

NC MEDICINAL HERB NEWS

A Newsletter of the North Carolina Medicinal Herbs for Commerce Project—Dr. Jeanine Davis, Project Leader

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MEDICINAL HERBS FOR COMMERCE WELCOMES A NEW CROP OF GROWERS

By Libby Hinsley

A new group of twenty-eight growers joined the Medicinal Herbs for Commerce Project this year, bringing our total number of cooperating growers to just over 40. Together, these growers represent twenty-nine counties across North Carolina.

Growers who are new to the project this year are preparing for a fall or spring planting of medicinal herbs. New growers will produce round headed bush clover and valerian in the coastal plains and the piedmont regions. In the mountains, growers will produce skullcap, boneset, catnip, and dandelion, as well as some woodland botanicals such as fairywand (otherwise known as false unicorn) and black cohosh.



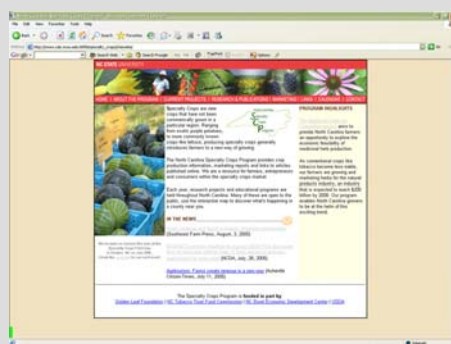
Black cohosh plant and root

Many of these herbs have long histories of use and medicinal properties. For example, extracts of round headed bush

clover have been found to have antitumor activity and to lower blood cholesterol. It is also used as a diuretic. Black cohosh is used to treat menstrual pain and menopausal symptoms. A new aspect of this year's project is making herb dryers available in the mountains. If you know of used bulk tobacco dryers for sale, let us know!

IN THE MEDIA

Medicinal Herbs for Commerce enjoyed a moment of fame when Channel 12 (NBC) news in Raleigh aired a three-minute segment about the project on July 14 and 15.



Also, check out www.ncspecialtycrops.org to see the new NC Specialty Crops Program website. Research publications, current news, and project updates are accessible on the new site.

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September 9-10:

Symposium on Medicinal and Aromatic Plants, Mtn. State University, Beckley, WV.
www.mountainstate.edu/usda

September 15-18: Natural Products ExpoEast, Washington, D.C. www.expoeast.com/

September 16-18:

Southeast Women's Herbal Conference in Black Mountain, NC. www.redmoonherbs.com

October 1: Planting the Future, Gordonsville, VA United Plant Savers.

www.unitedplantsavers.org

October 16-19: National Small Farm Conference, Greensboro, NC.

www.csrees.usda.gov/nea/ag_systems/in_focus/smallfarms_if_conferences_fourth.html

October 17-19: WorldNutra 2005: 6th International Conference and Exhibition on Nutraceuticals and Functional Foods, Anaheim, CA. www.worldnutra.com.

November 4-6: Carolina Farm Stewardship Association, Sustainable Agriculture Conference, Durham, NC. www.carolinafarmstewards.org/

November 9-11: SupplySide West International Trade Show and Conference, Las Vegas, NV. www.supplysideshow.com/west/

SEASONAL OUTLOOK

By Woody Woodward

As you receive this newsletter, the fall season will soon be upon us. A number of growers in the project have had successful harvests of various herbs throughout the growing season and are beginning to wind down their production and think about next year. Several educational conference calls are being offered for cooperating growers in the project this fall. One call will focus on cover crops and will be led by a University

Professor, Dr. Paul Mueller. Along these lines, you may find research done at Clemson University interesting: <http://virtual.clemson.edu/groups/psamedia/2005/specialtycrops.htm>. Clemson researchers trialed various clovers as a living mulch between rows of plastic-mulched beds to determine their effectiveness at beating weeds. The variety that came out best was *Regal ladino* clover. They found that it does a great job choking out tough weeds

(Continued on pg. 2)

FOR YOUR CALENDAR

GROWER PROFILE: STEVE TYSON

By Libby Hinsley

Steve Tyson of Pitt County is one of the original cooperating growers in the Medicinal Herbs for Commerce Project. He grew one acre of *Echinacea purpurea* in 2004. This year he increased his acreage of *E. purpurea* and trialed chamomile, California poppy, and *Lespedeza capitata*. We spoke with Steve about his thoughts on the project.

Looking back on his experience last year, Steve characterizes it as a learning process—learning the basics of how to grow his *Echinacea purpurea* crop, fertilize it, harvest and dry it; and also learning how to work



Lespedeza capitata, one of Steve's new crops

"We're learning more about what buyers are looking for, like the bioactives, the right time to harvest, and packaging details. We don't have it down to an art yet, but we're learning."

with prospective buyers. Last year brought plenty of learning, but it also brought success, as he harvested and sold over 300 pounds of dried *Echinacea*.

Having a year of experience under his belt serves him well in 2005. He is more familiar with how to fertilize, harvest, and dry the crops.

Steve suggests starting small with medicinal herb production. "It's nice to experiment with a few plots of different herbs, but I think everybody needs to get their feet wet growing one crop, to get more experience with it. It's better to start small and slowly increase the acreage. Don't try to grow more than you can handle. Starting with one acre is the best way." He thinks there is a future for the medicinal herb industry in NC and that after three or four years, things should be running pretty smoothly.



Steve Tyson with his 2004 *E. purpurea* crop, photo by Jackie Greenfield

MORE THAN MEETS THE EYE

By Amy Hamilton

Growing medicinal herbs poses unique challenges specific to the natural products industry. Not only must the final product look good, often it must pass certain tests performed in laboratories. These tests may be for heavy metals like arsenic and lead or for certain phytochemicals which naturally occur in plants. Some of these chemicals and chemical compounds are called *bioactives* due to their purported role in the medicinal action an herb has in the body. Research is ongoing into which bioactive(s) from a particular herb causes the herb's medicinal action as well as how much of that bioactive is needed to achieve the desired response. Based on this research, some herb buyers require that a final product contains a certain percentage of bioactives. A laboratory analysis can determine the percentage of a bioactive in an herb. Generally speaking, the higher the bioactive content of a final product, the better the market potential will be for the grower.

GREEN SCIENCE

The opening of Atlantic Biological Laboratories in Elizabeth City, NC brings a new, sophisticated dimension to North Carolina's natural products industry. ABL provides analytical services for the rapidly growing North Carolina medicinal and natural products market. They analyze botanicals, functional foods and other natural products using industry accepted methods and instruments qualified by an outside source. Services offered include determining plant bioactive levels, enzyme activity, fragrances, flavors, oils and moisture content as well as pesticide residues in raw and finished agricultural products. They state: "We have the desire and flexibility to work with smaller growers and can help lower costs on existing testing needs." Check them out online at www.AtlanticBiologicalLabs.com.

SEASONAL OUTLOOK (continued from pg. 1)

such as nutgrass *and* it fixes nitrogen as a bonus. It also soaks up excessive rainfall and can be mowed short without setback. This may be worth a trial to help with your efforts to minimize weed pressure.

On another note, a number of growers in the project will be sowing seeds this fall for transplanting later on. While this is a naturally risky time of the year to start seeds, it has the potential to produce much greater rewards than a spring planting. Give your transplants the best opportunity for wintering-over by preparing for the worst. Should a hard

freeze come on early while the plants are in the field, it will be necessary to protect them. Even at that, you may experience some dieback with the fall transplants come spring, and you must be prepared to have spring-sown plants ready to fill in where necessary.

A useful website to visit periodically is ATTRA: <http://www.attra.org/>, where a wealth of knowledge can be easily accessed to help you with many details of production and some new techniques you may be willing to try. Growers are also encouraged to contact Project staff anytime with questions, comments, or stories! Woody_Woodward@ncsu.edu; Libby_Hinsley@ncsu.edu.

HARVEST HIGHLIGHTS

By Libby Hinsley

The 2005 growing season is well underway and has already brought successful harvests to many cooperating growers. So far, harvests have included *Echinacea purpurea*, California poppy, German chamomile, valerian, and passion flower. Peggy Garrett of Person County has harvested valerian, Echinacea, and California poppy. Warren Brothers of Lenoir County has harvested California poppy and German chamomile, while Randy Ball of Vance County and Richard Wrenn of Person County have both harvested their California poppy crops at least once thus far. Steve Tyson has harvested Echinacea, California poppy, and German chamomile, while Ricky Smith of Caswell County has harvested Echinacea. Melody and Mark Hartsell in Rowan County harvested fresh passion flower in addition to their Echinacea harvest. Other cooperating growers are planning fall harvests of *Echinacea purpurea* leaf and roots, as well as additional California poppy harvests.



California poppy, photo by Jackie Greenfield

Although harvests have been abundant, challenges have taught us all some lessons. Not surprisingly, heat and humidity can be obstacles to a quality final product. One grower harvested chamomile on a high heat day with the intent of selling it fresh. Although stored in a cooler, by the time the flowers were to be shipped several days later, they were spoiled. If possible, chamomile needs to be harvested during less severe heat and shipped immediately with ice packs if it's being sold fresh. Several growers have also faced difficulty keeping dried California poppy from regaining moisture during storage. One grower put poppy back in the dryer after it picked up moisture, adding to fuel costs. Another grower lacked proper storage, and his product drew moisture and molded. Sometimes, a buyer cannot take final dried product right away, so growers need to be prepared for storage. In this case, a humidity-controlled storage facility would have been ideal—something growers may want to pitch in on together. Despite the challenges, the project continues to learn a great deal through this year's harvests.

AN INTERVIEW WITH RIC SCALZO ON ECHINACEA

By Amy Hamilton and Libby Hinsley

We spoke with Ric Scalzo, President of Gaia Herbs, Inc. about the results of an Echinacea clinical trial recently published in the New England Journal of Medicine that suggested Echinacea angustifolia is not effective in treating colds. We also wanted to know about an interesting new study of Echinacea being conducted by Gaia.

NC News: What's your take on the study of *Echinacea angustifolia*'s efficacy recently published in the *New England Journal of Medicine*?

RS: Overall, the study had integrity. It was well-designed and the investigators are highly regarded. I have some concerns though, mainly about the dosage and the frequency of the dosage [used in the study]. Those of us in the industry recognize that the dosage was too small and infrequently administered to be effective.

NC News: Do you think the study will affect the market for *Echinacea*?

RS: I don't think it will matter. There have been so many attacks on *Echinacea* in the news in the past few years that people are kind of tired of it. People who use *Echinacea* know it works.

Another interesting Echinacea study is being conducted right now at Gaia, funded by the National Institutes of Health (NIH). Through this study, Gaia is developing a model for the commercialization of Echinacea from seed to a final product.

NC News: Can you tell us about Gaia's (NIH) study?

RS: The overall scope of the study is to develop a commercializable product by taking a model that subjects *Echinacea purpurea* from seed to a final product. At the end of the study we should have a commercializable product as well as a model for developing other commercializable botanicals. This model involves seed producers, growers, manufacturers, and researchers. Other intentions are to develop a monograph and drug master file for the USP [United States Pharmacopeia] and to apply for an "innovative new drug" status with the FDA so that *Echinacea purpurea* can be submitted for trials. At the end of this study, next August, we hope that *Echinacea purpurea* can go on into clinical trials.



NC News: Is the *Echinacea purpurea* used for the NIH study grown on the Gaia Herb farm?

RS: Yes. We have been growing *Echinacea* on the farm for about eight years, so we have a lot of experience.

NC News: The Medicinal Herbs for Commerce project has recently added 28 farmers, many of whom have not grown herbs before. What kind of advice would you give them?

RS: Grow for bioactivity. Not only must the plant look good, be fresh and vital, but it must deliver the activity. We at Gaia are willing to pay a higher price for material with high bioactivity. Observe and make notes. Nature doesn't always go by what's planned in books. Nature is so dynamic. If you just observe what goes on you learn so much. That's the way I started out growing and I wouldn't change it.

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Medicinal Herbs for Commerce: A project to encourage the diversification of NC farms
WWW.NCHERB.ORG | WWW.NCMEDICINALHERBS.ORG | WWW.NCSPECIALTYCROPS.ORG

TIDBITS: HERBS AND ORGANICS IN THE NEWS

GINSENG REGULATION CHANGE

In its 2005 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) findings, the U.S. Fish and Wildlife Service announced recently that it is extending the minimum age for legal export of *wild* American ginseng root from 5 years to 10 years. Exportable plants are limited to those that bear at least four leaves, rather than three. This change does not affect the export of *cultivated* American ginseng, which will continue to be exported without any age restrictions with the currently required CITES certification. More information: www.ahpa.org/05_0803_2005.GinsengFinding.pdf

ORGANICS: BETTER YIELDS?

A study published in the July issue of *Bioscience* (Vol. 55:7) suggests that organic farming produces the same yields of corn and soybeans as does conventional farming, but uses 30% less energy, less water, and no

pesticides. This study consisted of a review of the Rodale Institute Farming Systems Trial, the longest running comparison of organic vs. conventional farming in the US. You can find out more information about Rodale's Farming Systems Trial at www.newfarm.org/depts/NFfield_trials/0903/FST.shtml. You can also check out www.newfarm.org for abundant information from Rodale.

CONFERENCE CALLS UNDERWAY

Conference calls for growers in the Medicinal Herbs for Commerce Project are underway. The first set featured Dr. Paul Mueller, offering advice regarding suitable cover crop varieties, planting timelines, and various uses: winter cover, between-bed weed suppression, and vegetative mulch. Upcoming calls are as follows: "Certified Organic Soil Fertility Products" with Dave Hitch of Asheville Agricultural Systems, September 20, 22, and 27. "Organic Certification," featuring Tony Kleese

of Carolina Farm Stewardship Association, October 3, 5, and 10. Calls are from 7-8 p.m. To access the calls, simply dial 1-800-820-4690 and when prompted, enter 7114138#. Use these opportunities to learn!

USDA ON ORGANIC LABELING

USDA's AMS recently issued a memo to all certifying agents for the National Organic Program to clarify organic labeling for supplements that contain organic herbs, among other goods. Personal care products with organic agricultural product content may meet NOP standards and carry the USDA organic seal. USDA's action could be partly in response to a lawsuit brought in June by Dr. Bronner's Magic Soaps and the OCA to challenge the exclusion of personal care products from the NOP. More info: www.ahpa.org/05_0823_AMS_Memo.pdf. The American Herbal Products Association website, www.ahpa.org, contains a wealth of information worth checking out.