

Alternative Forest Products

The Ten Commandments of the Forest
Al Fritsch

General Attitudes

1. *Enter the Forest with Reverence.* If we come unprepared for the forest experience, we will bring our own personal idols and put them on pedestals. Rather than seeing the forest as God's creation we seek to recreate it to our own designs and images.

2. *Do not verbally trash the Resource.* Such statements as "I only have a few acres and it was trashed over by some logging operators" makes the forest resource of less value and more open to exploitation because of a current condition. Speak highly of all forest lands.

3. *Celebrate the Forest.* This can only be done by knowing what is there and communicating that knowledge in an enthusiastic manner. Overlooking diversity and failing to spend meditation time there or neglecting to encourage art or song about the lands is to ignore the deep precious inner-meaning of our woodland community. Come to appreciate the biodiverse nature of our forest resources.

Specific Applications:

4. *Honor and Encourage Native Cultivars.* Some regard introduction of species known or used elsewhere as an important addition to an economy. However, our Kentucky forestlands are rich in native biodiversity. Shouldn't we look first at what is native and only then at what can be introduced from the outside? Granted, most agriculture does not use native species. But it is important to see the forest as a continuation of a very long and glorious chain of natural events.

5. *Walk lightly in the Forest.* Those who leave their mark by driving all over the forested areas to cultivate or pick will destroy the forest's fragile understory, losing many of the species that are so easily overlooked in favor of one or other choice specimens. Walking delicately rather than riding has a certain added symbolic significance.

6. *Do not Over-harvest Native Species.* To take a little is acceptable; to take too much endangers the target species and may threaten its very existence. The habit of taking just enough to satisfy human needs is not popular, nor is restoring the root stock after harvest. Not preparing for the next decades is stealing from the future and an infringement on the property rights of others. If ginseng is to be harvested, we must follow proper harvest practices of leaving the immature and seed stock and take only at certain times of the year.

7. *Do not Make Commercial Gain from Wild Plants.* When we harvest in the woods it should be for our own immediate needs and not for commercial gain.

8. *Do not Over-encourage Production.* Seeing woodlands as production areas has had enormous negative effects on our forest reserves. Giving a false impression that a vast variety of herbs, nuts and a host of other products are all there if only properly cultivated, may be a way of destroying the value of the forestlands.

9. *Do not Over-anticipate Yields.* To expect too much from forest production is to extract too heavy a toll on what is there. Realize that some diseases and weather variations will restrict production or harvest and that such allowances are normal for the cultivator to make on a year by year basis.

10. *Do not Covet all that is Seen in the Commons.* Some will find other "valuable" species when moving through or working in forest areas. To take at this point would be an infringement on the existing property rights of the people and could infringe on a limited resource which rightfully belongs to them.

Comments by Debra Hill, of the University of Kentucky

Introduction:

It's considered that about 50% of Kentucky's surface is covered with commercial timber (timber that is saleable according to industry standards). This is in an interesting ownership pattern. Over 90% of the forestland is privately owned, with very little in public land or private industry hands. In Kentucky's population of about 4 million people there are 1/2 million woodland owners. The average woodlot is 25 acres with over 60% of them of 10 acres or less. In reality you can't do any reasonable timber harvesting on 10 acres of land -- at least not more than once in a normal lifetime. We're considering other options.

This paper examines the possibilities of making some economic benefit, from products other than timber in a wooded area. Many of these things are very useable on a small scale, farmer's markets, etc., rather than commercial and in the short term (1-5 years). There are others that can provide annual income, but we're not considering industry. Working at several of these can bring in extra income. Some of these may be only for home use. But, if you're producing something for your own use you're not buying it. That's a savings in and of itself.

1. *Apiculture* -- This is the raising of bees to produce honey and beeswax. There are several benefits to beekeeping:

- a) The beehives are fairly inexpensive to manage.
- b) Collecting the beeswax and honey is not difficult.

There are some trees, maples, basswood, yellow poplar black locust and black tuppello (sweet gum) that make very good honey. A bee colony will return to the same pollen source, until it has been fully utilized, which explains the differences in the quality of honey types.

There is the disadvantage of working with bees. Many people don't even like the idea and don't want to be around them. This would not be a good option for those people. For those who do feel comfortable working with bees and want to try apiculture, there is a Beekeeper's Association in Kentucky, and various mechanisms to help them get started.

Of particular concern to beekeepers and others including gardeners, foresters, etc. is the rising incidence among tame bees of a tracheal mite infestation. This little creature gets into the bee's breathing tubes and kills them. A beekeeper can treat it among his/her own bees, but there is a danger to wild bees. Many flowering trees and plants are pollinated by wild bees and

are vital to the forest ecosystem. If these bees become infected who treats them. There is a possibility that we may be losing our feral (wild) bee populations.

2. *Fence Posts* – This is one of several uses that require cutting trees. Black locust, which is not considered valuable for many other things is great for fence posts. It is an extremely rot-resistant species. If you have more black locust than you like, fence posts are something that could be done with it. Black locust can also be cultivated, if you have a place where there are locusts growing. They tend to reproduce from root stock. They do this so prolifically that many people don't like them. Black locust will grow to fence post size in 12 - 15 years. In forestry where we talk about 100 year rotations, this is considered short-term.

3. *Woven Fences* – This is a practical use for branches or saplings. While not marketable, it can serve a need at home.

4. *Fruits and Nuts* – These are serendipitous crops (a benefit where none was expected). There are several native to Kentucky's forests including:

persimmon – The persimmon is traditional, and was used by Native Americans many years ago. The fruit can be used in a variety of dishes, preserves, etc. The tree also has a fine wood, which can be used for many purposes.

paw paw – This traditional fruit has been eaten for centuries. There is a paw paw project, which is researching it for the possibility of medicinal use, as well as its value as a food crop. An interesting note – paw paws are not pollinated by bees, but by flies.

walnuts – Besides having a beautiful, highly marketable wood, walnuts produce tasty nuts which can be sold.

5. *Firewood* – There is the possibility of making a lot of money in firewood, especially near urban areas. This is a good use for trees that have been severely damaged or killed by storms, disease, etc. While some of the dead should be left standing (snags) for wildlife habitat, some damaged trees can be selected for firewood, for personal use, and in some years to sell. As with any marketing project, the cost of travel, labor, etc. should be considered to see if selling it is economically beneficial.

6. *Handicrafts* – This is an endless category, limited only by the imagination of the crafter. There are several forest plants that are well suited for crafting. These include:

grapevine – We see this woven into wreaths or baskets, which can bring a good price for a small investment.

grasses – which can be woven or used in flower arrangements.

wood – Carvers are interested in different aspects of wood than foresters. They consider color, figure (pattern of rings) and interesting shapes or burls. For this reason trees that may not be desirable as commercial timber can be marketable, e.g. dogwood, osage orange. The craft market is a good way to go if you have single trees to sell.

7. *High value timber* – There are two species that have a per tree value, which makes them worthwhile to do some single tree management. One is Pawlonia, *P. tomentosa*, *P. imperialis* (Princess Tree, Empress Tree). This exotic import from Japan loves strip mines. It is a light weight light, colored wood, which has a high market value. The species also has the advantage of growing very fast. The trees can grow as much as nine feet in one year. The market is Japanese and the tree is used for musical instruments and religious objects. The most desirable wood is that which has grown more slowly. If you're going to manage it you have to be very careful of how it's grown. If you have had surface mining done on your land, there is a good possibility that it is growing there. The pawlonia is wind pollinated. It may be possible to manage the land for that one tree and get a worthwhile length. The rotations for this species are shorter than for native species. Oaks and walnuts have rotations of 50 - 100 years.

Walnut, black (*Juglans nigra*) and white (*Juglans cinerea*), (black especially) is the highest value timber in Kentucky. For the small woodlot owner, who doesn't want to do major harvesting, but has a couple of nice walnut trees, it is economically worth managing around those trees, so they get bigger and better. They are valuable enough to be logged as single trees. It is important that the trees be as straight as possible in the lower twenty feet, which is how foresters judge the value. If one is crooked it can be sold as a craft item. It won't bring as much money marketed this way, but the return is still good.

8. *Medicinal Plants* – Ginseng is the most well-known medicinal plant in this area. The plant has a thin, single stem which grows several inches from the ground and separates into compound leaves. Each of these "prongs" has 5 leaves. The number of prongs indicates the age of the root, which is the part that's marketable. It takes 18 months for the seeds of the ginseng to germinate. Marketable roots should be from plants that are 4 or more years old. Kentucky is in the center of the distribution area for naturally occurring ginseng. It is a 5 million dollar legal business in the state. We don't know the statistics for the illegal market.

Another marketable medicinal is Golden Seal, also known as yellow root. It isn't nearly as valuable (commercially) as ginseng.

9. *Maple Syrup* – This can be tapped from any maple tree, but it is much more work from others than the sugar maple. Harvesting maple syrup requires a lot of labor and has a very short window of opportunity. In northern Kentucky the season is from the middle of February to the middle of March. In the south it runs from January to February. Trees should be tapped when the sap is rising (after the winter solstice), but not close to budding when the composition of the syrup changes. The more sugar in the sap the better the syrup.

10. *Shitake Mushrooms* – This is a Japanese import belonging to a family of "wood-destroying" fungi. It provides an opportunity for small woodlot management on the 10-25 acre range. If individuals have trees (like walnut) that they might want to manage for, it may be necessary to clear a small area around the trees to improve their condition. There is no market for small diameter hardwoods. What would economically justify cutting down some of those trees 3-8 inches in diameter. This is the size that shitakes are grown in. The name "Shitake" mean literally "oak mushrooms". It has been well known that they grow on oaks, but research has shown that they will do well in any hardwood that retains its bark or has thick bark. Black locusts are unsuitable because they are extremely decay-resistant. Sweet gum and red maple both do very well.

If you want to try shitakes, but would rather not cut down trees, tops and branches can be gotten where logging is going on. It's said that 60% of the tree is left in the forest after logging, this may be a way to utilize the lower sections and tops that are left. The spores should be put in logs that measure about 3 feet in length, because you'll want to move them around. The wood must have been recently living. Holes are drilled in the logs and the wood is inoculated with the spores. The shitakes will produce as long as there is food in the log.

A note about wild mushrooms -- The morel is a tasty mushroom that appears in the spring in Kentucky. It rarely occurs in amounts large enough for marketing. Experiments are being done with cultivating it with mixed success.

11. *Kudzu*. This is also a Japanese import that was originally planted as ground cover for disturbed areas. In Japan the plant has many uses, but those have not been explored in the U.S. This explains the fact that it has become such a pest, covering slopes, trees, utility poles and anything that stands still long enough. The possible uses for this plant include: the vine for baskets; edible young shoots; fiber for paper; the root for use as firewood.

Wild Greens and Medicinal Plants **Excerpts from an interview with Lucille Stewart, local expert**

How long have you been hunting for wild greens? "I've been finding and eating wild greens for many years. As a child I would go with my mother to the garden or up and down the sides of the road to hunt them. There are many wild things that you can eat that are nutritious. Among these are poke, wild lettuce, shawnee, dock, green thistle and many others. We would mix them together, boil them down, then put them in a skillet with some hot oil. Fry them down until the water is gone and then eat them."

Are there a lot of things that you can't eat that could be gotten by accident? "Off hand I can't think of too many that would make you sick. We always stuck with the things that we were familiar with. We never tried to pick stuff that others told us were good if we didn't know exactly what we were getting. A lot of people say not to eat poke, but we've been eating it all our lives. We take the leaves and make greens out of it and peel and fry the stalk."

I've heard that there's a certain size of poke that you eat? "You don't wait until it gets up 3 or 4 feet high. You have to pick poke greens when the plant is 4-6 inches -- up to a foot high. The stalk gets tough after it's older."

What do you do with the berries? "Everyone told me they were poison, but an Indian in Cherokee, NC told me that if I would take one poke berry a day it would help my arthritis. I've been taking them for 5 or 6 years. I pick them in the fall before the frost falls on them. I wash them and put them in the freezer. When I want one I swallow the berry whole. I don't bite them because the poison is in the seed. I say it's helped a lot. I don't like to take medicine out of the drug store because it doesn't help like your own stuff. I also take honey and apple cider vinegar for my arthritis."

This moves into another topic, medicinals. What kind of ailments can you treat? "If you have the flu in the winter, in the fall there's a little white flower called "farewell summer". Break off the flowers stem and all and let them dry. In the winter if you get the flu or a cold, break it up in small pieces and put it in boiling water. Drink it hot with a very little sweetening, at night before you go to bed. It will even work on pneumonia."

You doctor your kids don't you? "Yes I sure do, and my grand kids and my two little great-grandsons."

Let's talk about ginseng a little. There's not a market for wild greens, but there is for wild ginseng. "There's a lot of people that I know around home that won't wait until the ginseng is big enough to have the berries on it. The berries get ripe in August or September. They don't wait and gather it too early. They think "if I don't get it somebody else will". That's wrong, because if you don't leave it alone until the berries fall off to make more come up for the next time, it won't be long until there won't be none for nobody. They're destroying the whole thing. ...Once you dig that one root, that's all of it. You need to wait until the 'seng has turned yellow and the berries are red."

How old does a plant have to be before you get a real good root? Since I know that you sell the root. "Probably 3 or 4 years. A lot of people will go dig these little 1 prong and 2 prong plants, but the more prongs (stems) the bigger the root."

How do you prepare it to sell? "You dig it, wash it and lay it out and let it dry. When it's completely dry you can sell it. Don't dry it in the microwave. It burns it out and there's no weight. I lay mine on a window screen and dry it in the air. If you dry it under like a car windshield it dries it too fast and you lose your weight."

How many good size roots would it take to get a pound? "I've been told it takes 5 pounds of green to make a pound of dry. So, you have to dig a whole lot of ginseng to make a pound. It takes a lot of walking."

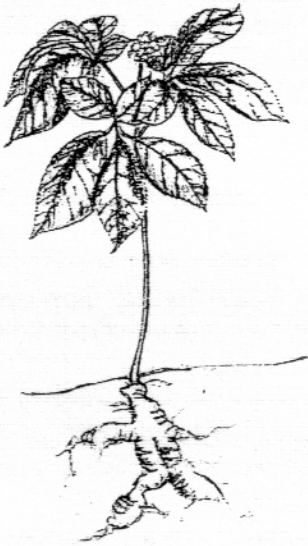
Do you find it mostly on national forest or on private land? "We hunt mainly on private land. If someone has a farm, and we want to hunt ginseng we always go and ask permission first. I would feel like it was stealing if we dug ginseng without asking first."

Do you think people can cultivate it in a garden? "No You can't grow it out in the sun. It has to be in the woods with a lot of shade over it. I've never seen it growing out of the woods."

What is the price now per pound? "In 1993 it was \$220 a pound."

What's the most you've ever had at one time to sell. "3 pounds. I had to log a lot of miles to get that."

When you go out to hunt ginseng, what plants grow around it to indicate its there? " Well, ginseng doesn't grow everywhere. There's no certain place to find it. Sometimes it will be in a swampy place and then again it grows on the top of the hill. I've always heard that it grows on the north side of the hill, but that doesn't have a thing to do with it because I've found it on the south side."



Ginseng
Panax quinquefolium
Flowers: June-July
Fruit: August-September

Gathering Wild Seeds
Flo and Maynard Hacker
460 Tobacco Road, London, KY 40743-0550

There is a growing business in the marketing of seeds from wild trees, shrubs and other plants. Flo and Maynard Hacker of Livingston, Kentucky have tapped into that market and are running a thriving business. Maynard sells seeds to mining companies and does reclamation of surface mine sites throughout West Virginia and Kentucky. When he began, reclamation consisted of sowing grass seed (cerese 31 and fescue). Both of these grasses are poor habitat for wildlife. In the last few years the trend has been toward recreating wildlife habitat with wildflowers and trees and other plants that occur naturally. The business in selling wild seed is growing rapidly.

While not difficult, gathering wild seeds requires a little research. There is a great variety in the appearance and methods of collecting. Flo and Maynard gather seeds in the fall, often where logging has been done and the tops of the trees left. They currently have a small crew working for them and all of their seeds are hand picked. Among the seeds that they gather are: popular, autumn olive, redbud, sumac, wildflowers and cattails. Flo and Maynard even sold 6,000 crowns of kudzu in 1994.

Maynard made a point that plants which are considered weeds in some locales, may be in great demand in other areas. The restrictions vary from state to state. For example autumn olive can't be taken into West Virginia.

Resources

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