



American ginseng is the most popular, and may be the most valued medicinal plant gathered from hardwood forests of the eastern United States.

Photo by: Gay Kauffman, Botanist, US Forest Service, National Forests of North Carolina (printed with permission).

Non-Timber Forest Products: Alternatives for Landowners

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Recently a great deal of attention has been given to forest products that are plant-based but do not come from timber. These "alternative" products are found growing under the forest canopy as herbs, shrubs, vines, moss and even lichen. Although they have been gathered for generations, non-timber forest products have had less attention than "more important" timber products. However, astute landowners, willing to make the effort, may improve forest-based incomes by gathering and marketing these products.

What are NTFPs?

There are numerous NTFPs, and their management and utilization often

overwhelms forest managers. Non-timber forest products are produced from plants, parts of plants, fungi, and other biological material that are harvested from within and on the edges of natural, manipulated or disturbed forests. Many parts are harvested, including the roots, tubers, leaves, bark, twigs and branches, fruit, sap and resin. Classifying NTFPs into categories helps appreciate their range and potential. We have organized NTFPs into four product categories: edible and culinary, specialty woody products, floral and decorative, and medicinal and dietary supplements.

Fungi, particularly mushrooms, are perhaps the most well-known and documented edible forest products. Other

edible products include berries, nuts, sap and resins, ferns, and wild tubers and bulbs. Large-scale commercial mushroom harvests in the Pacific Northwest concentrates on six species-matsutake, morels, chanterelles, boletes, truffles, and hedgehogs. The collection and marketing of forest-harvested huckleberries and blueberries supports thriving cottage industries in the Pacific Northwest, Upper Midwest and Northeastern United States. In Appalachia, ramps (wild onions or leeks) are widely collected and important to local communities. Maple syrup production in the Northeast has a long tradition and provides many rural jobs.

Specialty woody products are considered non-timber if they are produced from woody vines, saplings, or parts of trees, but not sawn wood. For example, burls, twigs, branches, and cypress knees are processed into products, which are not timber-based. These products include handicrafts, carvings and turnings, utensils and containers. Also included are furniture made from branches, twigs and vines, as well as tools and musical instruments made from wood not sawn from logs.

Floral and decorative products, made from forest plants complement live flower arrangements and form the basis for dried ornaments. They include fresh/ dried flowers, aromatic oils, greenery, basket filler, wreaths, and roping. Spanish moss, collected from the Southeastern forests is exported to provide packing for flower bulbs, and mar-





Top: People flock to the forests to collect the edible forest products. These men are collecting ramps (wild onions) for a local festival to raise support for community-based activities. Photo by: Jim Chamberlain.

Bottom: Fraser fir seedlings are pulled from the forest floor in North Carolina to supply Christmas tree nurseries. Photo by: Jim Chamberlain.



witch hazel, Oregon-grape, cascara sagada, saw palmetto, and ginseng. Of these, ginseng is the most commonly mentioned, and may be the highest valued. Five southern states (Virginia, Kentucky, Tennessee, North Carolina and West Virginia) account for over half of all forest-harvested ginseng.

Market outlook

The markets for many non-timber forest products are well established, have formal channels through which the products flow, yet remain unknown and mysterious to many forest landowners. Some segments of the NTFP industry have grown rapidly over the last decade, and some have great potential to continue to grow. Understanding the market environment and trends is important when considering alternative forest products. In recent years, some segments of the industry have reportedly grown at annual rate in excess of 20 percent. For example, the sale of herbal medicines in the United States was projected to experience a three-fold increase, from 1995 through 2000. At the same time, the market for these products can fluctuate tremendously from year to year. In 1998 retail sales of black cohosh grew almost 500 percent. Unfortunately, the following year, with warehouses full, the price declined to a point where dealers could not sell their black cohosh inventory and sales of other major medicinal herbs (e.g., purple coneflower, forest-harvested ginseng, saw palmetto) dropped as well. But, as inventories decline, harvesting may rebound for these products.

The Value of NTFPs

The total value of the non-timber forest products industry is difficult to determine.

Some segments are widely fragmented with many small producers, while a few large companies dominate other segments. But whatever figures one examines the value is quite evident.

In 1992, the harvesting of approximately 4 million pounds of mushrooms contributed more than \$40 million to the Pacific Northwest economy. More than 25 million pounds of wild-harvested black walnuts are processed each year, generating about \$2.5 million for collectors. In 1997, maple syrup production totaled almost 1.3 million gallons, valued at more than \$30 million. In 1995, the US exported forest-harvested moss and lichens worth more than \$14 million. By some estimates, the worldwide market for herbal medicines exceeds \$12 billion. These are but a few examples found in the literature concerning the economics of non-timber forest products. For the sources of these figures, the reader is encouraged to review the list of selected references.

ked in United States craft stores. In southern Appalachia, grape and smoke vines are used for wreaths and other decorative products. The harvest of galax, from western North Carolina for the international floral trade, is thriving. Pacific Northwest examples include salal, evergreen huckleberry, and bear-grass. Evergreen boughs cut from white pine, balsam fir, noble fir, and other coniferous species may be the largest segment of the floral sector.

The use and trade of herbal medicines derived from forest plants has a long history and may constitute the highest valued segment of the non-timber forest products industry. Some well-known examples of plant-derived medicines include Taxol from the Pacific yew tree, Digitalis from foxglove, and Lobeline from Indian tobacco. More than 50 plants with medicinal value are harvested from Southern Appalachia forests. Common medicinal plants collected from forests include black cohosh,

The demographic conditions and consumer preferences in the United States are encouraging for the continued growth in the trade and use of NTFPs. In general, consumers are moving toward things that are organic or made of natural materials. Many Americans in the "baby boomer" generation have become frustrated with the high costs of western medicines and are looking for alternatives, which includes herbal medicines. More than half of the nearly 40 million men, who will turn 50 in the next decade, may experience prostate problems.



The diversity of products that can be gathered from the forests is astounding, and includes vines, cones, food, and wreaths.

only to have the market decline or disappear at harvest time. For the entrepreneur the pitfalls may not be as daunting as perceived. Yet, like any business venture, before getting involved in harvesting NTFPs, the landowner needs to determine if the projected benefits offset the costs.

Selected References

Hammett, A. L. and J. L. Chamberlain. 1998. "Sustainable Use of Non-Traditional Forest Products: Alternative Forest-based Income Opportunities." In *proceedings of Natural Resources Income Opportunities for Private Lands*. Hagerstown, MD. April 5-7, p. 141-147.

Hammett, A. L. and Dylan Jenkins. 1999. *Non-Timber Forest Products: New Opportunities for Alternative Forest-based Incomes*. Forest Landowner 58(2): 66-69.

Schlosser, W. and K. Blatner. 1994. "An Economic Overview of the Special Forest Products Industry." In *Dancing with an*

Elephant, proceedings of the conference: The Business and Science of Special Forest Products. Schnepf, Chris (editor) January 26-27, Hillsboro, Oregon. Western Forestry and Conservation Association, Portland, OR. p. 11-23.

Schlosser, W., and K. Blatner. 1995. "The wild edible mushroom industry of Washington, Oregon, and Idaho: a 1992 survey of processors." *Journal of Forestry*. 93(3): 31-36.

Thomas, M.G. and D.R. Schumann. 1993. *Income opportunities in special forest products, self-help suggestions for rural entrepreneurs*. USDA Forest Service. Agricultural Information Bulletin 666. Washington, DC. 206 pp.

Vance, N.C. and J. Thomas (editors). 1997. *Special Forest Products - biodiversity meets the marketplace*. Sustainable forestry - seminar series. 1995 October-November; Oregon State University, Corvallis, OR. Washington, DC; US Department of Agriculture. 164 pp.

Many of these may choose alternatives such as saw palmetto, a plant whose berries have been shown effective against inflamed prostate. For the landowner who is willing to explore unusual markets and to take the risks associated with new ventures, non-timber forest products may provide alternatives to increasing forest income.

Potential and Pitfalls

Just like many ventures, non-timber forest products may have great potential to provide added income to forest landowners. However, there are pitfalls which the landowners need to be aware. To realize these products' potential, landowners need to have a clear understanding of what NTFPs are found in their forests. Without an inventory there is no way to know what is available, how much can be harvested, nor when to harvest. Perhaps the greatest challenge to the forest landowner is to identify and figure out appropriate market entry points. It is essential to identify where and to whom the products will be sold, and to understand current and projected demand. Without this knowledge, products could be harvested without markets. Or, the landowner could invest time and energy into cultivating products,

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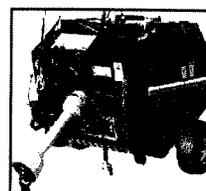
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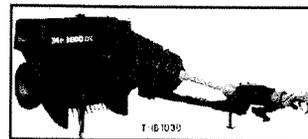
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