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## The Herbal Dispatch

A monthly publication of the Medicinal Botanical Program

The goal of this newsletter is to inform readers of the Program's educational, research and outreach activities and events; and of results of the latest research on the chemistry, cultivation, processing and preventive and therapeutic use of botanicals.

The views expressed in The Herbal Dispatch are those of the authors and do not necessarily reflect those of MSU or the Medicinal Botanical Program staff.

Authors are solely responsible for their articles.

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Editor/Publisher

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## Raising Healthy Goats—The System of a Small Producer (Part I)

Montgomery Fitzwater, a goat producer, sent us a letter requesting information about the chemical composition of elm (*Ulmus* sp.) and mulberry (*Morus* sp.). In his letter, he also gives an insight of the way he manages his herd of goats, which he claims are very healthy and free of parasitic worms.

Probably, our goat-producing readers would be interested in reading Montgomery's letter as it briefly explains steps he takes to raise goats free of parasites, apparently without the use of chemical drugs. He suggests that letting the goats freely eat elm and mulberry leaves, in combination with other feeds, has virtually kept worms under control. Here is his letter:

June 20, 2008

Mario:

I've been trying to locate some information and happened upon a site with your name. I believe that you can help me. Also, in return, I hope that I can provide some insight—or at least experience.

I raise goats, milk and meat goats, and I also know many other small producers whom I've talked with and studied. First, the question: Which are the protein, sugar, starch and tannin content of elm and



American elm, [www.sifrc.ufl.edu](http://www.sifrc.ufl.edu)



Red mulberry, [www.murraystate.edu](http://www.murraystate.edu)

mulberry, but especially elm?

My goats choose elm leaves over any other browse and I feed it to them free. I am supplied by a tree service, at no cost. The goats will not eat high tannin leaves such as locust, oak, etc. I believe that this is because they are high in tannins and block protein absorption (I'm no scientist.).

Also, in the three plus years I've been doing this, we've had virtually no parasites—and we've had the goats to the vet. We also supply hay (brome, gamma, prairie)—whatever is cheap—and 12 percent sweet feed, ladino clover, grass and some corn gluten.

I would estimate that elm comprises about 60 percent of their feed—though I have not calculated it. The goats are very healthy and productive. In comparison with other small

producers, this has been extremely unique.

I need to add that we raise about a dozen or so goats on less than one acre.

I also have other anecdotal information about small producers in our area. Most are raising goats in feedlot conditions with virtually no browse. The parasite infection and the amount of wormers being used would scare you.

Also, do you know about a simple test for paired heavy-chain antibodies and the short-chain antibodies? I know that this simple blood test is run on other animals for parasite resistance (dromedaries, water buffalo, llamas...).

Thank you for your consideration.

Montgomery Fitzwater

## Golden Treasure

By Tuoi Tre, Thanh Nien News,  
21 July 2008

Ngoc Linh ginseng (*Panax vietnamensis*) is a species that grows in the south-central and Central Highlands regions of Vietnam, especially in Ngoc Linh Mountain in the provinces of Kon Tum and Quang Nam. It is a herb originally used by the Sedang ethnic minority group living in the Truong Son Range, who applied the root as a remedy for numerous diseases. Its extracts have been found to stimulate the body in cases of physical, mental and sexual asthenia, to enhance physical strength and immunity, and reduce fatigue. It is used to treat stress and tumor-growth. A hundred grams cost about US\$400.

**Central Highland's ethnic minorities have exploited the source of local ginseng for many years and it is now nearly extinct.**

As the afternoon reached its end, several ethnic minority people emerged from the forests on Ngoc Linh Mountain and dropped in at a nearby kiosk. Wiping beads of sweat from their faces, they dig into their backpacks and withdraw several tiny roots to place on the scale of the kiosk owner. The roots are known as Ngoc Linh ginseng (*Panax vietnamensis*) which these individuals had retrieved after combing through the forest on the 2,598-meter-high mountain for many days. However, these tiny roots only sell for around VND10,000–90,000 (US\$0.6–5.4). The last ginseng hardly survive this season, but “to our

people, it is well-respected to be able to earn several thousands of dong a day,” said Nguyen Van Luong, a ginseng scavenger and trader in Quang Nam Province's Mang Lung Village.

### Roots of life

Ngoc Linh Mountain, stretching across the Central Highlands provinces of Kon Tum and Quang Nam, is famous for its valuable ginseng. “The occupation of hunting for ginseng has long been established among the Mang Ri ethnic minority people,” said A Bling, a resident of Mang Ri Commune in Kontum Province. “Whenever we hear news that someone has found a large load of ginseng, or a big ginseng root, we hunt for them more enthusiastically,” said A Nhap, another local in the commune. “If we can't find large ginseng roots, we may find small ones; if we can't find many, we may find some.”

In the past few days, people in the commune have been talking excitedly about a local named A Jung who had earned around VND15 million (\$908) from selling a 550-gram ginseng root. “There is still valuable ginseng in the forest,” A Bling said. “We all know that not much ginseng is available now. But if we hunt for it, we may find it. A Jung's ginseng alone was worth a herd of cows.”

Everyone wishes to earn huge profits from Ngoc Linh ginseng. Local people often go hunting in groups of around seven people and

share what they gain. But the fruit of their earnings often pales to the efforts expended on each trip. “We now have to go as far as the forests in Quang Nam Province,” A Nhap said. “We scavenge until we are all fatigued, for not so much money.”

During 1987 and 1988, ginseng was plentiful in the forest, as locals could gather a sack of the root in a morning excursion, A Nhap said. “But it was so cheap then, as one kilogram of dry root was only worth a pair of shorts.” Despite knowing that the supply of ginseng is running out in the forests, local people in the mountainous districts of Quang Nam and Kon Tum provinces still persist in scavenging for the roots. “We know how to plant ginseng, but we do not want to miss the wild type,” Luong said.

### ‘Ginseng is always available here’

Individuals from the deltas have traveled to the communes in the Central Highlands to set up shop to buy and trade ginseng with local hunters. “Kiosks used to be very far from the forest, but now they are established right inside villages on the forest's edge to trade in ginseng,” said Chien, an owner of a kiosk in Mang Ri Commune.

Inside a food shop in Tumorong District's Tac To Town in Kon Tum Province, trade of ginseng flourishes daily. “Ginseng is always



Y Hong (R), a local resident of Mang Ri Commune, and his partner weigh ginseng to sell to a kiosk owner.

available here,” said the shop owner. According to local ginseng hunters and traders, Tac To Town is the “source market” of Ngoc Linh ginseng. Luong said he often gathers his “goods” to sell at this “market.”

This source market attracts a plethora of traders and buyers, who oftentimes conduct dealings via the supply and distribution channels of three local “big bosses.” Q., one of the three big bosses, said: “I always have around 10 kilograms of ginseng in stock ... Tac To Town has never run out of ginseng.” Every year Q. collects an average of 300 kilograms of ginseng. But last year he accrued more than 300 kilograms from new supply sources.

“Ngoc Linh ginseng from everywhere is gathered at Tac To town,” an official of Tumorong District said. “In addition to the three big bosses, there are dozens of medium and small traders. Ginseng trade earns major benefits, and rarely brings losses [for the traders].” Most traders say the largest markets for ginseng are the urban centers of Hanoi, Ho Chi Minh City and Da Nang City.

## Ginseng Oddities

**By David C. Carman  
Grower and Collector  
Princeton, West Virginia**

During past years, I have transplanted some wild dug ginseng roots that displayed the unusual growth habit of

having multiple necks producing multiple above ground stems.

This growth habit is not common, however it does occur occasionally under certain natural conditions. I

suspect the phenomena is triggered by injuries to the neck due to damage inflicted by grubs, insects, deer, etc., causing the subsequent development of one or more additional latent buds on the neck, the plant's attempt to

heal itself and survive. Most very old wild roots display evidence of previous injuries (damage).

The following table records above ground configuration of four of these plants over eight years.

**Number of stems per plant and prongs per stem produced by transplanted wild ginseng plants, Princeton, WV**

Plant #	Stem #	Prongs per stem by year							
		2000	2001	2002	2003	2004	2005	2006	2008
1	1	4	3	4	4	4	4	4	3
	2	4	3	4	4	4	4	4	3
	3	4	3	4	4	4	4	3	4
	4	--	--	--	4	--	--	--	--
2	1	4	4	5	5	5	5	5	5
	2	5	4	5	4	4	4	4	4
	3	7*	--	--	--	--	--	--	--
3	1	4	4	4	4	4	4	4	4
	2	4	4	4	4	4	4	4	4
	3	4	4	3	4	4	4	4	4
	4	4	--	--	--	--	--	--	4
	5	--	--	--	--	--	--	--	4
4	1		4	3	3	4	3	4	4
	2		4	4	4	4	4	4	4

**Note:** Table records above ground configuration only and does not correlate to specific neck bud growth from year to year

\* Two seed stems

## Appalachian Plant Profile: Black Walnut

By Dean Myles, Coordinator  
Medicinal Botanicals Program  
Mountain State University

*Juglans nigra* L. is a large native tree commonly known as black walnut or American walnut [1]. Black walnut can achieve heights of 120 feet or more. Black walnut has an alternate leaf and twig arrangement. The deciduous twigs are stout with a grayish pubescent and have light brown chambered pith. The bark is grayish brown, deeply furrowed with broad rounded ridges. The leaf scar is heart shaped with the bundle scars resembling horseshoes. The rounded terminal bud is present and also is brownish-gray pubescent. The pinnately compound leaves are 12-24 inches long with 9-23 leaflets. The leaflets are 3 to 3 ½ inches long and glabrous above and pubescent below. The margin is toothed and lance shaped, pointed at the apex and rounded at the base. The flowerers are yellowish green with both male and female flowers on the same tree. The male flowers form drooping catkins while the female flowers form terminal spikes. Black walnut flowers in late spring after the leaves have appeared. The fruit is a nut. The fruit forms in a green hull that turns black when it is ready to crack. The hull is brown indehiscent. The nut is sweet and edible. Open-grown trees produce seed as early as 8 years after planting, however best seed production begins when the tree is about 30 years old and continues for another 100 years [2]. The largest reported black walnut tree in WV, located in Harrison County, has a 48 inch dbh and a height of 101 ft [1]. The

largest recorded black walnut in the US is located in Sauvie Island, OR with an 85.7 dbh and a height of 130 feet [3].

Black walnut is one of the most valuable trees in the eastern forest. Black walnut wood is heavy, strong, and highly resistant to shock [2]. The wood has been used for dining room and bedroom furniture, bookcase, desks, tables, radio, television, phonograph, piano cabinets and other fine furniture. Black walnut veneer is used for the highest grade cabinets and plywood panels. Figured black walnut stocks are prized for expensive shotguns and sporting rifles. Although black walnut is a valuable timber tree it is also a valuable for medicinal purposes. Many American Indian tribes used black walnut not only as a food source but also to treat many ailments. The inner bark was used as an emetic and laxative, and chewed to relieve toothaches. The juice from green husk and leaves was used to treat ringworm and other fungus [4]. The husks are also considered to be anti-inflammatory and highly astringent and an effective cure for diarrhea. The Delaware tribe used a decoction of bark to remove bile from the intestines and scattered leaves around the home to kill fleas [5]. The Iroquois Indians used nut oil mixed with bear grease as a preventive for mosquitoes. They also used a poultice of bark to cure the "craziness" and an infusion of bark as a medicine for rain. Recent scientific studies have confirmed black walnut's antiviral activity and its inhibitory effect on certain tumors [3]. Walnuts are a rich

source of omega-3 fatty acids, essential for lowering high cholesterol, high blood pressure, and blood glucose [6]. It may also reduce heart disease and help with weight loss, arthritis, osteoporosis, depression, bipolar disorder, attention-deficiency/hyperactivity disorder (ADHD), inflammatory bowel disease (IBD), macular degeneration, colon cancer, breast cancer, and prostate cancer. ⚠️ Caution: Bark is considered to be poisonous and the fruit husk and leaves may cause dermatitis.

Cultivation of black walnut is from seed. Seeds must undergo stratification before germination begins. Plant seeds in deep rich soil with a neutral pH. Seedlings need to be in a sunny location for optimum growth. Black walnut is a good tree to grow not only for the timber but also for the possibility of nut production. Due to the scarcity of black walnut in the Appalachian Forest, it is a sound investment if you have idle land and free seed source. *Juglans nigra* is considered to be secure within its natural range [7]. Remember to contact your local native plant program or the National Plants Database at <http://plants.usda.gov/> for species status.

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Photograph courtesy of: Wikipedia, the free encyclopedia at [http://en.wikipedia.org/wiki/Image:Black\\_Walnut\\_nut\\_and\\_leaves\\_detail.JPG](http://en.wikipedia.org/wiki/Image:Black_Walnut_nut_and_leaves_detail.JPG)

## Herbs for Women's Health: Partridge Berry

**By Jennifer Gills**  
**Laboratory Coordinator**  
**Medicinal Botanicals Program**

*Mitchella repens* L., commonly known as Partridge Berry or Squaw Vine, is a well known herbaceous shrub from the madder family. It is commonly found growing in the eastern United States [1]. The plant is an evergreen creeping vine that does not climb; making it suitable for use in landscaping as a ground cover in shady areas.

Partridge Berry is easily identifiable in the wild. The plant oval- to heart-shaped opposite leaves are dark green with a light yellow-green midrib. It flowers throughout summer, producing white, tubular flower with four white to faint pink fuzzy petals. These dimorphous flowers have a pleasant aroma. The ovaries of two flowers fuse in late summer to produce bright red berries. These bitter, edible berries ripen by October and are well liked by many bird species [2].

There were numerous traditional uses attributed to the plant, many of which were specifically for women. The

entire plant was used by many Native American tribes to treat abdominal pain caused by menstrual cramping and for suppressed menstruation [3]. It was often given to newborns before they began nursing to encourage suckling and used as treatment for stomach aches in infants [3, 4]. A decoction of the plant was prepared for women who experienced abdominal pain during pregnancy while the berries were taken during childbirth to help suppress labor pains and facilitate delivery [4, 5]. The leaves were used to treat various venereal diseases. An infusion on the roots and twigs was used to treat rheumatism, back pain, or kidney conditions. A hot poultice prepared from the entire plant was applied to the chest to treat fevers and chest congestion [5]. The plant was also smoked during ceremonies and used in love potion preparations [3-5].

*M. repens* is still used by herbalists to treat many of the same conditions it was used for traditionally. It is given to women to relieve menstrual pain and to regulate heavy or inconsistent bleeding. It is

used to ease delivery in difficult childbirths and as a tonic for the uterus and ovaries. A salve is prepared from the plant to stimulate milk production and ease sore nipples during breastfeeding. Partridge Berry should not be taken by women in the early months of pregnancy as it may induce miscarriage [6].

For propagation of *M. repens* seeds require at least three months of cold stratification, therefore seeds should be sown in autumn into a moist, peaty, and neutral to acidic soil. The fruit pulp should be removed from the seed before planting. The plants are generally hardy to at least -20 C, but it is recommended to transplant seedlings into individual pots and grow them in a greenhouse for their first winter. In late spring, a shady location can be selected for the plants permanent location [7].

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Photo by ©Jeff McMillian.  
 Courtesy of [Almost Eden](#).  
 United States, LA.

## Letters to the Editor

Hello Dr. Morales:

I just wanted to point out that the picture of Dong quai contained in this newsletter (July 2008 issue, pg 5) is not

Dong quai. I believe it might be *Filipendula ulmaria* instead, but cannot be certain. It is definitely not Dong quai,

however. Keep in touch,  
 Eric Burkhart  
 Instructor and Program  
 Director, Plant Science

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 The Pennsylvania State Univ.  
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### About the Medicinal Botanical Program

This Program was created as result of a Specific Cooperative Agreement between Mountain State University and the USDA/ARS-Appalachian Farming Systems Research Center in Beaver, WV. The establishment of this agreement came through the efforts of Senator Robert C. Byrd and a Congressional Appropriation.

The mission of the Program is to promote the medicinal plant industry in WV through research, education and outreach. The Program conducts research aim at the identification and development of native plants as specialty vegetable/forage crops. Educational offerings include symposia, workshops and farm visits.

## Healthy Microwave-Cooking Tips

Here are some things to keep in mind when using the microwave:

- Most takeout containers, water bottles, and plastic tubs or jars made to hold margarine, yogurt, whipped topping, and foods such as cream cheese, mayonnaise, and mustard are not microwave-safe.
- Microwavable takeout dinner trays are formulated for one-time use only and it will say so on the

package.

- Don't microwave plastic storage bags or plastic bags from the grocery store.
- A recycle symbol does not mean a container is safe to use or reuse in the microwave oven. Only a microwave-safe icon or wording to that effect does.
- Before microwaving food, be sure to vent the container: leave the lid ajar, or lift the edge of the cover.
- Don't allow plastic wrap to touch food during microwaving because it may melt. Wax paper, kitchen parchment paper, or white paper towels are alternatives.
- If you're concerned about plastic wraps or containers in the microwave, transfer food to glass or ceramic containers labeled for microwave oven use.

HEALTHbeat, Harvard Medical School

## Goldenseal for Sale

<u>Goldenseal</u> : Organically grown, native southern West Virginia stock.	200 seeds (fresh crop)	\$10.00
	100 roots (2-3 yr old)	\$50.00
Stock shipped bare root, and invoiced separately, plus postage.	100 roots (mature)	\$70.00
	100 roots (cuttings)	\$80.00

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## Contributions

Dear reader:

Would you like to share your knowledge, skills and experience with us? Do you know how to produce, process, market and/or use herbs and medicinal plants?

Would you like to share this knowledge with our readers? It is quite simple. Just write your ideas on a piece of paper and mail it to us. We will type it and make sure that it gets published in our newsletter.

Please send contributions to the addresses indicated above.

## MBP in Pictures



Evaluation of purslane selection 16-4 at the USDA ARS School Farm in Abraham, WV, 2008; the central row has been harvested to estimate yield.