Goldenseal
*Hydrastis canadensis*

Goldenseal is a highly valued medicinal herb which has been collected from the forests of North America for hundreds of years. Known by the names: yellow root, ground raspberry, eye-balm, yellow paint, and wild turmeric, goldenseal is known for its anti-fungal, antibiotic, and anti-bacterial qualities. Overharvesting and loss of native habitat have caused a serious reduction in native populations.

Goldenseal is an herbaceous perennial which emerges in early spring from a perennial rootstock. The root system, used for medicinal purposes, is composed of a bright yellow, horizontal underground stem, that is covered with bright yellow fibrous roots and rootlets. These roots are gathered, dried and marketed. The plant grows to a foot in height with two or more erect hairy stems usually ending in a fork with two leaves. Small, white flowers open as the leaves unfold. Plants produce a single, green raspberry-like fruit which turns red and ripens in July. The plant dies down slowly after the fruit matures.

**SITE SELECTION**

Goldenseal grows best in a rich, moist, well-aerated, loamy soil with good water drainage. Areas with tall, dense canopies of poplar, beech, maple, dogwood, or oak are preferable. Watch for the presence of spring companion wildflowers such as mayapple, black cohosh, maiden hair fern, jack-in-the-pulpit, trillium, bloodroot, and false Solomon’s seal.

Goldenseal can be propagated from rhizome pieces, root cuttings, one year old seedlings, or seed. ► **Planting takes place in the fall, prior to the first freeze.** Woodland sites should be tilled with added organic matter such as rotted leaf mulch and compost. Rootlets are planted in narrow trenches 2-3” deep with a spacing of 5-6” apart in rows 6-8” apart. It takes 5 to 7 years to grow harvestable roots. Roots are dug in the fall after the tops die down and are carefully washed and dried. Roots will lose about 70% of their weight during drying. Prices for goldenseal fluctuate, depending on supply and demand. Average prices: $8-$11 per pound fresh; $40 per pound dried

**Sources of Information and Propagation Material:**
- www.ncgoldenseal.com
- United Plant Savers www.unitedplantsavers.org
- www.ces.ncsu.edu
- www.ginsengseed.com
- Burkhart and Jacobson. NTFP’s from Pennsylvania: #2—Goldenseal. Penn State University School of Forest Resources. 2006.

Elderberry
*Sambucus canadensis*

Elderberries are hardy, native shrubs that have great ornamental and fruiting value. They produce beautiful, large, white flower heads in the spring that are followed by large clusters of blue-black berries in late summer. Elderberry fruit makes incredible juice, wine, jam, syrup, pies and jellies that have wonderful flavor and are very high in Vitamin C; the flower clusters can be dipped in batter and fried.

**Elderberries are edible when cooked.**

Uncooked berries have a dark purple juice that can be astringent and inedible. All parts of the elderberry plant are considered to be valuable in many folk medicine traditions. To the Native Americans and American settlers, it was considered "the medicine chest of the common people". Uses include: coughs, colds, flu, headache, burns, bacterial and viral infections, improves vision and heart health, and is an immune system booster. Pouches made from leaves and flowers are good for wounds, sprains and bruises.

Elderberries are an important source of summer food for numerous species of songbirds including the indigo bunting, yellow-shafted flicker, ruby-crowned kinglet, mockingbird, robin and cedar waxwing.

**SITE SELECTION**

Elderberries fruit more heavily when two different varieties are planted close together. They do well in sun or part shade and prefer moist, well-drained soil. ► **Seedlings can be planted in early fall before soil temperatures are below 45ºF or in the spring.** Space plants 6’ to 10’ apart. Elderberries are shallow rooted, so keep them well-watered during the first season. Control weeds around young plants by mulching.

Elderberries send up new canes each year that usually reach full height in one season and develop lateral branches in the second. Flowers and fruit develop on the tips of the current season’s growth, often on the new canes but especially on laterals. Second-year elderberry canes with good lateral development are the most fruitful. Harvest elderberry fruit in late August through early September, depending on the cultivar. When ripe, the entire cluster should be removed and the berries stripped from the cluster for use.

**Sources of Information and Propagation Material:**
- www.elderberrylife.com
- elderberries.ning.com

For more information about Forest Botanicals contact ASD asd@asdevelop.org or call 276-623-1121

Visit our website at www.asdevelop.org

**Funding for this brochure was provided by Central Appalachian Forestry Alliance**
The market for mushrooms continues to grow due to their culinary, nutritional and health benefits. Shiitake Mushrooms 

Lentinus edodes

Ramps are wild, or leeks, are native to eastern North America. In early spring, ramps appear as smooth, broad, lily-of-the-valley like leaves that disappear by summer before their white flowers appear. RAMP bulbs are prized for their spring onion taste and strong garlic-like aroma. Traditionally ramps were consumed as the first edible “greens” providing much needed vitamins and minerals following long winter months without fresh vegetables. Today, annual “ramp festivals” are considered major tourist attractions. In many areas intensive harvesting is seriously damaging wild populations of ramps. That, and the interest of high-end restaurants serving ramps in season, are increasing the demand of ramps thus, the need for growers to consider ramps as a profitable, marketable crop.

SITE SELECTION

Ramps grow naturally under a forest canopy of beech, birch, sugar maple, poplar, buckeye, basswood, hickory and oak. Wildflowers such as trillium, toothwort, nettle, black cohosh, bloodroot, trout lily and mayapple can help identify suitable location sites for growing ramps. Ramps can be grown under shade structures if forest sites prove unsuitable.

Ramps prefer a well-drained site with rich, moist soil, high in organic matter. Soil moisture is one of the most important environmental conditions for the survival and growth rate of the plant. Adequate moisture must be maintained throughout all seasons not just the active growing season.

► Late August thru September is the best time for sowing ramp seeds. Seed requires a warm moist period followed by a long cold period to break seed dormancy. Lack of adequate warm/cold periods can result in slow seed germination. Production from sowing seeds to root harvest can take 5 to 7 years. Many growers prefer planting bulbs instead of sowing seeds. Planting large bulbs (greater than 1/2” diameter) can provide harvestable ramps within 2-3 years.

► Bulbs are planted in late February to early March and mulched with a thick layer of hardwood leaf litter. Mulch helps to maintain proper moisture levels and creates an insulation to protect plants from excessive hot and cold temperatures. Mulches suppress weeds and can protect seedlings from wildlife.

Sources of Information and Propagation Material:


Ginseng

Panax quinquefolium

Ginseng prefers to grow in cool, damp, well drained, dense shaded conditions. Choose north, northeast mountain sides under hardwood trees, preferably yellow poplar and sugar maple. Wild ginseng grows in sites with maiden-hair fern, black cohosh, bloodroot, Solomon’s seal, hepatica and mayapple.

► Stratified ginseng seed is planted in the fall during peak leaf drop, ensuring that seeds are not planted too deep under leaf litter. If you plant too deep, they won’t come up. Be cautious about buying cheap seed; some growers who do their jobs right are not likely to sell their seed at low prices. Approximately 1 oz of seed is needed to plant a 10’x10’ area.

Ginseng roots are dug 6 to 10 years after planting. Deer and turkey love them as do rodents such as mice. Human theft is the greatest threat to a crop of ginseng. There are numerous ginseng buyers across the region. A list of Licensed Buyers can be found by contacting your state’s natural resources agency.

Sources of Information and Propagation Material:


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