

Growing Ginseng – An Income Opportunity

Ginseng is a deciduous perennial whose roots are highly prized for medicinal purposes. In the Asian culture, ginseng has been an important component of Chinese folk medicine for over 4,000 years. In today's market, forest landowners have a unique opportunity for a profitable income in growing high-quality ginseng roots.

American ginseng has grown naturally in many states east of the Mississippi River and roots have been traded to China since the Revolutionary War. While China can grow cultivated ginseng using artificial shade, they cannot grow the more preferred "wild ginseng" which requires natural forest. Ginseng was abundant in the forest at one time, but overharvesting has seriously depleted wild populations. Forest landowners have the opportunity to grow ginseng in the forest using two different methods: **wild simulated method and cultivated method.**

The wild simulated method mimics natural ginseng populations. Seeds are sown thinly in the forest environment with little soil disturbance and left to grow naturally so that highly desirable roots (roots that are most similar to wild ginseng) are produced. Damage by forest wildlife and disease is minimal in these relatively undisturbed native woodland habitats.

The cultivated method uses the natural forest canopy for shade while the ginseng is grown in densely planted, raised, intensively tilled beds. This is a very labor-intensive process. Expenses are much higher for

preparation of the beds, planting, insect and disease control and overall labor. While the amount of roots produced per area is much higher in the cultivated method, they usually bring a lower price compared to wild simulated. Chinese buyers prefer wild ginseng over cultivated because it more closely resembles the revered wild Asian ginseng. The closer the resemblance, the higher the price. The Chinese believe that the slower growing, wild roots absorb more curative power from the forest floor.

Buyers are quite adept at identifying wild ginseng versus cultivated by its root shape, texture, age and rate of growth. Wild simulated roots may take 7 to 10 years, while cultivated roots may take less. Either way, the older the root, the higher the price.



Figure from the Peterson Field Guide

Most Suitable Growing Sites for Ginseng

The most favorable temperature and soil moisture conditions generally are associated with north or east facing slopes with at least 75 percent shade canopy. Yellow poplars and oaks provide for the best and most dense shade. In Maryland, ginseng should grow west of I-95 on fertile, moist, well-drained soils of the piedmont and mountain regions. If you have any of the following plants in your forest, they may indicate a good place to grow ginseng: Jack-in-the-pulpit, bloodroot, Solomon's seal, jewel weed, galax, trillium, wild yam, hepatica, black cohosh, wild ginger and ferns. Take a soil sample from potential growing sites and have them analyzed. Soil studies indicate that soil with very low pH (5.0) and very high levels of calcium (~4000), show strong ginseng growth. Gypsum can be added to increase calcium

without lowering the pH. It is a good idea to plant a small plot of seeds at potential sites to monitor growth for one year before doing a larger planting that commits you to one site.

Seeds

Landowners should buy quality seeds only. If you wait until October to purchase seeds, you probably aren't receiving the best your money can buy. Instead, consider purchasing seeds in advance, around July or August. Purchased seeds should be stored in the refrigerator and misted with water once a week. Seeds will die if left to dry out. One good way to check the viability of seeds is to place them in a bucket of water - viable seeds sink to the bottom and floaters can be discarded. It takes 10 pounds of seed to plant one-half acre of wild simulated ginseng.

Planting and the Life-Cycle of Ginseng

You must plant ginseng in November after all the trees have lost their leaves. Not waiting until the leaves have fallen will result in a top layer of leaves that is too thick for ginseng plants to grow through. For wild simulated ginseng, it is a good idea to plant your seed in rows that are 5 feet wide and 50 feet long with 3-foot walkways in between. The rows should run up and down the slope rather than across for better drainage. Plant diversity decreases fungus disease so it is not necessary to clear away undergrowth. Using the corner of a hoe, make three furrows or narrow trenches 18 inches apart, all the way down the row. Plant the seeds, by hand, 3 inches apart in the furrows. Cover the seeds with $\frac{3}{4}$ inch of soil and rake about an inch of leaves back over the rows.

For cultivated ginseng, till the soil to a depth of 6 to 8 inches in 4 to 6-foot wide beds. These beds should be elevated 6 to 8 inches with a low walkway between them for maximum water runoff. Additionally, the beds should slope downhill so that the roots never stand in water. Plant the seeds at $\frac{1}{2}$ inch depth, 2 to 3 inches apart. Cover them with no more than 2 inches of leaf mulch or clean straw. These beds must be monitored closely and weeded routinely.

Between late April and June, the first sprouts will appear and will look similar to strawberry plants with three small leaves standing about an inch tall. After the first fall frost, the foliage turns a rich yellow color and dies off - but the bud/root survives the winter, freezing as the ground freezes. It is from this bud that stems and leaves will continue to unfurl and grow year after year. Also, when the foliage dies in the fall, the base of the stem breaks off leaving a scar at the top of the root. This yearly scarring produces a root "neck," which bears a series of alternating

and ascending marks that tell the age of the ginseng.

In the wild simulated method, planting is the only labor required - until the roots are ready for harvest in 7 to 10 years. The ginseng plants exist with weeds, rodents, fungus diseases and weather. The references provided can help you deal with any problems.

Security Measures

The greatest threat to a crop of wild simulated ginseng is human theft. Criminals who think nothing of "No Trespassing" signs know they are more likely to find more ginseng on someone's property than in public forests where legal gatherers search. Many will wait just prior to the harvest. One advantage for growers in the piedmont region is that many residents are unfamiliar with ginseng or its value. The references provide ideas on improving security for your ginseng patch.

Marketing Ginseng

Ginseng is one of the easiest products to sell because the market demand is strong and anyone who buys ginseng for resale must register with the MD Department of Agriculture. Growers drive to the buyer's house, store or service station with the roots, watch as they are weighed and accept payment if he/she agrees with the price offered. Growers with large volumes of roots often allow buyers to make bids to get the highest price or sell directly to large herb companies.

It's possible, after nine years, to generate a net profit of over \$14,000 worth of ginseng from a $\frac{1}{2}$ acre. One man can reasonably plant one acre of ginseng each year. However, growers must possess the admirable qualities of patience, perseverance and discretion, to be successful.

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Projected Nine-Year Budget for One-Half Acre of

Wild Simulated Ginseng

Seed	10 pounds at \$75/lb.	\$ 750.00
Labor	Site preparation and planting 125 hours x \$10/hr.	\$1,250.00
	Bi-weekly inspection and trouble- shooting: 200 hours x \$10/hr.	\$2,000.00
	Digging roots: 500 hrs x \$10/hr.	<u>\$5,000.00</u>
		\$9,000.00
Materials and Equipment		
	Rakes and shovels or spading forks (assume some tools already on hand)	\$ 50.00
	Backpack sprayer (\$125), fungicides and rodenticides	<u>\$200.00</u>
		\$250.00
Drying	Addition of insulation and drying racks to existing room or shed	\$400.00
	Energy cost to heat	<u>\$ 40.00</u>
		\$440.00
Total cost:		\$9,690.00
Expected yield:	80 pounds of dried roots	
Gross profit:	80 lbs. x \$300/lb.	\$24,000.00
Net profit at the end of nine years:		\$14,310.00

For more information on ginseng or other natural resources income opportunities, click on the natural resources income opportunity link on our website at www.naturalresources.umd.edu.

MD Youth Go to Nationals

Last summer, Maryland 4-H youth participated in the National 4-H Forestry Invitational and the Wild life Habitat Evaluation Program. The basic premise of all 4-H programs is to teach valuable skills and knowledge to young people, who in turn, teach their parents. Today's students are our future land stewards.

During two days of competition, participants in the National 4-H Forestry Invitational compete in tree identification, tree measurement, forest evaluation, compass orienteering, topographic map use, forest insect and disease identification, the forestry bowl and on the forestry written exam. Held in Jackson's Mill, WV, the boyhood home of General Thomas "Stonewall" Jackson, the two Maryland participants were Sarah McLaughlin and Pamela Walters.

The Wildlife Habitat Evaluation Program (WHEP) is dedicated to teaching wildlife and fisheries habitat management to junior and senior level youth in the U.S. Participants in the program learn how to identify common

wildlife foods, judge the quality of wildlife habitat from aerial photographs, recommend wildlife management practices, develop a rural wildlife management plan and develop an urban wildlife management plan.

The 2002 WHEP Invitational was held in Wooster, Ohio last July. Participants judged wildlife habitat in the Wetlands region using habitat evaluation skills they learned through their local WHEP training. The Maryland youth that participated were Marshall Eaton, Brye Robinson, Brittany Tomlinson and Gandalf French.

For more information on these and other 4-H programs, click on the "Youth Resources" section on the natural resources website or call the local 4-H agent in your county.

Outstanding Forest Steward

Mimi Wright was recently named as the Northeast Region Tree Farmer of the Year. Mimi has owned 300 acres of land in Dorchester County in various stages since 1978.

Her main objectives for owning the land include timber production for which she has thinned 100 acres, water quality, wildlife habitat (she currently provides habitat for the federally endangered Delmarva Fox Squirrel), and recreation (she provides hiking trails and has planted wildflowers in her warm season grasses and in pine areas).

In 1995, Mimi became a Coverts Cooperator and really took advantage of her volunteer commitment by organizing a Coverts Refresher course for landowners on the Eastern Shore. Mimi is actively involved in communicating the importance of forestry to legislatures. She has visited the offices of various congressmen to discuss the Farm Bill and has written many letters on forestry health issues.

Currently, Mimi represents the local interests of private landowners through the University of Maryland Center for Environmental Science Board of Visitors. Mimi has been entered in the 2002 National Tree Farmer of the Year contest. The winner will be named at the national convention. For more information, log onto www.treefarmssystem.org.

Forestry Correspondence Course

Registrations are now being accepted for the spring general forestry correspondence course which runs from February 1 - May 20. The cost is \$150 which includes the text and a separate Appendices. For more information contact Nancy Stewart at 410-827-8056.

Autumn is a Great Time to Work in Your Woods

Adapted from "Forest Leaves" from
Pennsylvania State University

The following lists a few things that you can do on your land before winter arrives:

Cut Firewood - Consider cutting down less desirable trees and using them for firewood. Removing trees that are crowding the canopy and inhibiting healthier trees from adequate sunlight, can help the desirable trees thrive and grow faster.

Clean and Repair Culverts - Make sure that your culverts are open so they can handle rain and next spring's melting snows.

Repair Roads - If you have small ruts on the road surface, consider how you can divert water away from them.

Remove Debris - Remove branches and limbs from roads and any trails such as cross country ski trails.

The following fact sheets are now available on the natural resources website by clicking onto the publications link at www.naturalresources.umd.edu.

Tax and Estate Planning for Maryland Forest Landowners - FS 630. Provides guidelines on reducing property taxes, federal and state income taxes and federal estate taxes.

Introduction to Wildlife Management - FS 597

Planting Crops for Wildlife - FS 598

Brush Piles for Wildlife - FS 599

Eastern Cottontail Rabbits - FS 601

Bobwhite Quail - FS 602

Ring-necked Pheasants - FS 603

Eastern Wild Turkeys - FS 606

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Please send changes of address.

See page 2 for addresses and phone number.

Upcoming Stewardship Events

The Maryland Cooperative Extension will soon be hosting a range of workshops on alternative income opportunities - from natural resources to small livestock to fruit and horticulture. Log onto the calendar on www.naturalresources.edu for soon-to-be-posted dates, times and locations.

Web Watch

* www.specialforestproducts.com - Provides valuable tips on harvesting and managing natural resources in a sustainable manner. There is also a section where individuals can post free ads to buy or sell special forest products.

* www.ivis.org/special_books/Knight/toc.asp - Provides content from the book, "A Guide to Plant Poisoning of Animals in North America." The paper printed version of this book and its interactive CD are available at www.veterinarywire.com.

* <http://sftrc.cas.psu.edu/>

From_the_woods.htm#woods - Features a new publication series to assist teachers educating middle and high school youth about natural resources and wood products in Pennsylvania. Lesson plans, pretests and post tests can be assessed from the site. The publications are short, full-color and engaging.

Were you one of the 141,981 people who checked out www.naturalresources.umd.edu? Perhaps you should see what all the excitement is about. The natural resources website received over 140,000 hits during the months of January - September, 2002. They averaged 520 per day. The most popular area on the site was the Shitake Mushrooms section.

Visit www.naturalresources.umd.edu to learn about income opportunities, see the Maryland stumpage price report or read past *Branching Out* newsletters.



Take Note

