

<b>Taxon:</b> Rorippa indica (L.) Hiern	<b>Family:</b> Brassicaceae
<b>Common Name(s):</b> Indian cress Indian field-cress Indian marshcress Indian watercress Indian yellowcress variableleaf yellowcress	<b>Synonym(s):</b> Nasturtium indicum (L.) DC. Nasturtium montanum Wall. Sinapis patens Roxb. Sisymbrium indicum L.

<b>Assessor:</b> Chuck Chimera	<b>Status:</b> Approved	<b>End Date:</b> 24 Apr 2024
<b>WRA Score:</b> 11.0	<b>Designation:</b> H(HPWRA)	<b>Rating:</b> High Risk

**Keywords:** Annual Herb, Naturalized, Weedy, Autogamous, Water-Dispersed

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y = -3, n = 0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	0 = low, 1 = intermediate, 2 = high (see Appendix 2)	High
202	Quality of climate match data	0 = low, 1 = intermediate, 2 = high (see Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y = 1, n = 0	y
204	Native or naturalized in regions with tropical or subtropical climates	y = 1, n = 0	y
205	Does the species have a history of repeated introductions outside its natural range?	y = -2, ? = -1, n = 0	n
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n = question 205	y
302	Garden/amenity/disturbance weed	y = 1*multiplier (see Appendix 2), n = 0	y
303	Agricultural/forestry/horticultural weed		
304	Environmental weed	y = 2*multiplier (see Appendix 2), n = 0	n
305	Congeneric weed	y = 1*multiplier (see Appendix 2), n = 0	y
401	Produces spines, thorns or burrs	y = 1, n = 0	n
402	Allelopathic		
403	Parasitic	y = 1, n = 0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y = 1, n = 0	n
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y = 1, n = 0	n

Qsn #	Question	Answer Option	Answer
408	Creates a fire hazard in natural ecosystems	y = 1, n = 0	n
409	Is a shade tolerant plant at some stage of its life cycle	y = 1, n = 0	y
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y = 1, n = 0	y
411	Climbing or smothering growth habit	y = 1, n = 0	n
412	Forms dense thickets	y = 1, n = 0	y
501	Aquatic	y = 5, n = 0	n
502	Grass	y = 1, n = 0	n
503	Nitrogen fixing woody plant	y = 1, n = 0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y = 1, n = 0	n
601	Evidence of substantial reproductive failure in native habitat	y = 1, n = 0	n
602	Produces viable seed	y = 1, n = -1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic	y = 1, n = -1	y
605	Requires specialist pollinators	y = -1, n = 0	n
606	Reproduction by vegetative fragmentation	y = 1, n = -1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
702	Propagules dispersed intentionally by people	y = 1, n = -1	y
703	Propagules likely to disperse as a produce contaminant		
704	Propagules adapted to wind dispersal	y = 1, n = -1	n
705	Propagules water dispersed	y = 1, n = -1	y
706	Propagules bird dispersed	y = 1, n = -1	n
707	Propagules dispersed by other animals (externally)	y = 1, n = -1	n
708	Propagules survive passage through the gut	y = 1, n = -1	n
801	Prolific seed production (>1000/m <sup>2</sup> )		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

**Supporting Data:**

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	<b>Source(s)</b>	<b>Notes</b>
	Hanelt, P. (ed.). (2001). <i>Mansfeld's Encyclopedia of Agricultural and Horticultural Crops</i> , Volume 3. Springer-Verlag, Berlin, Heidelberg, New York	[Long history of cultivation, but not of domestication] "This species is often used as a wild vegetable and in the folk medicine. In China it was also grown as a vegetable according to information from the first century BC, but since long times not more cultivated. Formerly cultivated in N and S Vietnam as well as in Laos because of its seeds, which were exported as an asthma remedy to China."

102	Has the species become naturalized where grown?	
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. (2024). Personal Communication	NA

103	Does the species have weedy races?	
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. (2024). Personal Communication	NA

201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). <i>Flora of China</i> . Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Roadsides, field margins, gardens, river banks; near sea level to 3200 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Bangladesh, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sikkim, Thailand, Vietnam; naturalized in North and South America]."

202	Quality of climate match data	High
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). <i>Flora of China</i> . Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Roadsides, field margins, gardens, river banks; near sea level to 3200 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Bangladesh, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sikkim, Thailand, Vietnam; naturalized in North and South America]."

Qsn #	Question	Answer
203	Broad climate suitability (environmental versatility)	y
	<b>Source(s)</b>	<b>Notes</b>
	PictureThis. (2024). Variableleaf yellowcress <i>Rorippa indica</i> . <a href="https://www.picturethisai.com/wiki/Rorippa_indica.html">https://www.picturethisai.com/wiki/Rorippa_indica.html</a> . [Accessed 16 Apr 2024]	"Hardiness Zones 5 to 9" [5 hardiness zones]
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Roadsides, field margins, gardens, river banks; near sea level to 3200 m." [Broad elevation range]

204	Native or naturalized in regions with tropical or subtropical climates	y
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Roadsides, field margins, gardens, river banks; near sea level to 3200 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Bangladesh, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sikkim, Thailand, Vietnam; naturalized in North and South America]."
	Faccenda, K. (2024). Report of 24 new naturalized weeds across the islands of Hawai'i. Bishop Museum Occasional Papers 156: 71-110	" <i>Rorippa indica</i> (L.) Hiern New state record An unusual brassicoid was noticed along Kapi'olani Blvd. near the Ala Wai Community Park while walking to go get Chinese food for dinner. Approximately 40 plants were seen growing as weeds in an irrigated flower bed along the road. No other colonies have been observed around Honolulu. This plant was subsequently identified as <i>Rorippa indica</i> using the key in Al-Shehbaz (2010) and comparison to photographed specimens. <i>Rorippa indica</i> is native to much of South and Southeast Asia, Egypt, and the Democratic Republic of the Congo and neighboring countries (POWO 2023). It has become naturalized in scattered localities in the United States and Central and South America (POWO 2023)." ... "Material examined. O'AHU: Honolulu, intersection of Pa'ani St and Kapi'olani Blvd, on Ala Wai Park side of road, in irrigated garden plot between road and sidewalk, full sun, 1 m, 21.288457, -157.829865, 03 Apr 2023, K. Faccenda 3090."

205	Does the species have a history of repeated introductions outside its natural range?	n
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"naturalized in North and South America"
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. <a href="https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch">https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch</a> . [Accessed 16 Apr 2024]	"Naturalized Africa NORTHERN AFRICA: Egypt (n.) Northern America WESTERN CANADA: Canada [British Columbia] NORTHEASTERN U.S.A.: United States [New York] NORTHWESTERN U.S.A.: United States [Oregon] SOUTHEASTERN U.S.A.: United States [Louisiana, Mississippi] Pacific SOUTHWESTERN PACIFIC: Fiji Southern America CENTRAL AMERICA: Costa Rica, Guatemala, Nicaragua NORTHERN SOUTH AMERICA: Venezuela [Táchira]"

Qsn #	Question	Answer
301	Naturalized beyond native range	y
	Source(s)	Notes
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"naturalized in North and South America"
	USDA, Agricultural Research Service, National Plant Germplasm System. (2024). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. <a href="https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch">https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysearch</a> . [Accessed 16 Apr 2024]	"Naturalized Africa NORTHERN AFRICA: Egypt (n.) Northern America WESTERN CANADA: Canada [British Columbia] NORTHEASTERN U.S.A.: United States [New York] NORTHWESTERN U.S.A.: United States [Oregon] SOUTHEASTERN U.S.A.: United States [Louisiana, Mississippi] Pacific SOUTHWESTERN PACIFIC: Fiji Southern America CENTRAL AMERICA: Costa Rica, Guatemala, Nicaragua NORTHERN SOUTH AMERICA: Venezuela [Táchira]"
	Faccenda, K. (2024). Report of 24 new naturalized weeds across the islands of Hawai'i. Bishop Museum Occasional Papers 156: 71-110	" <i>Rorippa indica</i> (L.) Hiern New state record An unusual brassicoid was noticed along Kapi'olani Blvd. near the Ala Wai Community Park while walking to go get Chinese food for dinner. Approximately 40 plants were seen growing as weeds in an irrigated flower bed along the road. No other colonies have been observed around Honolulu. This plant was subsequently identified as <i>Rorippa indica</i> using the key in Al-Shehbaz (2010) and comparison to photographed specimens. <i>Rorippa indica</i> is native to much of South and Southeast Asia, Egypt, and the Democratic Republic of the Congo and neighboring countries (POWO 2023). It has become naturalized in scattered localities in the United States and Central and South America (POWO 2023)." ... "Material examined. O'AHU: Honolulu, intersection of Pa'ani St and Kapi'olani Blvd, on Ala Wai Park side of road, in irrigated garden plot between road and sidewalk, full sun, 1 m, 21.288457, -157.829865, 03 Apr 2023, K. Faccenda 3090."

302	Garden/amenity/disturbance weed	y
	Source(s)	Notes
	Smith, A.C. (1981). Flora Vitiensis Nova - A New Flora of Fiji (Spermatophytes Only). Volume 2. Pacific Tropical Botanical Garden, Lawai, HI	"An annual herb to 20 cm. high , erect or with the lower part of the stem creeping, found as an occasional weed in waste places from near sea level to about 400 m."
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	"Habitat: Roadsides, field margins, gardens, riverbanks, villages, grasslands, orchards, and fields. Ecology: Variable leaf yellow cress suits for numerous habitats and sometimes establishes a predominate population. It fits moist or wet and drought situations and endures barren or other adverse environments. Harmfulness: A common weed. It acts as a host of aphid and spider mites."
	Bandopadhyay, L., Basu, D., & Sikdar, S. R. (2013). Identification of genes involved in wild crucifer <i>Rorippa indica</i> resistance response on mustard aphid <i>Lipaphis erysimi</i> challenge. PLoS One, 8(9), e73632	"On wild germplasm screening, we noted that <i>Rorippa indica</i> (L.) Hiern, an occasional shade loving weed shows resistance against the mustard aphid. <i>R. indica</i> is a wild crucifer found in the Indian subcontinent and Asia."
	Yano, S. (1994). Flower nectar of an autogamous perennial <i>Rorippa indica</i> as an indirect defense mechanism against herbivorous insects. Population Ecology, 36(1), 63-71	[A weed of disturbed sites such as fields and roadsides. Impacts to crops not specified in this publication] " <i>Rorippa indica</i> (L.) Hieron, which is well known as a weed in agricultural fields and roadsides, is an iteroparous perennial reproducing by both seed and vegetative reproduction (Kitamura and Murata 1961)."

Qsn #	Question	Answer
303	<b>Agricultural/forestry/horticultural weed</b>	
	<b>Source(s)</b>	<b>Notes</b>
	Setyawati, T., Narulita, S., Bahri, I.P., & Raharjo, G. T. (2015). A Guide Book to Invasive Alien Plant Species in Indonesia. Research, Development, and Innovation Agency, Ministry of Environment and Forestry, Republic of Indonesia	"Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Weed of: Bananas, Orchards & Plantations, Pastures, Pome Fruits" [Cited as an agricultural weed in 18 references]
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	[Direct impacts to crops not quantified, but may act as a host of crop pests] "Habitat: Roadsides, field margins, gardens, riverbanks, villages, grasslands, orchards, and fields. Ecology: Variable leaf yellow cross suits for numerous habitats and sometimes establishes a predominate population. It fits moist or wet and drought situations and endures barren or other adverse environments. Harmfulness: A common weed. It acts as a host of aphid and spider mites."
	WRA Specialist. (2024). Personal Communication	A number of scientific publications include <i>Rorippa indica</i> as a weed of crops, but none of the ones reviewed have quantified the impacts on crop yields from this plant.

304	<b>Environmental weed</b>	<b>n</b>
	<b>Source(s)</b>	<b>Notes</b>
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	"Habitat Roadsides, field margins, gardens, riverbanks, villages, grasslands, orchards, and fields. Ecology Variable leaf yellow cross suits for numerous habitats and sometimes establishes a predominate population. It fits moist or wet and drought situations and endures barren or other adverse environments. Harmfulness A common weed. It acts as a host of aphid and spider mites"

305	<b>Congeneric weed</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Bandopadhyay, L., Basu, D., & Sikdar, S. R. (2013). Identification of genes involved in wild crucifer <i>Rorippa indica</i> resistance response on mustard aphid <i>Lipaphis erysimi</i> challenge. PLoS One, 8(9), e73632	" <i>R. indica</i> has been reported to contain a number of potential allelochemicals. These include sulphur and nitrogen containing compounds like hirsutin, arabin, camelin, roripamine (sulfonylalkylamine) [15] and three novel v-methylsulfonylalkyl isothiocyanates (n = 8, 9, and 10) [16]."
	Weber, E. (2017). Invasive Plant Species of the World, 2nd Edition: A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	" <i>Rorippa palustris</i> grows in moist places and reproduces both by seeds and vegetatively by sprouting from roots. Disturbances may lead to root fragments, which can be carried by streams and easily grow into new plants (Klimesova et al., 2004, 2008; Martinkova et al., 2004). The plant is highly variable in size and shape. In North America, two subspecies are known, <i>Rorippa palustris</i> subsp. <i>palustris</i> and <i>Rorippa palustris</i> subsp. <i>hispida</i> (Flora of North America, 2014). Where invasive the plant forms dense patches displacing native species by shading out. Its large size makes it a strong competitor to native herbaceous species."

401	<b>Produces spines, thorns or burrs</b>	<b>n</b>
	<b>Source(s)</b>	<b>Notes</b>

Qsn #	Question	Answer
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[No evidence] "Herbs annual, (6-)20-60(-75) cm tall, glabrous or rarely sparsely pubescent. Stems often branched basally and apically. Basal leaves withered by flowering. Lower and middle cauline leaves auriculate or not; petiole absent or 1-4 cm; leaf blade lyrate-pinnatifid or undivided, obovate, oblong, or lanceolate, (2.5-)3.5-12(-16) × (0.8-)1.5-4(-5) cm, margin entire, irregularly crenate, or serrate, apex obtuse or subacute; terminal lobe oblong, elliptic, or oblong-lanceolate, to 10 × 5 cm; lateral lobes absent or 1-5(or 6) on each side of midvein. Uppermost leaves usually sessile, auriculate or not; leaf blade lanceolate or oblong, margin entire, denticulate, or serrulate, apex acute or acuminate. Racemes ebracteate. Fruiting pedicels slender, ascending, divaricate, or rarely slightly reflexed, straight, (2-)3-10(-15) mm. Sepals often green or pinkish, ascending, oblong-ovate, 2-3 × 0.8-1.5 mm, margin membranous. Petals yellow, obovate or spatulate, (2.5-)3-4(-4.5) × 1-1.5 mm, rarely absent. Filaments 1.5-3 mm; anthers oblong, 0.5-0.8 mm. Ovules (60-)70-110 per ovary. Fruit linear, (0.7-)1-2.4(-3) cm × 1-1.5(-2) mm, often curved upward; valves thin papery, not veined; style (0.5-)1-1.5(-2) mm, slender, narrower than fruit. Seeds reddish brown, ovate or ovate-orbicular, 0.5-0.9 × 0.4-0.6 mm, foveolate, biseriate or nearly so."

402	Allelopathic	
	Source(s)	Notes
	Yamane, A., Fujikura, J., Ogawa, H., & Mizutani, J. (1992). Isothiocyanates as allelopathic compounds from <i>Rorippa indica</i> Hiern. (Cruciferae) roots. Journal of chemical ecology, 18, 1941-1954	[Extracts exhibit allelopathic effects] "The ethyl acetate extracts of <i>Rorippa indica</i> Hiern. contained hirsutin, arabin, camelinin, and three novel ω-methylsulfonylalkyl isothiocyanates (n=8, 9, and 10). These compounds severely inhibited lettuce ( <i>Lactuca sativa</i> ) hypocotyl and root growth at 0.1 mM or above. The precursor glucosinolates of hirsutin, arabin, and camelinin were isolated. Presence of the three ω-methylsulfonylalkylglucosinolates, along with other glucosinolates in the roots were verified by the isolation and identification of their desulfoderivatives. Using the continuous root exudate trapping apparatus and GC-MS, hirsutin and the three ω-methylsulfonylalkyl isothiocyanates were detected in the root exudates of <i>R. indica</i> , suggesting that these isothiocyanates are the primary candidate of allelopathic compounds contributing to the aggressiveness of this cruciferous weed."

403	Parasitic	n
	Source(s)	Notes
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Herbs annual, (6-)20-60(-75) cm tall, glabrous or rarely sparsely pubescent." [Brassicaceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	Khan, N. A., & Shah, M. (2013). Eco-taxonomic study of family Brassicaceae of district Mardan, Khyber Pukhtoon-Khwa, Pakistan. Pakhtunkhwa Journal of Life Science, 1 (1), 28-35	"Table 1. Life form and palatability status of the plants of family Brassicaceae, District Mardan." [Rorippa indica - Palatability = Less-Pal]

405	Toxic to animals	n
	Source(s)	Notes

Qsn #	Question	Answer
	Plants for a Future. (2024). <i>Rorippa indica</i> . <a href="https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica">https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica</a> . [Accessed 23 Apr 2024]	"Known Hazards None known"
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[No evidence] "Seeds astringent, diuretic, sedative, for asthma, cough."

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	"A common weed. It acts as a host of aphid and spider mites." [Pests common to a number of plants]
	India Biodiversity Portal. (2024). <i>Rorippa indica</i> (L.) Hiern. <a href="https://indiabiodiversity.org/species/show/230966">https://indiabiodiversity.org/species/show/230966</a> . [Accessed 23 Apr 2024]	" <i>Rorippa</i> species are susceptible to various insect pests, virus, mildews and moulds."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Plants for a Future. (2024). <i>Rorippa indica</i> . <a href="https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica">https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica</a> . [Accessed 23 Apr 2024]	"Known Hazards None known"
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[No evidence] "Seeds astringent, diuretic, sedative, for asthma, cough."
	WRA Specialist. (2024). Personal Communication	<i>Rorippa indica</i> is not generally considered toxic or poisonous to humans or animals when consumed in small quantities. However, like many plants, it may contain compounds that can be harmful if ingested in large amounts. Some plants in the Brassicaceae family, to which <i>Rorippa indica</i> belongs, can accumulate nitrates, glucosinolates, or other compounds that may be toxic to livestock if consumed in excessive quantities.

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	[An annual, unlikely to contribute significantly to fuel loads. Fire risk not included among potential impacts of this species] "Roadsides, field margins, gardens, riverbanks, villages, grasslands, orchards, and fields."
	WRA Specialist. (2024). Personal Communication	<i>Rorippa indica</i> is not typically considered a significant fire hazard on its own. Unlike some plant species with high oil content or volatile compounds that can contribute to the spread and intensity of fires, Indian mustard generally does not possess these characteristics. However, in areas where Indian mustard forms dense stands or covers large expanses of land, it could contribute to the fuel load and potentially facilitate the spread of fire, especially if it has dried out and become desiccated. In such cases, Indian mustard could act as fine fuel that ignites easily and helps sustain the fire.

409	Is a shade tolerant plant at some stage of its life cycle	y
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Qsn #	Question	Answer
	<b>Source(s)</b>	<b>Notes</b>
	Yang, Q., Zhang, C., Yin, X., & Yang, H. (2019). Investigation on Weeds in Vegetable Fields in the Northern Suburbs of Meizhou City, South China. In IOP Conference Series: Materials Science and Engineering 472(1): 012067	"2.4. Light Intensity Adaptation Ecological Types of Weeds" ... "In the vegetable fields, the shade tolerant plants were the most, there were 47 species belonging to 26 families, accounting for 58.02% of the total species in the vegetable fields." [Includes <i>Rorippa indica</i> ]
	Bandopadhyay, L., Basu, D., & Sikdar, S. R. (2013). Identification of genes involved in wild crucifer <i>Rorippa indica</i> resistance response on mustard aphid <i>Lipaphis erysimi</i> challenge. PLoS One, 8(9), e73632	"On wild germplasm screening, we noted that <i>Rorippa indica</i> (L.) Hiern, an occasional shade loving weed shows resistance against the mustard aphid. <i>R. indica</i> is a wild crucifer found in the Indian subcontinent and Asia."

410	<b>Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Selina Wamucii. (2024). <i>Rorippa indica</i> - Uses, Benefits & Care. <a href="https://www.selinawamucii.com/plants/brassicaceae/rorippa-indica/">https://www.selinawamucii.com/plants/brassicaceae/rorippa-indica/</a> . [Accessed 23 Apr 2024]	"It prefers full sun and moist, well-drained soil. It is tolerant of a wide range of soil types and can be grown in USDA hardiness zones 4-9."
	Plants for a Future. (2024). <i>Rorippa indica</i> . <a href="https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica">https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica</a> . [Accessed 23 Apr 2024]	"Suitable for: light (sandy), medium (loamy) and heavy (clay) soils. Suitable pH: mildly acid, neutral and basic (mildly alkaline) soils. It can grow in semi-shade (light woodland) or no shade. It prefers moist soil."

411	<b>Climbing or smothering growth habit</b>	<b>n</b>
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). <i>Flora of China</i> . Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Herbs annual, (6-)20-60(-75) cm tall, glabrous or rarely sparsely pubescent."

412	<b>Forms dense thickets</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Yamane, A., Fujikura, J., Ogawa, H., & Mizutani, J. (1992). Isothiocyanates as alleopathic compounds from <i>Rorippa indica</i> Hiern.(Cruciferae) roots. <i>Journal of chemical ecology</i> , 18, 1941-1954	" <i>Rorippa indica</i> Hiern. (Inugarashi in Japanese, Cruciferae) is a common perennial weed in the fields and pastures of Japan. The weed has the ability to propagate through its vegetative organs such as roots or stems (Ito et al., 1989). As the weed exists in very dense and practically pure stands, this suggests that the species may produce substances that are alleopathic to other surrounding plants."

501	<b>Aquatic</b>	<b>n</b>
	<b>Source(s)</b>	<b>Notes</b>
	Flora of North America Editorial Committee. (2010). <i>Flora of North America: North of Mexico, Volume 7. Magnoliophyta: Salicaceae to Brassicaceae</i> . Oxford University Press, Oxford, UK	"Flowering most of the year. Roadsides, wet places, field margins, gardens, streamsides, ditches, flood plains, waste grounds; 0-200[-3200] m"
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). <i>Flora of China</i> . Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Terrestrial] "Roadsides, field margins, gardens, river banks; near sea level to 3200 m."

Qsn #	Question	Answer
502	Grass	n
	Source(s)	Notes
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	Brassicaceae
503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	Brassicaceae
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Herbs annual, (6-)20-60(-75) cm tall, glabrous or rarely sparsely pubescent."
601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[No evidence. Broad native and introduced range] "Roadsides, field margins, gardens, river banks; near sea level to 3200 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Bangladesh, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sikkim, Thailand, Vietnam; naturalized in North and South America]."
602	Produces viable seed	y
	Source(s)	Notes
	Plants for a Future. (2024). <i>Rorippa indica</i> . <a href="https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica">https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica</a> . [Accessed 24 Apr 2024]	"It is in flower all year, and the seeds ripen all year."
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	"Diffusion Characteristics Seed reproduction."
	Yano, S. (1994). Flower nectar of an autogamous perennial <i>Rorippa indica</i> as an indirect defense mechanism against herbivorous insects. <i>Population Ecology</i> , 36(1), 63-71	" <i>Rorippa indica</i> (L.) Hieron, which is well known as a weed in agricultural fields and roadsides, is an iteroparous perennial reproducing by both seed and vegetative reproduction (Kitamura and Murata 1961)."
	Weifeng, T. et al. (2019). Comparison of taxonomic morphological characteristics between <i>Rorippa indica</i> and <i>R. dubia</i> . <i>Biodiversity Science</i> , 27(2), 168-176	"The seed setting rates of self-pollinated <i>R. indica</i> and <i>R. dubia</i> were 97.73% and 95.65%, respectively, while that of <i>R. indica</i> cross-fertilized by the pollens from <i>R. dubia</i> was 0. In comparison, the seed setting rate of <i>R. dubia</i> cross-fertilized by the pollen from <i>R. indica</i> were 47.06%, but the germination rate of these seeds was zero. In conclusion, <i>R. indica</i> and <i>R. dubia</i> should be regarded as two species."

Qsn #	Question	Answer
603	Hybridizes naturally	
	<b>Source(s)</b>	<b>Notes</b>
	Weifeng, T. et al. (2019). Comparison of taxonomic morphological characteristics between <i>Rorippa indica</i> and <i>R. dubia</i> . <i>Biodiversity Science</i> , 27(2), 168-176	"The seed setting rates of self-pollinated <i>R. indica</i> and <i>R. dubia</i> were 97.73% and 95.65%, respectively, while that of <i>R. indica</i> cross-fertilized by the pollens from <i>R. dubia</i> was 0. In comparison, the seed setting rate of <i>R. dubia</i> cross-fertilized by the pollen from <i>R. indica</i> were 47.06%, but the germination rate of these seeds was zero. In conclusion, <i>R. indica</i> and <i>R. dubia</i> should be regarded as two species."
	Bandopadhyay, L., Basu, D., & Sikdar, S. R. (2013). Identification of genes involved in wild crucifer <i>Rorippa indica</i> resistance response on mustard aphid <i>Lipaphis erysimi</i> challenge. <i>PLoS One</i> , 8(9), e73632	[In this instance, natural hybridization would not be possible] "In order to transfer the resistance trait from <i>R. indica</i> to <i>Brassica juncea</i> , we carried out somatic hybridization between these sexually incompatible pair. The somatic hybrid and their <i>Brassica</i> type backcrossed progenies (backcrossed with <i>B. juncea</i> ) also showed <i>R. indica</i> type resistance [20,21]."
604	Self-compatible or apomictic	y
	<b>Source(s)</b>	<b>Notes</b>
	Yano, S. (1994). Flower nectar of an autogamous perennial <i>Rorippa indica</i> as an indirect defense mechanism against herbivorous insects. <i>Population Ecology</i> , 36(1), 63-71	" <i>R. indica</i> produced fruits in the absence of flower visitors (Table 4). That is, <i>R. indica</i> is an autogamous plant which can reproduce without cross pollination."
605	Requires specialist pollinators	n
	<b>Source(s)</b>	<b>Notes</b>
	Yano, S. (1994). Flower nectar of an autogamous perennial <i>Rorippa indica</i> as an indirect defense mechanism against herbivorous insects. <i>Population Ecology</i> , 36(1), 63-71	" <i>R. indica</i> produced fruits in the absence of flower visitors (Table 4). That is, <i>R. indica</i> is an autogamous plant which can reproduce without cross pollination."
606	Reproduction by vegetative fragmentation	n
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). <i>Flora of China</i> . Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Herbs annual, (6-)20-60(-75) cm tall, glabrous or rarely sparsely pubescent."
607	Minimum generative time (years)	1
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). <i>Flora of China</i> . Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Herbs annual, (6-)20-60(-75) cm tall, glabrous or rarely sparsely pubescent."

Qsn #	Question	Answer
701	<b>Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)</b>	
	<b>Source(s)</b>	<b>Notes</b>
	Faccenda, K. (2024). Report of 24 new naturalized weeds across the islands of Hawai'i. Bishop Museum Occasional Papers 156: 71-110	"Approximately 40 plants were seen growing as weeds in an irrigated flower bed along the road."
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Seeds reddish brown, ovate or ovate-orbicular, 0.5-0.9 × 0.4-0.6 mm, foveolate, biseriate or nearly so." ... "Roadsides, field margins, gardens, river banks; near sea level to 3200 m." [Possibly. Found along roads and other heavily trafficked areas. Seeds lack means of attachment, but may adhere to footwear, vehicles or equipment.]

702	Propagules dispersed intentionally by people	y
	<b>Source(s)</b>	<b>Notes</b>
	Plants for a Future. (2024). <i>Rorippa indica</i> . <a href="https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica">https://pfaf.org/USER/Plant.aspx?LatinName=Rorippa+indica</a> . [Accessed 24 Apr 2024]	"Edible Uses Edible Parts: Leaves Edible Uses: Tender young leaves and stems - raw or cooked as a vegetable[105, 177, 179, 272]."
	Flora of North America Editorial Committee. (2010). Flora of North America: North of Mexico, Volume 7. Magnoliophyta: Salicaceae to Brassicaceae. Oxford University Press, Oxford, UK	"introduced; B.C.; La., Miss., N.Y., Oreg.; Asia; introduced also in Central America, South America. "
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Major Pathway/s: Crop, Herbal, Ornamental Dispersed by: Humans"

703	Propagules likely to disperse as a produce contaminant	
	<b>Source(s)</b>	<b>Notes</b>
	Faccenda, K. (2024). Report of 24 new naturalized weeds across the islands of Hawai'i. Bishop Museum Occasional Papers 156: 71-110	"Approximately 40 plants were seen growing as weeds in an irrigated flower bed along the road." [Occurrence in flower bed suggests possibility of soil contamination in cultivated flowers]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[No direct evidence, but occurrence with crops suggests seed contamination could occur with other produce] "Major Pathway/s: Crop, Herbal, Ornamental Dispersed by: Humans Weed of: Bananas, Orchards & Plantations, Pastures, Pome Fruits"

704	Propagules adapted to wind dispersal	n
	<b>Source(s)</b>	<b>Notes</b>
	Guo, Z., & Zheng, J. (2017). Predicting modes of seed dispersal using plant life history traits. Biodiversity Science, 25(9),966-971	"Appendix 1 Checklist of 360 species used in modeling in this study" [ <i>Rorippa indica</i> - Dispersal mode - autotransmission]
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	["Fruit linear, (0.7-)1- 2.4(-3) cm × 1-1.5(-2) mm, often curved upward; valves thin papery, not veined; style (0.5-)1-1.5(-2) mm, slender, narrower than fruit. Seeds reddish brown, ovate or ovate-orbicular, 0.5-0.9 × 0.4-0.6 mm, foveolate, biseriate or nearly so." [Seeds small enough to be moved by wind, but lack adaptations for wind dispersal]

705	Propagules water dispersed	y
	<b>Source(s)</b>	<b>Notes</b>

Qsn #	Question	Answer
	Virginia Botanical Associates. (2024). Digital Atlas of the Virginia Flora. c/o Virginia Botanical Associates, Blacksburg. <a href="http://www.vaplantatlas.org">http://www.vaplantatlas.org</a> . [Accessed 22 Apr 2024]	[Common in riparian habitats] "Frequently flood-scoured sandy or silty riverbanks, bars, and alluvial fields. Frequent, well established, and apparently increasing in the central Piedmont; known only from along the James River in Appomattox, Buckingham, Chesterfield, Cumberland, Goochland, Fluvanna, and Powhatan counties, where found repeatedly over a period of 25+ years. It should be sought in similar habitats along the James in other counties."
	Hayashi, H., Shimatani, Y., Shigematsu, K., Nishihiro, J., Ikematsu, S., & Kawaguchi, Y. (2012). A study of seed dispersal by flood flow in an artificially restored floodplain. <i>Landscape and Ecological Engineering</i> , 8(2), 129-143	[ <i>Rorippa indica</i> moved by flood water] "Riverine floodplains play many important roles in river ecosystems. However, many floodplains have suffered degradation or loss of ecological function due to excessive river improvements or through changes in agricultural systems. As a result, many floodplain restoration projects are being conducted worldwide. One of the many methods being implemented to restore floodplain vegetation is flood water seed dispersal. In this technique, precisely estimating the effect of seed dispersal by flood water is important in order to achieve successful floodplain revegetation. Here, we focus our attention on sediment transport by flood water into the Azamenose Swamp, a restored floodplain. We attempt to estimate the function of seed deposition in the restored floodplain and explain how the seeds are deposited in the floodplain by flood water. The result suggests that the restored floodplain functions as a more appropriate deposition site for seeds than the riverbanks of the main river. It was also found that the distance from the inflow site and the weight of the sediment were related to seed deposition." ... "On the other hand, this relationship was not observed in other species, including <i>R. islandica</i> (Fig. 10c), <i>Rorippa indica</i> , and <i>Mazus pumilus</i> . For these species, seedlings were observed at many sampling points, with no apparent relationship to the distance from the inflow site."

706	Propagules bird dispersed	n
	Source(s)	Notes
	Guo, Z., & Zheng, J. (2017). Predicting modes of seed dispersal using plant life history traits. <i>Biodiversity Science</i> , 25(9),966-971	"Appendix 1 Checklist of 360 species used in modeling in this study" [Rorippa indica - Dispersal mode - autotransmission]
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). <i>Flora of China</i> . Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Not fleshy-fruited] "Fruit linear, (0.7-)1- 2.4(-3) cm × 1-1.5(-2) mm, often curved upward; valves thin papery, not veined; style (0.5-)1-1.5(-2) mm, slender, narrower than fruit. Seeds reddish brown, ovate or ovate-orbicular, 0.5-0.9 × 0.4-0.6 mm, foveolate, biseriate or nearly so."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	Guo, Z., & Zheng, J. (2017). Predicting modes of seed dispersal using plant life history traits. <i>Biodiversity Science</i> , 25(9),966-971	"Appendix 1 Checklist of 360 species used in modeling in this study" [Rorippa indica - Dispersal mode - autotransmission]

708	Propagules survive passage through the gut	n
	Source(s)	Notes
	Guo, Z., & Zheng, J. (2017). Predicting modes of seed dispersal using plant life history traits. <i>Biodiversity Science</i> , 25(9),966-971	"Appendix 1 Checklist of 360 species used in modeling in this study" [Rorippa indica - Dispersal mode - autotransmission]

801	Prolific seed production (>1000/m2)	

Qsn #	Question	Answer
	<b>Source(s)</b>	<b>Notes</b>
	Wu, Z.Y. & Raven, P.H. (eds.). (2001). Flora of China. Vol. 8 (Brassicaceae through Saxifragaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Fruit linear, (0.7-)1- 2.4(-3) cm × 1-1.5(-2) mm, often curved upward; valves thin papery, not veined; style (0.5-)1-1.5(-2) mm, slender, narrower than fruit. Seeds reddish brown, ovate or ovate-orbicular, 0.5-0.9 × 0.4-0.6 mm, foveolate, biseriate or nearly so." [Unknown. Small-seeded, but no evidence of high seed densities found in literature.]

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. (2024). Personal Communication	Unknown. Studies document presence, but not longevity of <i>Rorippa indica</i> in the soil seed bank.

803	Well controlled by herbicides	
	<b>Source(s)</b>	<b>Notes</b>
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	"Management Chemical control can choose isoproturon, methoxone, and 2,4-D butyl ester."
	Liu, X., Xiang, S., Zong, T., Ma, G., Wu, L., Liu, K., ... & Bai, L. (2019). Herbicide resistance in China: a quantitative review. <i>Weed science</i> , 67(6), 605-612	"Table 1. Herbicide-resistant weeds in major cropping systems in China" [ <i>Rorippa indica</i> - HRAC classification (herbicide) = ALS inhibitors (tribenuron-methyl)]
	Heap, I. (2024). The International Survey of Herbicide Resistant Weeds. Online. <a href="http://www.weedscience.com">www.weedscience.com</a>	"Variableleaf Yellowcress ( <i>Rorippa indica</i> ) is a dicot weed in the Brassicaceae family. In China this weed first evolved resistance to Group 2 (Legacy B) herbicides in 2011 and infests Winter wheat. Group 2 (Legacy B) herbicides are known as Inhibition of Acetolactate Synthase (Inhibition of Acetolactate Synthase). Research has shown that these particular biotypes are resistant to tribenuron-methyl and they may be cross-resistant to other Group 2 (Legacy B) herbicides."

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	<b>Source(s)</b>	<b>Notes</b>
	Zhenghao Xu & Meihua Deng. (2017). Identification and Control of Common Weeds: Volume 2. Zhejiang University Press, Hangzhou and Springer Nature, Singapore	[Thrives in disturbance. May tolerate cultivation and physical damage] "Habitat Roadsides, field margins, gardens, riverbanks, villages, grasslands, orchards, and fields. Ecology Variable leaf yellow cress suits for numerous habitats and sometimes establishes a predominate population. It fits moist or wet and drought situations and endures barren or other adverse environments."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. (2024). Personal Communication	Unknown

**Summary of Risk Traits:**

*Rorippa indica* is an annual or biennial herbaceous plant native to parts of Asia, including India and China, but has been introduced and naturalized in many other regions around the world, including the island of Oahu, Hawaiian Islands. This plant is able to grow rapidly, self-seed, and colonize disturbed habitats, including agricultural fields, roadsides, and waste areas. It is often considered a weedy or invasive species in some regions where it may compete with desirable vegetation.

**High Risk / Undesirable Traits**

- Broad elevation range and climate suitability
- Grows and naturalized in regions with tropical climates
- Potentially naturalized on Oahu, Hawaiian Islands
- Widely naturalized elsewhere
- A weed of disturbed habitats, roadsides, field margins, gardens, riverbanks, villages, grasslands, orchards, and fields.
- A frequently documented crop weed (of ambiguous or unknown impacts)
- Other *Rorippa* species are invasive weeds
- Potentially allelopathic
- Shade tolerant
- Tolerates many soil types
- May form dense, pure stands that may exclude other vegetation.
- Reproduces by seed
- An autogamous plant, capable of producing seeds through self-pollination.
- Seeds dispersed by water, intentional cultivation, and likely through human movement and other activities.
- May exhibit resistance to certain herbicides.

**Low Risk Traits**

- Unarmed (no spines, thorns, or burrs)
- Non-toxic