

# Wildcrafting Non-Timber Forest Products — An Overview

## Introduction

Kentuckians have been collecting plant products from forests, meadows, and other natural habitats for generations. This practice, commonly referred to as wildcrafting, is a tradition in many areas of the state, especially Appalachia. Plant materials other than timber that are harvested from the forest are generally referred to as non-timber forest products (NTFPs) or special(ty) forest products.

Although often collected for personal use, many wildcrafted materials also have commercial value and could offer a means of providing additional income. Wood lot owners may harvest NTFPs to provide temporary income while waiting for their timber stand to mature or as another means to supplement their income. NTFPs can provide a way to diversify and expand an existing woodland enterprise.

The term NTFP is also applied to plants that are “farmed” by purposely manipulating the forest environment, such as in the woods-cultivation of ginseng. This profile, however, is limited to the discussion of commercially valued NTFPs that are harvested as they occur naturally on one’s own property. Separate profiles cover the importance of sustainable wildcrafting and some of the legal issues associated with wildcrafting.

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## Marketing

NTFPs are specialty items that fill a very narrow market niche. Many are seasonal either in terms of availability or marketability. The NTFP collector needs to make sure there is a demand for their products and that they can meet the buyer’s specifications. As with any niche item, it is critical to secure a market in advance for NTFPs. Direct market outlets, depending on the item collected, can include farmers markets, roadside stands, nurseries, locally owned grocery stores, craft stores, and the Internet. Agritourism events and county fairs can present opportunities for selling wildcrafted goods. Bed-and-breakfast inns and Kentucky tourist gift shops may also be interested in purchasing native plant materials and/or products.

NTFPs offer an advantage to farmers who market directly to consumers at farmers markets

and other direct market outlets. Products such as nuts, decorative or ornamental plants, and plant by-products can help fill up a market stand into the fall months. Preserves and candies may be manufactured to amend cash flow in the early season months. Growers with property that includes timber and other marginal lands may find that adding low-input NTFPs extends their marketing window into “off-season” months.

Some NTFPs, particularly medicinals, have an established wholesale market. Generally, wildcrafters interested in these larger markets sell to a broker or wholesale buyer either at a buying station or company location. Wild ginseng is an example of a medicinal that is regulated by the U.S. Fish and Wildlife Service and can only be sold through licensed dealers. A list of dealers can be obtained from the Kentucky Department of Agriculture (KDA).

### **Market Outlook**

Nationwide, NTFPs represent a market sector that has expanded with interest in native plants and holistic lifestyles. Natural and organic food products have experienced tremendous growth in response to consumer preferences. An increased interest in local products, combined with local and state promotional efforts, such as the Kentucky Department of Agriculture’s Kentucky Proud program, could also help fuel a greater demand for crafts and value-added products made from native wildcrafted materials.

Marketing NTFP products will require a considerable investment in time and energy, not to mention creativity. Aggressive marketing techniques will be needed to move these products. For example, selling wildcrafted products to the floral trade will require targeting florists who specialize in imaginative and unique arrangements. Locating florists of this type can be difficult; many florists prefer the predictability of purchasing plant material from large west coast wholesalers that can fill orders several months in

advance. More often than not, there will be no established outlet and the wildcrafter will need to locate potential buyers and create their own market. Product diversity will be essential to the success of any NTFP wildcrafting enterprise.

Because local wildcrafters may not be able to supply a dependable quantity of plant material, they are often unable to compete at the wholesale level. Cooperating with other wildcrafters, either informally or by a formal marketing cooperative, is a way for smaller harvesters to meet the demands of these larger markets. It is advisable to contact the wholesale buyer in advance to be sure the correct plant species at the right developmental stage is being collected. A written contract helps to protect both the buyer and the collector.

Processing NTFPs can extend their shelf life and transform a seasonal raw edible, such as wild berries or mushrooms, into one that can be marketed year round. It also adds value to the raw product, increasing the potential for greater returns. Preparing gift baskets of wildcrafted edibles, as well as other packaging techniques, are other ways to add value. Adding value to decoratives can mean crafting raw materials into finished products. Holiday greenery, such as wreaths, roping, and table décor, represent a growing industry.

### **Examples of NTFPs**

A long and varied list of culinary, medicinal, and decorative NTFPs can be collected in the wilds of Kentucky for commercial use. General examples are provided in the sections below. Refer to the table for a partial listing of some specific, potentially valuable native and naturalized plant genera present in Kentucky.

#### *Culinary*

Edible products for culinary uses include fruits, berries, and nuts from forest trees and shrubs. Leaves of some herbaceous plants may be used for greens or dried herbs. A number of wild

mushroom species can also be collected for culinary use. Some of these, such as morels, are considered a delicacy and are highly prized. Mushroom collectors must be particularly careful in their identification since there are often poisonous look-alikes that can be mistaken for the edible species.

Some culinary products may be marketed with little or no processing, such as fresh berries, pawpaws, and nuts. However, because of their fragile nature, wild fruit and berries are often processed to extend their shelf life. The possible products that can be prepared from wildcrafted fruit are seemingly endless: wines, juices, jellies/jams/preserves, syrups, ice cream/sherbets, sauces, candies, and baked goods. Mushrooms and herbs may only require minimal processing since they can be sold fresh or dried. These dried products also lend themselves well to such value-added products as dried soups, sauces, dip mixes, and teas.

### *Medicinals*

Plants or plant parts with therapeutic value may be marketed for use as medicinals, food supplements, or herbal remedies. These products are often dried and sold to wholesale buyers or dealers.

### *Decoratives*

This category includes plant materials used for handicrafts, as well as those utilized in the floral industry. The types of plant materials that can be used for these purposes are extensive and varied. Branches that are unique, bearing berries, or encrusted with lichen provide interesting accents to floral arrangements. Some dormant woody stems can be sold either before or after they have been forced to flower. Flowering stems, evergreen boughs, cones, and seed pods have numerous decorative uses. Shelf fungi, mosses, ferns, and nuts may be of interest to the floral trade or local craftsmen. Wood carvers are often interested in obtaining thick bark pieces from trees such as sassafras and walnut. Bark should be collected only from dead or dying trees, or those marked

for timber harvest. Vines and willow branches may be suitable for basketry and other craft projects. Potpourri products made from the right combination of dried aromatic leaves, flowers, herbs, seeds, and needles are another popular way to use natural products.

## **Forest Inventory**

Regardless of whether the wildcrafter owns their own woodlot or has entered into a legal arrangement with another landowner, it is a good idea to inventory the forest property. The inventory should include the common and scientific names of all plant material, the approximate quantity, comments on quality, the date, and other pertinent notes. A detailed property map will be a useful tool in identifying the location of potential plant materials. Due to seasonal variations in flora, the inventory should be conducted at least three times a year for the first few years. Depending on the wildcrafter's own botanical background, this type of detailed inventory could require the services of a professional.

### *Harvesting, Storing, and Processing*

Before collecting any plant material, be sure the target plant is not considered endangered, threatened, rare, or at risk. Refer to the various up-to-date national, state, and local plant lists available online. Suggested sites are listed below. Following sustainable collection procedures will help ensure the continuation of the species and the preservation of Kentucky's flora.

Wildcrafted products are harvested by hand or with simple hand-held tools. Harvest and storage times will vary depending on the plant material and use. Timing of harvest is critical for products that deteriorate quickly after reaching their peak. Some products, such as wild berries, can have a short shelf life once harvested. Fragile and perishable products may need to be frozen or refrigerated as soon after collecting as possible. This could mean carting along an insulated ice chest. Additionally, because many products are seasonal, it is important to know exactly when they will be available.

Materials destined for value-added food products often need to be processed as quickly as possible. Processing methods include drying, canning, baking, and juice- or wine-making. Value-added food products must be processed in full compliance with all applicable government food safety requirements.

### **Economic Considerations**

Wildcrafting can mean a relatively small investment in terms of equipment. Supplies may include resource and reference materials, pruning shears, trowels, shovels, and other hand-held tools. Collecting bags or containers will also be needed. A portable cooler or insulated container will be required by some collectors.

Despite the apparent low initial investment in supplies, wildcrafting can be a financially risky business. Markets tend to be small and seasonal with unpredictable prices. Wholesale prices on some items, such as mushrooms, can vary on a daily basis. Additionally, the market demand for many NTFPs, such as herbal medicinals, can fluctuate drastically from year to year. Because these are niche items, it may not take great quantities to flood a market and lower prices. Delivering a consistent quantity of any one forest product may also be very difficult since the quantity and quality of NTFPs depends on nature.

Due to the amount of time and effort spent in gathering NTFPs, return to labor may vary greatly and may rarely even equal minimum wage. For wood lot owners and others with easy access to native plant material there is a potential for higher profits, presuming they are willing to invest the time and finances needed to locate or create a specialty market for their products.



### **NTFP ECONOMIC CASE STUDY: BLACK WALNUTS**

Black walnuts are one NTFP for which the economics may be easily quantified. Hammonds Products (Stockton, MO) is the country's primary purchaser of in-shell black walnuts. There were about 20 locations in Kentucky in 2011, plus others in neighboring states, where black walnuts could be delivered in the hull (drupe). These buying stations mechanically remove the hulls and then purchase the nuts on behalf of Hammonds Products. Purchase price for native harvest black walnuts usually ranges from about \$0.10 to \$0.14 per pound. The only materials necessary for collection are gloves along with buckets, bags, or other containers to transport the walnuts to the dehulling station.

A healthy person can gather 75 to 100 pounds of nuts per hour, depending on walnut tree density and ease of collection. At \$0.10 per pound, this would result in a return of \$7.50 to \$10.00 per hour before transportation to the dehulling station. While some people enjoy the recreational aspect of collecting this NTFP, return to labor for walnut collecting after transportation costs barely results in minimum wage. The benefit is for recreation, tradition, or removing the walnuts from yards, forests, and fields.

Harvesting NTFPs might also present an opportunity for the landowner to combine collecting with timber management tasks in the fall. In addition, walnuts can be an "entry level" crop for youth starting to take interest in farm and forest production. Savvy on-farm marketers with black walnut trees on the farm might also present gathering the walnuts as a potential agritourism activity.

This case shows that, while yielding minimal economic returns, creative approaches to gathering an NTFP can yield positive economic results — both tangible and intangible.

NATIVE AND NATURALIZED PLANTS OF KENTUCKY WITH POTENTIAL COMMERCIAL VALUE

Common Name	Scientific Name	Potential Uses
<b>Ferns, Mosses, etc.</b>		
Fern, Christmas	<i>Polystichum acrostichoides</i>	decorative
Fern, marginal wood	<i>Dryopteris marginalis</i>	decorative
Lichens	various species	decorative on branches
Mosses (sheet & log moss)	<i>Hypnum</i> spp.; <i>Thuidium</i> spp.	decorative
Mistletoe	<i>Phoradendron</i> spp.	decorative stems with berries
<b>Mushrooms</b>		
Boletus	<i>Boletus edulis</i>	edible
Chanterelles	<i>Cantharellus</i> spp.	edible
Lion's mane	<i>Hericium erinaceus</i>	edible
Morel	<i>Morchella esculenta</i>	edible
Oyster mushrooms	<i>Pleurotus</i> spp.	edible
Puffballs	<i>Calvatia</i> spp.	edible
Shelf fungi	various species	decorative
<b>Herbaceous plants</b>		
Bear grass spiderwort	<i>Tradescantia virginiana</i>	medicinal flowers, roots, leaves
Cattails	<i>Typha</i> spp.	decorative spikes
Creasy sallot	<i>Barbarea verna</i>	edible leaves
Dock	<i>Rumex</i> spp.	edible young leaves
Partridgeberry	<i>Mitchella repens</i>	decorative vines, foliage, berries
Watercress	<i>Nasturtium officinale</i>	edible leaves
<b>Trees, Shrubs, and Vines</b>		
Beech	<i>Fagus grandifolia</i>	edible nuts
Chokecherry	<i>Prunus virginiana</i>	edible fruit
Hawthorn	<i>Crataegus</i> spp.	decorative branches
Hazelnut, American	<i>Corylus americana</i>	edible nuts
Hickory (shellbark)	<i>Carya laciniosa</i>	edible nuts
Huckleberries	<i>Gaylussacia</i> spp.	edible fruit
Mountain laurel	<i>Kalmia latifolia</i>	decorative branches
Mulberry	<i>Morus rubra</i>	edible fruit
Pawpaw	<i>Asimina triloba</i>	edible fruit
Possumhaw	<i>Ilex decidua</i>	decorative stems with berries
Redbud	<i>Cercis canadensis</i>	decorative branches, forced
Sycamore	<i>Platanus occidentalis</i>	decorative seed balls
Tuliptree, tulip poplar	<i>Liriodendron tulipifera</i>	decorative fruit clusters
Walnuts, black	<i>Juglans nigra</i>	edible nuts
Winterberry, common	<i>Ilex verticillata</i>	leaves for tea, decorative berries
Witchhazel, common	<i>Hamamelis virginiana</i>	medicinal

## Selected Resources

### On the Web

- Agroforestry and Non-Timber Forest Products, FOR-110 (University of Kentucky, 2009)  
<http://www.ca.uky.edu/agc/pubs/for/for110/for110.pdf>
- Forest Farming: Medicinal Plants, FOR-117 (University of Kentucky, 2009)  
<http://www.ca.uky.edu/agc/pubs/for/for117/for117.pdf>
- Non-Timber Forest Products (Kentucky Department of Natural Resources )  
<http://forestry.ky.gov/resourceutilizationandmarketing/Pages/Non-Timber%20Forest%20Products.aspx>
- Decorative Plants of Appalachia: A Source of Income, AIB-342 (USDA Forest Service, 1970)  
*4.1 MB file*  
[http://www.sfp.forprod.vt.edu/pubs/app\\_decorative.pdf](http://www.sfp.forprod.vt.edu/pubs/app_decorative.pdf)
- Gatherers, Practices, and Livelihood Roles of Non-Timber Forest Products (Virginia Tech, 2001)  
<http://www.sfp.forprod.vt.edu/factsheets/gatherers.pdf>
- Income Opportunities in Special Forest Products, AIB-666 (USDA, 1993)  
<http://www.fpl.fs.fed.us/documnts/usda/agib666/agib666.htm>
- Nontimber Forest Products (Virginia Tech)  
<http://www.sfp.forprod.vt.edu/>
- Non-Timber Forest Products and Implications for Forest Managers (University of Minnesota, 2002)  
<http://www.extension.umn.edu/specializations/environment/components/botanicals1.html>
- PLANTS Database (USDA-NCRS)  
<http://plants.usda.gov/>

- Marketing Specialty Forest Products (University of Minnesota Extension, 1999)  
<http://www.extension.umn.edu/distribution/naturalresources/DD7278.html>
- Seeing the Non-timber Forest Products for the Trees (Inside Agroforestry: Volume 16, Issue 2, USDA National Agroforestry Center, 2007)  
<http://www.unl.edu/nac/insideagroforestry/vol16issue2.pdf>
- Wild Mushrooms (Ohio State University, 1996)  
<http://ohioline.osu.edu/hyg-fact/3000/3303.html>
- Wildcrafting for the Practicing Herbalist (Northeast School of Botanical Medicine, no year)  
<http://7song.com/files/Wildcrafting%20for%20the%20Practicing%20Herbalist.pdf>

### Books in print

- *Mushrooms of West Virginia and the Central Appalachians*. William C. Roddy. 2003. University Press of Kentucky: Lexington, KY. 536 pp.
- *Rare Wildflowers of Kentucky*. Thomas G. Barnes with Deborah White and Marc Evans. 2008. University Press of Kentucky: Lexington, KY. 220 pp.
- *Trees and Shrubs of Kentucky*. Mary E. Wharton and Roger W. Barbour. 1994. University Press of Kentucky: Lexington, KY. 592 pp.
- *Wildflowers and Ferns of Kentucky*. Thomas G. Barnes and S. Wilson Francis. 2004. University Press of Kentucky: Lexington, KY. 352 pp.

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*Photos by Matt Barton, University of Kentucky (fall woods); George Chernilevsky, Wikimedia Commons (basket of mushrooms); and PLANTS Database, USDA-NCRS (black walnuts)*

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For additional information, contact your local [County Extension](#) agent