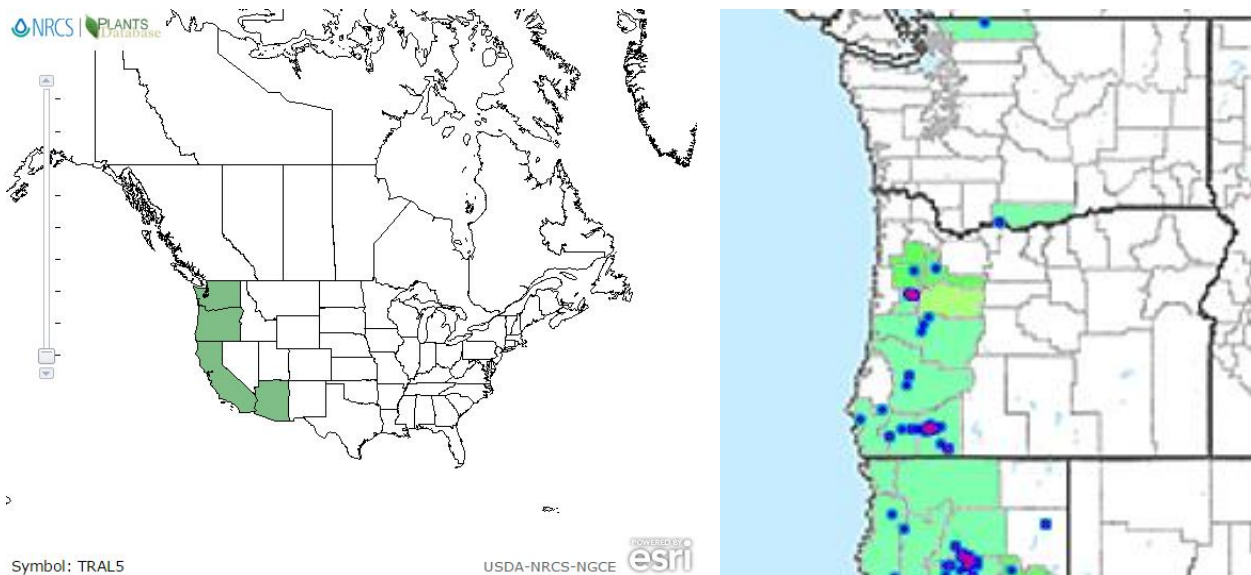


Plant Propagation Protocol for *Trifolium albopurpureum* (Rancheria Clover)
ESRM 412 – Native Plant Production
Protocol URL: <https://courses.washington.edu/esrm412/protocols/TRAL5.pdf>



Above: *Trifolium albopurpureum*. ["*Trifolium Albopurpureum* (rancheria Clover)."] *Trifolium Albopurpureum* Details - Forestventure.com. N.p., n.d. Web. 26 Apr. 2017.]



Left: Native distribution of *Trifolium albopurpureum* in the United States [1].

Right: Pacific Northwest distribution of *Trifolium albopurpureum*. Blue dots indicate sites where the species has been identified, red are hotspots. A county marked in the darker green indicates where a herbarium has labeled as a place in which one could find this clover species [7].

TAXONOMY	
Plant Family	
Scientific Name	Fabaceae
Common Name	Legume family
Species Scientific Name	
Scientific Name	<i>Trifolium albopurpureum</i> Torr. & A. Gray
Varieties	TRALA 2: <i>Trifolium albopurpureum</i> Torr. & A. Gray var. <i>albopurpureum</i> TRALN: <i>Trifolium albopurpureum</i> Torr. & A. Gray var. <i>neolagopus</i> (Loja.) McDermott [1].
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	The USDA plant database recognizes these synonyms: TRALA 2: <i>Trifolium albopurpureum</i> Torr. & A. Gray var. <i>albopurpureum</i> TRALN: <i>Trifolium albopurpureum</i> Torr. & A. Gray var. <i>neolagopus</i> (Loja.) McDermott TRCO10: <i>Trifolium columbianum</i> Greene TRCOA: <i>Trifolium columbianum</i> Greene var. <i>argillorum</i> Jeps. TRHE2: <i>Trifolium helleri</i> Kennedy TRMAA2: <i>Trifolium macraei</i> Hook. & Arn. var. <i>albopurpureum</i> (Torr. & A. Gray) Greene TRNE4: <i>Trifolium neolagopus</i> Loja. TROLG: <i>Trifolium olivaceum</i> Greene var. <i>columbianum</i> (Greene) Jeps. TROLG: <i>Trifolium olivaceum</i> Greene var. <i>griseum</i> Jeps. TRPE14: <i>Trifolium petrophilum</i> Greene ex A. Heller [1].
Common Name(s)	Rancheria Clover
Species Code (as per USDA Plants database)	TRAL5
GENERAL INFORMATION	
Geographical range	*See maps on first page
Ecological distribution	This species can likely be found in habitats including open grass meadows, chaparral, oak/pine woodland, in some lower mixed conifer zones [2], as well as at coastal dunes [3]. *The U.S. Fish and Wildlife Service labels <i>Trifolium albopurpureum</i> as a species which sometimes occurs in wetland ecosystems, though wetlands are not their primary ecosystem [1].

Climate and elevation range	Found in damp or semi-dry climates. Elevation Range: 500 – 1450 m [2].
Local habitat and abundance	This species has been identified in Whatcom County and Klickitat County, WA. One would have to go to western Oregon to find it in greater abundance. It can be found in bloom from March to June [7].
Plant strategy type / successional stage	Most clover species are early stage colonizers, they favor open environments, and have the potential to become weedy in non-native ecosystems. [2]
Plant characteristics	This species is an annual forb (herbaceous plant) [1]. The whole plant is pubescent, especially the inflorescence. Stems are decumbent to erect. Inflorescence is in the shape of spikes, ovate to short-cylindrical. Flowers are all partially purple and partially white. Flowers from March to June. This is a dicotyledonous plant. Leaves are cauline with small stipules, Leaflets are 1-3 cm and often appear oblanceolate to obovate. [5]

PROPAGATION DETAILS

Ecotype	N/A
Propagation Goal	Seeding through plug containers.
Propagation Method	Seed
Product Type	Bareroot (Field Grown)
Stock Type	N/A
Time to Grow	Seeding should occur in late summer in the field. They will begin to grow after the subsequent winter.
Target Specifications	This plant is an annual and at full maturity in the field established species should have; Ascending stems reaching 10-40 cm long. Leaflets 1-3 cm long. Inflorescence 5-20mm wide. Calyx 3-4mm long. Corolla 8-9 mm long [2].
Propagule Collection Instructions	Seeds can be collected from local habitats where this species natively is grown or can be purchased from a nursery supplying the seeds.
Propagule Processing/Propagule Characteristics	N/A
Pre-Planting Propagule Treatments	Cleaning to increase the purity and viability of the seeds should be done before planting. Some <i>Trifolium spp.</i> can

	be rubbed between sandpaper to aid germination rates [8].
Growing Area Preparation / Annual Practices for Perennial Crops	Seeds should be sown on a firm surface and pressed into the soil. Soils should be well-drained and have some nutrients. It is possible to sow seeds into a grass field [8].
Establishment Phase Details	Seeding of <i>Trifolium spp.</i> can occur in late summer and will begin germination after the subsequent winter [8].
Length of Establishment Phase	N/A
Active Growth Phase	Spring to Autumn [8].
Length of Active Growth Phase	One season, as this species is an annual.
Hardening Phase	N/A
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	N/A
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	According to the National Trust Book of Wild Flower Gardening, other <i>Trifolium spp.</i> are easy to grow given the right conditions [8].
Other Comments	Propagation information of <i>Trifolium albopurpureum</i> was scarce and information on related <i>Trifolium</i> species was used. Each plant provides two seeds [5]. Being a less common plant, seed collection should be done sparingly since each seed is 50% of an individual plant's yield.

INFORMATION SOURCES

References	<p>[1] USDA. (n.d.). Plants Profile for <i>Trifolium albopurpureum</i>. Retrieved April 24, 2017, from https://plants.usda.gov/core/profile?symbol=tra15</p> <p>[2] Botti, Stephen J. <i>An Illustrated Flora of Yosemite National Park</i>. El Portal, CA: Yosemite Association, 2001. Print.</p> <p>[3] Baldwin, Bruce G., and Douglas H. Goldman. <i>The Jepson Manual: Vascular Plants of California</i>.</p> <p>[4] Jepson, Willis Linn. <i>A Manual of the Flowering Plants of California</i>. Berkeley, Cal.: Sather Gate hop, 1925. Print.</p> <p>[5] Baldwin, Bruce G., and Douglas H. Goldman. <i>The Jepson Manual: Vascular Plants of California</i>. Berkeley, CA: U of California, 2012. Print.</p> <p>[6] Schultes, Richard Evans, and Siri Von Reis. <i>Ethnobotany: Evolution of a Discipline</i>. Portland: Dioscorides, 1995. Print.</p> <p>[7] <i>Trifolium Albopurpureum</i> <i>Rancheria Clover</i>. N.p., n.d. Web. 26 Apr. 2017. <http://www.wildflowersearch.com/search?&tsn=26209>.</p>
------------	---

	[8] Stevens, John. <i>The National Trust Book of Wild Flower Gardening</i> . London: Dorling Kindersley, 1987. Print.
Other Sources Consulted	<p>[9] Hartmann, Hudson T., Dale E. Kester, Robert Geneve, and Fred T. Davies, Jr. <i>Hartmann & Kester's Plant Propagation Principles and Practices</i>. 8th ed. Upper Saddle River: Pearson Prentice Hall, 2011. Print.</p> <p>[10] Taylor, Kathryn S., and Stephen F. Hamblin. <i>Handbook of Wild Flower Cultivation</i>. Toronto: Macmillan, 1963. Print.</p> <p>[11] Toogood, Alan R. <i>Plant Propagation: The Fully Illustrated Plant by Plant Manual of Practical Techniques</i>. New York: DK Pub., 1999. Print.</p> <p>[12] Hultén, Eric. <i>Flora of Alaska and Yukon</i>. Lund: Gleerup, 1949. Print.</p> <p>[13] Robson, Kathleen A., Alice Richter, and Marianne Filbert. <i>Encyclopedia of Northwest Native Plants for Gardens and Landscapes</i>. Portland, Or. Timber, 2008. Print.</p> <p>[14] Lowry, Judith Larner. <i>Gardening With A Wild Heart: Restoring California's Native Landscapes At Home</i>. Berkeley: U of California, 2007. Print.</p>
Protocol Author	Alec Roseto
Date Protocol Created or Updated	04/26/17