveness at rangeland sites.

Bacterial Soil Amendment MB906 Shows Inconsistent Control of Invasive Annual Grasses

To accurately assess responses of both native and non-native grasses, land managers applied MB906 – a weed-suppressive bacteria – alone and in combination with the herbicide imazapic on sagebrush-steppe landscapes that burned several months prior. MB906 did not consistently reduce target invasive annual grass cover at the sites studied in the three years following treatment, although moderate effects on target annual grass cover suggest further investigation may be warranted.

WSB Effects Differ in Culture Compared to in Soils

Researchers evaluated the effectiveness of WSB grown in soil vs. agar culture, and tested how soil sterilization and WSB concentration inhibited growth of invasive annual grasses. Sterilization had no effects on WSB effectiveness and were only partially selective for target weeds at low concentration. WSB applied at high concentration inhibited both invasive and native grass growth in agar cultures. Results suggest the desired effect is not reproducible for plants in soil, even when competing microbes are removed.

Where can I learn more?

Weed-Suppressive Bacteria – Testing a Control Measure for Invasive Grasses in the West:

https://www.usgs.gov/centers/fresc/science/weed-suppressive-bacteria-testing-a-control-measure-invasive-grasses-west

Cheatgrass and Medusahead:

https://www.usgs.gov/centers/fresc/science/cheatgrass-and-medusahead

Adapted from US Geological Survey-Forest and Rangeland Ecosystem Science Center Information Sheet

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UPCOMING EVENTS & MEETINGS

11/17	10 am	Lower John Day Working Group Place Based Planning, Virtual Meeting
11/18	6 pm	Wheeler SWCD Board Meeting, Big Sarvice Corral Meeting Room
12/4	3 pm	Mid John Day-Bridge Creek Watershed Council Annual Meeting, Spray Grange Hall
12/8	10 am	John Day Basin Partnership. Virtual Meeting
12/9	6 pm	Wheeler SWCD Annual Meeting and Dinner, Spray School Gym
12/15	10 am	Lower John Day Working Group Place Based Planning, Virtual Meeting
1/27	6 pm	Wheeler SWCD Board Meeting, Big Sarvice Corral Meeting Room

Everyone is welcome to attend these events. For more information please contact Debra Bunch, Watershed Technician

541/468-2990 or midjohndaywc@wheelerswcd.org.