January 2008
Volume 6, Issue 1

The Herbal Dispatch

The Medicinal Botanicals Program
Mountain State University (304) 929-1630

ISSN 1548-6052 (Print)
ISSN 1548-6044 (Electronic)

Contents:

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 herbs, botanicals and vegetables

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

Mario R. Morales
Editor/Publisher

Sixth Medicinal Plant Symposium: 8 March 2008

The Mountain State University Medicinal Botanicals Program, the West Virginia Herb Association, and the Collaborative for 21st Century Appalachia will organize the Sixth Appalachian Opportunities Symposium at the Tamarack Conference Center in Beckley, West Virginia, on March 8, 2008. The theme of the event is 'Adding Value to Herb and Medicinal Plant Products'.

Schedule (on page 2)

The schedule covers one day of intensive educational activities with the following sessions: medicinal plant use, medicinal plant production, and value-added herb products. We have selected speakers with years of experience from the research, education and business areas. We encourage you to take advantage of this opportunity to learn from the experts how to improve your farm or sales operation. We hope you join us and enjoy your time updating your techniques and making new connections.

Help us organize the event by registering early.

Registration (Form on page 3)

Registration: $50

Vendors' Display (Form on page 3)

This is a great opportunity for vendors to promote their trade and create links for new market

opportunities. We will have a limited number of tables, so we encourage you to register as early as possible. Cost for tables reserved before March 3 is $10 each; after March 3, $15 per table.

Lodging

There are several hotels at the intersection of Harper Road and I-64/I-77 in Beckley, near Tamarack. Here is information of four of them.

Microtel Inn
2130 Harper Rd; 304.256.2000

Holiday Inn
114 Dry Hill Rd; 304.252.2250 (a new hotel, will start operating on February 28, 2007, accepting reservations now)

Super 8 Motel
2014 Harper Rd; 304.253.0802

Quality Inn
1924 Harper Rd; 304.255.1511

Directions to Tamarack (GPS Coordinates: 37º 48.103' N, 81º 13.000' W)

From I-64W/I-77N (Princeton and Lewisburg): Take exit 44. At the traffic light, turn left onto Harper Road, proceed through the first traffic light on Harper Road, then at the next traffic light, turn right onto Dry Hill Road. Travel approximately ½ block, then turn right onto Vankirk Drive. Tamarack, with its red, peaked roof, is located on the left. Turn left at the main entrance. Parking is available in front of the building. The Conference Center is located to the right of the visitor/craft center entrance.

From I-64E/I-77S (Charleston): Take exit 44. At the traffic light, turn right onto Harper Road, proceed through the first traffic light on Harper Road, then at the next traffic light, turn right onto Dry Hill Road. Travel approximately ½ block, then turn right onto Vankirk Drive. Tamarack, with its red, peaked roof, is located on the left. Turn left at the main entrance. Parking is available in front of the building. The Conference Center is located to the right of the visitor/craft center entrance.

Contact
Dean Myles 304-929-1687

Schedule– Sixth Symposium: Tamarack Conference Center, Beckley, WV, March 8, 2008
Appalachian Opportunities: Using, Producing, and Adding value to Medicinal Plants*

Time	Medicinal Plants (Room B)	Value Addition and Herb Culture (Room C)
7:00 – 8:00	Registration and exhibits set up	
	Session Chair: Ann Nye	Session Chair: Allen Arnold
8:00-8:55	The Use for Herbs for Improving Health and Stamina Susan Patterson, Nutritionist	SARE Grant Funding to Build Value-Added Agriculture in Appalachia Brian Kelly, Penn State Extension Educator, Blair County, Pennsylvania
9:00 - 9:55	Workshop: Preparation and Medicinal Uses of Herbal Teas Hassan Amjad, MD	Potential of Adding Value to Green Business Marilyn Harrell, Director Center for Economic Options
10:00 - 10:30	Coffee/tea break, visit vendors	
10:30 - 11:25	The Use of Medicinal Plants for Cancer Treatment Hassan Amjad, MD	Direct Marketing for Small-Farm Development Tom Clark Horticultural Marketing Specialist West Virginia Department of Agriculture
11:30 - 12:25	An Herbalist Approach To Allergies, Hay fever And Sinus Conditions David Hawkins, Master Herbalist	Value Added Workshop: Preparing Herbal Salves and Lotions Melissa Dennison, Small Business Owner
12:30 - 1:30	Lunch (on your own), Visit vendors	
	Session Chair: Kathy Hare	Session Chair: Mario Morales
1:30 -2:25	Understanding Herbal Homeopathy, Learn How This Modality Uses Our Common Herbs. Bonnie Buchman, RN, ND, PhD	Adding Value to Agricultural Products Teresa Halloran Agricultural Marketing Specialist West Virginia Department of Agriculture
2:30 - 3:25	Herbal Detox Eve VonDeck	Stakeholder Perspectives Surrounding Ginseng Poaching Randi Pokladnik, PhD
3:30 - 4:00	Coffee/tea break, visit vendors	
4:00 – 4:55	Healing from Mother Earth Michelle McCune, ND	Production of Aromatic Plants in Vietnam Using Agro-forestry systems Mario Morales, PhD
5:00 – 5:55	Herbs for Health and Well Being Elaine Ferry RN	Growing Virginia Snakeroot and Fairy Wand for Profit David C. Carman, Grower/Collector

*Schedule subject to changes

Sixth Symposium–Registration Forms

CONFERENCE REGISTRATION FORM
Sixth Appalachian Opportunities Symposium
8 March 2008

Name: _____

Address: _____

City: _____

State: _____ Zip code: _____

Telephone: _____

Email: _____

Activity: farmer _____, business owner _____, professional _____

Registration Fee: $50

Fees are not refundable

Make check or money order payable to **Mountain State University**

and mail to: Medicinal Botanicals Program
Mountain State University
410 Neville St.
Beckley, WV 25801-4511

EXHIBITOR REGISTRATION FORM
Sixth Medicinal and Aromatic Plants Symposium
8 March 2008

Name : _____

Type of business: _____

Address: _____

City: _____

State: _____ Zip code: _____

Telephone: _____

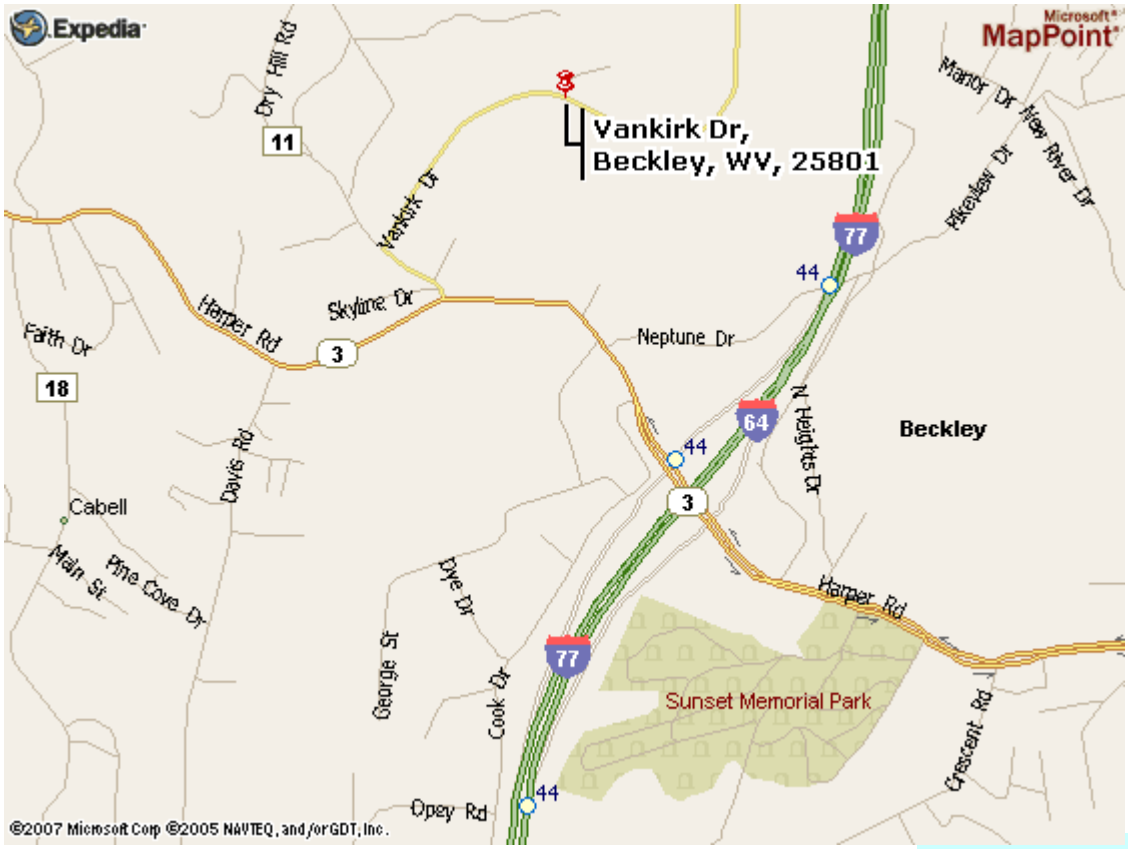
Email: _____

Number of 4 x 8 tables: _____

Fees: before Mar 3: $10/table; after March 3: $15/table
Fees are not refundable

Make check or money order payable to **Mountain State University** and mail to:
Medicinal Botanicals Program
Mountain State University
410 Neville St.
Beckley, WV 25801-4511

Map to Tamarack Conference Center (red pin)



Appalachian Plant Profile: Eastern Hemlock

By Dean Myles, Coordinator Medicinal Botanicals Program Mountain State University

Tsuga canadensis (L.), Carr., is a native conifer commonly know as Eastern hemlock, Canadian hemlock, hemlock spruce or hemlock. This large evergreen tree can reach a height well over 100 feet [1]. *T. canadensis* can be easily identified by its needles, which are flat round-tipped with two white bands (stomata) underneath. Needles and cones are 3/8 to 5/8 inches in length. The cones are brown, smooth (without prickles) and are usually located at the end of the branch. Cones begin to form when the tree is between 20 and 30 years in age [2]. *T. canadensis* is considered a reliable seed producer. The winged seed is dispersed by the wind and gravity. Hemlock is a slow growing tree that can live from 200 to 800 years. The oldest hemlock is reported to be 554 years of age [4]. The largest recorded hemlock, located in the Smokey Mountain National Park, has a circumference of 202 inches (64" dbh) and is 165 feet tall [3]. The largest recorded hemlock in WV is 125 feet tall with a circumference of 142 inches (45" dbh) [1].

Hemlock is a low value wood [2]. Hemlock wood has been used for pulp, sheathing, roofing, and boxes and creates. Hemlock provides an excellent habitat for many bird species and is an ideal tree for dens. Hemlock harvesting was for its bark tannins rather than its timber. The American Indian used *T. canadensis for* many medicinal applications. It has been used as analgesic, anti-diarrhea, cough medicine, cold remedy, diaphoretic, dermatological aid, kidney aid, urinary aid, pulmonary diseases, and rheumatism [5]. Hemlock is seldom used in modern treatments but may be effective as an astringent and antiseptic [7]. *T. canadensis* is also a wild food source. Young needles can be made into a tea rich in vitamin C [6]. The inner bark can be processed into flour.

Hemlock grows in moist cool coves and benches, generally on northern or eastern aspects within its range [2]. Hemlock generally grows best on well moist acidic soils with good drainage. Cultivation is from seed and does not regenerate from stump sprouts or layering. Seeds should be stratified for 6 weeks at 0 to 4°C before planting. Seeds develop best on mineral soil with plenty of humus. Seedlings are slow growing and are intolerant to full sun until 3 to 5 years of age. It is also suggested to cultivate it in containers for 5 years to improve root development and wind resistance [7]. Seedling transplanting distance should be between 12 and 16 inches (4 to 5 years old). There are no known regulations concerning the harvest of needles and branches of hemlock for medicinal use. Remember to contact your local native plant program or the National Plants Database at http://plants.usda.gov/ for species status.

1. Hicks, Ray R. Jr. 2007 **Trees of West Virginia** Bruce Lyndon Cunningham Productions. Nacogdoches, TX
2. Carey, Jennifer H. 1993. *Tsuga canadensis*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. Accessed on 12/11/07 at http://www.fs.fed.us/database/feis/
3. American Forest. 2007. National Register of Big Trees. Accessed 12/11/07 at www.americanforests.org/resources/bigtrees/register.php
4. Gymnosperm Database *Tsuga canadensis.* Accessed on 12/11/07 at http://www.conifers.org/index.htm
5. Native American Ethnobotanical Database *Tsuga Canadensis.* University of Michigan-Dearborn. Accessed on 12/10/07 at http://herb.umd.umich.edu/
6. Peterson, L. A., 1977 **Edible wild plants Eastern/Central North America** Houghton Mifflin Co. NY
7. Plants for the future, 2007 *Tsuga canadensis* Accessed 12/5/07 at http://ibiblio.org

Photograph courtesy of: Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA NRCS. 1995. *Northeast wetland flora: Field office guide to plant species*. Northeast National Technical Center, Chester.

Teaberry (*Gaultheria procubens* L.)

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

Teaberry, aka wintergreen, checkerberry, and mountain tea, in addition to many other local names, is a common native of the dry woods. It is a low creeping shrub that belongs to the heath family of plants. It has thick, shiny, dark, evergreen leaves; white, delicate, nodding flowers; and bright-red, edible fruits that can persist through the winter. Its refreshing taste stimulates saliva flow for thirsty hikers.

This six-inch plant is best known for its highly flavored, methyl-salicylate-containing essential oil extracted from the leaves. The essential oil is highly toxic, readily absorbed through the skin, and harmful to liver and kidneys. This same essential oil is also found in the bark of black birch (*Betula lenta* L.). Because the extraction of a pound of oil requires a ton of leaves, commercial producers rely on synthetic production, which is used to flavor chewing gum, candy, teas, medicines, etc.

Medicinally, the plant has been used to relieve pain, gas, and colic; to treat rheumatism and dysentery;

and reduce swelling, among many other uses.

The genus was named for Dr. Gaultier of the Middle eighteenth century.

'In Defense of Food' Author Offers Advice for Health

NPR, Morning Edition, 1-1-08

"Eat food, not too much, mostly plants." That's the advice journalist and author Michael Pollan offers in his new book, *In Defense of Food*.

'Eat Food'

The implication of Pollan's advice, however, is that what we're eating now isn't food.

"Very often, it isn't," he says. "We are eating a lot of edible food-like substances, which is to say highly processed things that might be called yogurt, might be called cereals, whatever, but in fact are very intricate products of food science that are really imitations of foods."

Pollan acknowledges that distinguishing between food and "food products" takes work. His tip: "Don't eat anything that your great-grandmother wouldn't recognize as food."

Take, for example, the portable tubes of yogurt known as Go-Gurt, Pollan says. "Imagine your grandmother or your great-grandmother picking up this tube, holding it up to the light, trying to figure out how to administer it to her body — if indeed it is something that goes in your body — and then imagine her reading the ingredients," he says. "Yogurt is a very simple food. It's milk inoculated with a bacterial culture. But Go-Gurt has dozens of ingredients."

'Not Too Much'

A large part of the conversation about food — like debating low-fat and low-carb diets — serves as a way of avoiding the idea that maybe we're just eating too much, Pollan says. He says his advice about how to limit consumption is based less on science, which he says "has failed us when it comes to food, by and large," and more on culture.

"Cultures have various devices to help people moderate their appetite," he says. "Once upon a time, there was scarcity. We don't have that anymore; we have abundance. But if you go around the world, you find very interesting tricks and devices."

One is small portion sizes, Pollan says. "The French manage to eat extravagantly rich food, but they don't get fat, and the reason is that they eat it on small plates, they don't have seconds, they don't snack."

In Okinawa, Japan, a cultural principle called "Hara Hachi Bu" instructs people to eat until they are just 80 percent full, Pollan says. "You do know when you are full, and the idea of stopping eating before you reach that moment … if you do that, you will actually reduce your caloric intake quite a bit," he says.

'Mostly Plants'

Finally, eating plants is very important, Pollan says. "There is incontrovertible but boring evidence that eating your fruits and vegetables is probably the best thing you can do for preventing cancer, for weight control, for diabetes, for all the different, all the Western diseases that now afflict us," he says.

But can you follow Pollan's advice and avoid processed foods without spending a ton of time and money?

"You're going to have to spend either more time or more money, and perhaps a little bit of both," Pollan says. "And I think that's just the reality. It's really a question of priorities, and we have, in effect, devalued food. And what I'm arguing is to move it a little closer to the center of our lives, and that we are going to have to put more into it, but that it will be very rewarding if we do.

"And if we don't, by the way, we are going to suffer from this — you know, we hear this phrase so many times — this epidemic of chronic disease. But the fact is, we are at a fork in the road. We're either going to get used to chronic disease, and be … in the age of Lipitor and dialysis centers on every corner in the city, or we're going to change the way we eat. I mean, it's really that simple. Most of the things that are killing us these days — whether it's heart disease, diabetes, obesity, many, many cancers — are directly attributed to the way we're eating."

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About the Medicinal Botanical Program

This Program was created as a 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.

Ginger inhibits cell growth and modulates angiogenic factors in ovarian cancer cells

J Rhode, S Fogoros, S Zick, H Wahl, KA Griffith, J Huang **and** JR Liu
BMC Complementary and Alternative Medicine, *Dec 2007*

Background
Ginger (*Zingiber officinale* Rosc) is a natural dietary component with antioxidant and anticarcinogenic properties. The ginger component [6]-gingerol has been shown to exert anti-inflammatory effects through mediation of NF-KB. NF-KB can be constitutively activated in epithelial ovarian cancer cells and may contribute towards increased transcription and translation of angiogenic factors. In the present study, we investigated the effect of ginger on tumor cell growth and modulation of angiogenic factors in ovarian cancer cells in vitro.

Methods
The effect of ginger and the major ginger components on cell growth was determined in a panel of epithelial ovarian cancer cell lines. Activation of NF-KB and and production of VEGF and IL-8 was determined in the presence or absence of ginger.

Results
Ginger treatment of cultured ovarian cancer cells induced profound growth inhibition in all cell lines tested. We found that in vitro, 6-shogaol is the most active of the individual ginger components tested. Ginger treatment resulted in inhibition of NF-kB activation as well as diminished secretion of VEGF and IL-8.

Conclusion
Ginger inhibits growth and modulates secretion of angiogenic factors in ovarian cancer cells. The use of dietary agents such as ginger may have potential in the treatment and prevention of ovarian cancer.

MBP in Pictures

MSU Medicinal Botanicals Program and USDA-ARS AFSRC Biochemistry teams celebrating the 2007 Christmas Holiday. Standing: Dean Myles, MSU; Jared Robertson, AFSRC; and Jennifer Gills, MSU; seating: Dr. Mario Morales, MSU; Dr. Joyce Foster, AFSRC; and Tyler Southern, AFSRC.

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Medicinal Botanicals Program
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Beckley, WV 25801-9003

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