

Plant Propagation Protocol for *Astragalus australis*

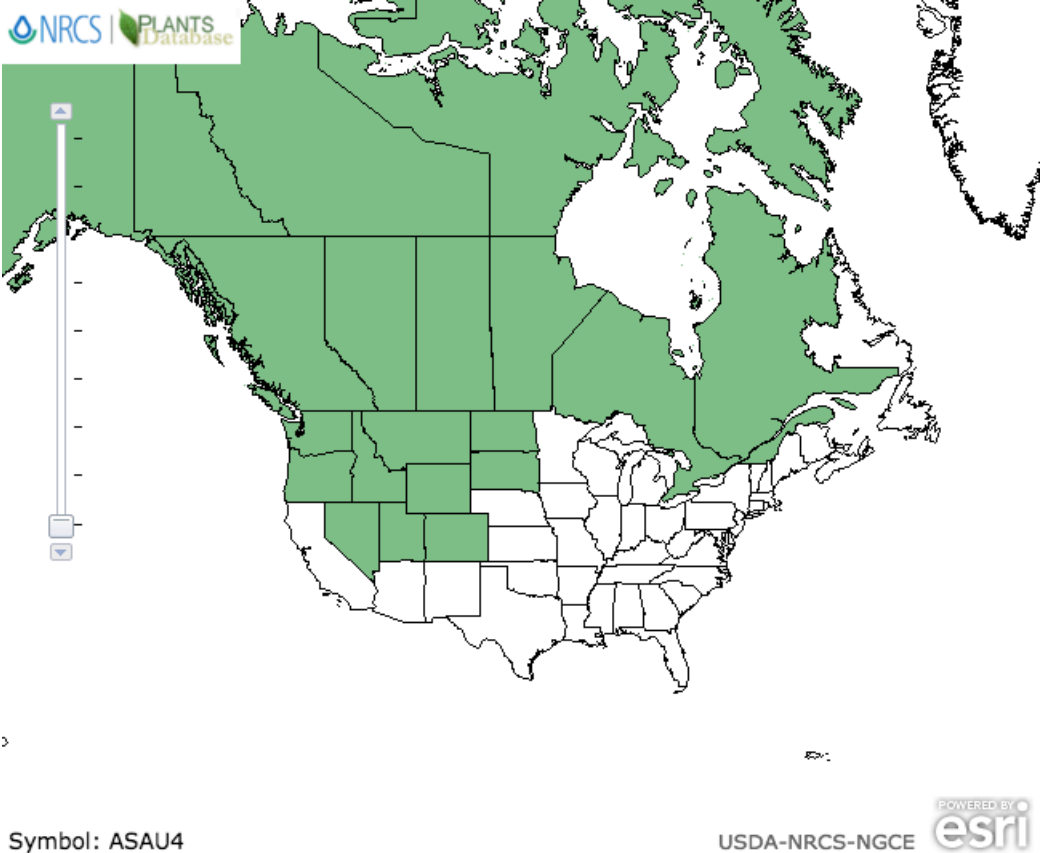
ESRM 412 – Native Plant Production

Protocol URL: [https://courses.washington.edu/esrm412/protocols/\[USDA Species Code\].pdf](https://courses.washington.edu/esrm412/protocols/[USDA Species Code].pdf)



TAXONOMY		
Plant Family		
Scientific Name	Fabaceae/Leguminosae ⁽¹⁾	
Common Name		
Species Scientific Name		
Scientific Name	Astragalus australis	
Varieties		
Sub-species		
Cultivar		
Common Synonym(s)	ASAB	<i>Astragalus aboriginorum</i> Richardson
	ASABF	<i>Astragalus aboriginorum</i> Richardson var. <i>fastigiorum</i> M.E. Jones
	ASABG	<i>Astragalus aboriginorum</i> Richardson var. <i>glabriusculus</i> (Hook.) Rydb.
	ASABL	<i>Astragalus aboriginorum</i> Richardson var. <i>lepagei</i> (Hultén) B. Boivin
	ASABR	<i>Astragalus aboriginorum</i> Richardson var. <i>richardsonii</i> (Sheldon) B. Boivin

	ASUAU2	<i>Astragalus australis</i> (L.) Lam. var. <i>aboriginorum</i> (Richardson) S.L. Welsh
	ASAUG	<i>Astragalus australis</i> (L.) Lam. var. <i>glabriusculus</i> (Hook.) Isely
	ASAUL	<i>Astragalus australis</i> (L.) Lam. var. <i>lepagei</i> (Hultén) S.L. Welsh
	ASAUM	<i>Astragalus australis</i> (L.) Lam. var. <i>major</i> (A. Gray) Isely
	ASAUM2	<i>Astragalus australis</i> (L.) Lam. var. <i>muriei</i> (Rydb.) S.L. Welsh
	ASFO5	<i>Astragalus forwoodii</i> S. Watson
	ASFOW	<i>Astragalus forwoodii</i> S. Watson var. <i>wallowensis</i> (Rydb.) M. Peck
	ASGLM	<i>Astragalus glabriusculus</i> (Hook.) A. Gray var. <i>major</i> A. Gray
	ASLI7	<i>Astragalus linearis</i> (Rydb.) A.E. Porsild
	ASRI4	<i>Astragalus richardsonii</i> Sheldon
	ASSC12	<i>Astragalus scrupulicola</i> Fernald & Weath.
	ATAB	<i>Atelophragma aboriginorum</i> (Richardson) Rydb.
	(1)	
Common Name(s)	Indian Milkvetch (1)	
Species Code (as per USDA Plants database)	ASAU4 (1)	
GENERAL INFORMATION		
Geographical range	North America, Europe, Northwest Asia (2)	

	 <p>Symbol: ASAU4</p> <p>USDA-NRCS-NGCE esri</p>
Ecological distribution	Prairies, mountain meadows, rocky slopes (2)
Climate and elevation range	800-3120 m (2)
Local habitat and abundance	<p>Prairies, mountain meadows, rocky slopes (2)</p> <p>High-elevation alpine zone on unstable talus or scree slopes, and ridges with a mostly southerly or westerly aspect; confined to gravelly to sandy soils rich in limestone. Associated vegetation is usually sparse, but may include juniper, white sagebrush, onion, spreading phlox, locoweed, Davidson's penstemon, and littleleaf pussy-toes. On steep slopes this species is probably subjected to sliding and downhill creep. There is probably considerable frost heaving of soils, which may keep other species from establishing, thereby reducing competition. (6)</p>
Plant strategy type / successional stage	
Plant characteristics	<p>Perennial herb with stems 10-40 cm tall, soft-haired from woody, yellow rootstock. Leaves alternate, pinnately, compound, 7-15 leaflets, linear or narrowly lanceolate, 1-3 cm long, 3-6 mm wide, often hairy on both surfaces. Inflorescence is a narrow raceme, elongating towards maturity to about 15 cm. Flowers white or yellowish white, 6-10 mm long, keel purplish, shorter than wings which are notched. Fruit is a legume, 15-25 cm long, flat, hairless, long-</p>

	stalked. (2)
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plant
Propagation Method	By seed: need to be scarified. A small percentage may germinate without stratification, but more germination occurs with 1 month of cold/moist treatment after scarification. (13)
Product Type	
Stock Type	
Time to Grow	Comes up late summer. (12)
Target Specifications	
Propagule Collection Instructions	Can be wild harvested. (12)
Propagule Processing/ Propagule	Use a series of screens and indent cleaner, series of wheels with different size indents to clean seed. Clean by size, weight and color. Gravity deck does by size and weight, sift seeds out, seeds that are lighter float to top. Use 500 different sizes of screens on clipper mill or rice roller. On rice roller seed will stick to burlap like material. Can also use vacuum with screen, put in a can with the screen on top, vacuum the fluff off. (12)
Pre-Planting Propagule Treatments	Need to be inoculated but not difficult to germinate. Use stratification cold treatment to help germinate. (11) Seed in flats, put through cold cycle, won't germinate til it's warm. (13)
Growing Area Preparation / Annual Practices for Perennial Crops	Prefer sunny situation on dry soil. Substrate should be sandy or gritty soil. Grow out in green house, increase on one acre plot. Has to always be warm to get them to grow. Use fertilizer. (13)
Establishment Phase Details	Got early germination on root heat, pulled them to tube though and they died. Do early propagation on heat, don't take them off heat. Direct seed and then transplant. (13)
Length of Establishment Phase	
Active Growth Phase	Don't usually grow, just do seed collection, tough one. Takes three years to grow from harvest seeding to finished plant. (12)
Length of Active Growth Phase	
Hardening	

Phase	
Length of Hardening Phase	
Harvesting, Storage and Shipping	
Length of Storage	
Guidelines for Outplanting / Performanc e on Typical Sites	
Other Comments	Plain tribes used yellow root of this plant as a vegetable. (2) Rare plant. (4)
INFORMATION SOURCES	
References	1. USDA Natural Resources Conservation Science http://plants.usda.gov/core/profile?symbol=asau4 2. Botany CZ http://botany.cz/en/astragalus-australis/ 3. Wildflower Center http://www.wildflower.org/plants/result.php?id_plant=ASAU4 4. Saskatchewan Wildflowers http://www.saskwildflower.ca/nat_Astragalus%20australis.html 5. ITIS Report http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=192372 6. DNR http://www1.dnr.wa.gov/nhp/refdesk/fguide/pdf/asauc.pdf 7. National Center for Biotechnical Information http://www.ncbi.nlm.nih.gov/pubmed/10487812 8. Missouri Botanical Garden https://www.missouribotanicalgarden.org/Portals/0/Shaw%20Nature%20Reserve/PDFs/horticulture/Propagation.pdf 9. Hortipedia http://en.hortipedia.com/wiki/Astragalus_australis#Cultivation 10. BioOne http://www.fs.fed.us/rm/boise/research/shrub/Links/2010papers/watrous cane2010.pdf
Other Sources Consulted	Interviews: 11. Kathy Hutton-Plants for the Wild-509-284-2848, September 2016

	<p>12. Kevin Miller, Rainier Seeds-1800-828-8873, September 2016</p> <p>13. Sandy, The Plant Works-541-786-5122, September 2016</p>
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Date Protocol Created or Updated	09/30/16