



Extension FactSheet

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Growing American Ginseng in Ohio: An Introduction

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American ginseng (*Panax quinquefolium*), one of the world's most valued plants, is found throughout the forests of eastern North America, including the woodlands of Ohio.

As a high-value understory species, ginseng has great potential to be an additional income opportunity for Ohio's woodland owners.

Harvesting of American ginseng from the wild began in earnest in the early-mid 1700s, in response to substantial demand for the root in Asia (especially China), where ginseng has been celebrated as a medicinal cure-all for over 3000 years. Even in the late 1700s American ginseng was bringing \$1-3/dry lb. of root, a substantial sum in those times. Growing American ginseng can seem a bit complicated or confusing at first glance because it can be grown under several different production systems. Systems vary from intensive field grown production under artificial shade to wild-simulated methods, which closely mimic natural ginseng stands (Figure 1). Prices paid for ginseng root also vary greatly by production method. Field grown ginseng produced under artificial shade sells for between \$10-\$25/dry lb. while wild and wild-simulated root has averaged around \$350/dry lb for the past 10 years (in 1999 it was bringing \$425/dry lb).

The focus of this fact sheet will be on wild-simulated growing method since it requires the least inputs and offers the greatest return for woodland owners. Throughout this series of Ginseng fact sheets we are going to use one pound of Ginseng seed as an example. One pound of ginseng seed currently costs around \$50 and is enough to plant 1600 square feet or about 1/25 of an acre using the wild-simulated method described in this fact sheet. There are roughly 6,400 to 8,000 ginseng seeds per pound. For example, if 50% of this seed makes it to maturity after 10 years, approximately 3500 mature roots would be produced from one pound of seed. Using conservative estimates of about 275 dry



Figure 1. Shade grown and wild grown ginseng root. Photo courtesy of Bob Beyfuss, Cornell Cooperative Extension.

roots per pound and \$300 per pound for the dried roots, a harvest after 10 years would yield approximately 12.7 pounds of dried roots worth nearly \$4,000. Prospective growers must realize that ginseng production is a long-term venture. Ginseng is known to live for over 80 years, and one cannot expect to have their first harvest until it reaches maturity at about 7 to 10 years of age. However, it may be possible for some growers to earn income earlier in the process by selling ginseng leaves and seed at the end of each growing season

Site Security and Selection

Because of ginseng's high value, it is sought after by many. The biggest potential problem any grower will face is the risk

of having their crop poached. There are numerous examples of growers who have nurtured their crop for 10 or more years only to have it wiped out by a poacher who steals thousands of dollars worth of ginseng. In some states the poaching of ginseng is a felony offense. In Ohio ginseng poaching is currently a third degree misdemeanor.

The first thing to consider when evaluating a potential ginseng site is security. How close is the site to your home? How close are neighbors, roads, or other accesses to your ginseng? How often do others use the land that you're considering planting? How often can you monitor the progress of your crop?

If you feel that you have a reasonably secure site the next thing you'll want to do is evaluate the potential of the site to produce American ginseng. American ginseng does require a very specific habitat in order for it to grow and prosper.

Ginseng prefers the north and east-facing sites on well-drained slopes under a forest canopy of approximately 70 to 90% shade. Certain species of trees, such as tulip-poplar, sugar maple, and black walnut are indicators of productive ginseng sites. The following understory plants can also indicate potential high-quality ginseng sites: goldenseal, bloodroot, trillium, wild ginger, jack-in-the-pulpit, spicebush, and ferns. Ginseng will often grow in areas where you find these species. Ginseng also does best under a relatively narrow range of soil conditions. Soil testing is highly recommended. See OSU Extension Fact Sheet F-58-04; *Growing American Ginseng in Ohio: Selecting a Site* for more detailed information about site section. We also suggest that you consult your county's Ohio State University Extension office or Rural Action Sustainable Forestry for assistance.

Growing Methods

As discussed earlier, there are several methods for producing American ginseng, all with results unique to the method used. We will briefly discuss the more intensive field (or shade) and the woods growing methods and then focus on the recommended wild-simulated growing method (Table 1).

Field or Shade Grown & Woods Grown Ginseng

Current prices realized for field-grown ginseng are currently below the costs of production, although this fluctuates regularly. In this production system, the ginseng is planted in rows, much like a vegetable garden, in soil that is fertilized and cultivated regularly. This production method requires a large investment in artificial shade structures. Cost to install one acre of shade houses can run between \$10,000 and \$20,000. Growing ginseng under this kind of production system greatly increases the chance for disease, resulting in increased costs for disease control measures. Although one can produce a great quantity of ginseng roots in this system in about 4 years, roots are large and carrot-like in appearance and are much less valuable in the Asian market than the much smaller, gnarlier roots produced in the wild or under the wild-simulated cultivation method.

The woods-grown ginseng production method consists of growing ginseng in tilled, raised beds in the woods. This method produces a more valuable root than the field or shade grown method but not nearly as valuable as the wild-simulated method. This method will likely produce roots in a shorter time period because the tilled soil will allow the root to grow more quickly, but it also increases your chances of disease.

TABLE 1: Comparison of Three Growing Methods- Approximated costs, yields and potential net profits.

Method	Artificial Shade	Woods Cultivated	Wild Simulated
Time till first harvest	3 to 4 years	6 to 8 years	6 to 12 years
Seeds planted per ½ acre	50 lbs	24 lbs	10 lbs
Total Labor per ½ acre	1,500 Hours	1,950 Hours	825 Hours
Total Costs per ½ Acre	(\$33,500)	(\$24,135)	(\$9,690)
Root yield per ½ acre	1,125 lbs	300 lbs	80 lbs
Root price per pound	\$12/lb	\$100/lb	\$300/lb
Gross Income per ½ acre	\$13,500	\$30,000	\$24,000
Net Profit per ½ acre	(\$20,000)	\$5,865	\$14,310

Wild-Simulated Ginseng

Wild-simulated ginseng production is, as the name implies, simply growing ginseng under conditions that mimic those found in the wild. Although this can be accomplished in a variety of ways, we will focus foremost on the most efficient method of seeding a relatively large area. This method requires few initial inputs; all one needs to get started is a good rake, hand pruners, viable seed, a suitable site, and some labor.



Figure 2. Wild-simulated American ginseng. Photo Courtesy of Rural Action Sustainable Forestry.

Planting

The process of growing wild-simulated ginseng begins by planting seed in the autumn, around the time the trees begin to shed their leaves but before the ground freezes. Ginseng seed must go through a period of cold dormancy or stratification to ensure that germination occurs the following spring. We recommend that you acquire seed that has already been stratified from a reputable commercial source. Current cost of stratified seed is between \$50 to \$100 per pound.

Planting can be as simple as raking away the leaf layer, lightly scratching the soil surface to ensure a good seed-to-soil contact and broadcasting 4 to 5 seeds per square foot onto the bare soil and covering with leaf litter.

Planting wild-simulated ginseng can also be done by simply planting one seed at a time by hand on suitable sites. Although planting one seed at a time will substantially increase time planting, it can also dramatically increase germination rates and allow planting in areas that may be difficult to access with a rake (see OSU Extension Fact Sheet F-57-04; *Growing American Ginseng in Ohio: Site Preparation and Planting Using the Wild-Simulated Method*)

Maintenance

Most of the work takes place during planting and harvest; all that is normally required in the interim is regular monitoring of your ginseng patch for disease, pests, and poaching.

Ginseng is susceptible to numerous pests, from deer, rodents and other animals that like to eat its foliage, berries and/or roots, to fungal diseases, which can pose a serious threat in dense patches. Regular monitoring, good site selection, proper mulching, and wide spacing between plants are all recommended preventive measures to reduce the likelihood of most problems.

Harvest

Wild-simulated ginseng will typically not be ready to harvest until it has had at least seven years of growth. Harvesting your crop will likely be the most time-consuming part of your ginseng production system. Harvesting is typically done in the fall of the year after the plants have dropped their seed for the season and always during the legal ginseng harvest season (in Ohio September 1st-December 31st). Wild-simulated ginseng is harvested much like wild ginseng in that great care is taken to not damage the roots while digging. This is achieved by digging each plant/root individually and making sure not to break the stem or “neck” of the root off while keeping as many of the side roots or “rootlets” intact as possible. Most growers use a modified short handled mattock, known in some circles as a “sang hoe” to achieve this. A trowel or small spade can also be used. Seed, berry pulp and leaves can also be sold, although markets are more difficult to access.

Washing

After harvest, ginseng roots must be properly washed before drying. Great care should be taken while washing ginseng roots. Avoid scrubbing roots clean since the outer layer or “skin” of the root can easily be broken or scraped off. This decreases the value of the root. It is best to use a very soft brush and wash gently. Do not wash the root so clean that it appears bright white in color. Rather, remove the excess soil from the root leaving soil in the “grains” or depressions of the root. For smaller batches of roots, spraying with a garden hose or swishing the roots in a bucket of water usually achieves this. Do not soak the roots.

Drying

Once ginseng roots are harvested and washed it is necessary to dry them before selling. Never dry your roots in the sun, in your car, or in an oven. Many growers choose to construct a drying box or closet. Depending on your situation this may or may not be necessary. The two most important factors to consider in order to dry ginseng roots properly are: 1) good air flow around the roots and 2) consistent temperature and humidity. In order to get sufficient airflow to the roots during drying, screens are

often used. Roots should be placed on screens in a single layer, making sure they are not touching each other. This ensures that air can get to all sides of the roots while they are drying; it is also a good idea to use a fan to keep the air circulating around the drying roots. Optimal temperature for drying roots is around 90 degrees F but not more than 95 degrees F. Sufficient drying should take around 2 weeks time. The roots are completely dry when they cannot be bent. They should break cleanly, revealing a white interior.

Marketing

As some people have said when speaking of wild-simulated ginseng, “It is hard to find any product that is easier to sell.” Currently there are 50 to 60 ginseng buyers in Ohio. Marketing ginseng can be as easy as going to one of these locations and seeing what they offer for your roots. Check multiple locations and do some research to be sure that you receive a fair price for your crop. Prices have varied over the last ten years from \$250 to \$500 per lb. for dry wild or wild-simulated ginseng roots.

Individual roots or plants have been marketed over the Internet and value-added products such as teas and tinctures have resulted in even higher prices for some individuals. Also, targeted marketing towards the Asian and ethnic markets can prove to be very cost effective.

Roots can be stored for another year if prices are low during the harvest year or are expected to be higher the following year. However, it is usually best to delay harvest and allow the roots to grow for a extra year if current market prices are down.

Summary

Growing ginseng can be a great way to earn additional income from your land. Many growers look at it as a retirement fund, their children’s education fund, or as a way to pay their property

taxes. As with any venture, you should make sure you do your homework before you start planting. Start small and make sure that you can successfully produce ginseng on your site before trying it on a larger scale. Also, it is a good idea to attend a ginseng workshop in your area and meet other ginseng growers to learn from them.

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