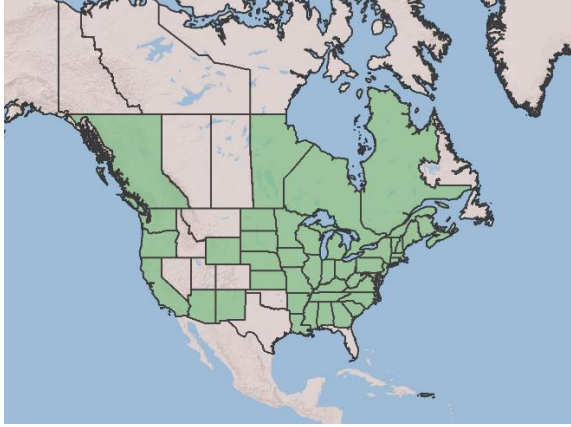
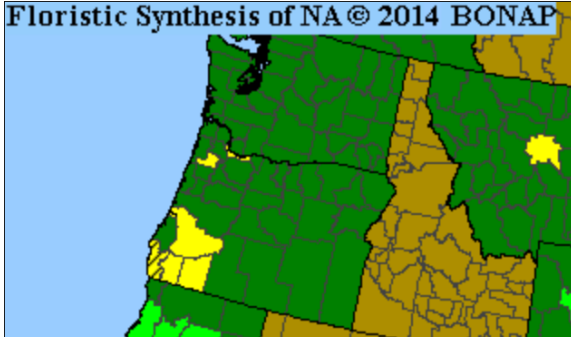



Plant Propagation Protocol for *Agrimonia gryposepala*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2021/AGGR2.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Rosaceae
Common Name	Rose family
Species Scientific Name	
Scientific Name	<i>Agrimonia gryposepala</i> Wallroth
Varieties	<i>Agrimonia parviflora</i> var. <i>macrocarpa</i> Focke [3] <i>Agrimonia eupatoria</i> var. <i>parviflora</i> Hook. [3]
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	<i>Agrimonia macrocarpa</i> (Focke) Rydb. [3]
Common Name(s)	common agrimony, hooked agrimony, tall hairy grooveburr [6]
Species Code (as per USDA Plants database)	AGGR2
GENERAL INFORMATION	
Geographical range	 <p><i>Agrimonia gryposepala</i> present in areas highlighted green.[5]</p> 

	High concentrations of <i>Agrimonia gryposepala</i> in dark green areas, lighter concentrations in light green areas. No recorded <i>Agrimonia gryposepala</i> in yellow regions [5].
Ecological distribution	Flourishes in pine and deciduous forests, thickets, meadows, and swamps. Often found in areas with a history of disturbance [10].
Climate and elevation range	Prefers loamy or sandy soils. Requires 19"-77" of annual precipitation. Often grows in areas of high elevation (758"-7419") [11].
Local habitat and abundance	Most frequent in wet areas of high elevation [2]. Commonly found in moderately moist environments with rich soil.
Plant strategy type / successional stage	Stress-tolerator, seral, late successional [9].
Plant characteristics	<p>Forb/herb. Perennial, blooms from June to August. Clusters of yellow flowers are followed by burry fruits. These "hooked" burrs aid seed dispersal. Each fruit has 1-2 seeds [4]. The root system is rhizomatous [10]. Roots are sometimes used medicinally as a gastrointestinal aid [7].</p>  <p>[12]</p>
PROPAGATION DETAILS	
Ecotype	N/A
Propagation Goal	Plants, Seeds
Propagation Method	Seed
Product Type	Container: plug
Stock Type	
Time to Grow	4 months [5]
Target Specifications	Plants ready for outplanting should be 25-35 inches and should have a well-established root system.
Propagule Collection Instructions	Ripe fruits can be collected from plants from late August to early September [12].
Propagule Processing/Propagule Characteristics	Seeds should be separated from fruit and cleaned/sanitized. Seeds are small and thus have a high density (250,000 seeds per pound) [5].

Pre-Planting Propagule Treatments	Seeds must be cleaned and treated with sanitized solution. From there, they should be stratified at 1°C for 3-6 months in moist conditions [9].
Growing Area Preparation / Annual Practices for Perennial Crops	<i>Agrimonia gryposepala</i> grows best in loamy soil with a high moisture content [11]. Containers should be long and narrow so roots can properly establish and spread.
Establishment Phase Details	Plants should be kept in moist conditions and should be in partial shade [5]. These conditions will allow for rapid stem growth and root establishment.
Length of Establishment Phase	10-14 days
Active Growth Phase	Plants actively grow in moderate and moist conditions. Their stems will rapidly increase in height and their root system will become better established.
Length of Active Growth Phase	13-15 weeks, usually until late spring [5].
Hardening Phase	Hardening occurs from late spring to the end of the season (September/October). Their stems will increase in diameter, preparing them for cooler temperatures and winter dormancy.
Length of Hardening Phase	4-5 months depending on outplanting date [8].
Harvesting, Storage and Shipping	Seedlings should be carefully packed for shipping. It is crucial that the soil is very moist as <i>Agrimonia gryposepala</i> are not drought tolerant [5]. Seedlings can be stored in cool, moist conditions for up to 14 days.
Length of Storage	Seedlings can be stored for a maximum of 14 days. Past that their survival rate will drop significantly [1].
Guidelines for Outplanting / Performance on Typical Sites	<i>Agrimonia gryposepala</i> begins flowering in June and begins bearing fruit in July [8]. Can grow up to 5.9 feet in length [5].
Other Comments	N/A

INFORMATION SOURCES

References	<p>[1] “<i>Agrimonia Gryposepala</i>.” <i>Encyclopedia of Puget Sound</i>, Puget Sound Institute, https://www.eopugetsound.org/species/agrimonia-gryposepala. Web. Accessed 4 May 2021.</p> <p>[2] “<i>Agrimonia Gryposepala</i>.” <i>Flora of North America Vol. 9</i>, http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242416026. Web. Accessed 4 May 2021.</p> <p>[3] “<i>Agrimonia Gryposepala</i>.” <i>ITIS Standard Report Page</i>, https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=25095#null. Web. Accessed 4 May 2021.</p>
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	<p>[4] “Agrimonia Gryposepala (Tall Hairy Agrimony)”, <i>Minnesota Wildflowers</i>, https://www.minnesotawildflowers.info/flower/tall-hairy-agrimony. Web. Accessed 4 May 2021.</p> <p>[5] “Agrimonia Gryposepala Wallr.”, <i>USDA</i>, https://plants.usda.gov/home/plantProfile?symbol=AGGR2Web. Accessed 4 May 2021.</p> <p>[6] Dyck, Barbara S. “Agrimonia Gryposepala.” <i>NatureServe Explorer 2.0</i>, 7 Jan. 2000, https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.135223/Agrimonia_gryposepalaWeb. Accessed 4 May 2021.</p> <p>[7] <i>Iroquois Medical Botany</i>, by James W. Herrick, Univ. Press, 1998, p. 161.</p> <p>[8] “Online Conservation Guide for <i>Agrimonia rostellata</i>.” <i>New York Natural Heritage Program</i>, https://guides.nynhp.org/woodland-agrimony/. Web. Accessed May 4, 2021.</p> <p>[9] “Rosaceae”, <i>Genesis Nursery - Rosaceae</i>, 4 May 2015, http://www.genesisnurseryinc.com/UP%20UR%20C/C11%20byanyothername.pdf. Web. Accessed 4 May 2021.</p> <p>[10] “Tall Agrimony (Agrimonia Gryposepala)”, <i>Illinois Wildflowers</i>, https://www.illinoiswildflowers.info/savanna/plants/tall_agrimony.html#:~:text=Tall%20Agrimony%20(Agrimonia%20gryposepala)&text=Description%3A%20This%20is%20a%20herbaceous,moderately%20covered%20with%20spreading%20hairs. Web. Accessed 4 May 2021.</p> <p>[11] Taylor, Dean Wm. “Common Agrimony, Agrimonia Gryposepala.” <i>California Native Plant Society</i>, 2006, https://calscape.org/Agrimonia-gryposepala-(). Web. Accessed 4 May 2021.</p> <p>[12] TWC Staff. “Agrimonia Gryposepala.” <i>Lady Bird Johnson Wildflower Center - The University of Texas at Austin</i>, 18 Sept. 2012, https://www.wildflower.org/plants/result.php?id_plant=AGGR2. Web. Accessed 4 May 2021.</p>
Other Sources Consulted	N/A
Protocol Author	Megan Beik
Date Protocol Created or Updated	(05/04/2021)