

Plant Propagation Protocol for *Zizia aptera*

ESRM 412 – Native Plant Production

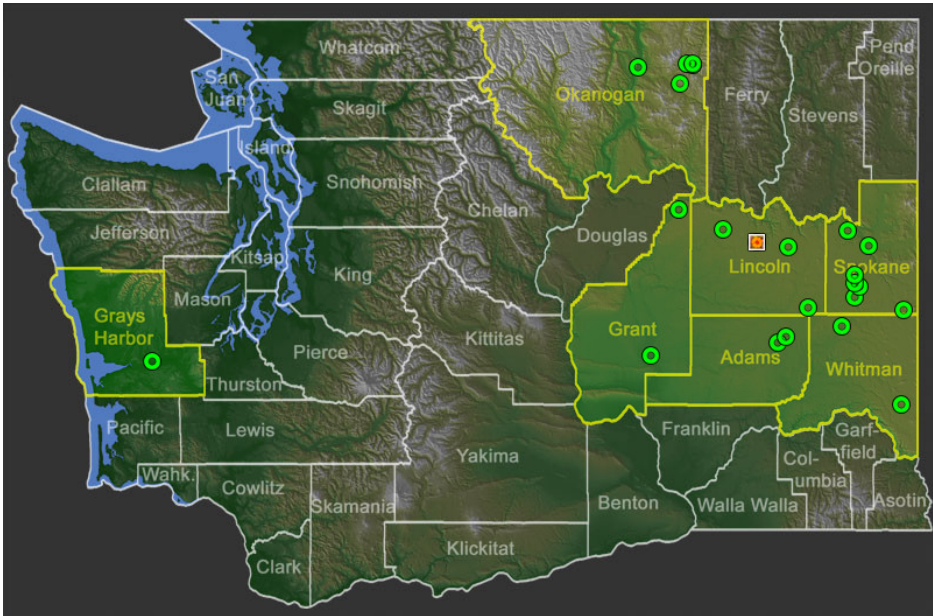
Protocol URL: <https://courses.washington.edu/esrm412/protocols/2024/ZIAP.pdf>

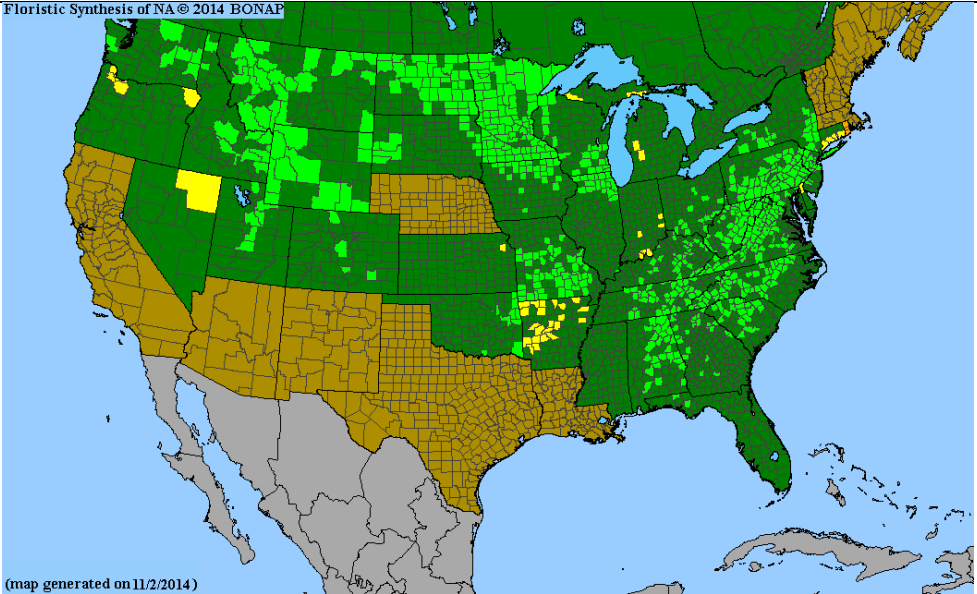


[7] Althen. Craig (Burke)

TAXONOMY

Plant Family	
Scientific Name	Apiaceae Lindl [1]
Common Name	Carrot Family [1]
Species Scientific Name	
Scientific Name	<i>Zizia aptera</i> (A. Gray) Fernald [1]
Varieties	No recognizes varieties
Sub-species	No recognized sub-species
Cultivar	No recognized cultivar
Common Synonym(s)	<i>Zizia aptera</i> var. <i>occidentalis</i> , <i>Zizia cordata</i> [2]

Common Name(s)	Heart-leaved meadow parsnip, heartleaf meadow parsnip, meadow parsnip, heartleaf alexanders, meadow zizia, zizia [2]
Species Code (as per USDA Plants database)	ZIAP
GENERAL INFORMATION	
Geographical range	<p>Southern Canada and most of North America [1]</p>  <p>[7] Map of <i>Zizia aptera</i> distribution in Washington (Burke)</p>

	<p>Floristic Synthesis of NA © 2014 BONAP</p>  <p>(map generated on 11/2/2014)</p> <p>[8] Distribution map of <i>Zizia aptera</i> across the US. Green representing presence of the plant (bonap.net)</p>
Ecological distribution	Floodplain, forest edges, forests, woodlands [4]
Climate and elevation range	Prefers wet and moist climates and lower elevations. Typically, around meadows and streams. [7]
Local habitat and abundance	Moist prairies and open woods [2]
Plant strategy type / successional stage	Mid-successional plant [7]
Plant characteristics	A perennial herb/forb [1] that has heart-shaped basal leaves. It produces tiny yellow flowers that collect in clusters that gather into large flat-topped flower heads. The plant grows to be 1-3 feet tall. It can either occur in clumps or singular. [2]
PROPAGATION DETAILS: FROM SEED	
Ecotype	Central Illinois, 650 ft msl elevation [4] (Based on <i>Ziza aurea</i> as they are closely related and only differ in <i>Zizia aptera</i> preferring moister sites [7])
Propagation Goal	Plants [3][4]
Propagation Method	Seed [3][4]
Product Type	Container (plug) [3] Bareroot (field grown) [4]

Stock Type	1+0 bareroot [4]
Time to Grow	12 months [4]
Target Specifications	A herbaceous perennial with a healthy bareroot system in order to be grown as a field crop. [4] No information on size
Propagule Collection Instructions	The seeds will be collected from nursery stock by hand. Seeds are harvested around August 10 and the seeds to plant will be taken from around April 20 to June 10. [4]
Propagule Processing/Propagule Characteristics	Morpho-physiological dormancy is exhibited by the seeds [3] To end up with an 87% purity of seeds with around 10,526 seeds per ounce, the Golden Alexander seeds are harvested green and stored dry in bags. Upon being dry they will go through the cleaning process of being run through the Dvbig and over the Clipper of a top screen around 8 and a bottom screen around 1/20. [4]
Pre-Planting Propagule Treatments	Stratify seeds for 150 days in cold moist conditions. [3] Plant seeds in fall, but if cannot be planted in fall the seeds should be stored in cold storage around 34-36°F. Will not be damp stratified due to issues with clumping when they are being drilled. [4]
Growing Area Preparation / Annual Practices for Perennial Crops	Grown in beds. Will be propagated with field grown seeds being drilled in 3 to 4 feet wide raised beds with sandy loam. [4]
Establishment Phase Details	Information not found
Length of Establishment Phase	Information not found
Active Growth Phase	Field grown plants are top dressed once in May and once in June and fertilizer is irrigated after trop dressing. Depending on weather it will be irrigated once to twice a week for one to two hours. [4]
Length of Active Growth Phase (4 months [4]
Hardening Phase	Reduce irrigation so that vegetative growth will slow for fall [4]
Length of Hardening Phase	1 month for hardening phase [4]
Harvesting, Storage and Shipping	Harvest field grown plants in late September to early November. Can also be harvested again in Spring if needed. Once top growth has died down the plant can be mowed to a manageable size. Prior to harvest plants will be undercut to 7-12inches. Roots should be misted to keep moist during culling and grading. [4]

	Store in cool dry above freezing conditions. Roots should not dry out and everything should be stored for around 4-6 months. [4]
Length of Storage	4 to 6 months in storage [4]
Guidelines for Outplanting / Performance on Typical Sites	Information not found
Other Comments	Some information for propagation details did come from sources on <i>Zizia aurea</i> since they are closely related to <i>Zizia aptera</i> and their only differences are in <i>Zizia aurea</i> s differing leaf shape and preferences for drier areas whereas <i>Zizia aptera</i> prefers moister areas.
INFORMATION SOURCES	
References	<p>[1] USDA plants database. (n.d.). https://plants.usda.gov/home/plantProfile?symbol=ZIAP</p> <p>[2] Plant database. Lady Bird Johnson Wildflower Center - The University of Texas at Austin. (n.d.). https://www.wildflower.org/plants/result.php?id_plant=ZIAP</p> <p>[3] Native Plant Network — reforestation, nurseries and genetics resources. (n.d.). https://npn.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=apiaceae-zizia-1816</p> <p>[4] Native Plant Network — reforestation, nurseries and genetics resources. (n.d.). https://npn.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=apiaceae-zizia-291</p> <p>[5] <i>Zizia aptera</i> - heart-leaved Golden Alexanders. Native Plant Trust: Go Botany. (n.d.-a). https://gobotany.nativeplanttrust.org/species/zizia/aptera/</p> <p>[6] Farnsworth, E. J. (2003). <i>Zizia aptera</i> (Gray) Fern. Heart-leaved Golden Alexanders. New England Plant Conservation Program, 1–37. https://doi.org/https://newfs-society.s3.amazonaws.com/documents/Ziziaaptera.PDF</p> <p>[7] WTU Herbarium, B. M. (n.d.). <i>Zizia Aptera</i> - Burke herbarium image collection. https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Zizia+aptera</p>

	[8] Bonap maps by states and provinces. 2014 BONAP Maps by States. (n.d.). https://bonap.net/FieldMaps/Home/SingleMap?taxonId=1335&mapType=County
Other Sources Consulted	[9] Vascular plants of North Carolina. (n.d.). https://auth1.dpr.ncparks.gov/flora/species_account.php?id=150 [10] Zizia Apter. Zizia aptera - Species Page - NYFA: New York Flora Atlas. (n.d.). https://newyork.plantatlas.usf.edu/plant.aspx?id=6631 [11] Program, M. N. H. (2024, May 1). MTNHP. Golden Alexanders. https://fieldguide.mt.gov/speciesDetail.aspx?elcode=PDAP12F010
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