

Growing American Ginseng in Ohio: Selecting a Site

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Before you attempt to grow American ginseng, it is important to understand the site conditions under which American ginseng typically thrives in the wild. Naturally occurring American ginseng has been found on a variety of sites; however, typically it is found on shady, rich, moist but well-drained sites. The purpose of this fact sheet is to provide you with information that will help you to select a site where you are most likely to be successful at growing American ginseng.

Topography

The first consideration when trying to locate good American ginseng sites is aspect. Aspect is the direction that a slope faces. North and east-facing slopes are most commonly associated with good ginseng sites (Figure 2).



Figure 1. American ginseng (*Panax quinquefolium*) is the only ginseng native to North America. Future mention of ginseng in this fact sheet will be referring to American ginseng. Photo courtesy of Rural Action Sustainable Forestry.

These sites typically have more shade and available moisture than other aspects. East slopes only receive morning sunlight, which is less intense than mid-day and afternoon light, while northern slopes receive less direct sunlight than all other aspects. Steepness of slope also affects the amount of light that is received on a site. Moist sites, suitable for ginseng production, can also be found on the lower 1/4 to 1/3 of the slope, on all other aspects. These lower slope positions are often well-shaded and have deeper soil and more moisture than is found higher up on the slope. It is important to avoid flat bottomlands that have poor drainage or a history of flooding.

Slopes are generally more conducive to ginseng production than flat areas since flat areas are often poorly drained. Gentle slopes are preferred over very

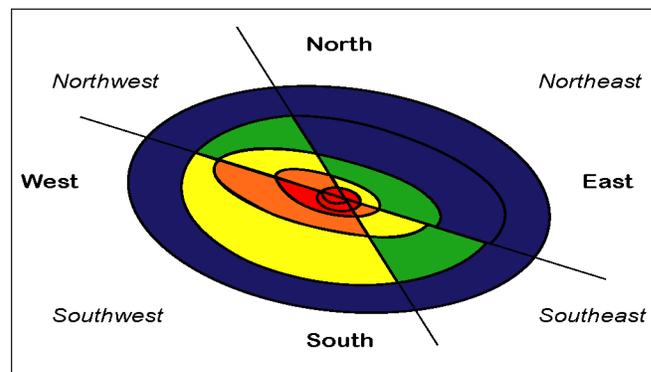


Figure 2. Aspect and slope position can have a big influence on potential ginseng production. Areas highlighted in blue are typically most suitable for ginseng production followed closely by those in green. Sites highlighted in yellow, orange, and red (poorest) are not recommended. Adapted from U.S. Forest Service publication NA-TP-03-97.

steep slopes for a couple of reasons. Steep slopes tend to shed water more quickly, and it is difficult to plant and maintain your ginseng plots on steep slopes. If your property primarily consists of steep terrain, focus your efforts on small benches or in areas with less severe slopes. These areas tend to have deeper soils, more leaf litter accumulation, and more moisture-holding capacity.

Forest Canopy

Next, look at the trees in the main canopy of the forest. Most tree species have a limited range of sites on which they most commonly occur. Occasionally, individual or small groups of trees occur on non-typical sites, so it is important to determine which species of trees are most dominant on the site that you are assessing. One of the tree species most commonly associated with good ginseng sites is yellow-poplar or tulip-tree. Sugar maple, American beech, American basswood, black walnut, and yellow buckeye are also good indicators of moist, well-drained productive sites. White ash, slippery elm, and an occasional northern red oak can also be found on good sites. Most of the trees mentioned above produce leaves that decompose rapidly into a litter layer that provides a proper balance of nutrition and moisture-holding ability that is suitable for ginseng production. Avoid sites with high percentages of oaks in the canopy. Oak litter tends to be fluffy, dries out quickly, and does not break down rapidly.

The other important site factor to look at is the amount of light that reaches the forest floor. Unlike most plants, ginseng thrives in dense shade. Most references indicate that ginseng does best in at least 70% shade. Ginseng growing on sites that are too sunny appears pale and unhealthy. The understory plants discussed in the next section also do best under shady conditions. The presence of these plants usually indicates that light conditions are appropriate for ginseng.

A quick method to approximate the amount of shade that is on a given site is to place 10 or more white paper plates at even distances on the ground at approximately noon on a sunny summer day. Count the number of plates that are at least half shaded. Next divide the number of shaded plates by the total number of plates placed on the ground. Multiply this number by 100. If this number is 70 or greater the site is probably shady enough to grow ginseng.

Understory Vegetation

The very best indicator of a good ginseng site is the presence of ginseng itself. A site that has a history of producing healthy reproducing ginseng is most likely to be a site which will produce ginseng in the future; however, since ginseng has been heavily harvested in most parts of Ohio, the absence of ginseng does not mean that it has not occurred at that location in the past. Spicebush and pawpaw are woody plants that are commonly found on good ginseng sites. However, pawpaw can also thrive on woodland edges that are usually less suitable for ginseng production. Other understory plants that are often indicators of good ginseng sites include jack-in-the-pulpit, blood-root, wild ginger, blue and black cohosh, trilliums, Solomon's seal, various ferns (particularly maidenhair fern), ramps, and goldenseal.



Figure 3. Jack-in-the-pulpit is an example of an understory plant that may indicate a good ginseng site. Photo courtesy of Bob Beyfuss, Cornell Cooperative Extension.



Figure 4. Maidenhair fern is another example of an understory plant that may indicate a good ginseng site. Photo courtesy of Bob Beyfuss, Cornell Cooperative Extension.

Soils

Less information is available on soil conditions suitable for ginseng production. Generally, soils that support the overstory and understory plants discussed above are suitable for ginseng production. Loamy soils, which are intermediate in texture and have a balance of sand, silt, and clay, are usually best suited for ginseng production. Soils with too much sand tend to be too dry for ginseng to thrive, while those with too much clay often do not provide proper drainage. Poorly drained sites can be prone to fungal diseases.

The literature varies on the soil nutrient requirements for American ginseng production, but most agree that ginseng does best on soils that are at least moderately acidic, pH 5.5 to 6.0. Calcium, magnesium, and phosphorous are most often listed as nutrients that may limit ginseng growth. Careful consideration should be given before applying fertilizers to ginseng sites. Adding too much or the wrong type of fertilizer or lime can be more detrimental than beneficial. This can result in an increased susceptibility to disease or conversely an over-stimulation of growth that often results in a decrease in the value of the ginseng root. Usually it is best to concentrate your efforts on sites with the proper nutrient balance rather than adding fertilizers or other amendments to soils that are less suitable. One relatively safe way to improve a borderline site is to amend with leaf litter, from tree species discussed earlier in this publication, thus increasing organic matter content and adding the proper balance of nutrients. It is also a good idea to consult your county's soil survey or a soil scientist for additional soils information.

Ginseng can be found on sites that are drier, sunnier, and that lack the indicator plants and soil conditions described in this fact sheet. In fact, in areas where ginseng harvest pressure is high, it may be more common to find ginseng on these "poor sites" than on "ideal sites." However, sites that most closely match the conditions described above are most likely to successfully produce ginseng.

Security Concerns

Last but definitely not least, you must consider security. Even if you have a site that has all of the indicators of an excellent site for growing ginseng, it may not be a great site to plant a ginseng plot. Since ginseng is such a valuable crop, the potential for theft is definitely something to take into consideration. You

can never completely eliminate the risk of theft, but there are a few common-sense steps that you can take to minimize the threat.

The location of the site is the most crucial factor that can affect the potential for theft. Sites that are near a grower's primary residence tend to be the most secure. This affords the grower the opportunity to check their ginseng crop often and to react to threats before losses are severe. Another common-sense approach is to plant small plots of ginseng over as large of an area as possible. In other words, "don't put all of your eggs in one basket." A poacher may find some of the small plots but it is unlikely all plots will be found. Sites that can be seen from an isolated road or trail may be in greatest jeopardy. Ginseng is especially vulnerable to poaching when the berries ripen. An experienced ginseng hunter can spot ginseng berries from a great distance, especially on a "typical" ginseng site. Some growers remove the fruiting stems and the leaves in late July or early August to help to conceal their ginseng during this critical period.

Other approaches to dealing with the threat of theft can vary greatly. Most growers maintain secrecy and let only their closest friends and family know about ginseng sites. Others enlist neighbors to provide an additional layer of protection. Some post their property to let outsiders know that the ginseng and other medicinal herbs are cultivated and that poachers will be prosecuted to the fullest extent of the law. Security measures ranging from guard dogs to a wide array of electronic devices have been used with varying degrees of success. Every situation is different, and a prudent grower is constantly monitoring their ginseng crop and responding to the changing threats.

Summary

American ginseng is a very site-sensitive species. It has a relatively narrow range of light, moisture, and soil conditions under which it will thrive. To further complicate matters, poaching is often a major threat. Before you invest your time, money, and energy on a ginseng planting, it is a good idea to do your homework. It is also a good idea to contact your county Extension educator, a Rural Action Forestry representative, a professional forester, a soil scientist, or an experienced ginseng grower in your area to help you to determine if your site is suitable for growing ginseng. The success or failure of your ginseng planting will be largely dependent on the site that you choose.

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