Dyer's Woad (*Isatis tinctoria*)

Identification Plants range in height from 1 to 4 feet, and the taproot can grow 3-5 feet long. Rosette leaves are stalked, 1½ - 7" long, succulent, bluish-green, and covered in fine hairs. Leaves on flowering stalks are lance-shaped, alternate, sessile, and clasp the stem with short lobes. All leaves have a notable white midrib (above right). Small, yellow flowers have 4 sepals and 4 petals. The fruit is flattened, 3/8" long and 1/4" wide, slightly pear shaped and hangs from a small stalk like a tear drop (see photo below right).

Impacts Following a disturbance, Dyer's woad can increase rapidly to form dense infestations. It is typically avoided by livestock and wildlife meaning it increases with grazing and reduces available forage.

Habitat Dyer's woad grows well in rocky soils with low water holding capacity in rangelands, pastures and forest lands.

Spread Plants spread by seed, most falling within 22" of the parent plant. Long distance dispersal is possible by automobile, rail car, recreationalists, animals and in contaminated feed, crop seed and bedding.

Management Priorities Dyer's woad is Priority 1B in Montana, meaning it has a limited presence. Management priorities are eradication or containment where present, and prevention and education elsewhere. Plants are easier to manage after they've bolted as they're more visible, but be sure to control before seed production. If hand-pulling, remove the tap root with the root crown or the plant will re-sprout. Check infestation every three to four weeks to target plants missed in the first treatment, or that regrew from the tap root if not adequately removed the first time.

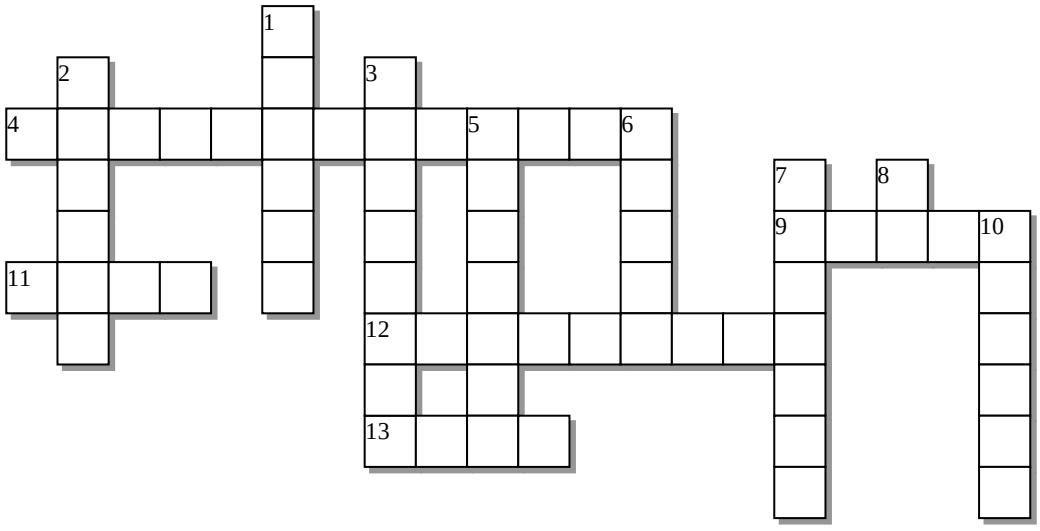
Dyer's Woad Cooperative Project: A Review and Update

(courtesy of Amber Burch, Project Coordinator, 406-683-3790)

Dyer's woad was first identified in Montana in 1934 and has since been found in 17 counties. In the 1980's, Extension Noxious Weed Specialist Dr. Pete Fay started researching herbicides for use on Dyer's woad. Dr. Fay worked with Montana State University students, personnel, and county weed crews to pull and contain infestations. However, with expanding Dyer's woad populations in other states, Montana needed a collaborative strategy for controlling it. Thus, the Montana Dyer's Woad Cooperative Project formally began in 1997. The project is governed by the Montana Dyer's Woad Task Force which provides a clear line of communication and sets a state-wide goal of eradication of Dyer's woad. Over the past 16 years, intensive efforts have been taken to prevent dyer's woad from becoming a major noxious weed problem in Montana. Currently, seven counties are monitored for Dyer's woad infestations: Beaverhead, Butte-Silverbow, Carbon, Flathead, Gallatin, Missoula, and Park. Overall, Dyer's woad has decreased 87% since 2005 (year with the largest populations). There were 997 plants identified in Montana in 2012, the 3rd lowest number since the beginning of the project. With a four pronged approach, the project has specific objectives to (1) manage known infestations, (2) monitor those infestations, (3) inventory new areas for potential spread, and (4) educate land managers and the public on identification and management. Early detection and rapid response and continued vigilance from cooperators are imperative to the continued successful control of Dyer's woad. Please report any found plants to your local weed coordinator or Amber Burch.

For more information, see "Ecology and Management of Dyer's Woad"
ftp://ftp-fc.sc.egov.usda.gov/MT/www/technical/invasive/Invasive_Species_Tech_Note_MT10.pdf

Test your knowledge of Dyer's Woad



Across:

4 - The technical term for Dyer's woad having six stamens: two short, four long*

9 - Leaves on the flowering stem are clasping and have these (not for piercings)

11 - Like a typical member of the Brassicaceae family, dyer's woad has this many petals

12 - Dyer's woad leaf arrangement is _____

13 - Dyer's woad a prime target for this 4 letter acronym, a management strategy to identify noxious weeds and eradicate them while populations are still small

Down:

1 - Dyer's woad leaves have a prominent white _____

2 - Dyer's woad flowers are this color

3 - Got livestock? Without careful management, dyer's woad is likely to do this

5 - One of the objectives of the Dyer's Woad Cooperative Project that helps assess whether current populations are increasing or decreasing

6 - While once in 17 counties, Dyer's woad is believed to be in only this many Montana counties today

7 - Whether for tattoos or clothing, Dyer's woad was a source of this in Europe (two words)*

8 - Priority level of Dyer's woad in Montana

10 - After spending one year as a rosette, dyer's woad blooms in this season*

*Refer to "Ecology and Management of Dyer's Woad" publication for answers.

Solutions are posted to the MSU Extension Invasive Rangeland Weed website:
http://www.msuextension.org/invasiveplantsMangold/extensionsub.html

MONTANA STATE UNIVERSITY EXTENSION

Montana noxious weed Education Campaign