

Taxon: <i>Lathyrus clymenum</i> L.	Family: Fabaceae
Common Name(s): crimson pea perennial pea Spanish vetch Spanish vetchling	Synonym(s): <i>Lathyrus articulatus</i> L. <i>Lathyrus purpureus</i> Desf.

Assessor: Chuck Chimera	Status: Assessor Approved	End Date: 28 Mar 2022
WRA Score: 3.0	Designation: L	Rating: Low Risk

Keywords: Annual, Domesticated, Fodder, Self-Fertile, Human-Dispersed

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	y
102	Has the species become naturalized where grown?	y=1, n=-1	y
103	Does the species have weedy races?	y=1, n=-1	y
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)	Intermediate
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	n
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	?
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed		
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	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	y=1, n=-1	n
405	Toxic to animals		
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans		
408	Creates a fire hazard in natural ecosystems	y=1, n=0	n

Qsn #	Question	Answer Option	Answer
409	Is a shade tolerant plant at some stage of its life cycle		
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	n
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	y=1, n=-1	y
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	n
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m ²)		
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?	y
	Source(s)	Notes
	Zohary, D., Hopf, M., & Weiss, E. (2012). Domestication of Plants in the Old World: The origin and spread of domesticated plants in Southwest Asia, Europe, and the Mediterranean Basin. Fourth Edition. Oxford University Press, Oxford	"Relative to other legumes, fi nds of <i>L. clymenum</i> are rather rare. The earliest and largest fi nd came from ca. 4,850–4,550 cal BP Early Bronze Age II levels of Yenibademli Höyük on the Gökçeada island, Turkey (Oybak-Dönmez 2005). Seeds of <i>L. clymenum</i> have been discovered in a storage room in ca. 3,900–3,700 cal BP Middle Bronze Age IIA Tel Nami, a coastal site in Israel, suggesting the transport of this pulse from the Aegean basin into the Levant by maritime traders (Kislev 1993). Large quantities of charred seed of <i>L. clymenum</i> , placed also in storage jars, were discovered in Akrotiri, Thera Island, in a house destroyed by the volcanic eruption that devastated this island in ca. 3,578 cal BP (Sarpaki and Jones 1990). These authors also reported seeds of this pulse among plant remains retrieved from Late Minoan II Knossos, Crete, and contemporary Phylakopi, Melos. These fi nds establishes <i>L. clymenum</i> as a local, Aegean, Bronze Age domestic plant, which survives today only as a relic."

102	Has the species become naturalized where grown?	y
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2022). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 23 Mar 2022]	"Naturalized Africa MACARONESIA: Portugal [Azores]"
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"References: Europe-A-94, Japan-N-287, western Europe-W-70, Spain-A-417, United Kingdom-UZ-314, Czech Republic-UZ-400, Canary Islands-N-305, Denmark-UC-711, Japan-N-794, Portugal-N-1006, Europe-N-819, Belgium-UD-1220, Japan-N-1278, Global-W-1324, Czech Republic-U-1522, Denmark-W-1609, Global-CD-1611, Azores-N-1721, Czech Republic-U-1731, Turkey-A-2101, Belgium-W-1977, Cyprus-W-1977, Czech Republic-W-1977, Denmark-W-1977, Japan-W-1977."

103	Does the species have weedy races?	y
	Source(s)	Notes
	Zohary, D., Hopf, M., & Weiss, E. (2012). Domestication of Plants in the Old World: The origin and spread of domesticated plants in Southwest Asia, Europe, and the Mediterranean Basin. Fourth Edition. Oxford University Press, Oxford	"Wild and weedy forms of <i>L. clymenum</i> are widely distributed in the western and central parts of the Mediterranean basin, from west Turkey to the Iberian Peninsula, and from Cyrenaica to Morocco."

201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	Intermediate
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Qsn #	Question	Answer
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2022). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 23 Mar 2022]	"Native Africa MACARONESIA: Spain [Canarias], Portugal [Madeira Islands] NORTHERN AFRICA: Algeria (n.), Libya (n.), Morocco, Tunisia Asia-Temperate WESTERN ASIA: Turkey Europe SOUTHEASTERN EUROPE: Former Yugoslavia, Albania, Greece (incl. Crete), Italy (incl. Sardinia, Sicily) SOUTHWESTERN EUROPE: Spain (incl. Baleares), France (incl. Corsica), Portugal"

202	Quality of climate match data	High
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2022). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 23 Mar 2022]	

203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Consolino, F. & Banfi, E. (1994). The Simon & Schuster Guide to Climbing Plants. Simon and Schuster, New York	"Grows well in temperate climes."
	B & T World Seeds. (2022). <i>Lathyrus clymenum</i> . https://b-and-t-world-seeds.com . [Accessed 24 Mar 2022]	"The average, annual, minimum temperature zone where <i>Lathyrus clymenum</i> is cold hardy USDA Zone:6 -10° to 0°F (-23.5° to -18°C)"

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2022). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 24 Mar 2022]	"Naturalized Africa MACARONESIA: Portugal [Azores]" [The climate of the Azores Islands is subtropical oceanic]

205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	Notes

Qsn #	Question	Answer
	Zohary, D., Hopf, M., & Weiss, E. (2012). Domestication of Plants in the Old World: The origin and spread of domesticated plants in Southwest Asia, Europe, and the Mediterranean Basin. Fourth Edition. Oxford University Press, Oxford	[Unclear. Current distribution may be the result of past human cultivation] "Lathyrus clymenum L. is a Mediterranean grain crop of restricted distribution, still grown today in several Aegean islands such as Thera (Santorini), Anafi , and Karpathos (Sarpaki and Jones 1990). Like other legumes, the seeds are protein-rich and highly nutritious. L. clymenum is known as a fodder crop, as well as a staple food. Like Lathyrus , the seeds are toxic and might cause lathyrism (Melamed et al. 2009). Wild and weedy forms of L. clymenum are widely distributed in the western and central parts of the Mediterranean basin, from west Turkey to the Iberian Peninsula, and from Cyrenaica to Morocco. Previously, the living plant was unknown in the Levant (Kislev, 1993), but recently Melamed et al. (2009) reported four wild populations in Israel."

301	Naturalized beyond native range	y
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). Lathyrus clymenum L. in Israel: A " revival" of an ancient species. Israel Journal of Plant Sciences, 57(1-2), 125-130	"In other areas, such as the Azores, Madeira, and the Canary Islands, Lebanon–Syria, as well as in western Europe, it grows either as an introduced and cultivated, or as an escaped, feral, or weedy species (Ball, 1968; Davis, 1970; Greuter et al., 1989; Heller and Heyn, 1990). A noteworthy record is that from Japan where it is considered as a potential invasive species (Mito and Uesugi, 2004)."
	USDA, Agricultural Research Service, National Plant Germplasm System. (2022). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 23 Mar 2022]	"Naturalized Africa MACARONESIA: Portugal [Azores]"
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"References: Europe-A-94, Japan-N-287, western Europe-W-70, Spain-A-417, United Kingdom-UZ-314, Czech Republic-UZ-400, Canary Islands-N-305, Denmark-UC-711, Japan-N-794, Portugal-N-1006, Europe-N-819, Belgium-UD-1220, Japan-N-1278, Global-W-1324, Czech Republic-U-1522, Denmark-W-1609, Global-CD-1611, Azores-N-1721, Czech Republic-U-1731, Turkey-A-2101, Belgium-W-1977, Cyprus-W-1977, Czech Republic-W-1977, Denmark-W-1977, Japan-W-1977."
	Mito, T. & Uesugi, T. (2004). Invasive Alien Species in Japan: The Status Quo and the New Regulation for Prevention of their Adverse Effects. Global Environmental Research 8(2): 171-191	"Table 1 Alien species recognized to be established in Japan or found in the Japanese wild (as of October 27, 2004)" [Includes Lathyrus clymenum]

302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Weed of: Cereals"
	Zohary, D., Hopf, M., & Weiss, E. (2012). Domestication of Plants in the Old World: The origin and spread of domesticated plants in Southwest Asia, Europe, and the Mediterranean Basin. Fourth Edition. Oxford University Press, Oxford	"Wild and weedy forms of L. clymenum are widely distributed in the western and central parts of the Mediterranean basin, from west Turkey to the Iberian Peninsula, and from Cyrenaica to Morocco." [Weedy forms exist. Impacts unknown]

Qsn #	Question	Answer
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	[Impacts unclear at time of publication] "Four populations of an annual <i>Lathyrus</i> species new to Israel have been found since 1999. Three of these are located in the Coastal Plain, the fourth in the Judean Mountains. All grow in more-or-less disturbed habitats." ... "As noted, <i>L. clymenum</i> is already considered as a potential invasive species in Japan (Mito and Uesugi, 2004). However, the size of the Israeli populations, their restricted distribution, and the local persistence (e.g., of the Moza population) suggest that in Israel this species either does not behave as an aggressive invader or that it may be only at the beginning phase of an invasion process. However, in the years 2008 and 2009 we realized that the Moza population has indeed spread several kilometers eastward. Besides, the fact that we have no evidence for invasion of <i>L. clymenum</i> since the Middle Bronze Age, when it had such an opportunity, should be taken into consideration."

303	Agricultural/forestry/horticultural weed	
	Source(s)	Notes
	Randall, R.P. (2017). <i>A Global Compendium of Weeds</i> . 3rd Edition. Perth, Western Australia. R.P. Randall	"Weed of: Cereals" [Cites Taleb & Maillet (1994) which does not document negative impacts]
	Taleb, A., & Maillet, J. (1994). Mauvaises herbes des céréales de la Chaouia (Maroc). I. Aspect floristique. <i>Weed Research</i> , 34(5), 345-352	[<i>Lathyrus clymenum</i> listed as a weed of cereals, but no negative impacts have been documented] "An inventory of weeds of cereals in the Chaonia region of Morocco was made on the basis of 218 botanical surveys. A total of 315 species in 45 families were noted. Dicotyledons (87%) were predominant (mostly Asteraceae, Fabaceae, Brassicaceae and Apiaceae) and 77% of the species were therophytes. There was a high percentage (64%) of Mediterranean species and 5% endemics. The major weeds of the reguri were determined from the abundance and frequency of species. Geophytes (particularly <i>Convolvulus</i> spp., <i>Arisarum vulgare</i> and <i>Silene vulgaris</i>) were preponderant, although the traditional annual cereal weeds were most numerous owing to the lack of agricultural intensification."

304	Environmental weed	n
	Source(s)	Notes
	Mito, T. & Uesugi, T. (2004). <i>Invasive Alien Species in Japan: The Status Quo and the New Regulation for Prevention of their Adverse Effects</i> . <i>Global Environmental Research</i> 8(2): 171-191	"Table 1 Alien species recognized to be established in Japan or found in the Japanese wild (as of October 27, 2004)" [Includes <i>Lathyrus clymenum</i> with no description of negative impacts]
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	[A potential invasive species, but no evidence of environmental impacts identified] "As noted, <i>L. clymenum</i> is already considered as a potential invasive species in Japan (Mito and Uesugi, 2004). However, the size of the Israeli populations, their restricted distribution, and the local persistence (e.g., of the Moza population) suggest that in Israel this species either does not behave as an aggressive invader or that it may be only at the beginning phase of an invasion process."

Qsn #	Question	Answer
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[No evidence] "Weed of: Cereals References: Europe-A-94, Japan-N-287, western Europe-W-70, Spain-A-417, United Kingdom-UZ-314, Czech Republic-UZ-400, Canary Islands-N-305, Denmark-UC-711, Japan-N-794, Portugal-N-1006, Europe-N-819, Belgium-UD-1220, Japan-N-1278, Global-W-1324, Czech Republic-U-1522, Denmark-W-1609, Global-CD-1611, Azores-N-1721, Czech Republic-U-1731, Turkey-A-2101, Belgium-W-1977, Cyprus-W-1977, Czech Republic-W-1977, Denmark-W-1977, Japan-W-1977."

305	Congeneric weed	y
	Source(s)	Notes
	Queensland Government. (2022). Weeds of Australia. <i>Lathyrus latifolius</i> . https://keyserver.lucidcentral.org/weeds . [Accessed 24 Mar 2022]	"Perennial pea (<i>Lathyrus latifolius</i>) is regarded as an environmental weed in Victoria and on Lord Howe Island, and as an emerging or potential environmental weed in Tasmania and Western Australia. This species is cultivated as an ornamental and is mainly a weed of disturbed sites and areas around habitation (e.g. old settlements and roadsides). However, it has also invaded natural habitats and conservation areas in many parts of Australia. In Western Australia, perennial pea (<i>Lathyrus latifolius</i>) grows in open woodlands and damp depressions in the wetter south-west of the state, from Dwellingup to Pemberton. It has also been recorded in conservation areas in Victoria (e.g. Mount Eccles National Park and Mount Napier State Park) and South Australia (e.g. Cleland Conservation Park, Horsnell Gully Conservation Park, Scott Creek Conservation Park, Black Hill Conservation Park and Angove Conservation Park). On Lord Howe Island, perennial pea (<i>Lathyrus latifolius</i>) is listed as an invasive plant that is targeted for eradication. It also appears on some local environmental weed lists in southern Victoria (e.g. in Cardinia Shire and the Shire of Yarra Ranges)."
	Cal-IPC. (2022). <i>Lathyrus latifolius</i> . https://www.cal-ipc.org/plants/profile/lathyrus-latifolius-plant-profile/ . [Accessed 24 Mar 2022]	"Perennial sweet pea (<i>Lathyrus latifolius</i> ; Fabaceae) is an herbaceous perennial vine in the pea family that has a long history in horticulture as an ornamental. It has naturalized throughout the United States, in Australia, and beyond its historic native range, across northern Africa and southern Europe. In California, this species can create monocultures in natural areas, though it is primarily associated with ruderal (roadsides and disturbed) sites. Perennial sweet pea reproduces by seed but persists and spreads locally mostly by rhizomes (underground), making it difficult to control once established. Its leaves are alternate and pinnately divided and have winged petioles. Tendrils on leaves are branched and its stems are winged. Individual plants typically grow to 3-6'. Perennial sweet pea is toxic to livestock."

401	Produces spines, thorns or burrs	n
	Source(s)	Notes

Qsn #	Question	Answer
	Cretan Flora. (2022). <i>Lathyrus clymenum</i> . http://www.cretanflora.com/lathyrus_clymenum.html . [Accessed 28 Mar 2022]	"General description:- Medium to tall hairless annual. Stem:- 30-100 cm, winged. Leaves:- With broad leaf-like petiole and rachis, the lower linear-lanceolate, without leaflets, the upper with 2-4(-5) pairs of leaflets; leaflets 20-60(-80) ? (3-)6-11 (-20) mm, linear to elliptical or lanceolate; stipules 9-18 x 2-6 mm, linear to ovate, semi-hastate (with two ± triangular lobes pointed outwards). Flowers:- Racemes 1- to 5-flowered. Calyx-teeth equal, shorter than tube; corolla 15-20 mm, crimson with violet or lilac wings, very rarely pale yellow; style aristate. Fruit:- Legume 30-70 x 5-12 mm, brown, glabrous, channelled on the dorsal suture, not torulose. Seeds 5-7, smooth; hilum 1/7-1/6 of the circumference."

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. (2022). Personal Communication	Unknown. No evidence found

403	Parasitic	n
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	"Annual, stems bare, 30-100 cm high, procumbent or trailing, winged." [Fabaceae. No evidence]

404	Unpalatable to grazing animals	n
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A "revival" of an ancient species. Israel Journal of Plant Sciences, 57(1-2), 125-130	" <i>L. clymenum</i> has been known as a fodder crop in southern Europe (Uphof, 1968; Halstead and Jones, 1989)."
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	"seldom cultivated as legume and for fodder"

405	Toxic to animals	
	Source(s)	Notes

Qsn #	Question	Answer
	<p>Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum L.</i> in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i>, 57(1-2), 125-130</p>	<p>[Seeds may cause poisoning if consumed in large quantities] "Like many other legumes, the seeds are protein-rich and have considerable nutritional value. However, it is an uncommon pulse crop elsewhere since the seeds are toxic and may cause, in certain circumstances, a serious disease when eaten by man or domestic animals in large quantities, owing to the presence of a high concentration of α- amino-β-oxalylamino-propionic acid, found in several species of <i>Lathyrus</i>. This non-protein amino acid causes the classical lathyrism (Bell, 1971). For instance, during the 19th and the 20th centuries, <i>L. clymenum</i> was grown in the region of Salerno, southern Italy. Flour from its seeds was utilized in special dishes, or was mixed with wheat flour in various ratios for baking bread. During the 1870s, when its consumption was expanded due to food shortage in that region, many peasants exhibited irreversible difficulties in walking (Visco, 1924), which are typical symptoms of lathyrism."</p>

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	WRA Specialist. (2022). Personal Communication	Unknown

407	Causes allergies or is otherwise toxic to humans	
	Source(s)	Notes
	<p>Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum L.</i> in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i>, 57(1-2), 125-130</p>	<p>[Seeds may cause poisoning if consumed in large quantities] "Like many other legumes, the seeds are protein-rich and have considerable nutritional value. However, it is an uncommon pulse crop elsewhere since the seeds are toxic and may cause, in certain circumstances, a serious disease when eaten by man or domestic animals in large quantities, owing to the presence of a high concentration of α- amino-β-oxalylamino-propionic acid, found in several species of <i>Lathyrus</i>. This non-protein amino acid causes the classical lathyrism (Bell, 1971). For instance, during the 19th and the 20th centuries, <i>L. clymenum</i> was grown in the region of Salerno, southern Italy. Flour from its seeds was utilized in special dishes, or was mixed with wheat flour in various ratios for baking bread. During the 1870s, when its consumption was expanded due to food shortage in that region, many peasants exhibited irreversible difficulties in walking (Visco, 1924), which are typical symptoms of lathyrism."</p>

Qsn #	Question	Answer
408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A "revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	" <i>L. clymenum</i> is native to the Mediterranean islands and southern Europe (from central and northwest Anatolia to the Iberian Peninsula) and northern Africa (from northeast Libya to Morocco). Its natural habitats are mostly rocky cliffs, stony slopes, taluses, crannies, amongst maquis or phrygana vegetation (Jafri, 1980; Talavera et al., 1999)." [No evidence. An annual not reported to increase fire risk where native or cultivated]

409	Is a shade tolerant plant at some stage of its life cycle	
	Source(s)	Notes
	The National Gardening Association. (2022). <i>Lathyrus clymenum</i> . https://garden.org/plants/view/214318/Lathyrus-clymenum/ . [Accessed 28 Mar 2022]	"Sun Requirements: Full Sun"
	Consolino, F. & Banfi, E. (1994). <i>The Simon & Schuster Guide to Climbing Plants</i> . Simon and Schuster, New York	"Sunny position, in cool, well-drained soil."
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A "revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	"on garden irrigation drip-off in the shade of pine forest" [May be tolerant of some shade]

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Consolino, F. & Banfi, E. (1994). <i>The Simon & Schuster Guide to Climbing Plants</i> . Simon and Schuster, New York	"Sunny position, in cool, well-drained soil."
	JardineriaOn. (2022). <i>Pelailla (Lathyrus clymenum)</i> . https://www.jardineriaon.com/en/lathyrus-clymenum.html . [Accessed 28 Mar 2022]	[Translated from Spanish] "There is no particular substrate in which this type of plant does best. It resists different types of soils being able to develop for example in places with outcrops of rocky type. If the soil has cool and dry characteristics and the climate of the place where it can develop is not cold enough, it will grow without any inconvenience. They are very common on the edges of trails and roads."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). <i>Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region</i> . Springer, Dordrecht, The Netherlands	"Annual, stems bare, 30-100 cm high, procumbent or trailing, winged."

412	Forms dense thickets	n
	Source(s)	Notes
	Cretan Flora. (2022). <i>Lathyrus clymenum</i> . http://www.cretanflora.com/lathyrus_clymenum.html . [Accessed 28 Mar 2022]	"Habitat:- Open dry shrubby vegetation, olive groves, rocky places in gorges and margins of cultivated fields. 0-800(-1300) m." [No evidence]

Qsn #	Question	Answer
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	"Its natural habitats are mostly rocky cliffs, stony slopes, taluses, crannies, amongst maquis or phrygana vegetation (Jafri, 1980; Talavera et al., 1999)." [No evidence]

501	Aquatic	n
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	[Terrestrial] "Its natural habitats are mostly rocky cliffs, stony slopes, taluses, crannies, amongst maquis or phrygana vegetation (Jafri, 1980; Talavera et al., 1999)."

502	Grass	n
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2022). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 28 Mar 2022]	"Family: Fabaceae (alt. Leguminosae) Subfamily: Faboideae Tribe: Fabeae"

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	[Non-woody] "Annual, glabrous, stems procumbent, ascending or erect, 20-100 cm high, branched at base, narrowly winged."

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	"Annual, glabrous, stems procumbent, ascending or erect, 20-100 cm high, branched at base, narrowly winged."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Gardner, C. M. & Gardner, B. G. (2019). Flora of The Mediterranean with California, Chile, Australia & South Africa. An Illustrated Guide. Bloomsbury Publishing Plc, London	"Far more common, <i>L. clymenum</i> scrambles over shrubs and roadsides across the western Mediterranean Basin, these in northern Corsica in April."

Qsn #	Question	Answer
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	[No evidence] " <i>L. clymenum</i> is native to the Mediterranean islands and southern Europe (from central and northwest Anatolia to the Iberian Peninsula) and northern Africa (from northeast Libya to Morocco). Its natural habitats are mostly rocky cliffs, stony slopes, taluses, crannies, amongst maquis or phrygana vegetation (Jafri, 1980; Talavera et al., 1999). In other areas, such as the Azores, Madeira, and the Canary Islands, Lebanon–Syria, as well as in western Europe, it grows either as an introduced and cultivated, or as an escaped, feral, or weedy species (Ball, 1968; Davis, 1970; Greuter et al., 1989; Heller and Heyn, 1990). A noteworthy record is that from Japan where it is considered as a potential invasive species (Mito and Uesugi, 2004)."

602	Produces viable seed	y
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	"Preliminary germinability experiments, in Petri dishes, showed that germination of scarified seeds reached 100% (11 out of 11), whereas the germination of intact seeds was 4.6% (N = 11 ' 2, SE = 0.9)."
	Consolino, F. & Banfi, E. (1994). <i>The Simon & Schuster Guide to Climbing Plants</i> . Simon and Schuster, New York	"Propagation By seed (previously soaked in warm water) in spring or fall."

603	Hybridizes naturally	
	Source(s)	Notes
	Selim, A. R. A. A. (1961). <i>Cytogenetical and Embryo Culture Studies in the Genus Lathyrus with Special Reference to the Clymenum Group</i> . PhD Dissertation. The University of Manchester, United Kingdom	"Senn (1938) in an extensive interspecific and intergeneric crossing programme between 17 species of <i>Lathyrus</i> and <i>Pisum sativum</i> obtained only 10 pods from 485 pollinations. This emphasizes the difficulty of obtaining interspecific hybrids in the genus <i>Lathyrus</i> . These pods were formed either without seeds or containing badly shrunken seeds. Two of these pods were from crosses between <i>L. articulatus</i> and <i>L. clymenum</i> , another two between <i>L. ochrus</i> and <i>L. clymenum</i> and one between <i>L. latifolius</i> and <i>L. tingitanus</i> . The remainder of the crosses which formed immature pods, were between species not closely related taxonomically and he did not name: them." [Artificial hybrids may be possible, but may be rare or absent in nature]

Qsn #	Question	Answer
604	Self-compatible or apomictic	y
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A "revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	" <i>L. clymenum</i> features certain characteristics of a colonizer: Short life cycle, large biomass, self-pollination, high fertility and seed-set, phenotypic plasticity, as well as fitness to a wide range of habitats."
	Selim, A. R. A. A. (1961). Cytogenetical and Embryo Culture Studies in the Genus <i>Lathyrus</i> with Special Reference to the <i>Clymenum</i> Group. PhD Dissertation. The University of Manchester, United Kingdom	"The structure of the flowers in this group fits the description of Taubert (in Engler and Prantl, 1894), and makes the flower suitable for self-pollination when tripped by insects. The flowers are slightly protandrous and the pollen is usually found in contact with the stigmatic surface before: the flower is fully open. It seems that self-fertilisation is the usual process, but the flower structure would allow occasional cross-pollination and fertilisation by hymenopterous insects."

605	Requires specialist pollinators	n
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A "revival" of an ancient species. <i>Israel Journal of Plant Sciences</i> , 57(1-2), 125-130	" <i>L. clymenum</i> features certain characteristics of a colonizer: Short life cycle, large biomass, self-pollination, high fertility and seed-set, phenotypic plasticity, as well as fitness to a wide range of habitats."
	Bosch, J., Retana, J., & Cerdá, X. (1997). Flowering phenology, floral traits and pollinator composition in a herbaceous Mediterranean plant community. <i>Oecologia</i> , 109(4), 583-591	"The honey bee, <i>Apis mellifera</i> , was by far the most abundant flower visitor in April, during the flowering period of <i>L. latifolius</i> and <i>L. clymenum</i> (two abundant species producing large amounts of nectar, Table 2)."

606	Reproduction by vegetative fragmentation	n
	Source(s)	Notes
	Consolino, F. & Banfi, E. (1994). <i>The Simon & Schuster Guide to Climbing Plants</i> . Simon and Schuster, New York	"Propagation By seed (previously soaked in warm water) in spring or fall."
	The National Gardening Association. (2022). <i>Lathyrus clymenum</i> . https://garden.org/plants/view/214318/Lathyrus-clymenum/ . [Accessed 28 Mar 2022]	"Propagation: Seeds: Provide darkness Scarify seeds Sow in situ Start indoors Can handle transplanting"

607	Minimum generative time (years)	1
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). <i>Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region</i> . Springer, Dordrecht, The Netherlands	"Annual, glabrous, stems procumbent, ascending or erect, 20-100 cm high, branched at base, narrowly winged."
	Consolino, F. & Banfi, E. (1994). <i>The Simon & Schuster Guide to Climbing Plants</i> . Simon and Schuster, New York	"Description Annual herbaceous plant with slightly winged stems. Deciduous leaves, the lower ones reduced simply to a winged stalk, the upper ones with 3-4 pairs of straight leaflets, terminating in a branched tendril. Papilionaceous flowers with a red vexillum and violet-blue wings, solitary or in racemes of 2-6."

Qsn #	Question	Answer
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Dispersed by: Humans, Animals, Livestock, Sheep, Escapee"
	Gardner, C. M. & Gardner, B. G. (2019). Flora of The Mediterranean with California, Chile, Australia & South Africa. An Illustrated Guide. Bloomsbury Publishing Plc, London	"Far more common, <i>L. clymenum</i> scrambles over shrubs and roadsides across the western Mediterranean Basin, these in northern Corsica in April." [Possibly. Seeds lack means of external attachment, but may be moved along roads in soil adhering to footwear, vehicles or other equipment]

702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. Israel Journal of Plant Sciences, 57(1-2), 125-130	" <i>L. clymenum</i> has been known as a fodder crop in southern Europe (Uphof, 1968; Halstead and Jones, 1989). It has been occasionally and locally cultivated in the western Mediterranean countries, where its seeds are consumed by humans as a pulse. Likewise, it is grown for human consumption on the Cycladic Islands of Thera (Santorini) and Anafi, as well as the southern Aegean Island of Karpathos."

703	Propagules likely to disperse as a produce contaminant	y
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Major Pathway/s: Contaminant, Crop, Herbal, Ornamental, Pasture"
	Sarpaki, A., & Jones, G. (1990). Ancient and Modern Cultivation of <i>Lathyrus clymenum</i> L. in the Greek Islands. The Annual of the British School at Athens, 85, 363–368	"Morphologically similar seeds were encountered in a storage vessel of slightly later date at the Unexplored Mansion, Knossos, Crete. 10 In this case, however, they appeared to be a contaminant of another crop, 11 making up slightly less than 10% of the total sample." [Documented as an ancient seed contaminant]

704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	"Seeds ellipsoid, lateral compressed, hilum c. 2/3 of the seed length, 5-6.7 x 4.5-5.5 mm. Surface glabrous, pure or blackish spotted, dark-brown." [No evidence]

705	Propagules water dispersed	n
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A " revival" of an ancient species. Israel Journal of Plant Sciences, 57(1-2), 125-130	"Its natural habitats are mostly rocky cliffs, stony slopes, taluses, crannies, amongst maquis or phrygana vegetation (Jafri, 1980; Talavera et al., 1999)." [Not a riparian species]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Major Pathway/s: Contaminant, Crop, Herbal, Ornamental, Pasture Dispersed by: Humans, Animals, Livestock, Sheep, Escapee"

Qsn #	Question	Answer
	Cretan Flora. (2022). <i>Lathyrus clymenum</i> . http://www.cretanflora.com/lathyrus_clymenum.html . [Accessed 28 Mar 2022]	"Open dry shrubby vegetation, olive groves, rocky places in gorges and margins of cultivated fields" [Non-riparian]

706	Propagules bird dispersed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Major Pathway/s: Contaminant, Crop, Herbal, Ornamental, Pasture Dispersed by: Humans, Animals, Livestock, Sheep, Escapee"
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	"Seeds ellipsoid, lateral compressed, hilum c. 2/3 of the seed length, 5-6.7 x 4.5-5.5 mm. Surface glabrous, pure or blackish spotted, dark-brown." [Not fleshy fruited]

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Dispersed by: Humans, Animals, Livestock, Sheep, Escapee" [Possibly in soil adhering to animals, but seeds otherwise lack means of attachment]
	Bojňanský, V. & Fargašová, A. (2007). Atlas of Seeds and Fruits of Central and East-European Flora: The Carpathian Mountains Region. Springer, Dordrecht, The Netherlands	"Seeds ellipsoid, lateral compressed, hilum c. 2/3 of the seed length, 5-6.7 x 4.5-5.5 mm. Surface glabrous, pure or blackish spotted, dark-brown." [Relatively small, but lack means of external attachment]

708	Propagules survive passage through the gut	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Dispersed by: Humans, Animals, Livestock, Sheep, Escapee" [Possibly internally dispersed after consumption by browsing or grazing animals, but direct evidence has not been found]

801	Prolific seed production (>1000/m ²)	n
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A "revival" of an ancient species. Israel Journal of Plant Sciences, 57(1-2), 125-130	[Reported to have a high seed set, but seed densities in natural settings unknown] " <i>L. clymenum</i> features certain characteristics of a colonizer: Short life cycle, large biomass, self-pollination, high fertility and seed-set, phenotypic plasticity, as well as fitness to a wide range of habitats."

802	Evidence that a persistent propagule bank is formed (>1 yr)	n
	Source(s)	Notes
	Melamed, Y., Plitmann, U., Shmida, A., & Golan, O. (2009). <i>Lathyrus clymenum</i> L. in Israel: A "revival" of an ancient species. Israel Journal of Plant Sciences, 57(1-2), 125-130	"Its low germinability allows it to establish a large seed-bank in the soil, as well as to intermittently germinate in unpredictable conditions." [Probably yes. Longevity unknown]

803	Well controlled by herbicides	n

Qsn #	Question	Answer
	Source(s)	Notes
	WRA Specialist. (2022). Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	WRA Specialist. (2022). Personal Communication	Unknown

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. (2022). Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Grows in regions with temperate to subtropical climates
- Naturalized in the Azores
- A possible disturbance or agricultural weed
- Other *Lathyrus* species are invasive weeds
- Seeds may be toxic to animals and humans if consumed in large quantities
- Tolerates many soil types
- Reproduces by seeds
- Self-fertile
- Reaches maturity in <1 year
- Seeds dispersed by humans and livestock
- Seeds may form a persistent seed bank (longevity unknown)

Low Risk Traits

- A domesticated food and fodder crop
- Despite naturalization and reports of weedy forms, negative impacts have not been reported
- Unarmed (no spines, thorns, or burrs)
- Provides fodder for livestock (palatable despite reports of seed toxicity)
- Thrives in full sun and high light environments (dense shade may inhibit spread)
- Not reported to spread vegetatively

Second Screening Results for Herbs or Low Stature Shrubby Life Forms

(A) Reported as a weed of cultivated lands? Yes, although impacts have not been described

(B) Unpalatable to grazers or known to form dense stands? No

Outcome = Accept (Low Risk)