

The information for this Weed Alert was provided by [Jeffrey W. Brasher](#) and [Stephen F. Enloe](#), University of Wyoming, November 2006, in cooperation with the Wyoming Pest Detection Program, the Wyoming State Weed Team and the [University of Wyoming Cooperative Extension Service](#).

Weed: Austrian fieldcress or Austrian yellowcress (*Rorippa austriaca* (Crantz) Besser)
Synonym: *Nasturtium austriacum* Crantz

Family: Brassicaceae (same family as whitetop and perennial pepperweed)

Images: Courtesy of Jeff Brasher (UW) & Andy Currah (Sublette Co. Weed & Pest)



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9



Fig. 10

Fig. 1 Late-summer inflorescences in the field showing flower buds, flowers, and fruits. Photo – J. Brasher 3475.

Fig. 2 Midsummer inflorescences and stem leaves, vouchered by Currah s.n., summer 2006. Photo – A. Currah.

Fig. 3 Midsummer stem leaves showing arrangement, vouchered by Currah s.n., summer 2006. Photo - A. Currah.

Fig. 4 Late-summer stem leaves close-up in the field. Photo – J. Brasher 3475.

Fig. 5 Variation in early autumn UW greenhouse-grown rosette leaves vouchered by J. Brasher 3475. Odd-numbered leaves laid upside down. Photo – J. Brasher.

Fig. 6 Early autumn UW greenhouse-grown rosette vouchered by J. Brasher 3475. Grass at upper left and dark green foliage at lower right are not Austrian fieldcress, unlike remainder of image. Photo – J. Brasher.

Fig. 7 Late-summer, field close-up of Brasher 3475. Photo – J. Brasher.

Fig. 8 Late-summer, field close-up of underground parts dug up with a shovel and grown in UW greenhouse. Vouchered by Brasher 3475. Photo – J. Brasher

Fig. 9 Midsummer, infestation vouchered by Currah s.n., summer 2006. Photo – A. Currah.

Fig. 10 Late-summer, infestation (lower right foreground) and surrounding habitat. S. F. Enloe digging roots vouchered by Brasher 3475. Photo – J. Brasher.

Brief Plant Description: (Paraphrased from reference 8) The plant is a perennial herb from thickened roots or rhizomes. The stems are 0.3-0.9 m tall, erect, slender, and sparsely clothed with tiny hairs. The stem leaves are 3-6 cm long, oblong to oblong-ovate, unequally serrate, hairless, and narrowed to a petiole-like auriculate (ear-bearing) base. The inflorescences are bractless racemes 7-12 cm long arranged in terminal panicles. The 4 sepals are 1-2 mm long. The 4 separate yellow petals are 3-6 mm long. The flowers have 6 stamens, their filaments all lacking glandular processes. The fruit-bearing pedicels are 4-10 mm long and spreading-ascending. The (usually sterile) fruits are subglobose capsules 1.5-3 mm long, without a stipe (stalk) between the fruit and receptacle. The style is 0.2-1.3 mm long. The stigma is capitate (head-shaped). The species is expected to flower in Wyoming June-Aug.

Current Wyoming Distribution: Austrian fieldcress was identified in the summer of 2006 from only one locality in Sublette County, about 3 miles north of Cora at N 42.98846 W 109.99312, about 7400 feet elevation, the infestation including cultivated fields, irrigation ditches, irrigated pasture, and roadsides, including parts of multiple acres.

How did it get to Sublette Co.? We don't know, but inadvertent transport of soil or plant materials from another state is likely.

History in Wyoming: During the summer of 2006 Sublette Co. Weed & Pest personnel submitted photographs and a pressed specimen (Currah s.n., summer 2006) to UW where I identified it at the UW herbarium. I later confirmed the identification by visiting the infestation to photograph and collect (Brasher, Peterson, & Enloe 3475) specimens and later comparing Sublette Co. vouchers with specimens at the CU-Boulder Herbarium. Sublette Co. Weed and Pest personnel promptly began spraying to eradicate the infestation.

Origin: Native to southeastern Europe and western Asia.

Global Distribution: Austrian fieldcress has spread from its native range into western, northern, and central Europe; and purportedly China (1,4). In North America it is known from various localities of Canada and 16 of the United States including Montana, Nebraska, Idaho, and Utah (4,6,7).

Reasons for Concern: Because this species grows in moist soil it has potential to invade ecologically important wet areas such as floodplains, and economically important agricultural lands including fields, pastures, and ditches.

Rorippa austriaca has hybridized with *R. sylvestris* in Europe to form a new species, (*R. X armoracioides*) which is even more invasive than *R. austriaca* itself (2). *Rorippa s.* is also now widely distributed in the U.S., including documentation for 5 of 6 states adjacent to Wyoming (7,8). Additionally, there are approximately ten other species of *Rorippa* in Wyoming which could potentially hybridize with *R. a.* or even a *R. a. X R. s.* hybrid to make it even more invasive.

Legislative status: In the US, *Rorippa austriaca* is currently listed as a noxious weed in four states: Alaska, Arizona, California, and Washington. This weed is not on the Wyoming state designated noxious weed list, nor has it been declared in any county in Wyoming.

Control Methods:

Chemical: While there is little data from the published literature available for solid recommendations, the following herbicides may be effective in controlling this weed. This recommendation is based upon efficacy data for related weeds in the family Brassicaceae. Escort or Cimarron (metsulfuron) or Telar (chlorsulfuron) applied at 1 oz product /Acre should provide good control. However, retreatment will likely be necessary since this is a deeply rooted creeping perennial. These herbicides should be applied with a surfactant (NIS at 0.25% v/v) or crop oil concentrate at 1-2 % v/v. In places where herbicides labeled for aquatic use are required, spot treatments of Rodeo (1.5-2.0% v/v) or 2,4-D will likely provide burndown and prevent seed production. However, these treatments will not likely provide long-term control with a single application.

Mechanical: Hand digging to remove all creeping roots may be effective. However, this will likely be an enormous task due to the creeping root system. Tillage is likely to fragment and spread root pieces and is not recommended.

Biological: There are no approved biological control agents for this weed.

There is also no information on the effectiveness of sheep or goat grazing. It would be likely that sheep and goats would graze Austrian fieldcress. However, repeated, high intensity grazing would be needed to have any negative impact on the weed.

Additional Notes: *Rorippa austriaca* may be distinguished from the Wyoming native *R. palustris* (L.) Besser (or misapplied (5) synonym *R. islandica* (Oed.) Borb.), by several characters well contrasted at (5; URL below). In (3) *R. austriaca* would only haltingly key to *R. calycina* or *R. sinuata* and may be distinguished from them by the following combination of character states: perennial; rhizomatous; fruits subglobose and hairless.

Based on what has happened in Europe (1,2) control of *R. austriaca* may be a higher priority when in proximity to other *Rorippa* species, especially *R. sylvestris*, in order to prevent the possibility of accelerated invasion by hybrids. *Rorippa sylvestris* may be distinguished from *R. austriaca* in that *R. s.* has deeply pinnatifid leaves and linear fruits (5).

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