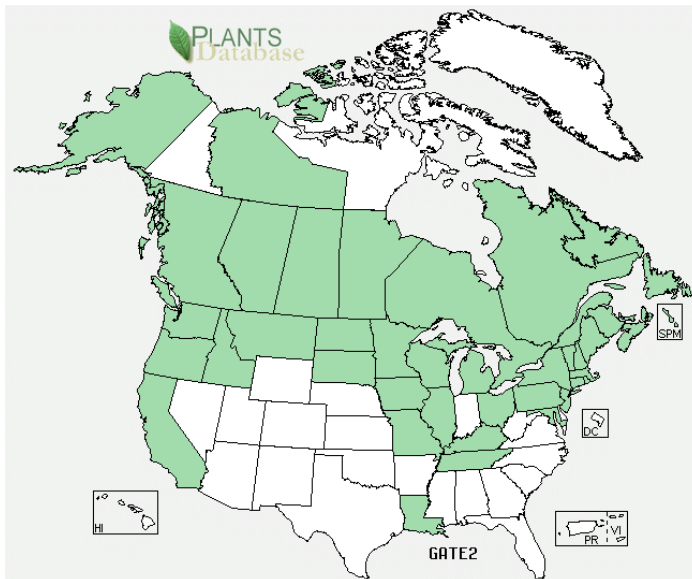


**Plant Propagation Protocol for *Galeopsis tetrahit***  
ESRM 412 – Native Plant Production

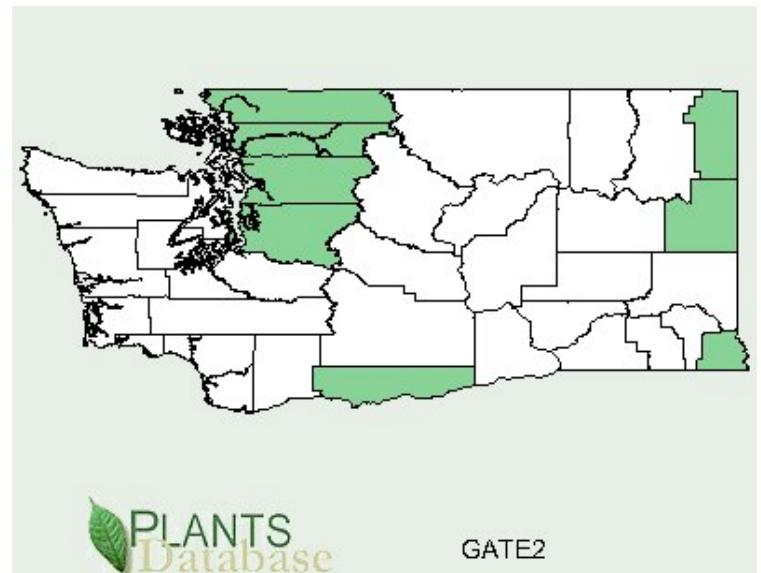


source: [www.missouriplants.com](http://www.missouriplants.com) (see reference below)

North America Distribution



Washington State Distribution



Source: USDA PLANTS Database

TAXONOMY	
Family Names	
Family Scientific Name:	Lamiaceae
Family Common Name:	Mint family
Scientific Names	
Genus:	<i>Galeopsis</i>

Species:	<i>tetrahit</i>
Species Authority:	Linnaeus
Variety:	Varieties: tetrahit; arvensis
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym:	None
Common Name:	common hempnettle, brittlestem hempnettle
Species Code:	GATE2
<b>GENERAL INFORMATION</b>	
Geographical range:	Northern continental United States and Canada (Sagebud), Europe and temperate regions of Asia (O'Donovan and Sharma). See distribution maps above.
Ecological distribution:	Prefers well-watered, nutrient-rich soils, doing especially well in cultivated fields as a weed (O'Donovan and Sharma).
Climate and elevation range:	Grows over a wide temperature range, but requires constant moisture (O'Donovan and Sharma).
Local habitat and abundance; may include commonly associated species	Frequently found in association with <i>Polygonum convolvulus</i> L., <i>Polygonum lapathifolium</i> L., <i>Thlaspia arvense</i> L., <i>Stellaria media</i> (L.) Vill., <i>Capsella bursa-pastoris</i> (L.) Medic., <i>Fagopyrum tataricum</i> (L.) Gaertn., <i>Chenopodium album</i> L., <i>Taraxacum officinale</i> Weber, <i>Cirsium arvense</i> (L.) Scop. and <i>Avena fatua</i> L. (O'Donovan and Sharma).
Plant strategy type / successional stage:	Weedy/colonizer (PLANTS).
Plant characteristics:	Forb, annual. Largely self-fertilizing (O'Donovan and Sharma).
<b>PROPAGATION DETAILS</b>	
Propagation Goal:	Seeds
Propagation Method:	By seed; vegetative propagation of <i>Galeopsis</i> not possible (Andreasen <i>et al.</i> )
Product Type:	Seeds
Stock Type:	Not found
Time to Grow:	Not found
Target Specifications:	Mature plants are 20-80 cm in height (UAA).
Propagule Collection (how, when, etc):	Seeds at maturity should be collected, manually or mechanically, from plants before wind causes seed dispersal (O'Donovan and Sharma).
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):	Averages 387 seeds per plant when grown at 23/15°C day/night temperatures with a 16-hr photoperiod (O'Donovan and Sharma). Seeds remain viable <5 years (Conn <i>et al.</i> )

Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	Removal of seed coat and endosperm stimulates germination; seeds germinate more readily at lower temperatures, with an optimum temperature of 13°C (O'Donovan and Sharma).
Growing Area Preparation / Annual Practices for Perennial Crops:	Not found
Establishment Phase (from seeding to germination):	Not found
Length of Establishment Phase:	Not found
Active Growth Phase (from germination until plants are no longer actively growing):	Not found; flowers June to September in most regions (ct-botanical-society.org)
Length of Active Growth Phase:	Not found
Hardening Phase (from end of active growth phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter):	Not found
Length of Hardening Phase:	Not found
Harvesting, Storage and Shipping:	Seed dispersal naturally occurs by wind or water, so care should be taken in harvesting seeds not to lose seeds.
Length of Storage (of seedlings, between nursery and outplanting):	<5 years maximum storage of seeds (Conn <i>et al.</i> )
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	Not found
Other Comments:	Considered a noxious weed in 46 states (PLANTS).
<b>INFORMATION SOURCES</b>	
References:	<p>O'Donovan JT and Sharma MP (1987) The biology of Canadian weeds. 78. <i>Galeopsis tetrahit</i> L.</p> <p>Connecticut Botanical Society (2005) Hemp-nettle (<i>Galeopsis tetrahit</i>). (<a href="http://www.ct-botanical-society.org/galleries/galeopsistetr.html">http://www.ct-botanical-society.org/galleries/galeopsistetr.html</a>).</p> <p>Andreasen C, Hansen CH, Møller C, Kjær-Pedersen N (2002) Regrowth of Weed Species after Cutting. <i>Weed Technology</i> 16:4 873-9.  <a href="http://www.bioone.org/doi/full/10.1614/0890-037X%282002%29016%5B0873%3AROWSAC%5D2.0.CO%3B2">http://www.bioone.org/doi/full/10.1614/0890-037X%282002%29016%5B0873%3AROWSAC%5D2.0.CO%3B2</a></p> <p>Conn JS, Beattie KL, Blanchard A (2006) Seed</p>

	<p>viability and dormancy of 17 weed species after 19.7 years of burial in Alaska. <i>Weed Science</i> 54:3 464-70.  <a href="http://www.bioone.org/doi/full/10.1614/WS-05-161R.1">http://www.bioone.org/doi/full/10.1614/WS-05-161R.1</a></p> <p>PLANTS Profile: <i>Galeopsis tetrahit</i> L. United States Department of Agriculture Natural Resources Conservation Service.  <a href="http://plants.usda.gov/java/profile?symbol=GATE2">http://plants.usda.gov/java/profile?symbol=GATE2</a></p> <p>Sagebud: A Directory of Plants: “Brittlestem Hempnettle (<i>Galeopsis Tetrahit</i>)” (2011).  <a href="http://plants.usda.gov/java/profile?symbol=GATE2">http://plants.usda.gov/java/profile?symbol=GATE2</a></p> <p>UAA Alaska Natural Heritage Program (2011) “Splitlip hempnettle (<i>Galeopsis bifida</i> Boenn.), brittlestem hempnettle (<i>Galeopsis tetrahit</i> L.).”  <a href="http://aknhp.uaa.alaska.edu/services/AKNHP.cfc?method=downloadDocumentByUsdaCode&amp;documentType=species_bio&amp;usdaCode=GABI3">http://aknhp.uaa.alaska.edu/services/AKNHP.cfc?method=downloadDocumentByUsdaCode&amp;documentType=species_bio&amp;usdaCode=GABI3</a></p>
Other Sources Consulted:	<p><a href="http://www.missouriplants.com/Whiteopp/Galeopsis_tetrahit_page.html">http://www.missouriplants.com/Whiteopp/Galeopsis_tetrahit_page.html</a></p> <p><a href="http://www.plant-identification.co.uk/skye/labiateae/galeopsis-tetrahit.htm">http://www.plant-identification.co.uk/skye/labiateae/galeopsis-tetrahit.htm</a></p>
Protocol Author:	Zachary McCauley
Date Protocol Created or Updated:	05/18/2011

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