

Non-Timber Forest Product (NTFP) Highlight: Goldenseal



Goldenseal – (photo credit: Lew Diehl)

Other common names: Yellow Root, Ground Raspberry, Eye-Balm — Latin Name: *Hydrastis canadensis* L.

Family: Ranunculaceae (Buttercup Family)



College of Agriculture
Cooperative Research

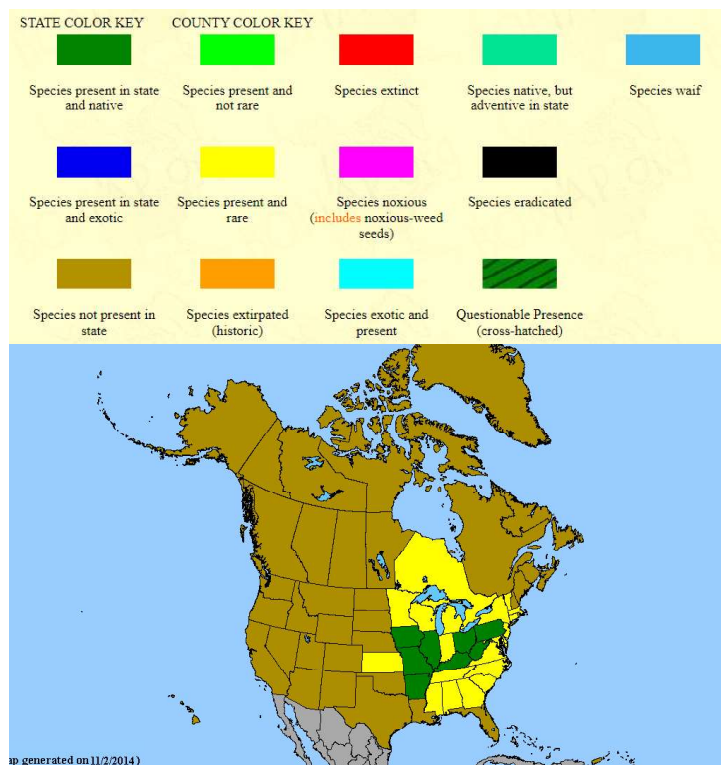
Dr. Sougata Bardhan*
Assistant Professor of
Natural Resource Management
306A Foster Hall
(573) 681-5249
BardhanS@LincolnU.edu
missouriforest.com

Raelin Kronenberg
Research Specialist
Agroforestry
324 Foster Hall
(573) 681-5111
KronenbergR@lincolnu.edu

*Corresponding author

LUCE #23-10(11)-FS003

Range: Goldenseal is primarily found throughout the eastern United States.



Lincoln University Cooperative Extension is an equal opportunity provider and employer.

Description:

Goldenseal is a slow-growing woodland perennial plant with a distinctive yellow rhizome. The plant produces flowering stem with two large leaves, palmately divided into five to seven lobes with prominent veins. Goldenseal produces a fleshy red berry, with two shiny black seeds. The fruits are considered inedible, although they are likely an important source of food for wildlife. Goldenseal has a long history of medicinal use. Its therapeutic effect stems from several alkaloids extracted from the root.

Propagation:

Goldenseal can be propagated by both seed and root, although seed propagation is significantly more challenging due to the specific environmental requirements for germination. Goldenseal readily populates through root division and can even grow from bits of root fiber. Roots can be cut into pieces $\frac{1}{2}$ inch or larger sections that ideally include both some root fibers and a bud. To plant roots, make narrow trenches two to three inches deep with a hand trowel.

Space rows six inches apart and plant roots six inches apart within rows. Ensure the root's terminal bud is facing upwards before covering it with soil. Top dress with a two-inch layer of mulch made of partially composted forest leaves. Increase mulch depth to six inches if in an area with a hard freeze during the winter. Plants grown from roots will mature in three to five years, those from just root fibers take a little longer, anywhere from four to six years.

With a little extra patience and care, goldenseal can also be grown from seed. Seeds can be started in either nursery beds or flats. Since goldenseal requires a period of cold stratification, it is best to sow seeds right after they ripen between July and August.

Growers have had good success with placing the cleaned seed in a 40-degree fridge for two to three months and then planting it out in a greenhouse, nursery bed, or garden flats kept in the shade of the woods. To clean the seed, mash berries and soak them in water until the pulp is removed. After 24 hours, take the seeds out of the soaking water and rinse thoroughly. Plant seeds one half to three fourths of an inch deep in a prepared bed or germination tray. Cover them with one to two inches of leaf litter. Seedlings can be planted out into permanent forest beds after a couple of years of growth. Plants take around five to seven years to reach harvestable size.

Pests:

Goldenseal is a hardy plant that is fairly disease resistant. It is susceptible to a variety of pests and pathogens, including botrytis leaf blight, fusarium wilt, root rots, and root nematodes. Slugs, moles, and voles can also pose a threat to this species. Healthy forest habitats and maintaining dispersed plantings reduce the threat of disease.



Hydrastis canadensis, Goldenseal.

a

Harvest:

Goldenseal is harvested in the fall once the leaves are yellow and begin to die back, typically during September or October. Fall-harvested roots have higher medicinal quality as well as a better fresh-to-dry ratio, reducing the time needed to dry the roots.

Conservation status:

Goldenseal is a threatened species and has been listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 1997. This listing regulates the export of goldenseal roots outside of the US to ensure it is sustainable. Habitat loss and overharvesting are the primary culprits of the dwindling goldenseal populations. Even though there is some cultivation of this plant, most products available are still wild-harvested.

Market potential:

Goldenseal has a more established market compared to other woodland herbs. The average price per dried pound of organically grown root is between \$68.00 and \$70.00.

References:

Filyaw, T.R., editor. 2019. The Forest Farmers Handbook: A Beginners Guide to Growing and Marketing At-Risk Forest Herbs. Rural Action.

Lonner, J. April 2007. Medicinal Plant Fact Sheet: *Hydrastis canadensis*/Goldenseal. A collaboration of the IUCN Medicinal Plant Specialist Group, PCA-Medicinal Plant Working Group, and North American Pollinator Protection Campaign. Arlington, Virginia: PCA-Medicinal Plant Working Group.