

Wormwood and Crohn's Disease • Green Tea for Genital Warts • Padua: World's Oldest Botanical Garden

HERBALGRAM

The Journal of the American Botanical Council

Number 77 | February – April 2008

HerbalGram 77 • Feb – Apr 2008 Padua: World's Oldest Botanical Garden • Rhodiola for Depression • Native American "Prescription" Sticks • Green Tea for Genital Warts

Calendula
Herb of the Year

US/CAN \$6.95



www.herbalgram.org

www.herbalgram.org



UNCOMPROMISING COMMITMENT

A Note from Herb Pharm's Founders



Ed & Sara (1979)

*You'll find Herb Pharm
at fine natural products
stores or online at
www.herb-pharm.com*

Since we started Herb Pharm in our home kitchen in 1979 we have spoken often and emphatically about the necessity of using the best quality organically cultivated and sustainably wildcrafted herbs to produce safe and effective herbal extracts.

We have grown considerably since our humble beginnings, but we are still as fastidious as ever about the quality of our herbal products, and are ever improving that quality with our certified organic herb farm, our new GMP/FDA-audited manufacturing facility, our Botanical Sciences and Analytical Laboratory, and our Quality Assurance Department.

Our constant dedication to herbal education and product quality has gained us the respect and trust of thousands of natural food stores and healthcare practitioners, and a very large following of herbal consumers, and has thereby assured Herb Pharm of continuing success. We, along with our dedicated employees, thank our loyal customers for helping Herb Pharm become America's best-selling liquid herbal extract company.

Ed Smith & Sara Katz
Founders and Owners of Herb Pharm



Full Spectrum Herbal Extracts, Made With Environmental Responsibility

Calendula

Calendula officinalis

Family: Asteraceae

INTRODUCTION

A native of the Mediterranean countries, calendula is a small, bushy, cool-weather annual plant with light green, lance-shaped leaves and yellow-orange flowers that can grow up to 3 inches in diameter.^{1,2} The genus *Calendula* contains about 20 named species, but only *C. officinalis* is utilized for its medicinal or culinary benefits.² The plant material used medicinally is the dried, whole or cut fully opened flowers, with the petals having been detached from the receptacle.^{3,4} There are a great number of cultivars (cultivated varieties) of *C. officinalis* including one, *Prolifera*, that dates back to at least 1885.⁵ The popularity and easy cultivation of calendula accounts for the development of cultivars that range from compact and dahlia-flowered varieties to ones with lime-green centers, and even a few that vary from the normal orange and yellow to pink and apricot colored.⁵

The genus name *Calendula* comes from the Latin *kalendae* (Middle English *calends*) for “first day of the month” and is thought to refer to the fact that the plant can be found blooming at the beginning of most months of the year.^{6,7} Calendula has many common names including the following: poet’s marigold for the many poems written about it; pot marigold, which may be a derivation of poet’s marigold or a reference to its ease of cultivation in pots; Mary’s gold for its resemblance to the rays of light that radiate from the Virgin Mother’s head; and just plain marigold.^{1,2,6,8} Despite these common names, calendula should not be confused with the true marigolds (*Tagetes* spp., Asteraceae), which it does resemble somewhat.

Calendula is the International Herb of the Year for 2008. Since 1995, the International Herb Association (www.iherb.org) has chosen an herb each year to highlight, based on its performance in at least two of three categories: medicinal, culinary, and decorative. Throughout the year, herb groups and organizations work to educate the public about the chosen herb.

HISTORY AND CULTURAL SIGNIFICANCE

Historically, calendula was known as “poor man’s saffron” as it was used to color and flavor foods, specifically butter, cheese, custard, bread, cookies, soups, and rice dishes.^{2,7,9} Calendula petals are also added to salads and used as a dye for fabric and hair.² Currently, the pigment of the bright orange calendula is used in the pharmaceutical industry to give a pleasant color to some medicinal preparations.⁷

British herbalists John Gerard (1545-1612) and Nicholas Culpeper (1616-1654) both mention “marigold,” and 20th century British author Maud Grieve states that it is primarily a local (topical) remedy and that applying the petals to insect stings will reduce pain and swelling.¹⁰ She also recommends a lotion made of the flowers for sprains and wounds and a water distillation of the flowers for sore and inflamed eyes. While the flowers are the part most often used medicinally, Mrs. Grieve also mentions that the juice from the leaves would remove warts and that eating the raw leaves

in salad was useful in the treatment of childhood scrofula, a tubercular degeneration of the lymph glands.¹⁰

Folk medicine healers in Europe prepared infusions, extracts, and ointments with the petals to induce menstrual flow, to produce sweat during fevers, and to cure jaundice. In 19th century America, the Eclectic physicians used calendula internally to treat liver problems, stomach ulcers, conjunctivitis (inflammation of the mucous membrane that lines the eyelids, commonly called pink eye), and externally for superficial burns, bruises, and wounds.⁹ Traditionally, the flower was also used externally as an antiseptic and to help stop bleeding.¹¹

Calendula flowers demonstrate both astringent and anti-inflammatory activity and calendula infusions, ointments, and tinctures have been employed to heal bruises, burns, cuts, and the minor infections that they cause.^{12,13} Calendula preparations are used for skin and mucous membrane inflammations, such as pharyngitis (inflammation of the throat), leg ulcers, boils, bed sores, gum inflammation, and rashes.^{4,7} Lotions, poultices, and compresses

Continues on page 2



Calendula *Calendula officinalis*

Photo by Steven Foster. ©2008 Stevenfoster.com

made with calendula flowers may also be used, based on which preparation is most suitable.¹⁴ Some herbalists recommend the plant's essential oil for treating vaginal yeast infections.⁷

The German Commission E has approved the use of calendula flower internally and topically for treating inflammation of the mucous membranes of the mouth and throat, and externally for poorly healing wounds and foot ulcers.⁹ In the United Kingdom, calendula is approved as an herbal medicine for external use only in the General Sale List.⁴ In Canada, since the Natural Health Product (NHP) regulations went into effect in 2004, calendula is an active ingredient in NHPs requiring pre-marketing authorization and product licensing.¹⁵ Calendula flower ingredients are available in the United States for use in cosmetics, dietary supplements, and homeopathic remedies, and they are generally recognized as safe for food use (GRAS § 182.10) at 11 to 44 ppm (parts per million).^{2,4}

MODERN RESEARCH

Calendula's healing properties, while established over centuries of use, are not well understood. Various activities have been shown for the essential oil and extracts of the flowers including the following: antimicrobial, anti-inflammatory, antibacterial, antifungal, antitumor, cytotoxic, anti-HIV, and wound healing.^{4,9} Recent studies investigating the calendic acid content of the calendula seed have found it to have antioxidant properties.¹⁶

While there are not many clinical studies to support the various uses of calendula, a few stand out. Loggia et al (1994) found that an ointment made with calendula flowers is effective in relieving the pain associated with cracked or tender nipples.¹⁷ In 2005, Duran et al obtained positive preliminary results for the use of calendula ointment in the treatment of venous leg ulcers.¹⁸ Another 2005 study (Fuchs et al) showed the protective effect of a calendula/rosemary cream preparation against irritant contact dermatitis caused by exposure to sodium laurel sulfate.¹⁹ A 1999 study suggested that a Romanian product containing calendula, burdock (*Arctium lappa*, Asteraceae), and herb-Robert (*Geranium robertianum*, Geraniaceae) was more successful than acyclovir (a common antiviral pharmaceutical medication) at resolving complaints and healing ulceration caused by herpetic keratitis (inflammation of the cornea and conjunctiva caused by herpes virus type I).²⁰ (Note: The article cited is in Romanian and the plant parts were not specified in the English abstract.)

There are very few safety concerns regarding calendula. However, internal use of calendula preparations should be avoided during early pregnancy due to its ability to stimulate menstrual activity.²¹ Also, allergic hypersensitivity may be an issue for persons sensitive to other members of the plant family Asteraceae.²¹

FUTURE OUTLOOK

Most of the field trials and cultivation studies on calendula are evaluating its potential as a seed oil crop. According to a Kansas State University Research and Extension article from 2004, market potential for calendula is moderate to high, and the dried flowers can be sold for \$4.80 to \$39.00 per pound (dry weight).²² Estimated marketable yield of flowers, based on 43,560 plants per acre, is 1483 dry pounds/acre.²² Another report, from the British Columbia Ministry of Agriculture, Food and Fisheries in 2002, estimates that a grower could produce 175 pounds per quarter acre of organically-grown calendula flowers, which could be sold at an average price of \$13.00 per pound.²³ HG

—Gayle Engels

REFERENCES

1. Bown D. *The Herb Society of America's New Encyclopedia of Herbs and Their Uses*. London: Dorling Kindersley Limited, 2001.
2. Tucker AO, Debaggio T. *The Big Book of Herbs*. Loveland, CO: Interweave Press; 2000.
3. European Scientific Cooperative on Phytotherapy. *ESCO Monographs*. 2nd ed. New York: Thieme New York; 2003.
4. Wichtl M, ed. Brinckmann JA, Lindenmaier MP, trans. *Herbal Drugs and Phytopharmaceuticals*. 3rd ed. Stuttgart: Medpharm GmbH Scientific Publishers; 2004.
5. Bown D. Cultivars of Calendula. In: *Calendula: An Herb Society of America Guide*. Kirtland, OH: Herb Society of America; 2007.
6. Talbert R. What's in a Name! In: *Calendula: An Herb Society of America Guide*. Kirtland, OH: Herb Society of America; 2007.
7. Foster S, Johnson RL. *National Geographic Desk Reference to Nature's Medicine*. Washington, DC: National Geographic; 2006.
8. Samaha, Brother John M. Mary's Gold. In: *Calendula: An Herb Society of America Guide*. Kirtland, OH: Herb Society of America; 2007.
9. Blumenthal M, Goldberg A, Brinckmann J, editors. *Herbal Medicine: Expanded Commission E Monographs*. Austin, TX: American Botanical Council; Boston: Integrative Medicine Communications; 2000.
10. Grieve M. *A Modern Herbal*. Vol. 2. New York: Dover Books; 1971.
11. Leung AY, Foster S. *Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics*. 2nd ed. New York: Wiley-Interscience; 1996.
12. Foster S. *101 Medicinal Herbs: An Illustrated Guide*. Loveland, CO: Interweave Press; 1993.
13. Tyler VE. *Herbs of Choice: The Therapeutic Use of Phytomedicinals*. New York: Pharmaceutical Products Press; 1994.
14. Hoffmann D. *Medical Herbalism: The Science and Practice of Herbal Medicine*. Rochester, VT: Healing Arts Press; 2003.
15. Government of Canada. Food and Drugs Act. Natural Health Products Regulations. P.C. 2003-847. Published June 5, 2003. <http://canadagazette.gc.ca/partII/2003/20030618/html/sor196-e.html>. Accessed December 7, 2007.
16. Wilen RW, Barl B, Slinkard AE. Feasibility of Cultivation: Calendula as a Dual Purpose Industrial Oilseed and Medicinal Crop. *ISHS Acta Horticulture 629 :XXVI International Horticultural Congress: The Future for Medicinal and Aromatic Plants*. Available at: http://www.actahort.org/books/629/629_26.htm. Accessed August 26, 2007.
17. Loggia DR, Tubaro A, Sosa S, et al. The role of triterpenoids in the topical anti-inflammatory activity of *Calendula officinalis* [sic] flowers. *Planta Med*. 1994;60:516-520.
18. Duran V, Matic M, Jovanovic M, et al. Results of the clinical examination of an ointment with marigold (*Calendula officinalis*) extract in the treatment of venous leg ulcers. *Int J Tissue React*. 2005;27(3):101-106.
19. Fuchs SM, Schliemann-Willers S, Fischer TW, Elsner P. Protective effects of different marigold (*Calendula officinalis* L.) and rosemary cream preparations against sodium-lauryl-sulfate-induced irritant contact dermatitis. *Skin Pharmacol Physiol*. July-August 2005;18(4):195-200.
20. Corina P, Dimitris S, Emanuil T, Nora R. Treatment with acyclovir combined with a new Romanian product from plants [abstract] [in Romanian]. *Oftalmologia*. 1999;46(1):55-57.
21. Brinker F. *Herb Contraindications and Drug Interactions*. 3rd ed. Sandy, OR: Eclectic Medical Publications; 2001. Plus online updates and additions, August 26, 2007.
22. Janke R. Farming a Few Acres of Herbs: Calendula. Manhattan, KS: Kansas State University; 2004.
23. Schimpf T, Joynt H. Certified Organic Versus Non-organic Budgets for Calendula Flower. Vancouver, BC: British Columbia Ministry of Agriculture, Food, and Fisheries; 2002.

Relax & Rejuvenate

*Indulge in the luxurious aroma of the Queen of Flowers
from one of the most beautiful and exotic places on Earth.*



1-877-4-ALTEYA
www.Alteya.com

BulgarianRoseOil.com | BulgarianRoseWater.com

10% discount for HerbalGram readers. Discount code: ROSE

ABC Advisory Board

Each issue of *HerbalGram* is peer reviewed by members of the ABC Advisory Board and other qualified experts before publication.

Cindy K. Angerhofer, PhD

Director of Botanical Research, Aveda Institute, Minneapolis, Minnesota

John Thor Arnason, PhD

Professor of Biology, Department of Biology, University of Ottawa, Ontario, Canada

Dennis V. C. Awang, PhD, FCIC

MediPlant Natural Products Consulting Services, White Rock, B.C., Canada

Bruce Barrett, MD, PhD

Associate Professor of Family Medicine, University of Wisconsin-Madison Medical School

Marilyn Barrett, PhD

Pharmacognosy Consulting Service, San Carlos, California

Ezra Bejar, PhD

Director Vice President of Scientific Affairs, Herbalife International, Inc., Torrance, California

Stacey J. Bell, DSc

Research Scientist, IdeaSphere Inc. Grand Rapids, Minnesota

Bradley C. Bennett, PhD

Associate Professor of Biology, Florida International University, Miami

John A. Beutler, PhD

Staff Scientist, Molecular Targets Development Program, National Cancer Institute, Frederick, Maryland

Keith I. Block, MD,

Medical and Scientific Director, Block Center for Integrative Cancer Treatment, Evanston, Illinois

Josef Brinckmann

VP of Research and Development, Traditional Medicinals, Inc., Sebastopol, California

Francis Brinker, ND

Clinical Assistant Professor, Department of Medicines, Program in Integrative Medicine, University of Arizona, Tucson

Donald J. Brown, ND

Director, Natural Products Research Consultants, Seattle, Washington

John H. Cardellina, PhD

Expert Chemist, Developmental Therapeutics Program, National Cancer Institute, Frederick, Maryland

Thomas J.S. Carlson, MS, MD

Associate Adjunct Professor, Department of Integrative Biology; Director, Center for Health, Ecology, Biodiversity, & Ethnobiology; Curator of Ethnobotany, University and Jepson Herbaria; University of California, Berkeley

Jean Carper

Author and syndicated columnist, Washington, D.C.

Ray Cooper, PhD,

Chief Science Officer, PhytoScience Inc. Los Altos, California

Jerry Cott, PhD

Pharmacologist, Silver Spring, Maryland

Paul Alan Cox, PhD

Executive Director, Institute for Ethnomedicine Jackson, Wyoming

Lyle E. Craker, PhD

Professor, Department of Plant and Soil Sciences, University of Massachusetts, Amherst

Edward M. Croom, Jr., PhD

Adjunct Associate Professor of Pharmacognosy, University of Mississippi, Oxford, Mississippi

Wade Davis, PhD

Explorer-in-Residence, National Geographic Society, Washington, D.C.

Steven Dentali, PhD

Vice President of Scientific and Technical Affairs, American Herbal Products Association, Silver Spring, Maryland

Hardy Eshbaugh, PhD

Professor of Botany & Assistant Curator, Willard Sherman Turrell Herbarium, Miami University, Oxford, Ohio

Trish Flaster, MS

Executive Director, Botanical Liaisons, LLC, Boulder, Colorado

Paula M. Gardiner, MD, MPH,

Assistant Professor, Department of Family Medicine, Boston University Medical School, Boston, Massachusetts

Joe Graedon, MS

Author, syndicated columnist, radio host, Durham, North Carolina

Bill J. Gurley, PhD,

Professor of Pharmaceutical Sciences, College of Pharmacy, University of Arkansas for Medical Sciences Little Rock, Arkansas

Charlotte Gyllenhaal, PhD

Research Assistant Professor, College of Pharmacy, University of Illinois at Chicago; Research Program Manager, Block Center for Integrative Cancer Care, Evanston, Illinois

Mary Hardy, MD

Director, Cedars-Sinai Integrative Medicine Medical Group, Los Angeles, California

Christopher Hobbs, LAc, AHG

Herbalist, botanist, licensed acupuncturist, Davis, California

Freddie Ann Hoffman, MD,

CEO and Managing Member, HeteroGeneity, LLC Washington, D.C.

David Hoffmann BSc, FNIMH

Medical Herbalist, Author, and Research Associate Traditional Medicinals, Sebastopol, California

Kenneth Jones

President and Medical Writer, Armana Research, Inc, Halfmoon Bay, BC, Canada

Edward Kennelly, PhD

Associate Professor and Chair, Department of Biological Sciences, Lehman College, City University of New York, Bronx, New York

Ikhlas Khan, PhD

Associate Professor of Pharmacognosy, Assistant Director, National Center for Natural Products Research, University of Mississippi, Oxford, Mississippi

Steven King, PhD

Vice President, Sustainable Supply and Ethnobotanical Research, Napo Pharmaceuticals Inc., South San Francisco, California

Richard Kingston, PharmD, CSPI

President, Regulatory and Scientific Affairs, Safety Call™ International Poison Center; Professor, Department of Experimental and Clinical Pharmacology, College of Pharmacy, University of Minnesota, Minneapolis, MN

Uwe Koetter, PhD,

Principal and Founder, Dr. Koetter Consulting Services Switzerland

Thomas L. Kurt, MD, MPH

Clinical Professor, Department of Internal Medicine, University of Texas Southwestern, Dallas, Texas

Roberta A. Lee, MD

Medical Director, Co-Director Integrative Medicine, Continuum Center for Health and Healing; Director of Medical Education and Integrative Fellowship, Beth Israel Medical Center, New York, New York

Martha M. Libster, PhD, RN, CNS

Associate Professor of Nursing, East Carolina University, Greenville, North Carolina

Tieraona Low Dog, MD

Clinical Asst. Professor, Director of Botanical Studies, Program in Integrative Medicine, University of Arizona School of Medicine, Tucson, Arizona

Gail B. Mahady, PhD

Research Assistant Professor, Department of Medical Chemistry & Pharmacognosy, College of Pharmacy, University of Illinois, Chicago

Robin J. Marles, PhD

Director of the Bureau of Research and Science, Natural Health Products Directorate, Health Products and Food Branch, Health Canada, Ottawa

Will C. McClatchey, PhD,

Professor of Botany, University of Hawaii Mānoa, Hawaii

Dennis J. McKenna, PhD

Senior Scientist, British Columbia Institute of Technology, Burnaby, BC, Canada

Marc S. Micozzi, MD, PhD

Executive Director for Integrative Medicine, Thomas Jefferson University Hospital, Philadelphia, Pennsylvania; Director, Policy Institute for Integrative Medicine, Washington, DC

Simon Y. Mills

Senior Teaching Fellow, Peninsula Medical School Exeter, England

Daniel E. Moerman, PhD

William E. Stirtton Professor of Anthropology, University of Michigan/Dearborn

William Obermeyer, PhD

Vice President of Research and Technology, ConsumerLab.com, Annapolis, Maryland

Samuel W. Page, PhD

Scientist, International Programme on Chemical Safety, World Health Organization, Geneva, Switzerland

Joseph E. Pizzorno, Jr., ND

President Emeritus, Bastyr University, Seattle, Washington, and Editor, *Integrative Medicine: A Clinician's Journal*

Mark J. Plotkin, PhD

Author, Executive Director, Amazon Conservation Team,
Arlington, Virginia

John M. Riddle, PhD

Professor of History, Department of History,
North Carolina State University, Raleigh

Eloy Rodriguez, PhD

James Perkins Professor of Environmental Studies,
School of Agriculture & Life Sciences, Cornell University,
Ithaca, New York

Paul Schulick

Founder and Co-CEO, New Chapter, Inc.
Brattleboro, Vermont

Holly Shimizu

Executive Director, US Botanic Garden, Washington, DC

Victor Sierpina, MD

Associate Professor of Family Practice Medicine,
University of Texas Medical Branch, Galveston

James E. Simon, PhD

Professor of New Use Agriculture, Director of the Center for
New Use Agriculture and Natural Plant Products, Rutgers
University, New Brunswick, New Jersey

Beryl Simpson, PhD

C. L. Lundell Professor of Botany, Department of Botany,
University of Texas at Austin

S. H. Sohmer, PhD

President and Director, Botanical Research Institute of Texas,
Fort Worth

Ed Smith

Chairman, Herb Pharm, Williams, Oregon

Barbara N. Timmermann, PhD

Chairperson-Professor of Medicinal Chemistry,
University of Kansas, Lawrence, Kansas

Arthur O. Tucker, PhD

Research Professor of Agriculture and Natural Resources,
Delaware State University, Dover

Nancy Turner, PhD

Professor and Ethnobotanist, Environmental Studies
Program, University of Victoria, British Columbia, Canada

Jay Udani, MD,

CEO and Medical Director, Medicus Research LLC.,
Medical Director, Northridge Hospital Integrative Medicine
Program, Northridge, California

Roy Upton

Herbalist, Executive Director, American Herbal Pharmaco-
poeia, Scotts Valley, California

Daniel T. Wagner, RPh, MBA, PharmD

Owner, Nutri-Farmacy, Wildwood, Pennsylvania

Andrew T. Weil, MD

Author, Director of the Program in Integrative Medicine and
Associate Director of the Division of Social Perspectives in
Medicine, College of Medicine, University of Arizona, Tucson

David Winston, RH (AHG),

Director, Herbal Therapeutics Research Library, Herbalist &
Alchemist, Inc., Washington, New Jersey

Bernd Wollschlaeger, MD

Family practice physician; Clinical Assistant Professor of
Medicine and Family Practice, University of Miami, School of
Medicine, Florida

Jacqueline C. Wootton, MEd

President, Alternative Medicine Foundation, Inc.
Director, HerbMed® HerbMedPro™, Potomac, Maryland

ad hoc advisor:**David M. Eisenberg, MD**

Director, Osher Institute,
Division for Research and Education in Complementary
and Integrative Medical Therapies,
Harvard Medical School, Boston, Massachusetts

ABC Board of Trustees

Michael J. Balick, PhD

Director and Philecology Curator, New York
Botanical Garden, Bronx, New York

Neil Blomquist

President, Sustainable Solutions Consulting
Services, Sebastopol, California

Peggy Brevoort

President, Brevoort, LLC, Kapa'au, Hawaii

Norman R. Farnsworth, PhD

Research Professor of Pharmacognosy,
Senior University Scholar, University of Illinois
at Chicago

Steven Foster

President, Steven Foster Group, Inc.,
Eureka Springs, Arkansas

Fredi Kronenberg, PhD

Prof. of Clinical Physiology, Columbia
University, College of Physicians and
Surgeons, New York, NY

Morris Shriftman

CEO, Mozart, Inc., Petaluma, California

John Weeks

Editor and Publisher, *The Integrator Blog News
& Report*, Seattle, Washington

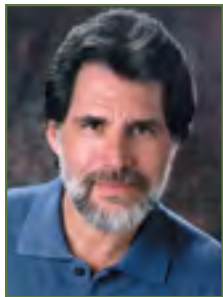
James A. Duke, PhD (emeritus)

Botanical Consultant, Economic Botanist
(USDA, ret.), Herbal Vineyard Inc. / Green
Farmacy Garden, Fulton, Maryland

Mark Blumenthal (ex officio)

Founder and Executive Director

dear reader



Back in the late 1970s, one of the great mentors to young herbal enthusiasts was Paul Lee, PhD, a philosophy professor at the University of California Santa Cruz, and the person who coined the term “herbal renaissance” to describe the then-burgeoning interest in herbal teas, extracts, cosmetics, etc. Harvard trained and heavily steeped in the classics and ancient history of ideas, Paul was fond of regaling his mentees (noted author and photographer Steven Foster was one) with constant allusions to ancient and medieval herbal lore.

Among his notable initiatives, Paul created the first Herbal Symposia, connecting the hippie herbalists with members of academia. It was through Paul that many of us first met Jim Duke, Norm Farnsworth, the late Varro Tyler, Walter Lewis, Ara Der Marderosian, and others. Paul was also responsible for bringing the renowned organic gardener Alan Chadwick to the University to start a demonstration garden on the slopes of the University, stimulating students to learn how to grow natural foods. After not receiving tenure at UCSC (allegedly he spent too much time gardening), he was asked by one of his clueless colleagues, “Paul, what does philosophy have to do with gardening?”

One of Paul’s persistent stories was how most old universities in Europe were built around gardens, many based on herbs and medicinal plants that were then the basis of most medicines. The oldest of these gardens was at the University of Padua in Italy. Founded in 1545, the Padua gardens are still extant today and are going through a process of revitalization. For this issue our prolific assistant editor Courtney Cavaliere has written about the history of the garden, and our good friend classicist Prof. John Riddle has contributed to this beautiful pictorial of the Botanical Garden of Padua.

In the summer of 2001, I listened to renowned North American ethnobotanist Prof. Daniel Moerman give a fascinating lecture on “Native American Prescription Sticks” at a joint meeting of the Society for Economic Botany (SEB) and the International Society of Ethnopharmacology. Prof. Moerman’s presentation included photos of short pieces of wood and tree bark that contained stylized carvings of plants. Created by Native Americans from Midwestern and Great Lakes tribes, these sticks were apparently intended as mnemonic devices to help preserve the then-vanishing native wisdom of various herbal formulas. About a dozen of these “prescriptions sticks” remain in museum and private collections. Prof. Moerman recently found the time in his busy schedule (he edits SEB’s journal *Economic Botany*) to generously share his research and photos of these sticks with us for a compelling article on vanishing indigenous knowledge and the somewhat mysterious way in which some native Americans peoples—their oral cultures faced with extinction—tried to preserve their herbal heritage.

Also in this issue, we introduce the first in a series of Product Specific Monographs being developed by ABC, profile a research project being conducted in the Amazon with vanilla orchids, and examine the factors that led to a poor saw palmetto harvest for 2007. We further introduce 14 new members of the ABC Advisory Board. This list includes many friends and colleagues who have graciously accepted our invitation to join the board, in many cases formalizing years of professional and personal friendships and numerous contributions to the nonprofit educational programs and mission of ABC. We look forward to working with these friends and experts in this new capacity, particularly as we begin a new calendar year and ABC’s 20th year as an organization.

American Botanical Council

Mark Blumenthal
Founder and Executive Director

Janie Carter
Receptionist/Administrative
Assistant

Courtney Cavaliere
HerbalGram & HerbalEGram
Assistant Editor

Gayle Engels
Education Coordinator

Michael Finney
HerbalGram Managing Editor

Sarah Fletcher
Membership Coordinator

Lori Glenn
HerbClip Managing Editor

Cassandra Johnson
HerbalEGram Managing Editor

Matthew Magruder
Art Director

Nancy Moon
Executive Assistant

Jeremy Pigg
Marketing Director

Perry Sauls
Customer Service Coordinator

Kelly E. Saxton
Editorial Assistant

George Solis
HerbClip Production Assistant

Nathanael Sponseller
Gardener

Cecelia Thompson
Finance Coordinator

Aileen Truax
Development Director

Margaret Wright
Accounting Coordinator



Mission: Provide education using science-based and traditional information to promote responsible use of herbal medicine—serving the public, researchers, educators, healthcare professionals, industry, and media.

The First Step in GMP Compliance is Identity.

ALKEMISTS PHARMACEUTICALS

INCREASING CONFIDENCE THROUGHOUT THE SUPPLY CHAIN

Expertise with over 800 species of botanicals

An in-house herbarium with 6000 +
specimens for cross-species referencing

Fast turn around time

10 years of unparalleled customer support

Increase the value of your product line by including a
Certificate of Analysis from Alkemists Pharmaceuticals.

Contact us for details.

The Analytical Triad™ for Dietary Supplements

Organoleptic / Microscopy for Identity and Purity

HPTLC Fingerprint and
Marker Quantification

HPLC Qualitative/Fingerprint
and Quantitative Analysis

Finished Product Random Analysis
for Consumer Confidence

Method Development and
Validation Services

Fitness for Purpose Testing
for Identity, Purity, Strength
and Composition

· 7 1 4 · 7 5 4 · H E R B ·

www.alkemist.com

info@alkemist.com



HERBAGRAM

The Journal of
the American
Botanical Council

Number 77 • February 2008 – April 2008

Vanilla pompona Photo ©2008 BRIT



32 The Botanical Garden of Padua: Historic Botanical Garden Created to Cultivate Medicinal Plants

by Courtney Cavaliere

The Botanical Garden of Padua, established in 1545 for the propagation and study of medicinal plants, is considered the oldest surviving botanical garden in the world to have retained its original setting and layout. Efforts have recently been initiated to restore and expand sections of the garden, which should add to its collections and broaden its educational capabilities. This article examines the garden's development and design, its historic and current plant collections, and the ongoing restoration projects. A side article by historian Prof. John Riddle provides further details regarding the garden's history, including a synopsis of notable figures who directed or influenced the garden in its early years.

44 Vanilla Research Project in the Amazon

by Marissa Oppel

In the threatened palm swamps of southeastern Peru, wild vanilla orchids have been found climbing the trunks of aguaje palm trees. Researchers from the Andes to Amazon Biodiversity Program (AABP) at the Botanical Research Institute of Texas (BRIT) have been monitoring and cultivating these orchids to discover their economic potential as non-timber forest products. The author of the article describes AABP's work with wild vanilla orchids and explains how cultivation of such orchids could possibly provide economic benefits to local Peruvians and encourage conservation of threatened Peruvian swamp land.

40 ABC Introduces Product-Specific Monographs: Clinical Overview CVT-E002 (COLD-fx®)

by Bruce Barrett, MD, PhD, and Donald J. Brown, ND

This clinical overview is based on a full monograph covering published and unpublished scientific and clinical research on the proprietary patented herbal preparation CVT-E002—also known as the cold and flu remedy COLD-fx®—which is made from the roots of North American ginseng. The CVT-E002 monograph is the first in a series of product-specific monographs being prepared by the American Botanical Council. The clinical overview is preceded by an editorial by ABC Founder and Executive Director Mark Blumenthal, explaining ABC's reasons for producing product-specific monographs.

48 Native American Herbal Prescription Sticks: Indigenous 19th Century Pharmacopeias

by Daniel Moerman, PhD

To preserve their medicinal knowledge, some 19th century Native American tribes carved images representing herbal formulas onto wooden sticks. Approximately a dozen of these "prescription sticks" are currently known to exist in public or private collections, but the herbal formulas they depict have remained largely unidentified. This article describes some of the existing sticks and examines their history, meaning, and significance. Corresponding photos, meanwhile, allow readers to view some of the mysterious illustrations from these historic artifacts.

departments

10 ABC News

Meet ABC Board of Trustees: Spotlight on James A. Duke, the Barefoot Doctor

Employee Profile: Janie Carter

ABC Names New Advisory Board Members

ABC's 2007 Volunteer of the Year

15 Grants & Awards

Dietary Supplement Experts Receive "CRN Apple" Awards

16 Organization News

Lloyd Library and Museum to Launch New Initiative: Historical Research Center for the Natural Health Movement

20 World News

USP Opens New Facility in China that will Test Raw Materials for Dietary Supplements

Archeobiology Reveals Chili Peppers Older than Originally Thought

24 Research Reviews

The Quality of Clinical Trials on Herbs and Phytomedicines versus Conventional Medicines

Special Swedish Rhodiola Extract Shows Benefit for Mild to Moderate Depression

Green Tea Extract Polyphenon E Treats External Genital Warts

Steroid-Sparing Effect of Wormwood in Crohn's Disease

Clinical Trial Follow-up Evaluates Safety and Effectiveness of Saw Palmetto and Stinging Nettle Extracts in Men with BPH

54 Legal & Regulatory

Trade Organizations Submit Comments on FDA's GMP Interim Final Rule

56 Market Report

Drought Reduces 2007 Saw Palmetto Harvest

58 Conference Report

Herb and Traditional Medicine Conferences in Malaysia

65 Book Reviews

Healthy Herbs: Your Everyday Guide to Medicinal Herbs and Their Use

Textbook of Natural Medicine

Handbook of Herbs and Spices

Integrating Therapeutic and Complementary Nutrition

Herbal Medicines in Pregnancy and Lactation

New Book Profiles

72 In Memoriam

Richard H. Goodwin

Egil Ramstad

Anita Roddick

Robert Hegnauer

76 Letter to the Editor

"Medicine Hunter" Responds to "Allegations of Biopiracy"

Peruvian Reader Acknowledges *HerbalGram*

78 Calendar

79 Access

80 Classifieds

Contributing Writers

Bruce Barrett

Stacey J. Bell

Josef A. Brinckmann

Donald J. Brown

Cascade Anderson Geller
Armando E. Gonzáles-Stuart

Anna Heran

Maggie Heran

Brenda Milot

Jennifer Minigh

Rustem S. Medora

Daniel Moerman

John Neustadt

Heather S. Oliff

Marissa Oppel

John Riddle

HerbalGram Staff

Mark Blumenthal
Editor / Publisher

Michael Finney
Managing Editor

Matthew Magruder
Art Director

Courtney Cavaliere
Assistant Editor

Kelly E. Saxton
Editorial Assistant

Steven Foster
Associate Editor

Rakesh Amin
Legal & Regulatory Editor

Maureen Jablinske
Proofreader

Lance Lawhon
Advertising Sales
877-832-1881
lance@herbalgram.org



On the Cover

Calendula officinalis

Photo ©2008 Steven Foster



HerbalGram is printed on recycled paper at Branch-Smith Printing, Ft. Worth, Texas

Published by the American Botanical Council, P.O. Box 144345, Austin, TX 78714-4345.

Subscriptions to *HerbalGram* are a benefit of ABC membership at every level. One year memberships: Individual \$50; Academic \$100; Professional \$150; Organization \$250; Retailer \$250; HerbClip Service \$500; Corporate; Sponsor. Add \$20 for memberships outside of the U.S. Student and Senior discounts are available. For information about Corporate or Sponsor Memberships, contact Wayne Silverman, PhD, at wayne@herbalgram.org or 512-926-4900. © 2008 American Botanical Council. ISSN #0899-5648. Printed in the U.S.A.

The information in *HerbalGram* is intended for educational purposes only and is not a substitution for the advice of a qualified healthcare professional. Although we attempt to ensure that advertising in *HerbalGram* is truthful and not misleading, the publication of an ad for a product or company in *HerbalGram* does not constitute an endorsement by ABC of the product or the company being advertised. Publication of an ad that makes a health claim or structure-function claim does not necessarily constitute an approval of that claim by ABC. Further, ABC has not reviewed any manufacturer's Good Manufacturing Practices.

Meet ABC Board of Trustees Spotlight on James A. Duke, *the Barefoot Doctor*

James A. Duke, PhD, is one of the 3 founding members of the American Botanical Council (ABC) Board of Trustees. He is a well-known scientist, educator, storyteller, musician, and one of the most prolific writers on herbal medicine. With over 30 authored and coauthored books—such as the famous reference *CRC Handbook of Medicinal Herbs* (CRC Press 1985; 2nd edition, CRC Press 2002)—and over 400 botanical articles to his credit, he’s also well known for leading exciting tours of the Peruvian Amazon, and possibly even more famous for accomplishing the latter barefoot.

“Duke’s infectious love of the Amazon, its people and flora, inspire all who travel there, as he plows barefoot through the jungle, seemingly oblivious to the ants, swarms of insects, and the occasional reptile that might lurk beneath the understory,” wrote Steven Foster in a 2001 article for *Herbs for Health*.¹

Though Dr. Duke has had a distinguished career in economic botany, winning the Distinguished Economic Botanist Award in 2000, he started out as a stand-up bass player in a bluegrass band. From there he received a bachelor’s, a master of arts, and a doctorate degree in botany from the University of North Carolina in years 1952, 1955, and 1961. Postdoctoral work at Washington University and Missouri Botanical Garden in St. Louis, Missouri, inspired him to begin his work in neotropical ethnobotany, which he often refers to as his “overriding interest.”¹



Duke

In 1963 Dr. Duke accepted a position with the United States Department of Agriculture (USDA). He soon joined Battelle Columbus Laboratories in 1965 and spent the next 7 years in Panama living closely with the natives and studying their relationship to the rainforest. During this time he wrote *Isthmian Ethnobotanical Dictionary* (published by the author in 1972; 3rd edition, Scientific Publishers 1986), which catalogs hundreds of medicinal plants of the Central American Isthmus and their uses.

In 1971 Dr. Duke returned to the USDA and in 1977 served as chief of the USDA’s Medicinal Plant Laboratory. Next he served as chief of USDA’s Economic Botany Laboratory, and then chief of its Germplasm Resources Laboratory. Over the years he also coordinated with the National Cancer Institute (NCI) and the National Institutes of Health (NIH) to search for anti-cancer and anti-AIDS drugs. The NCI has been responsible for such findings as a mayapple (*Podophyllum peltatum*, Berberidaceae) root derivative, podophyllotoxin, which is used to produce anti-cancer drugs,² and a Pacific yew tree (*Taxus brevifolia*, Taxaceae) bark extract, Taxol®, which is used to treat breast, ovarian, and other cancers.³ Although Dr. Duke was not directly involved in the chemical and pharmacological research that led to the discovery of these drugs, he supervised the collection of such botanical materials that were investigated in the later years of the program.¹ During this collaborative period, Dr. Duke started a phytochemical database. Today this database encompasses several phytochemical, ethnobotanical,

and medical botany databases, all available free online at www.ars-grin.gov/duke.

Dr. Duke has also been a prolific author. Besides the *CRC Handbook of Medicinal Herbs*, which has been a standard reference for over 20 years, other notable publications include the

Handbook of Legumes of World Economic Importance (Plenum Press 1981), *Ginseng: A Concise Handbook* (Reference Publications, Inc. 1989), *CRC Handbook of Alternative Cash Crops* (CRC Press 1993), *Amazonian Ethnobotanical Dictionary* (CRC Press 1994), and his best-seller, *The Green Pharmacy* (Rodale Press, 1997; now translated into several languages).

Foster wrote, “My library is arranged by subject; except for two authors—famed 19th century Cincinnati pharmacist John Uri Lloyd and Dr. James A. Duke—both the only

authors in the medicinal plant field prolific enough to warrant their own shelves.”¹

However, Dr. Duke remains modest through his success. Foster wrote, “I didn’t even know how to start a conversation with someone of the stature of Jim Duke. [He] turned out to be a Southern gentleman first, a famous scientist second.”¹

Dr. Duke retired from the USDA in 1995 after 30 years of employment. He continually supports herbal alternatives for modern medicine and educates people about the Peruvian Rainforest by serving as an unpaid consultant and board member to the nonprofit Amazon Center for Environmental Education and Research (ACEER), as well as numerous other nonprofits.

“Jim Duke and Norm Farnsworth helped me start ABC, and during those first few years, it was just our names on the original letterhead,” said ABC Founder and Executive Director Mark Blumenthal. “Jim’s being associated with ABC, combined with Norm Farnsworth and (later) the late Prof. Varro Tyler, did much to open doors and create credibility for ABC and, as a result, for herbal medicine.”

When Dr. Duke isn’t giving his 100 or so lectures a year or guiding tours to the Peruvian rainforest with mosquito bitten bare feet, he spends time at his Green Farmacy Garden in Maryland.¹

“There you will find the ‘barefoot doctor’ pulling weeds in his vast organic herb garden, perhaps the largest medicinal herb garden in the country,” wrote Foster.¹ “If you have the opportunity, go to a lecture presented by Dr. James A. Duke, or better yet

sign-up for an eco-tour with him in the Amazon. The rewards will be unforgettable.” HG

– Kelly E. Saxton

References

1. Foster S. Ode to Jim Duke: America's chief herbalist. *Herbs for Health*. September/October 2001;4(6):51-54.
2. Becker H. Mayapple's cancer-fighting precursor. *Agricultural Research*. July 2000;48(7):9
3. Becker H. New technique could boast taxol production. *Agricultural Research*. April 1999;47(4):13.

ACEER's Dr. James A. Duke Ethnobotanical Fund

Dr. Jim Duke, founding board member of the Amazon Center for Environmental Education and Research Foundation (ACEER), has helped guide the ACEER in creating award-winning ethnobotanical gardens at its training facilities in the Peruvian Amazon and in conducting a wide array of academic courses and workshops on botanical medicine, plant systematics, and rainforest ecology.

To honor Dr. Duke, the ACEER is creating an endowed fund—the *Dr. James A. Duke Ethnobotanical Fund*—to assure that Dr. Duke's legacy is preserved. Funds will be used to train a new cadre of Latin American students in ethnobotany, offer village-based education programs in indigenous communities, provide research fellowships, and permit scholarships for international students wishing to study at ACEER facilities in the Amazon and Andes. ACEER's goal is to raise \$50,000 by March 1, 2008. Thanks to a generous challenge grant by the Windhover Foundation, every dollar raised for the Duke Fund will be matched dollar for dollar. In this way, ACEER can realize a full \$100,000 in support of its ethnobotany programs. If you can afford a generous gift of \$2500 or more, please send ACEER a check payable to the ACEER Foundation, noting the *Dr. James A. Duke Ethnobotanical Fund*. If you would like to make a smaller gift, please make your check out to the WCU Foundation, noting the Duke Fund on the check. (Due to the terms of the Windhover challenge grant, all smaller donations are being directed to the WCU Foundation, which will pool them and make a single large donation on behalf of donors in support of the fund.) All gifts are fully tax deductible. All checks should be mailed to:

ACEER Foundation
P.O. Box 2549-WCU
West Chester, PA 19383

You may also make your gift through PayPal from the ACEER's home page, <http://www.aceer.org/>. (Gifts made via PayPal below \$2500, however, will not be matched.)

The ACEER has touched the lives of over 1 million individuals worldwide. The *Dr. James A. Duke Ethnobotanical Fund* will help ACEER touch the lives of many more in the future. For additional information, please contact Marguerite Gould, ACEER's director of operations, at 610-738-0477 or mgould@wcupa.edu.

Employee Profile:

Janie Carter



Carter

When people walk through the front door of the American Botanical Council, they are immediately greeted by a smiling, friendly face—that of our receptionist, Janie Carter. Or, when people call ABC during normal business hours, it's usually Janie's pleasant voice that they first hear.

When a scheduled visitor enters ABC, Janie usually has an “ABC Welcomes...” sign made to help ensure that the visitor feels special and knows that we're expecting them. On their departure, the visitors receive from Janie the sign, rolled up into a ribbon-bound “gift,” complete with a packet of information about ABC, the latest issue of *HerbalGram*, and more.

Janie has the perfect personality to perform the role of welcoming people to ABC. She's genuinely friendly, and her love of people shows in the many ways she performs her numerous roles at ABC. Janie has also taken on a myriad of tasks and responsibilities that are essential to the smooth operation of the organization.

These tasks include answering and directing phone calls; opening and distributing all incoming “snail mail”; checking all e-mails received by the general ABC e-mail account and forwarding such inquiries to the appropriate staff member; responding to requests for ABC's educational catalog; keeping track of employee comings and goings and occasional absences; responding to ABC member inquiries; assisting the accounting department with administrative tasks; adding conference information to ABC's extensive online events calendar; updating the contact database with address changes; updating ABC's member and donor relations information; photocopying table of contents pages of incoming magazines and journals so I can determine which articles might be suitable for summarization in HerbClip; and then scanning selected articles into PDFs. She also has the hopefully more fun task of scanning health-related cartoons for my speeches.

Janie is part of the “glue” that keeps ABC working smoothly. The mother of two small children, Janie's nurturing and caring attitude pervades all that she does at ABC. She has become part of the hub of communications for the organization, and she performs her job with excellence and a sense of love and commitment. Janie truly loves life and her job—and this positive attitude is evident to all of us here at ABC as well as those who call or visit us in person. HG

—Mark Blumenthal

ABC Names New Advisory Board Members

The American Botanical Council (ABC) has recently added 14 new members to its Advisory Board. This board assists in the content and editorial development of various ABC publications such as *HerbalGram*, *HerbalEGram*, *HerbClip*, etc., and further provides a myriad of indispensable contributions.

“We are honored and deeply grateful for the inclusion of these friends and colleagues to the ABC Advisory Board,” said ABC Founder and Executive Director Mark Blumenthal. “In many ways, the appointment of these herb experts to the ABC Advisory Board reflects an already strong cooperative relationship that has existed for many years. The naming of many of these respected individuals and leaders is a public recognition of their long-term support for and contributions to ABC’s nonprofit educational mission.”

The 14 new members include 5 highly respected herbalists—each of whom have over 20–30 years of contributions to the American herbal landscape, 4 physicians with extensive experience in botanical medicine, and 5 people with doctorates in areas of ethnobotany, pharmacognosy, pharmacology, natural products research, and nutrition. ABC welcomes the following highly accomplished individuals with great enthusiasm.



Stacey J. Bell, DSc, is a nutritionist and research scientist for IdeaSphere Inc. She also serves on the board of the Kids Can Cook, a nonprofit agency that offers basic cooking instruction and nutrition education to middle-school-aged children in Boston. A registered dietitian for 35 years, Dr. Bell received her doctorate in nutrition from Boston University with Honors in 1994.

Keith I. Block, MD, is the medical and scientific director of the Block Center for Integrative Cancer Treatment, a center that integrates Western medicine with scientifically-sound complementary therapies. Dr. Block is the editor-in-chief of the peer-reviewed journal *Integrative Cancer Therapies* and received his MD in 1979 from the University of Miami’s School of Medicine in Florida.



Ray Cooper, PhD, is the chief science officer of PhytoScience Inc., a consulting company he co-founded. In 1978 he received his PhD in organic chemistry from the Weizmann Institute of Science in Israel. Dr. Cooper is also a Fellow of the Royal Chemical Society in the United Kingdom and an adjunct professor at Hong Kong Polytechnic University.

Paula M. Gardiner, MD, MPH, is an assistant professor in the Department of Family Medicine at Boston University Medical School. She has also been a clinical research fellow at both Harvard Medical School’s Osher Institute and the Children’s Hospital in Boston, Massachusetts. Dr. Gardiner received her MD from Tufts University School of Medicine in 1995, and her MPH in 2006 from Harvard School of Public Health in Boston.



Bill J. Gurley, PhD, is the director of the Clinical Pharmacokinetics Research Laboratory and a professor of pharmaceutical sciences for the College of Pharmacy at the University of Arkansas for Medical Sciences (UAMS) in Little Rock, Arkansas. He has also been an adjunct professor for the College of Arts and Sciences’ Department of Biology. He received his PhD in 1989 from the University of Tennessee in Memphis. Much of his research has focused on herb-drug interactions.

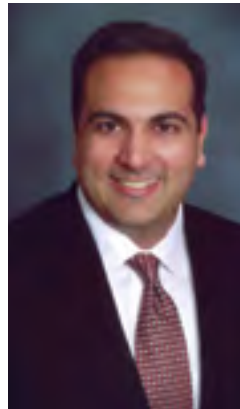
Freddie Ann Hoffman, MD, is the president and Chief Executive Officer (CEO) of HeteroGeneity, LLC in Washington, DC. Dr. Hoffman received her MD from the University of California at Davis School of Medicine in 1976 and in 1986 she joined the US Food and Drug Administration (FDA). In 1989 she became deputy director of the medicine staff in the Office of the Commissioner where she developed policies for botanicals, alternative medicine, and dietary supplements.

Uwe Koetter, PhD, is the principal and founder of Dr. Koetter Consulting Services in Switzerland. He formerly served as the head of research and development and chief development officer at Max Zeller Söhne AG in Switzerland, a manufacturer of clinically tested phytomedicines. In 1993 he received his PhD in Pharmaceutical Biology from *Freie Universität* in Berlin, Germany, under the mentorship of Prof. Heinz Schilcher, PhD, vice-president of the German Commission E.





Will C. McClatchey, PhD, is a professor of botany at the University of Hawaii at Mānoa as well as the coordinator of the university's ethnobotany interdisciplinary curriculum. Dr. McClatchey earned a pharmacy degree from Oregon State University in Corvallis, an MS in ethnobotany from Brigham Young University in Provo, Utah, and a PhD in Botany (Evolutionary Biology) from the University of Florida in Gainesville (1996). He has worked as a community and consultant pharmacist for 10 years.



Jay Udani, MD, is the CEO and medical director of Medicus Research, a contract research organization that serves the pharmaceutical and dietary supplement industries. He is the medical director of the Integrative Medicine Program at Northridge Hospital, and an assistant clinical professor at the University of California in Los Angeles (UCLA)/Geffen School of Medicine. Dr. Udani received his MD in 1994 from Northwestern University Medical School in Chicago and his medical acupuncture certificate in 1998 from UCLA.

Simon Y. Mills is the director of Plant Medicine Community Interest Company (CIC), an information resource for healthcare professionals and the public. Mills graduated from Cambridge University in 1970 with a degree in medical sciences and completed professional training at the 140-year-old National Institute of Medical Herbalists (NIMH). He also co-authored two widely-cited reference books: *The Principles and Practice of Phytotherapy* (Churchill Livingstone, 2000) and *The Essential Guide to Herbal Safety* (Churchill Livingstone, 2005). The latter received ABC's James A. Duke Botanical Book Award for 2005.



Roy Upton is the founder, editor, and executive director of the American Herbal Pharmacopoeia (AHP). He has been a professional herbalist for over 25 years and is the co-founder, past president, and current vice-president of the American Herbalists Guild (AHG). He received the James Lind Scientific Achievement Award in 2004, and co-authored the *American Herbal Products Association's Botanical Safety Handbook* (CRC Press, 1997).



Paul Schulick is the founder and co-CEO of New Chapter, Inc., a manufacturer of probiotic nutrients and herbal formulations. Schulick received his master herbalist certification in 1982 from the School of Natural Healing in Springville, Utah, and therein worked with its founder, John R. Christopher, MH, ND, famous master herbalist. Schulick wrote the best-selling book, *Ginger: Common Spice & Wonder Drug* (Hohm Press, 3rd edition 2001, 1st edition 1996).



David Winston, RH (AHG), president of the herbal manufacturing company Herbalist & Alchemist, Inc., is an herbalist and ethnobotanist with over 38 years of training and over 28 years in clinical practice. Winston is the founder/director of the Herbal Therapeutics Research Library and the dean of David Winston's Center for Herbal Studies. Winston is the author of *Saw Palmetto for Men & Women* (Storey, 1999) and *Herbal Therapeutics, Specific Indications For Herbs & Herbal Formulas* (Herbal Therapeutics Research Library, 8th edition, 2003).

Ed Smith has worked as a professional medical herbalist since 1973. He is the co-founder, co-owner, and chairman of Herb Pharm, a leading manufacturer of liquid herbal extracts. He has taught at the California School of Herbal Studies for 11 years, and authored the book *Therapeutic Herb Manual: A Guide to the Safe and Effective Use of Liquid Herbal Extracts* (self published, 2006).



More detailed descriptions of the new ABC Advisory Board Members are available in the January 2008 edition of ABC's HerbalEGram.

—**Kelly E. Saxton**

ABC's 2007 Volunteer of the Year

Volunteers are an essential resource in any nonprofit organization. This is particularly true when the focus of an organization is to educate the public about medicinal herb research while constantly striving for adequate financial support to sustain that mission.

Annette Coulstock has volunteered in the American Botanical Council's gardens for almost two years. Beginning in April 2006, she started coming in twice a week and since 2007 has come in every Tuesday. Among the weeding, pruning, and planting she has done for ABC during this time, she has also spent several months layering the mulch that has created the new pumpkin patch—a tedious process that has doubled the size of ABC's vegetable garden. In fact, since Annette has consistently exceeded expectations as a volunteer, she was the obvious choice for ABC's 2007 Volunteer of the Year.

"Annette is one of the most devoted volunteers we have ever had and has the most pleasant personality," said Gayle Engels, ABC education coordinator, who heads the volunteer program. "She has given so much to ABC; she comes in the hottest of the hot weather and works cheerfully in the gardens with Nate [Nate Sponseller, ABC's gardener] on whatever project he has going. ABC is lucky to have such a committed volunteer and it will be a great loss when she returns to the UK."

Since her relocation to the United States, Coulstock is still waiting to obtain her work visa. Instead of waiting "cooped-up in the house," as she calls it, she has decided to donate her time to a number of causes. This past summer of 2007 she volunteered a few hours

a week at Central Market (a leading regional grocery store specializing in organic produce and gourmet food items) helping children learn to cook. Since October 2007 she has volunteered and trained at Recording for the Blind and Dyslexic (RFBD), an organization that mainly records educational textbooks onto compact discs (CDs) for blind children and adults, with the potential to record a book onto a CD soon. When she originally saw the post requesting ABC garden volunteers, she thought it sounded like the perfect opportunity to continue the work she used to do in her own 100 ft by 45 ft garden in the United Kingdom where she grew plants and herbs, including rosemary, basil, and mint.



Coulstock

"I like being outdoors," said Coulstock. "It gets me out of the house and there's good company. I think Nate has sort of an uphill task with the garden. There's always something that needs to be done and he knows so much about gardening. He's also well-read and while we work, we discuss everything from politics to literature."

Previously a graphic designer at Hallmark in the United Kingdom, Annette also occasionally helps the ABC art department with some overflow design work. Recently she designed an organization e-card, an aesthetically pleasing electronic invitation to join ABC, though graphic design is clearly not her only passion. "She's a graphic designer by trade but she's definitely a gardener by heart," said Sponseller.

In acknowledging Annette's superlative contributions, ABC also extends its genuine appreciation to all its 2007 gardening volunteers: Key Choi, Allison Freytag, Alix Garrison, Aisha Monique Hill, Anita Kurialacherry, and Kim Nagy. More information on volunteering at ABC is available on the Support ABC Web page within the main ABC Web site at www.herbalgram.org. HG

—Kelly E. Saxton

Inaugural Symposium

June 14-15, 2008



Hosted by
Albany College of Pharmacy
Albany, New York

Keynote Speaker
David M. Eisenberg, M.D., Director
Division for Research and Education in Complementary and
Integrative Medical Therapies at Harvard Medical School

Special Cultural Event
First time in the United States
Lecture and Tea Ceremony performed by Ueda O-lemoto
15th generation headmaster of the Ueda Soko-style Tea Ceremony

Sponsored by Maruzen Pharmaceuticals of Hiroshima, Japan

Register and submit abstracts at
www.nature-ceuticals.org

Dietary Supplement Experts Receive “CRN Apple” Awards

The “CRN Apple” awards were presented at the Council for Responsible Nutrition’s (CRN) Annual Symposium on Dietary Supplements, held at the Westin Kierland Resort & Spa in Scottsdale, Arizona, October 3-6, 2007.¹ The recipients were Mark Blumenthal of the American Botanical Council (ABC), Randi Neiner, PhD, of Shaklee Corporation, and Carolyn Sabatini of Pharmavite LLC.

The “CRN Apple Award” is a prestigious symbol of excellence in the dietary supplement industry. It is a softball-sized apple made of Steuben crystal that has a market value of \$550.² (Note: Steuben is a world-famous designer that manipulates glass into highly-artistic pieces.)

“Like the old-saying goes, ‘An apple a day keeps the doctor away,’” said Season Solorio, director of CRN’s public relations (e-mail, October 10, 2007). “The ‘CRN Apple Award’ was created with the idea that, like an apple, dietary supplements are an integral part of a healthy lifestyle and good nutrition.”

These awards are given annually to individuals with a history of dedication, commitment, and service to CRN and the dietary supplement industry.¹ Candidates are selected by the CRN staff.

“A few people immediately rise to the top of the list, due to their outstanding involvement and dedication,” said Solorio. “[Recipients] usually do not know that they are receiving the apple until it is presented to them at the annual conference.”

Mark Blumenthal, founder and executive director of the ABC, has almost 40 years of expertise in herbs, medicinal plants, and natural products. He is the editor and publisher of *HerbalGram*, and the senior editor of 3 highly-regarded references on herbs for health professionals: *The Complete German Commission E Monographs: Therapeutic Guide to Herbal Medicines* (ABC/Integrative Medicine Communications, 1998), *Herbal Medicine: Expanded Commission E Monographs* (ABC/Integrative Medicine Communications, 2000), and *The ABC Clinical Guide to Herbs* (ABC, 2003). He is also a coauthor of *Rational Phytotherapy: A Reference Guide for Physicians and Pharmacists, 5th ed.* (Springer-Verlag, 2004). He has written hundreds of articles and book reviews in numerous professional, trade, and consumer publications and was formerly an adjunct professor at the University of Texas at Austin’s College of Pharmacy. CRN noted that Blumenthal has also served as a consultant for CRN on the scientific and clinical literature on botanicals sold in the dietary supplement industry.

“Blumenthal provides a scientific voice of reason for the botanicals,” said Solorio. “[This] clearly makes him a unique candidate and a very important player within the dietary supplement industry.”

Dr. Neiner is the director of market research at the Shaklee Corporation where she has worked for 15 years. This nutrition company, founded in 1956, made one of the first biodegradable

household cleaners and claims to be the first company in the world to obtain Climate Neutral™ certification, which reduces CO₂ emissions to better the environment.³ Dr. Neiner is responsible for managing competitive intelligence reporting and delivering fact-based, relevant, and actionable research findings to her Shaklee clients. Dr. Neiner has been involved with CRN since the 1980s and now serves as the chairperson for CRN’s Industry Research Subcommittee, leading the research behind the CRN Consumer Confidence Survey.

For 17 years Carolyn Sabatini has worked for Pharmavite, LLC, a company founded in 1971 that manufactures the Nature Made® brand of vitamins, minerals, supplements, and herbs.⁴ According to Pharmavite, Nature Made® is the leading brand in food, drug, mass market, and buyers’ club stores in the United States. Sabatini is currently the director of government and corporate relations. Prior to this position, which she has held for seven years, Sabatini was a senior product manager for Nature Made® and director of national accounts at Pharmavite. Sabatini has been involved with

CRN since 2000, serving first on the media relations committee and then, for the past four years, as chair of the CRN Government Relations Committee. During this time she worked for the passage of the Dietary Supplement and Nonprescription Drug Consumer Protection Act in December 2006.

Sabatini said she was “absolutely” surprised to receive the award (e-mail, October 10, 2007). “I was thrilled that Mark [Blumenthal] received his award, only to be doubly surprised when I was called up after him! I feel very honored to be included with such outstanding contributors to our industry.” HG

—Kelly E. Saxton



(From Left to Right) Marjorie Fine, Shaklee executive, Randi Neiner, Shaklee executive, Mark Blumenthal, ABC founder and executive director, John Venardos, Herbalife International executive, Steve Mister, president and CEO of CRN, and Carolyn Sabatini, Pharmavite executive.

References

1. Educators, Experts Honored at CRN 2007 Annual Conference [press release]. Washington, DC: Council for Responsible Nutrition; October 5, 2007.
2. Steuben Glass. Achievement page. Steuben Glass Web site. Available at <http://steuben.com/acb/ss.cfm?section=33&cm2&group=101>. Accessed October 10, 2007.
3. Shaklee Corporation. What we’re about page. Shaklee Corporation Web site. Available at http://www.shaklee.com/company_home.shtml. Accessed October 10, 2007.
4. Pharmavite LLC. Our Brands page. Pharmavite LLC Web site. Available at http://www.pharmavite.com/OurBrands/OB_main.asp. Accessed October 10, 2007.

Lloyd Library and Museum to Launch New Initiative: *Historical Research Center for the Natural Health Movement*

By Maggie Heran and Anna Heran

In 1996 Michael A. Flannery, then director of the Lloyd Library, wrote an excellent article published in *HerbalGram* titled “Archives of Phytomedicine: The Collection of the Lloyd Library and Museum in Cincinnati.”¹ This article told the story of the Lloyd Library’s history and growth, describing the wealth of historical resources housed at the library. Flannery also discussed the challenges that the library has faced in keeping “abreast of the literature in all of its diversified formats.” Despite persistent challenges, the Lloyd continues to collect and maintain resources critical to the investigation of phytomedicine’s past, present, and future. The Lloyd’s story today is, as Flannery wrote in 1996, “certainly not without interest for those continuing the ageless quest for phytotherapeutics.”

The library was begun in the late-1800s by John Uri Lloyd and his two brothers, Nelson Ashley Lloyd and Curtis Gates Lloyd, who together formed Lloyd Brothers, Pharmacists, Inc. The Lloyd brothers acquired numerous books and research materials to assist them in producing their botanical-based medicinal products, and their collection of books and manuscripts soon consisted of many rare and significant works. The first separate building for the library was established in 1901, but this and subsequent buildings were replaced over the years as the library’s collections repeatedly outgrew the buildings’ available space.² The current building was erected in 1970, with over 30,000 square feet of space. It contains over 200,000 volumes of historic and contemporary books and journals covering such topics as traditional herbal medicine,

phytochemistry, alternative therapies, botany and ethnobotany, pharmacognosy, drug development from natural products, the pharmaceutical industry, and even gardening.

In 2008, the Lloyd Library embarks upon a new chapter in its story—one critically needed to balance and complete the documentation of phytotherapeutics—the creation of the Historical Research Center for the Natural Health Movement. This initiative will position the Lloyd to become the central repository for the archives and personal papers of those involved in both scientific and grassroots endeavors to bring natural health into the mainstream. Flannery warned, “Keeping current is crucial, but to discount the vast body of previous scholarship in any field is presentism of the worst kind.”¹ Much of that “vast body of previ-

Continues on page 18

GMP For Botanicals Is Now A Reality!

Thin-Layer Chromatography is the **ideal option** for getting at the heart of compliance.

CONTACT US NOW!
Get our comprehensive program of:

- Lab Set-Up
- SOP Writing
- HPTLC Expertise
- Training

Standardization • Validation • Verification

CAMAG
WORLD LEADER IN THIN-LAYER CHROMATOGRAPHY
www.camag.com
TLC@CAMAGUSA • 1-877-HPTLC-4-U

Paul Penders

LevensESSENTIE Gold™

**Natural Herbal * Holistically Blended
Cold-processed * Advanced Fitness Formulas
World's First Time-Release Shampoo
With Rainforest Properties from Unesco's
Langkawi Geopark Island**



Certified by The Vegan Society of U.K.

Pure Natural Herbal Skin, Body & Haircare

For more information about Paul Penders Natural Herbal Skin, Body & Haircare please visit www.paulpenders.com. Exclusively made in Unesco's Langkawi Geopark with local ingredients

LONDON . PARIS . AMSTERDAM . MILAN . NEW YORK . SAN FRANCISCO . SHANGHAI
TOKYO . DELHI . SYDNEY . SINGAPORE . HONG KONG

Lloyd Library *Continued from page 16*

ous scholarship,” vital to the developing natural health movement, is scattered in the attics, basements, offices, files, and boxes of herbalists, scientists, pharmacognosists, ethnobotanists, chemists, naturopathic physicians, and other alternative health practitioners around the globe. Or worse, some may have thought that there would be no interest in those papers and files, or they may have assumed there would be no place to send such materials for storage and easy accessibility for researchers interested in consulting these resources. Such documents of significant historic worth may have therefore been consigned to the trash heap and are now forever gone. The Lloyd Library and Museum now intends to present a solution to this dilemma.

There are many compelling reasons why the archives and papers of herbalists, natural medicine practitioners, natural product researchers, and other colleagues, belong at the Lloyd. First, and perhaps most significant, such materials would be housed in an institution already committed to preserving all resources, in any format, that document natural health and phytotherapy. Secondly, the addition of these materials will help the library fulfill its mission of serving as a preeminent archive. Flannery appropriately described the Lloyd in terms of its book collection alone as an “Archives of Phytomedicine.” Yet, to be strictly defined as an “archives,” an institution needs those collections and resources long-established as archives. Webster’s dictionary defines archives as “a place in which public records or historical documents are preserved; also: the material preserved ... [and] a repository or collection especially of information.” This very broad and all-encompassing description can be applied to libraries with historic books, museums with historic artifacts, collections of public records and/or historic documents of businesses and organizations, and manuscript collections of personal papers, as well as the digital archives of records stored and maintained in a variety of online catalogs, databases, Web sites, etc., *ad infinitum*. In this article, the term archives will be defined as: (1) an institution whose function is to select, preserve, and store historic records; and (2) the papers of notable individuals, businesses, organizations, associations, and institutions.

The good news is that the Lloyd Library does have archival collections totaling nearly 1,000 linear feet—but more are needed in order to realize the library’s goal of becoming the principal archival repository worldwide documenting the history and development of herbal, natural, and alternative medicine. The Lloyd’s existing collections, including some that are slated to be housed in the library in the near future, provide an outstanding foundation upon which to build. Represented are the papers of pharmacognosists, herbalists, chemists, pharmacists, and prominent organizations, including the likes of John Uri Lloyd; Lloyd Brothers, Pharmacists, Inc.; the late professor Varro “Tip” Tyler; the late professor George Hocking; Alex Berman; Stephen Buhner; Susun Weed; Clarence Meyer, author of *Herbalist Almanac*; Eclectic Medical Institute of Cincinnati; the American Society of Pharmacognosy; John Milton Scudder; and noted natural products chemist Robert F. Raffauf, among many others.

As thousands of herbal, pharmacognostic, phytomedical, ethnobotanical, pharmaceutical, and alternative medicine journals, newsletters, and books are acquired by the library, an overwhelming number of potential candidates for inclusion in the Lloyd’s Historical Research Center for the Natural Health Movement becomes possible. The Lloyd Library is prepared and equipped

to offer its facilities and services to house, maintain, preserve, organize, and make accessible in one location this crucial body of knowledge for present and future scholars interested in investigating the natural health movement. Not only does the Lloyd have a professional archivist on staff with more than 10 years experience, but the library is also in the process of developing a space plan for what is hoped will be an avalanche of new archival collections.


The Lloyd is asking that all relevant persons consider depositing their papers at the Lloyd, encourage their colleagues to do so, and join the staff and guests of the Lloyd Library on Saturday, March 1, 2008, when the Lloyd will be celebrating two significant achievements—the launch of the Lloyd’s Historical Research Center for the Natural Health Movement and the formal opening of Tip Tyler’s papers for research. There will be lectures, an exhibit from the Tyler Papers, and a catered reception. More information is available at the Lloyd Web site (www.lloydlibrary.org). For more information about how to donate personal collections to the Lloyd, contact Anna Heran, archivist, at 513-721-3707 or archivist@lloydlibrary.org.

Maggie Heran is the director of the Lloyd Library in Cincinnati, Ohio. Anna Heran is the library’s archivist.

References

1. Flannery MA. Archives of phytomedicine: the collection of the Lloyd Library and Museum in Cincinnati. *HerbalGram*. 1996;36:42-48.
2. Perry RA. The Lloyd Library. *HerbalGram*. 1990;22:6.

THE FACE OF
THINGS TO COME



The demand is increasing
for herbal experts.

Become one.

Study at the only school in the U.S. that offers
a Bachelor of Science in Herbal Sciences.

BASTYR
UNIVERSITY

www.herbal.bastyr.edu

NOW! Fruit Made Easy



You don't need to be a clinical nutritionist to understand the importance of fruit when living a healthy lifestyle. Fruit is loaded with the vitamins, minerals, enzymes and antioxidants you need to stay in tip-top health. But as we all know, eating fruit throughout the day, every day, is often easier said than done. At NOW, we don't think it has to be.

New Mangoni™ from NOW® is the one-of-a-kind "SuperFruit" Antioxidant Cocktail that unites juice extracts from eight of today's most nutrient-rich and antioxidant-rich fruits. With an ORAC value that exceeds 80,000 per bottle, Mangoni™ delivers up to 300% more polyphenols than many of today's leading polyphenol-rich products, contains the equivalent of three servings of fruit per 1 fl.oz. serving, and has a taste that makes it easy to get exactly what you need to thrive.

- Superior Antioxidant Protection
- Over 80,000 ORAC Value Per Bottle
- Exotic, Tropical Taste
- Contains the equivalent of 3 Servings of Fruit Per 1 fl. oz. Serving

High Quality Does Not Have to Equal High Price.

395 South Glen Ellyn Road, Bloomingdale, IL 60108 • 888.669.3663 • www.nowfoods.com

*These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.



Nutrition for Optimal Wellness.



PHYTOCHEMICALS

We Know Natural Products

**NEW ChromaDex™
2007/2008 Catalog**

Get your copy today.

With over 3500 phytochemicals available, ChromaDex™ is your one-stop source for Phytochemicals.

Our product line includes:

- Primary Standards
- Secondary Standards
- Reagent Grade Standards
- AHP-Verified Standards
- Botanical Reference Materials - BRMs™
- Reference Standard Kits
- Analytical Kits
- Bulk Phytochemicals
- Discovery Libraries



To get your copy of the NEW ChromaDex™ Catalog, please contact us at:

tel. 949-419-0288
fax. 949-419-0294
email. sales@chromadex.com

www.chromadex.com

USP Opens New Facility in China that will Test Raw Materials for Dietary Supplements

By Courtney Cavaliere

The United States Pharmacopeia (USP), the official standards-setting authority for prescription and over-the-counter medicines, as well as dietary supplements and other healthcare products manufactured and sold in the United States, opened its third international facility in September of 2007, which is located in Shanghai, China.¹

The new 10,500 square-foot, state-of-the-art facility will provide local manufacturers with better access to USP's publications and reference standards, as well as other USP services. USP's reference standards are used to help assure product quality during testing by showing whether a tested ingredient conforms to the published standards in the USP's official publications, the *US Pharmacopeia* and the *National Formulary*. USP standards are recognized and used in more than 130 countries.

"This new site demonstrates USP's commitment to ensuring the quality and safety of pharmaceuticals, dietary supplements, and food ingredients for everyone, regardless of geographic, economic, or political borders," said Roger L. Williams, executive vice president and CEO of USP in a recent press release.¹ "As the world continues to focus on these issues, it is even more important for standards-setting bodies and governments to collaborate. This office and laboratory facility will help USP work with Chinese regulators and manufacturers to move toward that goal."

The new USP-China facility will also implement a new program of the Natural Products Association (NPA) for testing

Chinese raw materials for conformity to their specifications, including identity, purity, and composition.² Under the new NPA program, raw materials used in the most common dietary supplements will be tested in the new USP laboratory, and NPA officials will provide test results to member companies and subscribers. NPA will further create a database on these raw material suppliers, which will be made available to American manufacturers to assist them in making contracting and supply-chain decisions. According to the NPA, Chinese suppliers who submit ingredients for testing should be able to gain access to new customers and build reputations as reliable business partners through participation in the program.

"Dietary supplements are safe today, and this will help make them even safer," said NPA Executive Director and CEO David Seckman in an NPA press release.² "This program is an innovative response to a growing challenge in the global food supply chain to make sure what reaches the shelf is safe, high-quality, and what it claims to be. By testing raw materials in China, we're adding another layer of consumer protection to a process that has delivered good health products to Ameri-

"This new site demonstrates USP's commitment to ensuring the quality and safety of pharmaceuticals, dietary supplements, and food ingredients for everyone, regardless of geographic, economic, or political borders."

cans for generations.”

China has come under increased scrutiny lately by regulators and US consumers due to repeated occurrences of contaminated products and product recalls originating from China. The September 2007 issue of the International Trade Centre's *Market News Service for Medicinal Plants and Extracts* (MNS) contained 2 editorials regarding herbal ingredients from China and concerns over their quality.^{3,4} The first editorial, by Roy Upton, executive director of the American Herbal Pharmacopoeia, noted that China has been a prolific supplier of herbal ingredients. According to Upton, China has some of the highest quality herbs available in the world. Moreover, American companies have access to Chinese suppliers knowledgeable about quality and to herbal ingredients grown under specific, clean conditions.³ He wrote, “With a little bit of knowledge, quality control personnel can get exactly what they desire, balancing quality and price with product expectation, and without undue contamination.” Upton added that buyers primarily need to know the right questions to ask their Chinese suppliers to ensure that they are purchasing ingredients of the proper quality.

In the second editorial, Josef Brinckmann, vice president of research and development at Traditional Medicinals and editor of the MNS newsletter, wrote that the purchasing practices of some American companies have undoubtedly contributed to some of the consumer backlash recently directed at China.⁴ He argued that, although there are many quality-focused herbal companies in the United States, there are also many that demand low prices and use the least stringent ingredient and product specification requirements. According to Brinckmann, many natural ingredient suppliers worldwide typically export their highest quality raw materials and extracts to European buyers, while the materials rejected by Europeans on the basis of quality are often earmarked for export to the American market due to its often lower standards and because fewer questions are asked by buyers. He added that, even if natural ingredients from China were boycotted on the basis of quality concerns, the trade flow of low quality and adulterated or contaminated ingredients and products would likely continue

unabated so long as American buyers and consumers continue to demand products with the lowest costs.

Some North American companies have recently expanded their presence in, and relationships with, China. For instance, BI Nutraceuticals of Long Beach, California, a leading importer and distributor of botanical and related ingredients, opened a new facility in Suzhou, China, in June of 2007. This 75,000 square-foot facility provides the company with enhanced manufacturing capacity. It also contains a full-service quality assurance lab to test all extracts and ingredients purchased in the region to ensure that they are free of contaminants prior to being shipped to the United States.⁵ A. M. Todd Botanical Therapeutics of Logan, Utah, a leading manufacturer and supplier of botanical extracts and dietary supplements, announced in September of 2007 that it has become the exclusive North American distributor for the Chinese company Ningbo Green-Health Pharmaceutical Co., Ltd., a major manufacturer of chondroitin, bilberry (*Vaccinium myrtillus*, Ericaceae), and ginkgo (*Ginkgo biloba*, Ginkgoaceae) extracts.⁶ HG

References

1. US Pharmacopeia inaugurates new facility in Shanghai [press release]. Shanghai, China: US Pharmacopeia; September 6, 2007.
2. Natural Products Association launches new program to verify purity of Chinese raw materials [press release]. Washington DC: Natural Products Association; July 21, 2007.
3. Upton R. Editorial: quality control of herbs from China—the good, the bad, and the ugly! *Market News Service for Medicinal Plants and Extracts*. September 2007;24:26-27.
4. Brinckmann J. Editorial: consumer backlash against Chinese ingredients and products continues. *Market News Service for Medicinal Plants and Extracts*. September 2007;24:28-30.
5. BI Nutraceuticals continues to raise industry standards for ingredient quality control in Asia Pacific region [press release]. Long Beach, CA: BI Nutraceuticals; June 11, 2007.
6. A. M. Todd Botanical Therapeutics announces distribution agreement with Ningbo Green-Health Pharmaceutical Co., Ltd [press release]. Logan, UT: A. M. Todd Botanical Therapeutics; September 8, 2007.



CONTRACT SERVICES

We Know Natural Products

ChromaDex™, the leader in Phytochemicals now offers an extensive range of contract services to the natural products industry

- Contract Analysis
- Contract Research
- Contract Isolation
- Method Development
- Method Validation
- Process Development
- Raw Material Selection
- Microbiological Testing

Our expertise in Phytochemicals, with over 3500 compounds in our library has allowed ChromaDex™ to build an unparalleled list of analytical methods.

BIOASSAY SERVICES

NEW ChromaDex™ is pleased to announce the launch of an EXTENSIVE range of Bioassay Services. Call us today for a copy of our new Bioassay Services brochure.

ChromaDex™ is your one-stop source for Phytochemicals and Contract Services.



10005 Muirlands Blvd
Suite G, First Floor
Irvine, CA 92618 USA

tel. 949-419-0288
fax. 949-419-0294
email. sales@chromadex.com

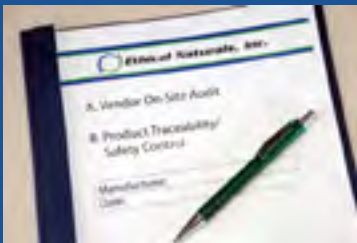
www.chromadex.com

ProfileProven™ Quality Assurance

It Begins with a Leaf...



Source Identification



Manufacturer and Process Audit



Independent U.S. Verification:

- Actives ✓
- Heavy Metals ✓
- Prop 65 ✓
- Adulterant Screen ✓
- Microbial ✓
- Pesticide Free ✓

Ethical Naturals, Inc.



www.ethicalnaturals.com
866-459-4454
info@ethicalnaturals.com

World News

Archeobiology Reveals Chili Peppers Older than Originally Thought

By Kelly E. Saxton

There has never been a complete reconstruction of the origin, domestication, and dispersal of the chili pepper, the fruit of the genus *Capsicum* (Solanaceae).¹ Remains of this fruit have been difficult if not impossible to find at archeological digs because they were eaten whole, which means there were no seeds or husks left behind.² This lack of evidence has kept the history of chili peppers shrouded in mystery.

This mystery started to unravel when a variant group of 15 scientists recently published the paper, "Starch Fossils and Domestication and Dispersal of Chili Peppers (*Capsicum* spp., Solanaceae) in the Americas."¹ This paper has led to two groundbreaking discoveries: (1) chili peppers contain starch, and (2) starch microfossils can be extracted from food residues left on ancient food implements, allowing archeobiologists to date and identify its plant source. A combination of archaeology and biology, archeobiology involves the interpretation of ancient human interaction with plants and animals. Foods that contain starches, like yams (*Dioscorea* spp., Dioscoreaceae), potatoes (*Solanum tuberosum*, Solanaceae), and cassava (*Manihot esculenta*, Euphorbiaceae), can now be traced through the analysis of microscopic starch grains.

In 1982 Scott Raymond, PhD, coauthor of the recent paper and archeologist at the University of Calgary, unearthed some pottery in Loma Alto, Ecuador, with some carbonized food particle residues. Knowing the technology he needed to date them was not yet available, he and his colleagues pragmatically and wisely "wrapped [the pottery shards] in foil in the hope that someday it would be possible to analyze the residues," said Dr. Raymond (e-mail, May 29, 2007).

Fortunately, Sonia Zarrillo, a doctoral student under Dr. Raymond's supervision from the University of Calgary, developed a technique to isolate starch grains from carbonized residue. These residues are usually found on pottery and cooking implements used to grind up food. "Previously no one thought that starch could be recovered from cooking residues, believing that they would be gelatinized or completely destroyed," said Dr. Raymond. "Sonia was able to recover many starch granules from the residues." However, there was one starch Zarrillo was unable

to identify, and it kept turning up. The origin of this starch was a mystery.

Later in 2005 Zarrillo organized a symposium on starch and phytolith at the 28th Annual Chacmool Conference: "Archaeology into the New Millennium" in Calgary, Alberta, Canada, a conference hosted by the Chacmool Archaeology Association and the University of Calgary's department of archaeology. In attendance were Linda Perry, PhD, Ruth Dickau, PhD, and Deborah Pearsall, PhD, who found they had more in common than they could have hoped: they were all chasing the same mystery starch. "They gathered together in Sonia's lab after the symposium to look at images of starch granules and found that there was one they had all discovered in their research but were unable to identify," said Dr. Raymond.

It later occurred to Dr. Perry that chili peppers can cause gas and diarrhea in people, which is something that is often attributed to undigested starches.³ Then on a hunch, she attempted to solve two mysteries with one microscope. She examined a typical pepper and found starch granules—the elusive mystery starch. Next, she discovered that "all five species of domesticated chili peppers produce large, flattened lenticular starch grains with a shallow central depression, not unlike a red blood cell in appearance."¹

Teamed with this new knowledge of the pepper and this new technique to extract starch from food particles, the scientists found the now-identified starch on cooking implements at 7 archeological sites ranging from the Bahamas to southern Peru. It is now known that chili peppers were present in the following places and dates:

- In Peru dating back to 4000 YBP (years before present),
- In Zapotal and Aguadulce, Panama, possibly dating back 5600 YBP,
- In Venezuela dating back to 1000

- YBP,
- In the Bahamas tracing back to 1000 YPB, and
- In Loma Alta and Real Alto, southwestern Ecuador, a place not thought to be a center of chili domestication, as far back as 6100 YBP.¹

Through a combination of plant biogeography, archeological data, genetic data, and ethnographic data, researchers have determined that *C. annuum* was initially domesticated in Mexico or northern Central America, *C. frutescens* in the Caribbean, *C. baccatum* in Bolivia, *C. chinense* (despite its name) in northern Amazonia, and *C. pubescens* in the southern Andes. The new starch discovery raises the question of how these chili peppers were able to travel to Ecuador.

“Up until this point, the earliest evidence for domesticated peppers was 6000 YBP in Mexico where *Capsicum annuum* was domesticated. Because no chili peppers were domesticated in Ecuador, we know they must have been domesticated elsewhere at an earlier date, and then moved into the area through migration or trade,” said Dr. Perry (e-mail, April 30, 2007). These previously unknown dates and locations suggest cultural contact of groups

that were thought to have never connected, as well as a wide geographical spread. “This pushes back the date for the earliest chili peppers by a considerable period,” said Dr. Pearsall, fellow coauthor (e-mail, April 30, 2007). “The domesticated chilies were carried or traded possibly from the Amazon region.”

These illuminations place chili as one of the oldest domesticated food sources in the world. It also suggests that the traditional chili cook-out was happening among distant neighbors long before the invention of the suburb. HG

References

1. Perry L, Dickau R, Zarrillo et al. Starch fossils and the domestication and dispersal of chili peppers (*Capsicum* spp. L.) in the Americas. *Science Magazine*. February 16, 2007;(315)986.
2. University of Missouri-Columbia. Researchers find 6,000-year-old fossil evidence of one of the oldest food sources in the Americas. College of Arts and Science News page. Available at <http://rcp.missouri.edu/articles/pearsall-chiles.html>. Accessed October 31, 2007.
3. Brown D. One hot archaeological find: chili peppers spiced up life 6,100 years ago. *Washington Post*. February 16, 2007;A01.

Chili, Chile, or Chilli?

For the purpose of this article the editors have elected to use the Anglicized spelling of the phrase *chili pepper* to designate the capsicum fruit. Scholars disagree over which spelling is correct as well as which food is designated by which word or phrase. Chili can be spelled chile, chilli(es), and sometimes even chilly(s), chille(s), and chille(s) depending on region. The word can arguably refer to one pepper, the bean and/or spicy beef stew, or the dried spice mix that contains chili peppers, oregano, cumin, and garlic.¹

According to *Red Hot Peppers: A Cookbook for the Not So Faint of Heart* by Jean Andrews, aka the “Pepper Lady,” the original spelling of the word was *chilli* as noted by the Spanish who arrived in Mexico in 1518 and found that the Nahuatl-speaking natives used that form of the word to describe the fruit.² The Nahuatl stem *chil* means red and the Spanish word for *chili* (*chile*) was derived from this

word. According to Andrews both the sweet and hot fruit should be referred to as *capsicum* or *peppers*, *chilli* should be used for the spicy kinds, and the spicy meat dish should be called *chili*, an abbreviation of the Mexican or Tex-Mex dish *chili con carne*.² However, there is no real consensus on these spellings. The word *Chile*, for the South American country, means “the end of the earth.” This is perhaps how far this disagreement will persist.

References

1. Topel A. Chili (sp?) Peppers. *National Geographic: The Green Guide*. May/June 2005; (108) Available at <http://www.thegreenguide.com/doc/108/chili>. Accessed August 2, 2007.
2. Andrews J. *Red Hot Peppers: A Cookbook for the Not So Faint of Heart*. New York, NY: MacMillan Publishing Company; 1993.

ProfileProven™ Ingredients

NATURE VERIFIED BY SCIENCE™



ResVinol-25™

The Resvatrol Plus Ingredient



ORAC-15,000™

Highest Known ORAC Value

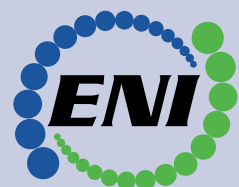


Organic Spirulina Green Goes Organic

PLUS:

Pomegranate Extract & Oil
Mangosteen
Ginkgo...and more

Ethical Naturals, Inc.



www.ethicalnaturals.com
866-459-4454
info@ethicalnaturals.com

The Quality of Clinical Trials on Herbs and Phytomedicines versus Conventional Medicines

Reviewed: Nartey L, Huwiler-Müntener K, Shang A, Liewald K, Jüni P, Egger M. Matched-pair study showed higher quality of placebo-controlled trials in Western phytotherapy than conventional medicine. *J Clin Epidemiol.* 2007;60(8):787–794.

The use of medicinal plants is an important part of traditional medicine in many cultures and is the basis of ongoing efforts to develop new drugs in conventional medicine. A common criticism of herbal medicine is the lack of properly designed clinical trials. Although many trials exist for Western and Chinese herbs, reviewers and meta-analysts have repeatedly commented on the poor methodological quality of available studies and the possible presence of publication bias.

The objective of this study was to compare the effects observed in placebo-controlled trials of Western herbal medicine with trials of conventional pharmaceutical medicine and to assess the quality of trials and the probability of such publication and related biases.

The authors searched 19 electronic databases and the Cochrane CENTRAL trials register. A trial was included if it (1) was a controlled trial of treatments or preventative measures with clinical outcomes, (2) had a parallel group design with placebo control, (3) used random or quasi-random assignment to groups, (4) had sufficient data to allow the calculation of odds ratios, and (5) was a trial using an herb listed in the monograph of the European Scientific Cooperative on Phytotherapy (ESCOP) or approved by the Swiss licensing authority. Studies of Chinese herbs, herbal dietary supplements, Ayurveda and Bach flower therapy, aromatherapy, and anthroposophical medicines (i.e., those based on the work of author, philosopher Rudolph Steiner) were excluded, as were trials in healthy volunteers and those with a crossover design.

Prespecified criteria for identifying the outcome for inclusion in the analysis were used. The first choice was the main outcome measure, which was defined as the outcome used for sample size calculations. If a main outcome was not specified, alternative outcomes were selected in the following order: (1) patients' global assessment of improvement, (2) physicians' global assessment of improvement, or (3) the other most relevant clinical outcome measure.

The authors analyzed 89 placebo-controlled trials of herbal medicine and 89 matched conventional medicine trials. The results demonstrated that trials involving mental or vascular disorders and neurological/cognitive complaints in older age were the most common conditions studied in the paired trials. Furthermore, preparations of ginkgo (*Ginkgo biloba*, Ginkgoaceae), St. John's wort (*Hypericum perforatum*, Clusiaceae), evening primrose (*Oenothera biennis*, Onagraceae), ginger (*Zingiber officinale*, Zingiberaceae), hawthorn (*Crataegus laevigata*, Rosaceae), and saw palmetto (*Serenoa repens*, Arecaceae) were examined in 56 (63%) of the trials. Among trials of herbal medicine, more beneficial effects were observed when preparations were standardized and were for indications listed in the corresponding ESCOP monograph.

In general, the methodological and reporting quality of the included trials of Western phytotherapy was on average superior

to trials of conventional medicine; although, in both groups a clear majority of studies were of inadequate or uncertain quality. Only 5% of the conventional medicine trials were considered of higher quality—a striking contrast to the 21% of herbal medicine trials. That is, the herbal trials were rated higher than conventional medicine trials by a factor of over 4 to 1.

However, the inclusion criteria for this review allowed only studies that used sophisticated research strategies, ensuring more high quality phytotherapy research. In addition, the exclusion criteria for this study eliminated not only non-Western practices such as Traditional Chinese Medicine and Ayurvedic medicine, but also studies of “traditional Western herbalism,” reflecting a selection bias that is not broadly representative. Studies of herbal medicine were smaller, less likely to be published in English, and less likely to be indexed in MEDLINE than their counterparts from conventional medicine. In both groups, smaller trials showed more beneficial treatment effects than larger trials.

Edzard Ernst, MD, PhD, professor at the department of Complementary Medicine, Peninsula Medical School, Universities of Exeter & Plymouth, suggests caution when interpreting the results of this study: “We know that smaller studies tend to report misleadingly large effect sizes” (E. Ernst e-mail to M. Blumenthal, August 13, 2007). Dr. Ernst goes on to admit this is a simple explanation of the phenomenon, because randomized controlled trials are costly and large ones are significantly expensive. Thus, herbal and phytomedicine companies, as compared with pharmaceutical companies, have smaller research budgets and are thus less likely to fund the larger trials associated with conventional pharmaceuticals.

According to Dr. Ernst, “Phytotherapy researchers are doing their very best to conduct rigorous research—so much so, that they publish better quality than their conventional colleagues who have the benefit of being able to rely on huge funds, while the phytotherapy sector has to make ends meet on a shoe string. One does not need to be a rocket scientist to find the solution to the problem: as phytotherapy research has no big industry backing, it requires much more official support from governments and other non-commercial sources to carry on its good and important work.”

Although the authors of this study were unable to confirm the widely held belief that the quality of the evidence on the effectiveness of herbs and phytomedicines is inferior to the evidence that is available on conventional medicine for comparable conditions and outcomes, they opened the door for more discussion and research on assessing methodological and reporting quality of trials. HG

—Jennifer Minigh, PhD



Echinamide® Echinacea
Echinacea purpurea



Lomatium (root)
Lomatium dissectum



Astragalus (root)
Astragalus membranaceus



Reishi Mushroom
Ganoderma lucidum



Licorice (root)
Glycyrrhiza glabra

Anti-V Formula

with Clinically Proven
ECHINAMIDE®

Broad Spectrum Immune System Support*

Anti-V, a proprietary formula that harnesses the effectiveness of clinically proven ECHINAMIDE† with the healing properties of lomatium, astragalus, reishi, and licorice.

†Patented triple-standardized phyto-medicinal (Echinamide®) supported with two Phase II clinical trials demonstrating statistically significant and reproducible evidence of effectiveness as an immune system enhancer.*¹⁻⁴

¹ *Phytother Research* 2005 Aug; 19(8):689-94.

² *Journal of Clinical Pharmacy and Therapeutics* 2004 Feb; 29(1):75-83.

³ *Journal of Nutritional Biochemistry* 2002 Aug; 13(8):487.

⁴ *International Immunopharmacology* 2002 Feb; 2(2-3):381-7.



*These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure or prevent any disease.

**natural
Factors**
naturalfactors.com

Special Swedish Rhodiola Extract Shows Benefit for Mild to Moderate Depression

Reviewed: Darbinyan V, Aslanyan G, Amroyan E, Gabrielyan E, Malmström C, Panossian A. Clinical trial of *Rhodiola rosea* L. extract SHR-5 in the treatment of mild to moderate depression. *Nord J Psyc.* 2007;61:343-348.

Rhodiola (*Rhodiola rosea*, Crassulaceae) is a medicinal plant with adaptogenic, antioxidant, endocrine, reproductive, and central nervous system effects. Rhodiola root preparations have been extensively studied and used in Scandinavia and Russia as an herbal medicine.¹

Although a Russian trial in 1986 tested a rhodiola extract as an adjunct to a tricyclic antidepressant drug in patients with depression,² this is the first clinical trial to test a root extract of *R. rosea* by itself for its antidepressant activity.

In this double-blind, placebo-controlled, randomized phase III clinical trial, the authors examined the effect of the proprietary standardized rhodiola rhizome extract SHR-5 on subjects diagnosed with mild to moderate depression. Each 400 mg tablet of SHR-5 contains 170 mg of rhodiola root extract. SHR-5 is a standardized extract of rhodiola root that provides 4.5 mg of salidroside in 185 mg of extract. Both SHR-5 and the placebo were manufactured by the Swedish Herbal Institute (Gothenburg, Sweden) following Good Manufacturing Practices. (SHR-5 is used in the special extract Arctic Root® and is available in the United States from ProActive BioProducts, Inc., Sedona, AZ.) The placebo contained 170 mg lactose. The study medication and the placebo were virtually identical in appearance.

Male and female patients aged 18-70 years (n=89) and diagnosed with mild to moderate depression according to the DSM-IV³ were recruited from the clinics of Erebouni Medical Center (Armenian State Medical University, Yerevan, Armenia). There is no indication if these patients were inpatients or outpatients. During a 2-week run-in period, the patients received no medication. Then, patients were randomized to receive 2 tablets once daily of SHR-5 (340 mg/day) (n=31), 2 tablets twice daily of SHR-5 (680 mg/day) (n=29), or 2 placebo tablets once daily (n=29). The randomization method used followed the “principles of total randomization, whereby each patient was randomly assigned an integer 1-90.”

The Beck Depression Inventory (BDI) and the 21-item Hamilton Rating Scale for Depression (HAMD) were used to determine depression severity twice during the study: on Day 0 and on Day 42 of the 6-week treatment. Two patients dropped out of the trial “for non-medical reasons.” No adverse effects were reported. After 6 weeks, the HAMD scores showed that symptoms were significantly improved for the 2 groups receiving SHR-5 (P<0.0001) compared to placebo. For the low-dose SHR-5 group (340 mg/day), the average total HAMD score decreased from 24.5 to 16.0 (P<0.0001). The average total HAMD score decreased from 23.8 to 16.7 (P<0.0001) for the high-dose SHR-5 group (680 mg/day). The placebo group showed no improvement in HAMD scores, from 24.2 at the beginning to 23.4 at the end. The reason for the total lack of mood change in the placebo group was not discussed, but is unusual. The average total HAMD scores of the 2 SHR-5 groups were significantly different from the placebo group at the end of the study (P<0.001).

The study also measured certain secondary efficacy variables.

At both dosage levels of SHR-5, people in the HAMD subgroups experienced statistically significant improvements in insomnia, emotional instability, and levels of somatization (the conversion of anxiety into physical symptoms), while such measures did not significantly change in the placebo group. In addition, the HAMD items for self-esteem were significantly improved in the high-dose SHR-5 group (P=0.0002).

Both treatment groups also experienced statistically significant declines in mean BDI scores (from 12.2 to 7.1 in the lower-dose group and from 10.4 to 4.8 in the higher-dose group). The subjects in the placebo group did not show statistically significant decreases in BDI scores by the end of the trial.

In the words of the authors, this clinical trial shows that SHR-5 “possesses a clear and significant anti-depressive activity in patients suffering from mild to moderate depression.” In addition, the extract appears to be safe for short-term use, with no adverse effects reported. The authors expect that future clinical trials including a 12-week follow-up period and a larger multi-center study design will show how the efficacy of SHR-5 compares with conventional pharmaceutical antidepressants. In addition, more research is needed to confirm the mechanism of action for this observed antidepressant activity.

Richard P. Brown, MD, associate professor of clinical psychiatry at the Columbia University College of Physicians and Surgeons and a co-author of both a review article in *HerbalGram*¹ and a book on *R. rosea*,⁴ states, “In addition to mood elevation, evidence indicates that *R. rosea* has numerous other benefits, including enhancement of cognitive function, sexual function, and both mental and physical performance under stress. Additional studies are needed to explore and establish the potential applications of this herbal extract. In the meantime, phytomedicinal researchers and consumers can be encouraged by these findings” (e-mail to M. Blumenthal, November 19, 2007). HG

—Marissa Oppel, MS

References

1. Brown R, Gerbarg P, Ramazanov Z. *Rhodiola rosea*—a phytomedicinal overview. *HerbalGram.* 2002;56:40-52.
2. Brichenko VS, Kupriyanova IE, Skorokhodova TF. The use of herbal adaptogens together with tricyclic antidepressants in patients with psychogenic depressions. *Modern Problems of Pharmacology and Search for New Medicines.* 1986;2:58-60.
3. *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).* Washington, DC: American Psychiatric Association; 1994.
4. Brown R, Gerbarg P. *Rhodiola Revolution.* Emmaus, PA: Rodale Press, 2004.

Green Tea Extract Polyphenon® E Treats External Genital Warts

Reviewed: Gross G, Meyer K-G, Pres H, Thielert C, Tawfik H, Mescheder A. A randomized, double-blind, four-arm parallel-group, placebo-controlled Phase II/III study to investigate the clinical efficacy of two galenic formulations of Polyphenon® E in the treatment of external genital warts. *J Eur Acad Dermatol Venereol.* 2007;21:1404–1412.

Of all the sexually transmitted diseases (STDs), genital warts has had one of the highest increases in incidence rate in recent years. External genital warts are benign squamous cell tumors caused by human papilloma viruses (HPVs). It is estimated that 0.5-1.0% of the general population is infected with HPV. Few treatments, with varying degrees of efficacy, are available and those that are available are associated with adverse side effects such as itching, edema, ulcerations, burning, and pain. Furthermore, none of the available treatments eliminate the source of the disease; therefore, recurrence is common. Studies conducted in China have shown that polyphenols are efficacious in treating genital warts and are associated with minimal pain and inflammation. Polyphenon® E (Mitsui Norin Co., Ltd., Tokyo, Japan), an extract of catechins derived from the leaves of green tea (*Camellia sinensis*, Theaceae), has a high polyphenol content and has been shown to have antitumor and anti-inflammatory activities. The objective of this study was to evaluate the efficacy and safety of Polyphenon E in the treatment of external genital warts.

Men and women aged 18 years or older, with up to 30 external genital warts (total wart area: 12-600 mm²), were recruited into this randomized, double-blind, placebo-controlled study. This multicenter phase II/III study was conducted in 20 German and 8 Russian health facilities. Patients with a current outbreak of *Herpes genitalis* or similar infection were ineligible. The patients were randomly assigned to 1 of 4 treatments according to a 2:1 active:placebo ratio stratified by sex. The active treatments involved the use of Polyphenon E 10% cream and Polyphenon E 15% ointment. For the corresponding placebo treatments, Polyphenon E was replaced with higher amounts of all of the base ingredients in the cream and with white petroleum and white wax in the ointment.

Polyphenon E (anticipated dose: <250 mg per application) or placebo was applied topically to all external genital warts 3 times daily until complete clearance of all warts or for a maximum of 12 weeks. Patients were evaluated at baseline, every other week until 8 weeks, and at 12 weeks. The main outcome measures were total wart area (clearance rate) and adverse events. The intention-to-treat (ITT) population included 238 patients (122 men and 116 women), and the per-protocol (PP) population included 225 patients (115 men and 110 women).

A total of 221 patients completed the study. No significant differences in the complete clearance rate of warts were observed between the placebo cream and ointment groups (ITT and PP populations). After treatment with 15% Polyphenon E, complete clearance of baseline warts was observed in 59% of the patients ($P = 0.0066$ compared with placebo), and a 75-100% reduction in wart area was observed in 80.8% of the patients ($P =$

0.0001 compared with placebo) in both the ITT and PP populations. There was no significant sex effect: complete clearance was achieved in 61% of the men and in 56.8% of the women ($P > 0.05$). No significant differences in clearance rates were observed between the Polyphenon E 10% cream and placebo groups. Recurrence rates for the Polyphenon E 15% ointment, Polyphenon E 10% cream, and placebo were 10.6%, 11.8%, and 10.3%, respectively. Local skin reactions to Polyphenon E were mild-to-moderate, and only 7.9% of the patients were observed to have adverse reactions, none of which were serious.

The authors conclude that Polyphenon E 15% ointment “proved to be efficacious and safe” for the treatment of external genital warts in both sexes. Because of these findings, the Polyphenon E 15% ointment will be evaluated further in prospective clinical studies.

A formulation using the green tea extract studied in this trial was approved by the US Food and Drug Administration (FDA) in 2006 as a prescription drug for the external treatment of genital warts caused by the human papilloma virus.¹ This is the first chemically-complex “botanical drug” approved by the FDA in about 50 years. The drug, known as Veregen™, is produced by Medigene AG of Martinsried, Germany, and it is to be marketed in the United States by Bradley Pharmaceuticals of Fairfield, New Jersey. HG

—Brenda Milot, ELS

Reference

1. Blumenthal M. FDA approves special green tea extract as a new topical drug for genital warts. *HerbalGram.* 2007;74:62-63.




Tea *Camellia sinensis* Photo ©2008 stevenfoster.com

Give yourself a good spring cleaning.



Feel the difference with Thisilyn® Cleanse, the comprehensive, yet easy-to-follow, 15-day internal purification program exclusively with maximum absorption Thisilyn® milk thistle extract and our unique “tri-phase” Whole Body Detox, 6-Fiber Blend and Digestive Sweep™ formulas. For ongoing support, continue with our specially balanced Daily Cleanse and Digestive Cleanse supplements.

Trust The Leaf® 

AVAILABLE AT FINER HEALTH AND NUTRITION STORES

Steroid-Sparing Effect of Wormwood in Crohn's Disease

Reviewed: Omer B, Krebs S, Omer H, Noor TO. Steroid-sparing effect of wormwood (*Artemisia absinthium*) in Crohn's disease: a double-blind placebo-controlled study. *Phytomed.* 2007;14:87-95.

Crohn's disease (CD) is an ongoing disorder that causes inflammation of the digestive tract. In conventional medicine this disease is usually treated with 5-aminosalicylates, mostly in combination with steroids. Because adverse side effects occur frequently, particularly during the co-treatment with steroids, there is a need for effective steroid-sparing treatment alternatives.

Although the cause of the disease is unknown, recent studies have shown a high prevalence of herpes (such as cytomegalovirus, human herpes virus 6, and Epstein Barr virus) infection in CD patients, and research suggests that these viruses might play a significant role in the pathogenesis of CD. Wormwood (*Artemisia absinthium*, Asteraceae) herb extract has been shown to possess anti-herpes properties, and thus may be a useful additive in the standard treatment of CD. Additionally, CD produces a high psychological burden for patients, and many exhibit symptoms of moderate-to-severe depression. Thus, quality-of-life measures were evaluated during the trial.

The aim of the study was to administer wormwood to patients with CD who were receiving stable doses of corticosteroids, and to determine whether wormwood

could reduce the patients' dependence on corticosteroids. The secondary objective of this study was designed to assess whether wormwood would improve symptoms of depression as well as quality-of-life.

Forty patients suffering from CD and receiving stable daily doses of steroids participated in this multicenter, randomized, double-blind trial in Germany. Wormwood, in a proprietary preparation called SedaCrohn®, was obtained from Noorherbals of Hockessin, Delaware, USA. Each 400-mg SedaCrohn capsule contained 250 mg of wormwood powder, 100 mg of rose (*Rosa* spp., Rosaceae), 40 mg of cardamom seeds (*Elettaria cardamomum*, Zingiberaceae), and 10 mg of mastic resin.

Wormwood is usually standardized based on absinthin; high-quality wormwood should contain at least 0.2% absinthin.¹

According to Noorherbals, the SedaCrohn capsules contain 0.2% to 0.38% absinthin and 0.25% to 1.52% essential oils, depending upon the batch. The placebo capsules were physically identical and contained similar amounts of rose-petals, cardamom seeds, and resin of mastic, in addition to 100 mg of starch, all

The results of this study suggest that wormwood may have a steroid-sparing effect, in addition to an effect on the mood and quality-of-life in patients with CD.



Wormwood *Artemisia absinthium* Photo ©2008 Steven Foster

of which lack antiviral activity.

Each group was administered the herbal blend containing wormwood (n=20) or the placebo (n=20) as 3 capsules twice a day for 10 weeks. Patients were assessed for steroid-sparing effects, remission-inducing properties, and quality-of-life improving effects.

After 8 weeks of treatment with wormwood, there was almost complete remission of symptoms in 13 (65%) patients, as compared with none in the placebo group. This remission persisted until the end of the observation period, and the addition of steroids was not necessary.

In the placebo group, 16 patients (80%) showed CD exacerbation due to reduction in steroid dose, whereas there were only 2 (10%) such patients in the wormwood group. The exacerbation of CD symptoms necessitated the resumption of steroids in 11 patients in the placebo group and 2 patients in the wormwood group.

Self-assessment of the patients showed almost no change in subjective feelings of illness in the placebo group, whereas, in the wormwood group the evaluation indicated significant improvement. The patients treated with wormwood reported a gradual improvement in mood that was statistically significant at weeks 10 and 12 (P<0.01).

The results of this study suggest that wormwood may have a steroid-sparing effect, in addition to an effect on the mood and quality-of-life in patients with CD. The authors attribute these effects to viral elimination by wormwood. However, they do not discount that the effect could be due to immune system modulation by wormwood. In addition, no conclusion can be drawn about the psychological findings because the selection of the patients was not based on depression criteria, but on the criteria of CD severity.

The authors conclude that wormwood has not only steroid-sparing effect in patients with CD, but that this effect continues for several weeks after the end of the 10-week treatment period. Also, they suggest that there is a subgroup of patients which is resistant to wormwood treatment, since 5 patients showed little response to the wormwood treatment. Although no definitive conclusion can be drawn from this study, the results warrant further in vitro and in vivo trials in order to understand the observed efficacy of this herb. HG

—Jennifer Minigh, PhD

Reference

- List PH, Horhammer L. In: *Hager's Handbuch der Pharmazeutischen Praxis für Apotheker, Arzneimittelhersteller, Ärzte und Medizinalbeamte*, vol 3. Springer, Berlin, Heidelberg, New York. 1973;254–259.

The authors conclude that wormwood has not only steroid-sparing effect in patients with CD, but that this effect continues for several weeks after the end of the 10-week treatment period.

Wormwood for Appetite and Weight Loss in Cancer Patients

Editor's Note: the authors of the study on wormwood and Crohn's disease provided the following supplemental report on wormwood research.

The inflammatory process in Crohn's disease (CD) is characterized by increased production of pro-inflammatory cytokines such as tumor necrosis factor (TNF-alpha), interleukin-1, and interleukin-6. In clinical studies, TNF-alpha levels in serum as well as in stool were found to be elevated in patients with active CD in comparison with normal controls. TNF-alpha is now considered to be centrally involved in the inflammatory process in CD. Wormwood suppresses tumor necrosis factor alpha, accelerates healing, and improves mood in patients with CD.

A well known traditional use of wormwood, mentioned in many herb books, is to improve appetite. Almost all cancer patients will suffer at some stage of their illness from poor appetite and weight loss. This symptom has the effect of further deteriorating the condition of cancer patients. It is generally agreed that a well-nourished cancer patient will respond better to anticancer therapy and has better prognosis of illness.

Loss of appetite and weight loss is associated with high levels of TNF-alpha and other immune cytokines. This is the case in cancer patients who are losing appetite and weight.

Large-scale open and double-blind clinical trials are currently being conducted with SedaCrohn on cancer patients experiencing reduced appetite and weight loss. The preliminary results based on the first 40 patients are extremely encouraging. If clinically confirmed, this will give the old fairy (wormwood) a new birth. Although improvement of appetite is one of wormwood's traditional uses, appetite improvement in cancer patients is a new potential benefit.

Source: B. Omer, S. Krebs, H Omer, TO Noor, e-mail to M. Finney, December 5, 2007.

Just because *Aloe vera* is nature's best, doesn't mean we couldn't make it better.

You can do a lot with the bioactive compounds in *Aloe vera*. Now you can do a lot more with them due to Qmatrix®, the revolutionary proprietary process using environmentally friendly "green" technology available exclusively from Aloecorp. Patent-pending Qmatrix® processes carefully picked *Aloe vera* leaves with a special low temperature, short time, sanitation drying technique.



This results in innovative Aloe "flakes" that provide freshness without refrigeration, stability without preservatives, and have superior solubility and dissolution properties. Plus, all the beneficial polysaccharides and many other health-promoting bioactive nutrients are captured at "same as fresh" quality levels. In other words, nature's best, made better.



To Request Scientific Review Papers:
800-458-ALOE or info@alocorp.com

Clinical Trial Follow-up Evaluates Safety and Effectiveness of Saw Palmetto and Stinging Nettle Extracts in Men with BPH

Reviewed: Lopatkin N, Sivkov A, Schläfke S, Funk P, Medvedev A, Engelmann U. Efficacy and safety of a combination of Sabal and *Urtica* extract in lower urinary tract symptoms—long-term follow-up of a placebo-controlled, double-blind, multicenter trial. *Int Urol Nephrol*. 2007;39(4):1137-1146.

Benign prostatic hyperplasia (BPH) is a noncancerous enlargement of the prostate gland, and it is the leading cause of lower urinary tract symptoms common in older men. Lower urinary tract symptoms include obstructive symptoms (decreased urine flow, interrupted flow, feelings of incomplete emptying, and hesitancy) and irritating symptoms (urge to urinate, frequent urination, and nighttime urination). Although there are medications available to reduce BPH symptoms, many men find the adverse effects unacceptable. There is great interest in herbal remedies that are well-tolerated and effective for continuous, long-term use. Extracts from saw palmetto (*Serenoa repens*, *Arecaceae*) and stinging nettle (*Urtica dioica*, *Urticaceae*) are the most widely used herbal remedies for BPH. This article presents the results of a long-term follow-up of a clinical trial evaluating the safety and effectiveness of a combination of saw palmetto and stinging nettle in men with BPH.

The study was conducted at 3 outpatient urology clinics in Moscow, Russia. The subjects were men over the age of 50 with a diagnosis of BPH. The herbal product studied was PRO 160/120, which provided 160 mg ethanolic extract of saw palmetto fruit (WS® 1473) and 120 mg ethanolic extract of stinging nettle root (WS® 1031) per capsule (Dr. Willmar Schwabe GmbH & Co., Karlsruhe, Germany; marketed as Prostagutt forte(r)). In the double-blind portion of the trial, 257 men were randomly assigned to receive 2 capsules per day of PRO 160/120 or placebo for 24 weeks. In the open-label control portion of the study, 250 subjects took 2 capsules per day of PRO 160/120 for 24 weeks. After the open-label portion of the study, 219 subjects were offered an additional 48 weeks of open-label follow-up in which they continued to take 2 capsules per day of PRO 160/120. The subjects returned for study visits every 12 weeks. The investigators used ultrasound and electronic urinary flow meters to evaluate maximum urinary flow rate, duration, output, residual urine volume, and prostate size. The subjects rated their symptoms using the International Prostate Symptom Score (I-PSS) questionnaire.

In the 24-week double-blind portion of the study, subjects taking PRO 160/120 reported significant improvements in I-PSS scores

compared to subjects taking the placebo ($P < 0.02$). Tolerability of PRO 160/120 was comparable to that of placebo. During the 24-week, open-label control period, subjects who switched from placebo to PRO 160/120 (the Ex-Placebo Group) had substantial improvements in their I-PSS scores and subjects continuing on with PRO 160/120 had additional mild improvements (P values not reported). By week 48, subjects in both groups reported a median improvement of 7 points in I-PSS scores.

A total of 219 subjects continued in the follow-up study. From week 49 to week 96, I-PSS scores improved by a median of 1 point. Subjects reported 61 adverse events during the follow-up study; only one adverse event was assessed as being possibly related to PRO 160/120 treatment.

I-PSS scores improved significantly by 9 points from baseline to week 96, which corresponds to a 53% reduction from the baseline median of 17 points ($P < 0.001$). Similar improvements were reported for both the obstructive and irritating symptoms, and the improvement in each of the 7 individual symptom scores was statistically significant (19%) ($P < 0.01$). Maximum urinary flow and average urinary flow values increased significantly ($P < 0.01$), residual urine volume decreased significantly (44%) ($P < 0.03$), and prostate volume decreased significantly ($P = 0.001$) from baseline to week 96.

The authors conclude that PRO 160/120 slows the progression of BPH and provides a clinically relevant benefit over a period of 96 weeks. Long-term administration of this combination of saw palmetto and stinging nettle extracts showed very good tolerability and high acceptance by study participants. Although this study could be criticized for not continuing the randomized control group after the initial 24-week period, the independent ethics committee that approved the study determined that it would be unethical for subjects to go without treatment for longer than 24 weeks. Placebo effects are common in studies investigating medical treatment of lower urinary tract symptoms, but the magnitude of the placebo effect typically decreases over time. The continuous, long-term improvements observed in this study do not appear to be explained by a placebo effect alone. HG



Stinging Nettle *Urtica dioica* Photo ©2008 Steven Foster

—Heather S. Oliff, PhD



View of the Botanical Garden of Padua.
Photo courtesy of Orto botanico dell'Università di Padova. Photo by Matteo and Francesco Danesin

The Botanical Garden of Padua

HISTORIC BOTANICAL GARDEN CREATED TO CULTIVATE MEDICINAL PLANTS

by Courtney Cavaliere

Photos are not to be photocopied or reproduced without express permission from Orto botanico dell'Università di Padova

©American Botanical Council; reprinted with permission. The American Botanical Council is an independent nonprofit, educational, member-supported organization, dedicated to promoting responsible use of herbs, medicinal plants, phytomedicines, and other plant-derived ingredients. For more information about ABC, its journal *HerbalGram*, or membership, visit www.herbalgram.org.



In 1545, Venetian scholars and government officials established a botanical garden at the University of Padua, Italy, for the cultivation and study of medicinal plants.^{1,2} This garden, which is characterized by its unique architectural design and collections, is now recognized as the oldest surviving botanical garden in the world to have retained its original setting and layout.* Throughout the centuries, it has remained an active teaching institution and has been periodically renovated and modernized in light of new technology and student needs. Recently, the property attributed to the garden was enlarged, and the acquired area is currently being developed to support further botanical cultivation and teaching programs and to buffer the pre-existing garden area against encroaching urbanization.^{3,4}

More than a mere artifact of earlier centuries, the Botanical Garden of Padua reflects the importance of herbalism within past societies and remains relevant to modern students and visitors with continually evolving collections and facilities.

The University of Padua was founded in 1222, and it soon gained recognition for producing scholars in the fields of botany and medicine.² To further advance and promote such studies, in 1543 Francesco Bonafede, then chair of the university's "Lecturer

of Simples," petitioned for the establishment of a botanical garden and *spezieria*[†]—a collection of genuine plant drugs used in medicine for comparison purposes, or perhaps a drugstore.¹ (Note: In this context the term "simples" means medicaments of natural, usually plant, origin.) The Venetian Republic granted Bonafede's request, leading to the creation of the garden in 1545.

The primary purpose for creating the garden was to teach students how to identify true medicinal plants.⁵ Many botanists

*There has been some dispute as to whether the Botanical Garden of Padua or the Tuscan Grand Duke's Botanical Garden of Pisa was the first established botanical garden. The foundation of the Padua Garden is precisely documented, whereas the founding of the Pisa Garden is not. It has also been argued that the two Italian states were using different calendars in the mid-16th century with a difference of one year. A letter written by Luca Ghini, the founder of the Pisa Garden, is said to provide some evidence that the Pisa Garden preceded Padua's. (Source: Hyams E. *Great Botanical Gardens of the World*. London: Bloomsbury Books; 1985.) However, a written work by Pietro Andrea Mattioli, published in 1568, provides evidence that Padua's Garden preceded Pisa's; he wrote that many years earlier in Padua the Venetian Senate established a medicinal garden and that Cosimo, duke of Florence and Siena, petitioned by the physician Luca Ghini, in turn established a similar garden in Pisa. (Source: Matthioli PA. *I Discorsi di M. Pietro Andrea Matthioli Sanese; negli sei libri di Pedacio Dioscoride Anazarbeo della materia Medicinale*. In Ventia, Appresso Vincenzo Valgrisi; 1568). Regardless, the Padua Garden is the oldest that remains in its original setting, as the Pisa Garden was relocated to a new site in 1562.

in the 15th and 16th centuries would analyze the *materia medica* of ancient authors and attempt to match the authors' descriptions with plants found in nature. Botanists' opinions on what constituted a "match" were not always uniform. Moreover, observations in nature would sometimes lead to discoveries of species with morphological characters similar to those of medicinal plants, causing further confusion. The chaotic state of pre-Linnean botanical nomenclature also impeded the proper identification of plants. All such identification problems occasionally resulted in incorrect—and sometimes even toxic—administration of medicinal plants, which the founders of the Padua Garden hoped to remedy through proper botanical study and training.

The garden was further created to serve as a center for scientific research through the introduction and acclimatization of rare and exotic plants.⁶ Additionally, the garden was established to promote and assist in the Venetian government's pharmaceutical trade.^{1,6} The simples described by the Greek physician Dioscorides provided much of the basis for medical botany, and Venice had access to many of the plants described in Dioscorides' *materia medica* through its special trade links with regions of the Eastern Mediterranean, including Constantinople, Syria, and Egypt.⁷ This placed Venice in a privileged position for commerce in medicinal plants. The Padua Garden's collection of medicinal plants could also provide physicians and herbalists with benchmarks for the testing of drugs, allowing the Venetian Republic to guarantee certain standards in the quality of their pharmaceuticals.⁶

The garden was erected on a plot of land belonging to monks of the Benedictine Order, who had likely already initiated herbal cultivation on the property.² It was designed as a circle enclosing a square plot of land, which in turn was divided into 4 quadrants by intersecting paths. The quadrants contained flowerbeds, arranged in various elegant geometrical patterns. The garden's unique design and layout have been attributed to a number of factors and explanations. The garden's size and shape reportedly stem from the irregular shape of the plot of land obtained from the Benedictine monks.^{1,2} It has been stated that the garden was designed to represent a microcosm or small paradisaical world surrounded by a ring of water, indicative of the ocean.^{1,2,4} The garden's design could also have been inspired by the layout of ancient gardens.⁶ The 4 quadrants have been said to represent the union of medicine and mathematics, particularly as botanists considered there to be 4 grades of curative properties within plants. The 4 quadrants design element was also employed by the contemporaneous Botanical Garden of Pisa.

Over the centuries, various features were added to protect, adorn, and modernize the garden.² A circular enclosing wall was built around the garden in 1552 to prevent criminals from stealing the garden's rare plants—a common problem of the garden in its early years that nearly caused the institution to lose its reputation and enter a state of decline.⁵ From the 1600s to the early 1700s, 4 huge gates and several fountains were installed.² A marble balustrade was added to the circular wall in the 18th century, which is decorated with 5 busts—3 depicting former directors of the garden and 2 of botanists.^{8‡} A library was initiated around 1770, which now contains many valuable botanical works.⁹ The garden later expanded beyond its circular wall. In the 18th and 19th centuries, new masonry greenhouses replaced previous mobile ones, and the garden was enhanced by such features as an arboretum,



an English garden, a lecture hall, and a hillock.^{2,9}

As for its collections, an extensive array of plants have been cultivated and showcased at the garden since its establishment. By 1552—only a few years after the garden was founded—it had already accumulated approximately 1500 different specimens.^{4,6} Various records show that the garden's early directors and staff made numerous trips to collect seeds and plants to fill the garden.⁵ Moreover, many of the garden's acquisitions were provided by countries that the Venetian Republic governed as possessions or with which it traded, so that the garden became an important site for the introduction and study of exotic species.

There are very few records that provide any evidence as to the identity of the plants introduced to the garden by its first director.⁵ The earliest complete catalogue of plants in the Padua Garden was compiled in 1591, and it lists nearly 1200 plants.⁷ Even this catalogue presents challenges in the identification of the garden's early collections, due to its reliance on pre-Linnean nomenclature.

Many of the plants grown in the Padua Garden at the end of the 16th century were used for food. These included various cereals, vegetables, fruit trees, ramblers, and melons. Eastern Mediterranean regions served as a main source for many of the garden's early plants, including some of its fruits and vegetables. Some examples are the olive (*Olea europaea*, Oleaceae), fig (*Ficus carica*, Moraceae), pomegranate (*Punica granatum*, Punicaceae), and jujube (*Ziziphus jujuba*, Rhamnaceae). Plants introduced from the Americas include the tomato (*Lycopersicon esculentum*, Solanaceae), potato (*Solanum tuberosum*, Solanaceae), sunflower (*Helianthus annuus*, Asteraceae), and tobacco (*Nicotiana tabacum*, Solanaceae).^{6,7} Attempts were also made to acclimatize plants from Africa into the garden, such as the doum palm (*Hyphaene*

[†]The base word for *spezieria* is the Italian *spezie*, "spices." A *spezieria* is a place where spices were sold or, perhaps in this case, displayed. In the 16th century the term *spices* in European languages was synonymous with drugs and a *spezieria* was a "drugstore."

[‡]Directors of the garden were Prospero Alpini, Giulio Pontedera and Giovanni Marsili; botanists were Sarrasin Jean Antoine (aka Saracenus Janus Antonius; Lyon, 1547-1598) and Fabio Colonna (aka Fabius Columna; Naples, 1567-1640).



View of the Botanical Garden of Padua. Photo courtesy of Orto botanico dell'Università di Padova. Photo by Matteo and Francesco Danesin

thebaica, Arecaceae) and aloe (*Aloe* spp., Aloaceae).⁷

Some of the plants cultivated at the Padua Garden were the first of their kind introduced into Italy (and sometimes the first grown in Europe, as well). One such plant is a Himalayan cedar (*Cedrus deodora*, Pinaceae), which was established in the garden in 1828 and is still thriving on the property.^{8,10} Other plants that entered Italy via the Padua Garden include the *Mesembryanthemum* spp. (Aizoaceae), the black locust (*Robinia pseudoacacia*, Fabaceae), *Pelargonium cucullatum* (Geraniaceae), *Cyclamen persicum* (Myrsinaceae), and *Jasminum nudiflorum* (Oleaceae).⁸

The garden's oldest surviving plant is a Mediterranean palm (*Chamaerops humilis*, Arecaceae), which was planted in 1585 and was the subject of German scientist Johann Wolfgang von Goethe's well-known essay "Metamorphosis of Plants."¹⁰ Previously, the garden's oldest plant was a chaste tree (*Vitex agnus-castus*, Verbenaceae) that was dated to 1550; however, the tree expired in 1984. Remains of the tree are currently preserved in the garden.² Other historic surviving trees include a hollow-trunk Oriental plane (*Platanus orientalis*, Platanaceae) from 1680 and a ginkgo (*Ginkgo biloba*, Ginkgoaceae) tree from about 1750.¹⁰ A southern magnolia (*Magnolia grandiflora*, Magnoliaceae) planted around 1786 is considered the oldest of that species found in Europe.

The garden currently contains over 6,000 plants, arranged according to their uses, environment, or certain themes.^{2,4} The garden's systematic collection, which features primarily herbaceous species representing the principal angiosperm families, is located in the 4 quadrants in the center of the garden.³ Other collections found within the garden's circular wall include medicinal plants, local flora, rare and endangered plants, aquatic plants, and poisonous plants. The medicinal plants showcased within the garden are periodically updated based on modern pharmacological and phytochemical research, although some space remains perpetually dedicated to famous medicinal plants of the past. Some plant species are featured in the medicinal collection for their contribu-

tions to the pharmaceutical industry, as compounds of those plants have been synthesized for drugs.¹¹ Such plants include species of the genera *Dioscorea* (Dioscoreaceae) and the English yew (*Taxus baccata*, Taxaceae), which are used for the semi-synthesis of hormone-related and anti-tumoral drugs, respectively.

Collections found outside the circular wall include carnivorous plants, plants introduced into Italy, and a collection specifically designed for the blind, with plants' names and characteristics noted on their labels in Braille.³ Other collections feature particular environmental themes; these include a Mediterranean marquis, a peat-bog, and an Alpine rock garden.

According to Professor Elsa Cappelletti, director of the Botanical Garden of Padua, the carnivorous plants typically serve as a main attraction for students and visitors of the garden, as does the collection of poisonous plants (e-mail, June 25, 2007). "As a rule, everyone is interested in poisonous plants because no one imagines that many widespread native and cultivated plants can be poisonous," she explained. Prof. Cappelletti noted that university professors frequently use the garden to illustrate plants described in their lectures, and it is also commonly visited by children and secondary students and members of the public.

In May of 2002, the University of Padua purchased a 1.5 hectare plot of land to expand the garden.³ This plot, known locally as the "Tre Pini" (Three Pines) area, is intended to buffer the original historic garden from the city's expanding development and to further the garden's educational and scientific mission through the establishment of new facilities and cultural projects. The University of Padua announced an international competition in August of 2004, allowing designers to submit proposals for the development of this new area and for the restoration of other garden facilities. Of the submitted proposals, 15 design teams were chosen to present their projects before the selection committee. The selection of the winning team was announced in June of 2005.

"The competition victory was a grand satisfaction, as it was



developed in two phases and much teamwork and effort were required to carry out our design,” said Giorgio Strappazon, head architect of the winning design team, from the Italian firm Studio VS Associati (e-mail, June 13, 2007). “We decided to participate in the design competition as we found the theme very interesting and intriguing: the restoration project of the oldest botanical garden in the world with a unique plant heritage, together with its 16th and 19th century buildings and the extension with a new botanical museum. It was a fabulous and unique theme! It seldom occurs to design architecture and nature together, where architecture becomes nature and nature becomes architecture.”

The first phase of the restoration project was slated to begin in autumn of 2007, and according to Strappazon, the entire project is expected to be completed in approximately 3 years.

“Our extension project is based on a question: What sort of approach is necessary to define a 21st century botanic garden in such an antique context?” Strappazon explained. “Our answer has been to stress, represent, and explain the importance of plant biodiversity on our planet and to explain how it works. From Kyoto (and before, for many), the western world has realized the importance of nature conservation and diversity, which are very important for life on Earth and for mankind. Plant life, which gives us oxygen, must be protected and strengthened as a resource. A botanic garden, open to a large flux of visitors who are more and more environmentally aware, must transmit and explain, even with strong visual impacts, the importance of species and their environment, all over the world.”

This new extended satellite garden will be built in close proximity to the original historic garden. However, to preserve the iden-

tity of the historic garden, a boundary will be erected between them through the re-establishment of a small river that marked the garden’s south border when it was founded in 1545 (E. Cappelletti, e-mail, June 25, 2007). This river was covered 50 years ago to accommodate a small road.

According to Strappazon, the extension area will be divided into parallel sectors—“just as the Earth is divided into parallel latitudes.” Each sector in the greenhouse will represent a climate zone, starting with a humid tropical sector with pools and water, followed by a hot, dry climate sector, a temperate sector, and an arctic sector. The building will also include a “plants in space” sector, representing mankind’s ability to grow plants under “impossible” natural climate conditions through the use of technology.

The team will also design exhibits and visuals for the satellite garden’s botanic museum, focusing on three particular themes. The “plants and environment” theme will showcase plants in accordance with climatic conditions; the “plants and mankind” theme will illustrate the cultural and historical interdependence between man, plants, and the environment; and the “plants in space” theme will depict how plants can be cultivated in NASA systems under artificial conditions for the survival of mankind. Additionally, the team will work to restore the circular wall of the original botanical garden and other stone and metal works of historic and artistic value, and they will redesign and restore the garden’s 19th century greenhouses.

“Since new modern greenhouses will be built in the satellite garden, the old greenhouses in the historical garden will be used as ‘didactic greenhouses,’ where plants will be cultivated to illustrate specific topics,” said Prof. Cappelletti. She explained that such



topics could include the different systems and strategies that carnivorous plants use to capture insects, the morphological and physiological adaptations that plants undergo during conditions of water shortage, and issues of plant biodiversity preservation. “The Padua satellite garden will be an extraordinary occasion to put into value the garden from both the scientific point of view (i.e., new laboratories and facilities for research, a new seed bank) and the education point of view, with the new plant collections ‘plants and man’ and ‘plants and the environment,’” she continued. “While preserving the garden’s heritage, it will be possible to update the garden’s role as a scientific center and teaching medium, adapting these functions to the progress made by the botanical sciences. The satellite garden’s new plant collections will stimulate the increased interest of a wide range of visitors.”

Prof. Cappelletti added that the garden’s maintained historical heritage and evolving collections are what set it apart from the gardens of other institutions. “I feel that the Padua Garden is unique because of its unique architectural features coupled with its role as a scientific research center and teaching medium, which have always been adapted over the centuries to the progress in the botanical sciences,” she stated. “Moreover, the Botanical Garden of Padua represented a source of inspiration and influenced the establishment of many similar gardens in Europe and abroad, so that it is regarded as the ‘mother’ of all botanical gardens in the world.”

The garden’s influence and reputation led to its induction onto the World Heritage List in 1997. To this day, the garden is known worldwide for its contributions to botany and medicine and for its ability to reflect the ever-changing nature of scientific developments. HG

References

1. Dal Piaz V, Bonati MR. The design and form of the Padua Horto Medicinale. In: Minelli A, ed. *The Botanical Garden of Padua, 1545-1995*. Venice: Marsilio Editori; 1995:33-54.
2. UNESCO World Heritage List Advisory Body Evaluation: Botanical Garden (Orto Botanico), Padua, No. 824. September 11, 1996. Available at: http://whc.unesco.org/archive/advisory_body_evaluation/824.pdf. Accessed April 6, 2007.
3. Guidelines for the Improvement and Development of the Botanical Garden in Padua. University of Padua. April 2004. Available at: http://www.unipd.it/concorso_ortobotanico/doc/doc_C_en.pdf. Accessed May 4, 2007.
4. Hallett S. World’s first botanical garden has roots in medicine. *CMAJ*. 2006;175(2):177.
5. Cappelletti EM. Plants cultivated at the time of Anguillara. In: Minelli A, ed. *The Botanical Garden of Padua, 1545-1995*. Venice: Marsilio Editori; 1995:163-172.
6. Savoia AU. The Botanical Garden of Padua in Guilandino’s day. In: Minelli A, ed. *The Botanical Garden of Padua, 1545-1995*. Venice: Marsilio Editori; 1995:173-184.
7. Cappelletti EM. Living collections in the botanical garden at the time of Cortuso. In: Minelli A, ed. *The Botanical Garden of Padua, 1545-1995*. Venice: Marsilio Editori; 1995:197-206.
8. Hyams E. *Great Botanical Gardens of the World*. London: Bloomsbury Books; 1985.
9. DeToni JB. The Botanical Garden and Institute in Padua. *Botanical Gazette*. 1899;28(4):268-270.
10. Trees page. Botanical Garden of Padua Web site. Available at: <http://www.ortobotanico.unipd.it>. Accessed April 5, 2007.
11. Medicinal and poisonous plants. Collections page. Botanical Garden of Padua Web site. Available at: <http://www.ortobotanico.unipd.it>. Accessed June 26, 2007.

EARLY HISTORY AND LEADERSHIP OF THE PADUA BOTANICAL GARDEN

by John Riddle, PhD

In 1545 the *Consiglio dei Pregadi* of the Venetian Republic enacted a decree that in Padua an *orto* (garden) was to be instituted.

Francesco Bonafede was the principal organizer of the Padua Garden and, in the following year (1546), Luigi Squlermo, known as Anguillara, was named its first director.¹ Enormous energy, expense, and controversy marked the entry of almost each plant sought, planted, and maintained in order to provide the garden with “simples,” as medicinal plants were called. Civic medicinal gardens were a new institution in Europe. Prior to the establishment of the gardens in Padua and Pisa, lecturers on pharmacy (called “masters”) in medieval universities often maintained private medicinal gardens as teaching tools for medical students. Italy developed the first public medicinal herb gardens.

Anguillara had been a student of Luca Ghini, the founder of the botanical garden in Pisa. Ghini’s garden consisted of live plants and marked a departure from the accepted practice of collecting pressed, dried plants for instructional purposes. Ghini traveled extensively throughout the Mediterranean, especially eastern regions, collecting plants. Back home in Pisa, he had a Greek-speaking house maid who frequently identified the Greek names of plants for which he needed a classical identification. Aldrovandus, one of Ghini’s students who became a famous herbalist in his own right, compiled a list of some 610 plants in Ghini’s garden.²

The Padua Garden quickly surpassed Pisa’s in importance, influence, and continuity. One of the reasons that the Padua Garden endured is that, quickly after its founding, a wall was constructed

around it because it had become too public: “The gardens being open, means that anyone can enter and take away plants and simples,” reads a document in the University Archives.³ Pietro Andrea Mattioli, a leading physician and famous medical authority in Venice, cryptically observed: “In truth, a *hortus* [garden] [is] only at the service and embellishment of medicine.”⁴ In contrast, Pisa’s Garden had constant encroachments because of fortification construction imperatives.

Ghini’s conception at Pisa and Padua’s success inspired other Italian cities to develop medicinal gardens. Just as today each town wants a library and museum, so in the 16th century towns competed for prestige with medicinal gardens. Among them was one in Naples founded by Giovanni Vincenzo Pinelli, the great humanist. This garden was initiated some time after 1544 and was carried to completion by Bartolomeo Marantha (d. post 1570), who studied under Ghini and maintained correspondence and exchanges with northern Italian gardens.

Between the Paduan Garden’s rows and patches, politics was a weed threatening its existence. Shortly after Padua’s Garden was established, Mattioli maintained warm relations with Anguillara, the garden’s director, but he began attacking him when he and Anguillara disagreed about the identifications of Dioscorides’ plants. Both claimed to be experts on the 1st century herbalist, Dioscorides. Among other things, Mattioli called Anguillara “olitor Patavinus”—a “common Paduan vegetable gardener”—which is certainly not a nice thing to say to a medicinal garden



View of the Botanical Garden of Padua. Photo courtesy of Orto botanico dell'Università di Padova. Photo by Matteo and Francesco Danesin

director!² Likewise, when Melchior Guilandini, the garden's second director and successor to Anguillara, contradicted Mattioli about his translations involving some plants and their identification, Mattioli viciously attacked Guilandini and sought unsuccessfully his removal.

Guilandini's biography offers a glimpse into the importance of medical botany. Born in Königsberg (Prussia) with the family name Wieland around 1520, he was a poor herbalist, living off roots and selling his herbs from a donkey. While selling in Rome, he met a Venetian ambassador who persuaded Guilandini (Italianized) to come to Venice. The ambassador helped sponsor a "botanizing" trip so that Guilandini could travel to Greece, Syria, and Egypt for the purpose of identifying and collecting plants, especially those discussed by Dioscorides and about which Mattioli and others disagreed to the level of more fury than reason. Guilandini brought back many plants for Padua's Garden. He was about to undertake a similar journey to America for medicinal plants when he was captured by Algerian Corsairs and held for ransom. Not Mattioli but another professor at Padua, namely Gabriel Falloppio, the famous anatomist, raised his ransom and pushed Guilandini's candidacy to succeed Anguillara to "lecture and [the] demonstration of medicinal herbs."⁵ Among Guilandini's contributions was an ingenious hydraulic apparatus for watering the gardens.

The great names who founded the scientific revolution had acquaintance with Pauda's Garden, doubtlessly as they reflected

upon their studies. These include Copernicus, Galileo, Versalius, and William Harvey, among others. Prefects (or directors) of the garden included such notable names in botany as Giacomo Antonio Cortuso (1590-1603), Prospero Alpini (1603-1616), Johann Rhode (1631), Alpino Alpini (1631-1637), and Giorgio Dalla Torre (1649-1681). The *Orto botanico di Padova* would eventually be surpassed by other gardens, for example, the Kew in London, the Missouri, and Huntington gardens—but none can surpass the Padua Garden for its significant influence in medicinal botany, medicine, and science. HG

John Riddle, PhD, is the alumni distinguished professor emeritus of history at North Carolina State University.

References

1. Trevisan R. Luigi Anguillara. In: Minelli A, ed. *The Botanical Garden of Padua, 1545-1995*. Venice: Marsilio Editori; 1995:57-59.
2. Riddle J. Dioscorides. In: *Catalogus translationum et commentariorum*. Washington: Catholic University Press; 1980. 4:84-85.
3. Archivio Università Padova, vol. 666: ff. 20v-1v, as cited by Dal Piaz V, Bonati MR. The design and form of the Pauda Horto Medicinale. In: Minelli A, ed. *The Botanical Garden of Padua, 1545-1995*. Venice: Marsilio Editori; 1995:33-54.
4. Dal Piaz V, Bonati MR. The design and form of the Pauda Horto Medicinale. In: Minelli A, ed. *The Botanical Garden of Padua, 1545-1995*. Venice: Marsilio Editori; 1995:33-54.
5. Premuda L. Wieland. In: *Dictionary of Scientific Biography*. New York: Scribners, 1976;14:335-336.



The Paduan Garden, in Roberto de Visiani's *L'Orto Botanico de Padova nell' anno MDCCCXLII* (Padova, 1842, frontis). Image courtesy of the Hunt Institute for Botanical Documentation Carnegie Mellon.

ABC Introduces Product-Specific Monographs

By Mark Blumenthal

For over a decade it has been the policy of the American Botanical Council (ABC) to attempt to adequately describe and fully identify the phytomedicinal preparations featured in our *HerbalGram* Research Reviews, our HerbClip summaries and critical reviews, press releases, monographs, books, and other ABC publications. For example, in the tables summarizing clinical trials in *The ABC Clinical Guide to Herbs*,¹ we identified the actual name of the proprietary product used in each trial (i.e., if and when the trial was conducted on a proprietary and not a generic product). Likewise, in an appendix, we provided the names for those phytomedicines and their corresponding trade names in the North American market (i.e., when such clinically-researched products were produced by non-American companies, as most of the clinically-researched phytomedicines have been, to date).

We have done this for a variety of reasons, some of which are no doubt obvious to regular readers of ABC publications.

First, ABC has recognized that much of the pharmacological and clinical literature on herbs and phytomedicinal products are frequently based on specific proprietary commercial products. Such research is often, but not always, funded by the manufacturers of such products, generally in an attempt to substantiate the products' safety and efficacy, as well as for marketing purposes. For the past 20-30 years or so a majority of such proprietary phytomedicinal research has been in Western Europe—particularly Germany—where the regulatory systems have been based on a drug model, often requiring substantiation dossiers on specific products as a precondition of their being licensed for sale in the respective countries.

A second reason is the appropriateness of publicly acknowledging those companies (and their products) that do invest in clinical research. Over the past several decades there has been a growing tendency by the media and the market in the United States and elsewhere to “genericize” the categories of herbs where clinical research is based on only one or a few leading commercial products. In some cases, this has led consumers, some inadequately informed health professionals, and others to refer to all the commercial products of an herb as if they were all the same. Thus, all black cohosh (*Actaea racemosa*, Ranunculaceae; syn. *Cimicifuga racemosa*) products, or all garlic (*Allium sativum*, Liliaceae) products, are often viewed as either similar or the same, even though the research is usually based on a chemically distinct preparation (i.e., the manufacturers of the clinically-tested phytomedicinal products may have employed techniques of chemical standardization to ensure levels of specific chemical compounds and/or a group of similar compounds, such as ginsenosides in root extracts of ginseng [*Panax* spp., Araliaceae]).

One of the salient examples here is black cohosh, increasingly popular in the past decade for its safety and effectiveness in helping to treat symptoms related to menopause in women. Most of the clinical research conducted on black cohosh, as cited in the Black Cohosh clinical monograph in *The ABC Clinical Guide to Herbs*, is based on the well-known isopropanolic extract of the root and rhizome of black cohosh, Remifemin®, manufactured and marketed since the mid-1950s by Schaper & Brümmer of Salzgitter, Germany. Further, if one were to look at the literature of the past 5 years, many of the black cohosh trials have been conducted on either Remifemin or an ethanolic extract known as BNO 1055 (Klimadynon®, Bionorica AG, Neumarkt, Germany).

Similarly, the first standardized extract of the leaf of ginkgo (*Ginkgo biloba*, Ginkgoaceae)—which is still the leading phytomedicinal ginkgo preparation worldwide, both in sales as well as in extent of pharmacological and clinical research—is the extract of ginkgo known officially as EGb 761®. (This is known as Tebonin® in

Germany, Rokan® in France, Ginkgold® in the United States, etc., and it is manufactured and marketed by Dr. Willmar Schwabe Pharmaceuticals in Karlsruhe, Germany.)

Further examples abound, including garlic. The leading product is Kyolic® Aged Garlic Extract, produced by Wakunaga of Japan, and secondarily, Kwai® made by Lichtwer Pharma of Berlin. Research based on these 2 products dominates the clinical literature. Likewise the leading clinically researched product for St. John's wort (*Hypericum perforatum*, Clusiaceae) extract or aerial parts is LI 160® or Jarsin® by Lichtwer. For more information on clinically-researched herbal preparations, see *The ABC Clinical Guide to Herbs*¹ and Marilyn Barrett's two-volume *Handbook of Clinically Tested Herbal Remedies*.²

All this is not to imply that the somewhat “generic” herbal products are not effective. Such a suggestion would be hubristic. It should be noted here that the lack of published clinical trials on any particular product is not evidence of its lack of efficacy; it is simply a lack of positive published clinical evidence of any defined or suggested activity. People have successfully employed herbs and herbal preparations medicinally for millennia, long before the advent of randomized controlled trials in the past few decades.

In order to help the public access a comprehensive state-of-the-science compilation of the published (and in some cases, unpublished) pharmacological and clinical literature available on specific products and ingredients made from medicinal plants, as well as some common foods, ABC has initiated a new series of publications that we are describing as Product-Specific Monographs (PSM). The first such PSM was initially introduced online by ABC in March 2007, announcing the e-publication of the monograph on the proprietary and patented extract known as CVT-E002, or COLD-FX®.^{3,4} CVT-E002 is a unique phytomedicinal product and represents a new generation of botanically-based preparations. Instead of being simply a standardized extract from the roots of American ginseng (*Panax quinquefolius*, Araliaceae), CVT-E002 is made from only the saccharide fraction of the American ginseng roots and standardized to at least 80 to 90% poly-furonosyl-pyranosyl-saccharidess, without the biologically active ginsenosides, the triterpene glycosides that characterize most herbal products made from the roots of various species of *Panax*.

In producing the PSM on CVT-E002 ABC is not endorsing the manufacturer, CV Technologies of Edmonton, Alberta, Canada, or the product itself. In producing this PSM, and publishing the Clinical Overview section on the following two pages, ABC is introducing its new PSM series. The complete monograph, including discussion of the product's chemistry, patents, pharmacology, dosage recommendations, reviews of the clinical trials, and references, as well as a one-page Patient Information sheet and the Clinical Overview, is

available on the ABC Web site at <http://content.herbalgram.org/abc/Press/files/5594COLD-fX.pdf>.

Additional PSMs are scheduled to follow in 2008 and beyond. These will include PSMs on POM® Wonderful Pomegranate Juice made by POM Wonderful in Los Angeles, California; Pycnogenol® French Maritime Pine Bark Extract made by Horphag Research in Geneva, Switzerland; and i-flex™ Danish Rose Hip Powder produced by Hyben Vital ApS of Tranekaer, Denmark, and marketed internationally by DSM, an international manufacturer and supplier of fine chemicals and other ingredients for the pharmaceutical and nutrition markets.

Interestingly, the POM Wonderful monograph may be the first-ever peer reviewed clinical monograph on a conventional food product, often referred to in the US market as a so-called “functional food” (a marketing term for which there is no corresponding regulatory category). Further, both Pycnogenol and i-flex are actually clinically-tested *ingredients*; they are not *products* per se. Unlike COLD-fX and POM Wonderful, which are commercial retail products, Pycnogenol and i-flex are intended to be sold as ingredients in other branded commercial products.

We should emphasize that ABC’s agreement to produce a PSM on a particular product or ingredient should be interpreted as ABC’s recognition that the current level of clinical research is sufficient to support potential use or application of such a product or ingredient. In numerous cases, the research ranges from studies with outcomes that are merely suggestive (with more clinical research needed), to highly compelling, with more research perhaps still advisable. In either case, we welcome additional research to help document suggested uses and possibly additional therapeutic applications.

We are deeply grateful for the excellent services of our good friend and ABC Advisory Board member Don Brown, ND, who has acted as the consulting editor and co-author of three of these new publications.

Herbal, phytomedicinal, “nutraceutical,” and related natural products and ingredients are experiencing a maturational stage in their evolution, particularly here in the United States, characterized in part by attempts by manufacturers to differentiate their ingredients and products via the filing of patents (either composition, process, and/or use patents) and a growing body of pharmacological and clinical research. This increased research will result in a wider variety of high-quality natural ingredients and dietary supplement products with more documented safety and efficacy. Ultimately, this trend portends wider nutritional and therapeutic options and greater benefits for both consumers and health professionals.

On the following pages we offer the Clinical Overview on COLD-fX, clinically-relevant information condensed from the COLD-fX PSM. We offer this as an example of a product that represents a new class of phytomedicinal products, based on a chemical and pharmacological technology blended with modern clinical research. As a service to our readers and to the general public, in the future, we may also make available in these pages other Clinical Overviews of other clinically researched products or ingredients.

References

1. Blumenthal M, Hall T, Goldberg A, Kunz T, Dinda K, Brinckmann J, Wollschlaeger B. *The ABC Clinical Guide to Herbs*. Austin, TX: American Botanical Council, 2003.
2. Barrett M. *The Handbook of Clinically Tested Herbal Remedies*. Binghamton, NY: Haworth Herbal Press; 2004.
3. Barrett B, Brown DJ. Proprietary Phytomedicinal Product Therapeutic Monograph and Clinical Overview for CVT-E002 (COLD-fX®). American Botanical Council, 2007. Available at: <http://content.herbalgram.org/abc/Press/files/5594COLD-fX.pdf>.
4. Herb experts report on benefits of Canadian remedy for cold and flu symptoms [press release]. Austin, TX: American Botanical Council; March 1, 2007.

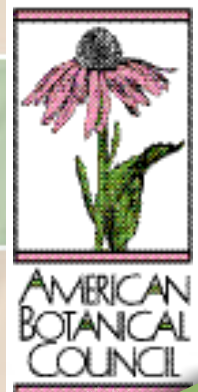
Had Your Monthly Dose From ABC?

herbalEgram

Exclusive for ABC Members

HerbalEgram brings you:

- ◆ Recent research, regulatory, and market news
- ◆ Sneak previews of upcoming *HerbalGram* articles and HerbClip™ reviews
- ◆ Media Watch—direct links to recent mass media coverage on herbal medicine topics
- ◆ Original, peer-reviewed articles on developments in the herb community from ABC’s independent perspective
- ◆ Updates on worldwide events and conferences
- ◆ Upcoming ABC events and appearances . . . and more



JOIN NOW!

www.herbalgram.org

Not receiving HerbalEgram?

Please contact membership@herbalgram.org or 512-926-4900.

Clinical Overview

by Bruce Barrett, MD, PhD, and Donald J. Brown, ND

CVT-E002 (COLD-fX®)

OVERVIEW

This Clinical Overview is based on the full monograph covering the published and unpublished scientific and clinical research on CVT-E002 (COLD-fX®), a proprietary herbal preparation made from the roots of North American ginseng (*Panax quinquefolius*, Araliaceae). Because CVT-E002 is a chemically distinct fraction (a group of chemically similar compounds, in this case polysaccharides, complex sugars) derived from American ginseng roots, it has pharmacological properties different from less homogeneous extract preparations made from the root of American ginseng.

[Note: In the text below, the term “CVT-E002” is used to denote the patented, proprietary extract, especially when referring to basic research (chemical analyses, in vitro and in vivo pharmacology, etc.). In most cases, the term “COLD-fX,” the product’s retail name, has been used when reference is made to human clinical trials, market experience, and other situations that imply the oral dosage form available to the public. In some instances both terms are used.]

In vitro and in vivo pharmacological research studies have determined that saccharides from American ginseng root exhibit various immunomodulatory effects. In 1992, the co-founders of CV Technologies, a company in Edmonton, Alberta, Canada, began the development of a phytomedicinal preparation comprised of saccharides from American ginseng roots. Their research culminated in the production and patenting of and research on CVT-E002 (marketed as COLD-fX in Canada and the United States).

COLD-fX is marketed as a Natural Health Product in Canada. The scientific and human clinical research on this product has been reviewed by the Natural Health Products Directorate, a branch of Health Canada in the Canadian government, which has approved the following claim for COLD-fX: “helps reduce the frequency, severity and duration of cold and flu symptoms by boosting the immune system.”

PRIMARY USE

Prevention of Acute Respiratory Infections. The primary use of CVT-E002/COLD-fX as documented by clinical trials is for the prevention of acute respiratory infections (ARI) associated with colds (chronic use) and flu and for the reduction of the severity and duration of these symptoms (short-term treatment). In studies with adult populations, including the elderly, COLD-fX has been shown to reduce the incidence of ARI when used preventively during the cold and flu season.

PHARMACOLOGICAL ACTIONS

According to human, animal, and in vitro data, CVT-E002/COLD-fX has immunomodulating activity. Human studies have found an increase in natural killer (NK) cells and CD4 helper cells. Animal studies have found increased levels of NK cells as well as IgG (immunoglobulin G) levels.

DOSAGE AND ADMINISTRATION

Each capsule of COLD-fX contains 200 mg of a patented, dried, powdered aqueous extract of American ginseng root (CVT-E002), standardized to greater than 80% poly-furanosyl-pyranosyl-saccharides. The standard daily dose is usually 2 capsules (total 400 mg), depending on intended use (see below). In a clinical trial with adults aged 65 and over, the dosage was 400 mg once daily for 4 months. The same dose was used in a prevention trial (also 4 months) with adults aged 18–65 years. A third clinical trial, with adults aged 60 years and older, employed a dose of 200 mg 2 times daily for 8 and 12 weeks.

Manufacturer dose recommendations: For adults and children 12 years and over the recommended dosage is 1 capsule (200 mg) 2 times (total 400 mg) daily for chronic/preventive use. For acute use, 3 capsules (600 mg) 3 times on the 1st day (total = 9 capsules, 1800 mg), 2 capsules (400 mg) 3 times on the 2nd day (total = 6 capsules, 1200 mg), and 1 capsule (200 mg) 3 times on the 3rd day (total = 3 capsules, 900 mg). Continued use is recommended at 1-2 capsules per day until the patient feels better. The product should be taken on an empty stomach.

Note: “Chronic use” implies use for prevention of ARI, supported by studies of up to 16 weeks. The acute recommended dose applies to use at the onset of symptoms associated with the common cold or influenza (flu). The average age in the most important study was 42 years.

CONTRAINDICATIONS AND PRECAUTIONS

There are no clear contraindications for CVT-E002/COLD-fX. However, because of potential harm that could result from stimulation of various immune processes, persons with autoimmune disease are advised to consult their physician before use. Potential areas of theoretical concern include use by persons with inflammatory bowel disease, multiple sclerosis, rheumatoid arthritis, and systemic lupus erythematosus, although such concerns are speculative and not based on any clinical reports. Persons with more common immune-related diseases, such as allergic rhinitis, asthma, and eczema, might also want to contact their physicians, although there is no clear or even suggestive evidence of harm. To date, there are no known reports of these conditions occurring in association with the use of COLD-fX. Because the immune system is highly complex and only partially predictable, it is possible that COLD-fX or other more conventional ginseng extracts would be beneficial rather than harmful in such conditions. For this reason, and without substantive evidence one way or the other, no blanket warnings can be supported at the time of writing of this Clinical Overview and the full monograph.

Although there have been no reports, persons with diabetes may want to use COLD-fX with caution. While some studies demonstrate the hypoglycemic actions of American ginseng root powder in both diabetic and healthy volunteers, the preparation used in these studies contained ginsenosides, the characteristic saponin glycosides found in

roots of the genus *Panax*. While earlier studies found that saccharides extracted from either *P. ginseng* or *P. quinquefolius* had hypoglycemic actions in mice, a study using healthy adults suggests that the ginsenoside, rather than saccharide, fraction may play a more significant hypoglycemic role, since the American ginseng root product with a depressed ginsenoside profile was found not to affect postprandial hypoglycemia.

Pregnancy and Lactation: There is no available safety data on the use of COLD-fX during pregnancy or lactation. The American Botanical Council advises pregnant or lactating women to consult a healthcare practitioner before using any herbal product, dietary supplement, or conventional medication.

ADVERSE EFFECTS

There are limited published safety data specific to COLD-fX. The randomized controlled trials summarized in the Clinical Review section in the full monograph provide clinically useful data sets, which, on the whole, suggest reasonable safety for the duration and doses tested. Reasonable adverse event monitoring was incorporated into trial methods, and no statistically significant differences in the rate of adverse effect occurrence were noted between COLD-fX and control groups. Adverse event monitoring included self-reported symptoms, and, in the case of the 2-year McElhaney trial (2004), standard blood laboratory tests.

Post-marketing surveillance of COLD-fX in Canada follows standard operating procedure for all government-approved Natural Health Products, including receipt and analysis of spontaneous reports of adverse reactions. Despite over 200 million doses of COLD-fX sold to consumers in Canada for approximately 10 years, from 1996 through 2006, less than 100 such reports have been filed. Of these, rare allergic reactions, including hives and other skin reactions, may be considered attributable to ingestion of the product. A potentially confounding factor is that rashes are occasionally observed as a symptom of influenza or other infectious diseases that present similarly to cold and flu.

One serious adverse event has been reported. A person experienced an anaphylactic-like event characterized by mouth and tongue swelling during both an initial event and an event 2 weeks later following a second exposure. [Note: Allergy history of this person is not available.]

It is important to note that allergic reactions can occur with virtually all foods, dietary supplements, natural health products, and drugs. Given the data available, the apparent rate of allergic reaction does not appear to be higher with COLD-fX than with many other substances in common use such as foods, dietary supplements, or drugs.

Other reported reactions or adverse side effects have not formed patterns suggesting causal linkage to COLD-fX. These include headache, insomnia, dizziness, drowsiness, confusion, nausea, vomiting, abdominal pain, diuresis, lowered blood pressure, and joint pain. As these could all easily be due to underlying health conditions, causal linkage is considered possible, but unlikely.

An assortment of small studies, including those detailed in the full monograph, have failed to find any substantial dose-dependent or serious adverse effects attributable to CVT-E002 or conventional full-spectrum *P. quinquefolius* extracts. It appears reasonable to conclude that serious adverse effects from CVT-E002 are unlikely because of

the following: (1) CVT-E002 is comprised primarily of oligosaccharides and polysaccharides, complex sugars which are generally recognized as safe; (2) randomized trial and post-marketing surveillance data are reassuring regarding safety; and (3) the overall safety record of ginseng products is good to excellent.

DRUG INTERACTIONS

There are no known specific drug interactions for CVT-E002/COLD-fX. Limited animal and in vitro studies have found no effect of CVT-E002 on cytochrome P450 isoenzymes, an important source of drug-drug and herb-drug interactions. Based on studies with different preparations of American ginseng root, theoretical concerns may exist for patients taking warfarin, digoxin, insulin, and oral hypoglycemic medications. No interactions of this kind have been reported to date for this product in clinical studies or post-market surveillance.

CLINICAL REVIEW

Three randomized controlled clinical trials have tested CVT-E002/COLD-fX for prevention of acute respiratory infection (ARI). Two of these, which are perhaps best classified as preliminary or phase 2 trials, were in elderly adults. The third, which can be classified as a confirmatory or phase 3 trial, tested COLD-fX among 323 adults aged 18 to 65. All three of these found some evidence of preventive efficacy. Two small, unpublished and preliminary trials have tested COLD-fX for prevention of ARI and immune modulating effects in athletes. More details are available in the full monograph.

*Note: The full monograph on CVT-E002/Cold-fX® is available on the ABC website at



The flower of *Vanilla pompona*
Photo ©2007 BRIT

VANILLA RESEARCH PROJECT

in the Amazon

by Marissa Oppel

Andes to Amazon Biodiversity Program Works to Research, Explore, and Conserve the Peruvian Rainforest

The heady flavor of the vanilla orchid (*Vanilla* spp., Orchidaceae) has been prized for centuries. Vanilla orchids were first cultivated by Totonac farmers in what is now Veracruz, Mexico, where they were used to flavor chocolate. Their fruits were important in the commerce of the Maya, Aztecs, and Incas, and they are still important in modern commerce today. The two common commercially-grown species are *Vanilla planifolia* and *Vanilla tahitensis*. Extracts and phytochemicals derived from the fruits of these species, including the compound vanillin, are important ingredients in the food, pharmaceutical, cosmetic, and fragrance industries. Vanilla fruits contain about 3% vanillin, but at least 35 additional phytochemicals contribute to the famous vanilla fragrance and flavor.¹ For this reason, natural vanilla extracts are still preferred over artificial flavoring made from wood pulp or chemical precursors. Mexico once had a monopoly on the world's vanilla supply, but today commercial vanilla is produced in Central America, Indonesia, Madagascar, the Comoros, and Uganda.¹ The annual harvest of vanilla fruits or "beans" ranges in the thousands of tons.¹ However, the commercial vanilla species have a narrow genetic base and are susceptible to pathogens. Hidden away in the Amazonian blackwater palm swamps of Southeastern Peru, wild vanilla orchids may hold the key to the preservation of their cultivated cousins, as well as the threatened palm swamps.

In 2002 Dr. John Janovec and Amanda Neill, co-directors of the Andes to Amazon Biodiversity Program (AABP) at the Botanical Research Institute of Texas (BRIT), made an interesting discovery in the blackwater palm swamps, known as *aguajales*, of Southeastern Peru. Wild vanilla orchids were climbing the trunks of the *aguaje* palm trees (*Mauritia* spp. Arecaceae) that give the swamps their name. Dr. Janovec describes vanilla's abundance in the palm swamps as being "like weeds." The AABP team quickly became interested in the potential of the vanilla orchids as non-timber forest products. Could these wild vanilla fruits be produced and harvested in the natural setting of these palm swamp forests of Madre de Dios, Peru? The first step in answering this question was to document the diversity, distribution, and natural history of the vanilla orchids in these swamps. Therefore, Texas Christian University graduate student Ethan Householder was recruited to lead the field work necessary for a better understanding of these wild vanilla species.

The AABP is a 4-year-old program that is part of BRIT's research department. BRIT's mission is "...to conserve our natural heritage by deepening our knowledge of the plant

world and achieving public understanding of the value plants bring to life." This BRIT research program is located in Fort Worth, Texas, and in Peru (BRIT-Peru). AABP's goal is to use science, education, and technology to directly support the conservation of the threatened wetlands, rainforests, and cloud forests of Southeastern Peru. Householder's research, documenting the natural history of wild Amazonian vanilla, is in alignment with this goal. In collaboration with local field assistants in Peru, Householder has conducted research incorporating GIS (Geographic Information System) mapping, pollination experiments, and examination of factors that affect fruit quality and plant ecology. The AABP team has established a permanent monitoring station in the Los Amigos Conservation Area in Madre De Dios, Peru, near the town of Puerto Maldonado. AABP workers have conducted bimonthly phenological monitoring of selected plants and have monitored the natural regeneration of *vanilla* orchids and *aguaje* palm trees along several kilometers of permanent trails and within plots nested along the trails. This research comprises the essential first steps in developing aguajal vanilla orchids as viable economic plants.

The AABP team has found four species of wild vanilla in Madre de Dios, Peru. The most commercially viable species is *Vanilla pompona* ssp. *grandiflora*, a vine that climbs its host plant using aerial roots. It is a fast-growing orchid with elegant yellow flowers and an alluring scent. An individual plant can grow at a rate of one meter per month to a mature height of 30 meters. This epiphytic orchid primarily reproduces through clonal reproduction, when an individual is cut or broken, producing two or more new individuals. The flowers are pollinated by male euglossine bees that are attracted to the scent of the flowers, which mimic the scent of bee pheromones.

Hand-pollination of the wild vanilla orchids ensures a consistent crop of vanilla beans. The AABP team has hand-pollinated over 500 wild vanilla orchids and cured the resulting vanilla beans. Curing the vanilla beans is an essential process that increases levels of vanillin and the other phytochemicals that contribute to the characteristic vanilla flavor and scent. Householder believes that the laboriousness of hand-pollination, coupled with the high market value of vanilla beans and extracts, could lead to an alternative source of income for local Peruvians. Currently, many Peruvian families are forced to rely on destructive gold-mining and tree-cutting for their main source of income. Cultivating vanilla orchids would provide an incentive to protect the threatened *aguajales*, essential components of the Amazonian ecosystem. In addi-

tion, this research helps to support the conservation plan for the Los Amigos Conservation Area, a private conservation concession run by the Amazonian Conservation Association (ACA) and its sister organization in Peru, the Asociación para la Conservación de la Cuenca Amazónica (ACCA).

The vanilla project is just one example of how the BRIT team is working to document and conserve the species and ecosystems of Southeastern Peru. Other graduate student research projects include a taxonomic study of Peruvian nutmeg species (*Virola* spp., Myristicaceae) by Tiana Franklin, a study of Peruvian and Brazilian aroids by Jorge Lingan, a taxonomic study of Peruvian soapberry trees by Andrew Waltke, a study of mushroom and fungus-insect interactions by Romina Gazis, and an innovative study of tapir movements using global positioning system (GPS) collars by Mathias Tobler. In addition, the BRIT team and local community members are propagating and cultivating native plants

THE FLOWERS ARE POLLINATED BY MALE EUGLOSSINE BEES THAT ARE ATTRACTED TO THE SCENT OF THE FLOWERS, WHICH MIMIC THE SCENT OF BEE PHEROMONES.

of Southeastern Peru in nursery and greenhouse settings. Amanda Neill, an expert in horticulture, believes that many of these plants could be sold in the South American and North American garden markets. In addition, the greenhouses are an important educational tool. BRIT is also home to the cutting-edge virtual herbarium and biodiversity information system Atrium® (<http://atrium.andesamazon.org>). This online herbarium showcases botanical collections made by AABP collaborators, including collec-

tions of vanilla species from the Los Amigos Conservation Area. Features include instant printable color field guides, high-resolution zoomable field and herbarium images, collection information, collection mapping using geospatial data that connects to the botanical dataset (maps are created by using Google Earth™ and Google Maps), climate data, and taxonomic information including determinations from experts and a new checklist component. Botanists and other plant lovers are encouraged



BRIT-Peru team
hand-pollinating
Vanilla pompona.
Photo ©2008 BRIT



The vanilla vines climb the trunks of palm trees throughout the swamp. A ripening pod (vanilla bean) can be seen low on the plant. Photo ©2008 BRIT

to explore Atrium, which is both a research and educational tool. Using the data in Atrium, AABP is developing traditional print publications, including field guides, floras, and checklists to the orchids, mosses, and wetlands of the Los Amigos Conservation Area. Online e-floras and e-books will be added in the near future. The ultimate goal is to eventually showcase all of the botanical collections at BRIT in Atrium, including the type collections, the Heber W. Youngken, Sr. medicinal plant collection, and plant specimens from all over the world. These collections would then be available for scientists and students to study anywhere there is an Internet connection.

For more information, please visit the BRIT Web site at www.brit.org and the AABP Web site at www.andesamazon.org or e-mail aabp@brit.org. To explore AABP's digital herbarium Atrium, go to <http://atrium.andesamazon.org>. HG

Marissa Oppel is the coordinator of the science learning laboratories of the biology department at El Centro College in Dallas, Texas, and she writes for the American Botanical Council's HerbClip Service. She has an MS in pharmacognosy from the University of Illinois at Chicago and she is the creator of the Texas Herbal Web site (www.texasherbal.com), which sells vintage clothing, books, and herbarium mounting weights online. She can be contacted at mnoppel@yahoo.com.

Reference

1. Van Eryk BD. *Food plants of the world: an illustrated guide*. Portland, Oregon: Timber Press, Inc.; 2005.

TCU-BRIT graduate student Ethan Householder spent a year in the palm swamps of South-eastern Peru studying vanilla orchids. Photo ©2008 BRIT



NATIVE AMERICAN HERBAL PRESCRIPTION STICKS

Indigenous 19th Century Pharmacopeias

By Daniel Moerman, PhD

During the mid-19th century, most native societies of Central North America effectively collapsed. The US government was consolidating its hold over the country's central territories, and many native peoples in the region faced considerable military, political, and cultural pressures. In the face of this genocide, some tribes—primarily the Potawatomi, Anishinabe, and Fox Indians, primarily from the Midwest (Michigan, Wisconsin, Illinois, and Iowa)—attempted to save their knowledge by using an idea quite rare in native history: writing. Various medicinal formulae, usually combinations consisting of 2 to 8 plants, were recorded by carving images of the plants on wooden sticks. Approximately a dozen of these “prescription sticks” are currently known to exist in public or private collections.

Left Photo: Prescription stick from the Smithsonian Collection.

Courtesy of National Museum of the American Indian, Smithsonian Institution
Photo ©2008 National Museum of the American Indian, Smithsonian Institution

©American Botanical Council; reprinted with permission. The American Botanical Council is an independent nonprofit, educational, member-supported organization, dedicated to promoting responsible use of herbs, medicinal plants, phytomedicines, and other plant-derived ingredients. For more information about ABC, its journal *HerbalGram*, or membership, visit www.herbalgram.org.



WAR DANCE OF THE SAUKS AND FOXES.

Above illustration: War dance of the Sauks and Foxes on stone illustrated by Corbould from a painting by P. Rindisbacher; printed by C. Hullmandel. Created between 1825 and 1834. Photo ©2008 Library of Congress

Even though these objects are commonly referred to as “prescription sticks,” they clearly do not denote a prescription but a pharmacopeia—a collection of formulae for making various medicines, usually (but not always) multi-ingredient compounds. The sticks are illustrated with sets of images, with each set separated by small tick marks. They are intended to be read left to right along the bottom, then turned 180° and read again from left to right. The stick should then be flipped over, at which point the reader repeats the process. Often there is an inch or two of un-inscribed space at the end of the fourth edge.

There are other objects similar to prescription sticks that document Native American culture—but not many. For instance, some tribes kept “song records” or “song boards,” which were illustrated on wooden sticks in a manner similar to prescription sticks. Some bark scrolls and wooden boxes were inscribed with markings, depicting various rites. The Denver Museum of Natural History holds a “Kickapoo prayer stick,” relating the order of a prayer service, which was used by members of the Kenekuk religion. Likewise, the northeastern Algonquin peoples had a tradition for making petroglyphs—either paintings on, or carvings in, stone, which may have been similar in purpose to prescription sticks, song boards, and prayer sticks.

It would appear that the prescription sticks were highly valued objects—at least to their makers. Such sticks were occasionally stored in such places as otter bags, along with rare and highly

valued medicinal ingredients. The otter was a revered animal for some tribes; for instance, it was considered an important ancestral creator of the Algonquin people. Interestingly, museum records regarding the purchase of prescription sticks by collectors or other museum agents indicate that collectors typically paid very modest sums for them—usually less than \$10.

A particularly interesting prescription stick belongs to the collection of the Canadian Museum of Civilization in Ottawa, Quebec (see photos on page 53). It was originally purchased by Floyd Schulz, who probably obtained it from a Potawatomi of a Kansas reservation. Schulz owned a large collection of Native American materials, which was sold sometime early in the 20th century. The prescription stick was apparently bought by someone in Munich who ultimately sold it to the Canadian Museum in Ottawa in 1973. While several other prescription sticks include small amounts of paint, this one is unusual in having a good deal of color. Furthermore, it has an additional series of entries in the middle of the stick and seems to have been inscribed by multiple authors. Images on the stick include a snake, a possible duck, a turtle, various plants, and an image of either a human or a spirit.

One of the biggest mysteries of prescription sticks is the identities of the herbal ingredients that they describe. My comparisons of several of the remaining sticks have found no clear matches among them of more than one or two images. Moreover, it would appear that a person would need to have had prior knowledge



Photo: Fox Indians, 1890. Posed, left to right: Osh U Ton (Winding Stream), Posh O Tu Nic (Bear Scratching Tree), Sho Won (South Wind), Chief On On A Wat (Can't Do It), and Wa Pa Lu Ca (Shining River).

Photo ©2008 Library of Congress

One of the biggest mysteries of prescription sticks is the identities of the herbal ingredients that they describe.

of the herbal formulas before the prescription sticks would be of much use.

Some attempts have been made to identify the formulas depicted on certain sticks. The collector of one prescription stick, which currently belongs to the National Museum of the American Indian in Washington, DC (see photo on page 48), interviewed its owner, Pamnuknuk, a Kansas Potawatomi, about the object on November 28, 1910. “Each symbol,” he wrote in notes preserved by the museum, “represents a certain herb; some grow in Oklahoma and Kansas, some in Wisconsin.” He noted that there were 10 “prescriptions” on the stick, and he provided names and uses of the compounds. Such names and descriptions included:

- Wakiyebnawan—makes a tea and drink for internal pains;
- Akwak’miagwuk—kept in the otter skin medicine bag. It revives anyone who has been “shot” in the Meda ceremony;
- Mathwaya—it will make you fat if you eat it. Known also to the Kickapoo;
- Wap’konpuk—this is pounded in a mortar and applied to the wound if someone has been shot;
- Wakiyebnawan (different from the earlier prescription of the same name)—a tea of this is given for internal pains with cough.

Other “prescriptions” noted on the stick include a formula concerning childbirth, a concoction for protecting warriors from enemy weapons, a treatment for venereal disease, and a treatment for snake-bite. The collector of this prescription stick, however,

did not learn from Pamnuknuk the names of the individual plants depicted on the stick.

In another case, a collector appeared to be tantalizingly closer to discovering the names of depicted plants. Milford Chandler collected three sticks in the 1920s that now reside at the Cranbrook Institute of Science in Bloomfield Hills, Michigan (see photo on page 51). These may be the best documented of all the prescription sticks. They were apparently made by the great-great-grandfather of the woman from whom Chandler purchased them—a man who would have been born around the year 1800. Chandler made rubbings of the sticks on lined paper and an anonymous source wrote the Potawatomi (or perhaps Fox) names of the plants next to their respective images. Unfortunately, the rubbings and written names have since largely faded, and no one has been able to translate them into English.

In the 1940s, Frank Speck, then at the University of Pennsylvania, worked with Robert Hiatt, then director of the Cranbrook Institute, to attempt a translation. They were never able to find anyone, native or otherwise, who knew the names of the plants in both languages. It is therefore highly doubtful that a successful translation can be found more than 60 years later!

Yet another reason why it is doubtful that the sticks will ever be successfully translated has to do with the cultural origins of peoples’ senses of imagery. Today, it is not uncommon to find medicinal plants that were commonly used by native peoples in ornamental flower gardens. In many cases, such plants have been included in flower gardens for aesthetic reasons, not in recognition

Prescription stick detail.
Photo ©2008 Wisconsin Historical
Society, Madison, WI, specimen
number 1954.803



Three prescription sticks in the
Cranbrook Museum Collection.
Courtesy of Cranbrook Archives.
Photo ©2008 Daniel Moerman



Above illustration: Keokuk, chief of the Sauks and Foxes. Drawn, printed & colored at I.T. Bowen's Lithographic Establishment. Published by F.W. Greenough, 1838. Photo ©2008 Library of Congress



Despite the limited knowledge of these sticks and the formulas that they are meant to relate, these items remain valuable testaments of Native American culture and history.

of their medicinal properties or histories. The plants represented on the sticks rarely look at all like the beautiful and fragrant flowers of North American gardens, such as beebalm (*Monarda* spp., Lamiaceae), yarrow (*Achillea millefolium*, Asteraceae), iris (*Iris* spp., Iridaceae), mallow (*Malva* spp., Malvaceae), or Echinacea (*Echinacea purpurea*, Asteraceae)—all common in gardens and all important medicinal plants in various indigenous and other cultures. Thus, it is likely that early 19th century Native Americans may have both recognized and represented plants differently than would contemporary men and women. When comparing commonly utilized medicinal herbs with the depictions on the prescription sticks, it is extremely difficult to find any arguable matches.

Despite the limited knowledge of these sticks and the formulas that they are meant to relate, these items remain valuable testaments of Native American culture and history. The prescription sticks are reminders of the destruction of dozens of cultures and the genocide of the Native Americans, especially since such forces are probably what led to the sticks' creation. After all, when a culture is under terrible military, cultural, economic and religious assault—and when the logic underlying such a system of meaning begins to fade or crumble—it makes sense to try to “record” such knowledge before it is lost. These sticks further reflect a sense of their makers' relationship to their habitat and of their detailed knowledge of and connection with the natural world. They can also be interpreted as representing their makers' deep appreciation for the beauty of nature, represented on these sticks in images no larger than the nail on one's little finger.

Daniel Moerman, PhD, is the William E. Stirton Professor Emeritus of Anthropology at the University of Michigan-Dearborn, as well as a member of ABC's Advisory Board. He has authored several books, including the renowned text Native American Ethnobotany (Timber Press, 1998). Dr. Moerman has studied prescription sticks for 20 years and has given multiple presentations on the topic, although this is his first print publication on the subject. He has also done extensive research on the role of meaning in the healing process, recently extending that inquiry to the meaning of medicinal plants for Native Americans who used them. His book Meaning, Medicine, and the “Placebo Effect” was published in 2002 by Cambridge University Press. He is editor-in-chief of the scientific journal Economic Botany. E-mail: dmoerman@umd.umich.edu.

Left Photo: Studio portrait of Potawatomi Indian Chief Hiawatha, in feather headdress and clothing decorated with beads and cut ribbon work in stylized floral designs. Image from C.F. Squires, Lawrence, KS, 1909. Photo ©2008 Library of Congress

A



B



C



A



B



C



Trade Organizations Submit Comments on FDA's GMP Interim Final Rule

By Courtney Cavaliere

Three industry trade organizations submitted comments to the US Food and Drug Administration (FDA) in late October 2007 concerning the interim final rule of the new Good Manufacturing Practices (GMP) regulations for dietary supplements. Those organizations are the Council for Responsible Nutrition, American Herbal Products Association, and Natural Products Association.

The interim final rule, titled "Petition to Request an Exemption from 100 Percent Identity Testing of Dietary Ingredients,"¹ was published on June 25, 2007, along with the final GMP rule.² The interim rule would allow manufacturers to submit a petition to the FDA to request an exemption from the 100% ingredient testing requirements of the GMP rule, providing that the manufacturer could set forth the scientific rationale why testing less than 100% of a specific ingredient from a specific supplier would not result in reduced assurance of identity or quality.¹ The public was given until October 24, 2007, to comment on this interim final rule, which represents an extension from the original comment deadline of September 24, 2007.

The Council for Responsible Nutrition (CRN), a leading trade association primarily representing large and medium-sized producers of dietary ingredients and dietary supplement products, recommended that the interim provision be stricken entirely from the GMP rule, arguing that the interim provision "weakens the

overall system of process controls otherwise required for dietary supplements and potentially undermines a key safeguard to the assurance of product quality."³ According to CRN, the costs of the petition process are substantial, meaning that there is little, if any, economic incentive for a company to pursue an exemption. Moreover, the exemption process increases the possibility of errors, and many of CRN's member companies recently indicated in a CRN survey that they would not consider pursuing an exemption. According to CRN, if the interim provision is accepted into the final GMP rule, then more participation from ingredient suppliers should be allowed or required within each manufacturer's petition process, presumably in recognition of the expertise that the suppliers have regarding their respective dietary ingredients as well as the close and cooperative relationships that many ingredient suppliers enjoy with some of their long-time manufacturer customers. CRN suggested that the use of a Dietary Ingredient Master File could help accomplish this.

The American Herbal Products Association (AHPA), the leading trade association in the United States dealing with herbal products, submitted comments expressing the organization's support for the interim final rule and its intended flexibility for manufacturers, but AHPA suggested several modifications to the interim provision.⁴ AHPA suggested that FDA give suppliers of dietary ingredients the opportunity to submit petitions for exemption that would be applicable to customers of those ingredients—particularly since suppliers of botanical ingredients are often in the best position to assure ingredient identity (i.e., as the ingredients would be in their crude, raw form, prior to being powdered, extracted, or blended). AHPA further suggested some minimum supporting data that a manufacturer or supplier should submit in a petition for exemption. The organization recommended that the FDA begin accepting petitions prior to companies' GMP compliance dates,* that the FDA establish deadlines by which the agency would have to respond to petitions, that FDA consider other models for addressing exemption requests rather than a citizen's petition, that the FDA reconsider the requirement of statistical analyses in support of exemption requests, and that the agency commit to issuing a guidance document on this regulation as a priority.

*Under the final GMP rule published in June, large companies will have 1 year to comply with the requirements, medium-sized companies will have 2 years, and small companies will have 3 years.



The Natural Products Association (NPA), an association representing retailers, manufacturers, wholesalers, and distributors of natural foods, dietary supplements, and health/beauty products, expressed in its comments that it agrees with the intent of the interim final rule but that the exemption should be specific to the dietary ingredient supplier, dietary supplement manufacturer, and to the incoming raw dietary ingredient.⁵ The organization commented that any guidance regarding the interim rule should include a consistent definition and goal of identity testing, as well as a discussion of the minimum ingredient identity characteristics and parameters that should be addressed and monitored in the petition process, the degree of variability in these areas that is acceptable, and the systems that should be used to determine the variability. NPA further stated that an FDA-issued guidance document should describe the minimum requirements needed for a petition, provide detailed criteria for qualifying dietary ingredient manufacturers and suppliers, and address the factors that would cause an ingredient supplier to be unsuitable for the reduced identity testing petition process. NPA noted that it would like FDA to consider specific operational models that would inherently make the petition process more applicable in drafting the guidance and potentially more favorable for using a petition to reduce identity testing, such as a model wherein a supplier produces only one ingredient. NPA asked that the FDA recognize that the statistical and risk expertise needed by dietary supplement manufacturers for developing petitions could entail expenses not previously considered by FDA. The organization further asked whether the agency envisioned a way by which small companies might be able to develop a verification testing plan using the successful petition of a larger supplier if the manufacturer does not receive the necessary minimum number of lots required for developing a verification plan. Like AHPA, NPA also asked that FDA elaborate on the deadlines it anticipates for responding to exemption petitions. HG

References

1. Food and Drug Administration. 21 CFR Part 111 Petition to request an exemption from 100 percent identity testing of dietary ingredients: current good manufacturing practice in manufacturing, packaging, labeling, or holding operations for dietary supplements: interim final rule. *Federal Register*. June 25, 2007;72(121):34959–34969.
2. Food and Drug Administration. 21 CFR Part 111 Current good manufacturing practice in manufacturing, packaging, labeling, or holding operations for dietary supplements: final rule. *Federal Register*. June 25, 2007;72(121):34751–34958.
3. Shao A. Re: Docket no. 2007N-0186, CFSAN 200736. Petition to request an exemption from 100 percent identity testing of dietary ingredients: current good manufacturing practice in manufacturing, packaging, labeling, or holding operations for dietary supplements. October 24, 2007. Available at: http://www.crnusa.org/pdfs/CRN_GMP_IFR_Comments102407.pdf. Accessed October 30, 2007.
4. McGuffin M, Young AL. Comments of the American Herbal Products Association on the Food and Drug Administration's interim final rule on petitions to request an exemption from 100 percent identity testing of dietary ingredients under current good manufacturing practice in manufacturing, packaging, labeling and holding operations for dietary supplements. October 24, 2007. Available at: http://www.ahpa.org/Portals/0/pdfs/07_1024_AHPACComments_GMP_IFR.pdf. Accessed October 24, 2007.
5. Fabricant D. Re: Petition to request an exemption from 100 percent identity testing of dietary ingredients: current good manufacturing practice in manufacturing, packaging, labeling, or holding operations for dietary supplements; extension of comment period [docket no. 2007N-0186 / RIN 0901-AB88]. October 24, 2007. Available at: http://www.naturalproductsassoc.org/site/DocServer/2007N-0186_GMP_IFR_comments_102407vfinal01.pdf?docID=5621. Accessed October 30, 2007.

Boswellia Complex



Give yourself the herbal joint support you need for an active, independent lifestyle.*

MEDI HERB
Self-Defending Through Herbal Law Professionals

Standard Process
Herbal and Nutritional Products

For referral to a health care professional: 800-848-5061
www.standardprocess.com



*This statement has not been evaluated by the Food and Drug Administration. The product is not intended to diagnose, treat, cure or prevent any disease. ©2007 Standard Process, Inc. All rights reserved.

Drought Reduces 2007 Saw Palmetto Harvest

Some Collectors Reportedly Picking Unripe Berries

By Courtney Cavaliere

Drought conditions in the Southeastern United States during 2007 have had a negative impact on the supply of saw palmetto (*Serenoa repens*, *Arecaceae*) berries. The company Valensa International, LLC (Eustis, FL), a developer and supplier of a saw palmetto super-critical extract and other botanical-based ingredients, announced in late August of 2007 that the year's crop of saw palmetto berries has been one of the worst in recent years and that the harvesting season ended much earlier than previous seasons.¹

However, this does not necessarily mean that consumers of saw palmetto will be faced with exorbitant prices or immediate low availability of saw palmetto products. According to Valensa, it is expected that retail consumers should be relatively unaffected in terms of potential price increases due to finished product and work-in-process inventories that are still in the distribution pipeline from the healthy saw palmetto harvests of preceding years (S. Hulse, e-mail, September 11, 2007).

Furthermore, Michael Huffman, president and CEO of Plantation Botanicals (Felda, FL), a major and long-established supplier of saw palmetto, noted that the industry has been harvesting from an ever-increasing geographical area over the past several years, and this has helped to boost the saw palmetto supply (oral communication, November 12, 2007).

According to Valensa, the poor saw palmetto harvest is the result of both recent drought conditions and aggressive harvesting of green, unripe saw palmetto berries.¹ Saw palmetto grows and is wild-harvested only in the Southeastern United States—primarily in Florida but also in southern areas of Georgia, Alabama, and South Carolina. During the harvest season, which typically takes place from mid-August through the end of October, extractors and wholesalers contract with wild harvesters to obtain saw palmetto berries. The 2007 season's initial extensive bloom of saw palmetto blossoms led to expectations of a healthy harvest, but continued drought conditions ultimately caused a significant drop and loss of berries. The low availability of mature saw palmetto berries was further caused by berry buyers' purchasing of unripened saw palmetto berries from harvesters.

"The market for the green product has definitely grown over the years," said Huffman. He explained that some harvesters pick saw palmetto as early as June and July, selling the green berries to buyers who will purchase them for low prices. These harvesters collect the berries from local, traditional areas where they are easily accessible and offer a quick and convenient source of income. This depletes those traditional areas of mature berries in later months. Harvesters are typically willing to drive farther away to collect berries once they have matured, as those sell for a higher price due to the superior quality. The increased transportation costs and harvesting time spent by collectors often raises the cost of mature

saw palmetto berries even further for buyers.

In a Valensa press release, Rudi E. Moerck, PhD, president of Valensa, explained that the oil content and quality of immature berries are much lower than ripe berries. He claimed that phytomedicinal and nutraceutical preparations made from immature berries therefore are often suspect for their quality and functionality, particularly as treatments for symptoms of benign prostate hyperplasia (BPH), the primary medicinal use of saw palmetto berry extract preparations. According to Dr. Moerck, the only clinical trials showing positive effects of saw palmetto for symptoms of BPH have tested extracts produced from mature berries.*

"The real shame of these early harvesting practices is that they take away from the industry's ability to acquire ripe, nutraceutical-quality saw palmetto berries, thereby decreasing the availability and increasing the costs for everyone who is serious about saw palmetto as an effective supplement in promoting men's health," he stated.¹

Due to the season's shortage of mature berries, Valensa announced that it would raise its prices for nutraceutical-quality saw palmetto extract by about 20-30%, depending on contractual situations. However, according to Sid Hulse, Valensa's vice president of marketing and sales, this does not necessarily mean that the prices of saw palmetto products sold to consumers will dramatically increase. "From a pricing standpoint, retail consumers should be relatively unaffected this year [2007] and even into the foreseeable future," he stated (e-mail, September 11, 2007). "The cost of saw palmetto raw material represents only about 10% of the total retail price, and recent prices of the saw palmetto extract at the manufacturer level have been at the low end of the spectrum."

Valensa sells its saw palmetto extract to manufacturers and does not market directly to consumers. According to Hulse, the company has observed that the majority of raw material costs seem to be absorbed by industry throughout the distribution chain, so that even though there are fluctuations in product pricing each year, retail prices have remained relatively stable.

Hulse added that the lower supply of ripe saw palmetto berries from the 2007 season should not result in a shortage of saw palmetto products at the consumer level. "For the 2007-2008 year, there should be sufficient supply to meet market demand because

*Most saw palmetto clinical trials have been performed in Europe on European-made saw palmetto preparations (with raw material obtained from the United States), most of which were liposterolic soft extracts manufactured from raw materials that were tested in conformance with an official pharmacopeial monograph for quality standards, such as the *European Pharmacopoeia* monograph. This monograph requires that the ripe dried fruit contain minimum 11% of total fatty acids and requires the determination of the percentage content of each fatty acid, with the peak area of lauric acid being not less than 20% of the total area of the peaks. Chemical profiles for ripe and unripe saw palmetto berries, powdered berries, berry extracts, etc. from various stages of ripening have been published showing a characteristic profile corresponding to the stage of the ripening of the berry. [Source: Peng TS, Popin WF, Huffman M. Systematic evaluation of quality management of saw palmetto products. *Quality Management of Nutraceuticals*. American Chemical Society Symposium Series, No. 803: Washington, DC: American Chemical Society, 2002.]



Saw Palmetto *Serenoa repens* Photo ©2008 Steven Foster

of current inventories in the pipeline based on two good saw palmetto crops in 2005 and 2006. If there is another bad crop during the 2008 harvest season, we may very well see shortages of saw palmetto on the shelf.”

According to Hulse, the 2003 and 2004 saw palmetto crops were also poor. The 2004 crop, in particular, suffered when 4 hurricanes hit the Southeastern United States.² “The 2007 crop is worse than even the hurricane-riddled 2004 crop,” said Hulse. “This is the earliest we can remember the saw palmetto buying season ending—even earlier than the bad crop year of 2004.”

Huffman stated that, although this season has been subjected to one of the worst droughts in 50 years, the 2007 harvest is still not the worst he has witnessed. He agreed with Valensa that the season has ended prematurely and that there is a shortage of saw palmetto berries due to drought and early harvesting—which has raised prices of saw palmetto raw material—but he stressed that a lot of berries were still harvested this season. Moreover, he added that the 2007 crop has certainly not been as bad as the crop of 1995.

The saw palmetto crops of 2005 and 2006 were relatively large. According to the American Herbal Products Association’s *Tonnage Survey of Wild-Harvested North American Plants, 2004-2005*, published in February of 2007, the reported saw palmetto crop of 2005 (approximately 2,900 tons of dried berries) was practically double the reported harvest of 2004 (approximately 1,460 tons of dried berries).³ Whereas the poor 2003 and 2004 crops essentially removed saw palmetto extract inventory from the market, the larger crops of 2005 and 2006 alleviated the situation.

The cyclical nature of droughts and the seasonal threat of hurricanes in the Southeastern United States will continue to threaten the supply of saw palmetto.⁴ Such weather conditions could determine whether future harvests are able to meet the annual

market demand. A US survey from 2002 found that nearly 2.5 million adult males reported using saw palmetto,⁵ although it is probable that this figure has increased in the intervening years since this survey was conducted.

In light of the heavy picking and purchasing of immature green saw palmetto berries, Valensa representatives stressed that manufacturers should be careful of where and how they obtain their saw palmetto raw materials. “There is an objective standard [in the United States] for saw palmetto that is based on years of studying the makeup of mature saw palmetto berries and their extracts—the only saw palmetto material that has been shown to be safe and effective in dealing with the symptoms of

BPH,” said Hulse. “This is the United States Pharmacopeia (USP) monograph for saw palmetto. If we want consumers to take us seriously about the issue of quality, we should use this objective standard. The science exists to ensure the quality of the product.” He added that tests for saw palmetto quality have often been based on total fatty acid content, but that these tests fail to give an accurate assessment of the identity and quality of the extract.

Valensa offers a free saw palmetto testing service to interested companies—regardless of whether they are Valensa customers or not. The analysis is done on saw palmetto extracts at the Valensa laboratories in Eustis, Florida, and the profiling is based on the USP monograph on saw palmetto extract.⁶ HG

References

1. Outlook for 2007 saw palmetto harvest seen as “poor” by leading US supplier [press release]. Eustis, FL: Valensa; August 28, 2007.
2. Saw palmetto price rises after bad harvest. *NutraIngredients.com*. October 13, 2004. Available at: <http://www.nutraingredients-usa.com/news/ng.asp?id=55365-saw-palmetto-price>. Accessed August 27, 2007.
3. American Herbal Products Association. *Tonnage Survey of Select North American Wild-Harvested Plants, 2004-2005*. Silver Spring, MD: American Herbal Products Association; 2007.
4. Douaud C. Saw palmetto drought drives prices up, raises supply questions. *NutraIngredients.com*. September 7, 2007. Available at: <http://www.nutraingredients-usa.com/news/ng.asp?id=79599-valensa-saw-palmetto-usplus>. Accessed October 5, 2007.
5. Barnes PM, Powell-Griner E, McFann K, Nahin RL. Complementary and alternative medicine use among adults: United States, 2002. *Adv Data*. 2004;343:1-19.
6. United States Pharmacopeia and National Formulary (USP 26-NF 21 First Supplement). Rockville, MD: United States Pharmacopeia Convention; 2003:3024-3025.

Herb and Traditional Medicine Conferences in Malaysia

Third International Congress on Traditional Medicine & Materia Medica (ICTMMM), Traditional & Complementary Medicine Exhibition (TCME), and the launching of Global Information Hub on Integrated Medicine (GlobinMed)

By Josef A. Brinckmann

Malaysia, a constitutional monarchy in Southeast Asia with a population of about 24.8 million, recently celebrated its 50th anniversary as an independent nation. The Dutch and Portuguese actively colonized in the region beginning in the 1500s; colonization of Malaysia by the British Empire began in 1786. One hundred seventy-one years later the first “Independence Day / Malaysia Day” was celebrated on August 31, 1957. In the summer of 2007 the Ministry of Tourism enthusiastically promoted “Visit Malaysia 2007” with hundreds of scheduled events that featured Malaysia’s culture, heritage, festivals, and more. This was the backdrop in Kuala Lumpur for the 3rd International Congress on Traditional Medicine & Materia Medica (ICTMMM 2007), which took place July 17-20, 2007, at the Putra World Trade Centre.

ICTMMM 2007 was co-located with the 6th International Traditional / Complementary Medicine Conference (INTRACOM 2007), as well as the trade show Traditional & Complementary Medicine Exhibition (TCME 2007), with exhibitors of medicinal herbal products from Southeast Asian and the Middle Eastern countries. At the invitation of the Ministry of Health (MOH) Malaysia, I participated as a speaker and co-chair at ICTMMM 2007. As I participated only in the ICTMMM but not the INTRACOM, this review article is limited to the ICTMMM and the trade show.

The events were jointly organized by the Traditional and Complementary Medicine (T&CM) Division and the Institute for Medical Research of the MOH Malaysia. Events were supported by the following government ministries, universities, and organizations: the Inter Islamic Network in Tropical Medicine (INTROM), Ministry of Science, Technology and Innovation, Islamic Development Bank (IDB), Organization of the Islamic Conference (OIC) Standing Committee on Scientific and Technological Cooperation (COMSTECH), Traditional Medicine & Materia Medica Research Centre (TMRC) I.R. Iran, Shaheed Beheshti Medical Science University Iran, Islamic Organization for Medical Sciences (IOMS) Kuwait, Ministry of Higher Education, Malaysia Tourism Board, Malaysian Herbal Corporation (MHC), and 7 main associations recognized by the MOH in traditional and complementary medicine, such as the Federation of Malay Traditional Medicine of Malaysia, Federation of Chinese Physicians & Acupuncturists Association of Malaysia, and the Indian Traditional Medicine Organization of Malaysia, among others.

This was truly one of the better organized international congresses in which I have ever participated. It included very high quality presentations, genuine involvement from higher levels of governmental agencies, top-notch audio and visual technology, and speakers were kept on schedule. Symposium speakers were mainly from Malaysia, India, Indonesia, Iran, Singapore and Taiwan. There were also participants who traveled from Mauritius, Morocco, Pakistan, Philippines, P.R. China, Saudi Arabia,

Syria, Sudan, and the United Arab Emirates (UAE), among other countries. Aside from the keynote address and the plenary session, ICTMMM and INTRACOM ran parallel symposia.

Plenary Sessions

The keynote address, “Holistic Medicine—The Optimal Relationship to Perfect Health,” was delivered by Tan Sri Datuk Dr. Hj. Mohd Ismail Merican, director general of health, MOH Malaysia. Choi Seung-Hoon, OMD, PhD, regional advisor in Traditional Medicine, World Health Organization (WHO), Western Pacific Regional Office (WPRO), presented the first plenary session, “WHO Traditional Medicine Strategy and Activity.” Dr. Seung-Hoon elaborated on WHO’s various standardization projects in traditional medicine such as the development of international standard terminologies (IST) in traditional medicine, a new textbook on standardized acupuncture point locations, and evidence-based clinical practice guidelines in traditional medicine for 28 priority diseases. The 366-page *WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region* was published in June 2007.¹ Also discussed was the Western Pacific Region Index Medicus (WPRIM), a project of the WHO WPRO in collaboration with several institutions in its member states. This is the Region’s contribution to the Global Health Library (GHL) initiative. The project goal is the creation of an online index of medical and health journals published in member states of the WHO Western Pacific Region that can be accessed on the Internet, thereby ensuring global accessibility of medical and health research conducted in the region.

Plenary session 2 “Traditional and Complementary Medicine: Policy and Regulation in Malaysia” was delivered by Datuk Dr. Mukundan Sugunan Pillay, deputy director general of health, MOH Malaysia. Dr. Pillay discussed proposed legislation that is coming up for a vote, the “Traditional and Complementary Healthcare Practices Bill,” which aims to require the standardization of T&CM [note: this acronym does *not* refer to traditional Chinese medicine, i.e., TCM] practice, training, and education

Dr. Bodeker emphasized that the focus of research on T&CM should not be limited only to evidence of safety, efficacy, and quality but also to include the study of poverty alleviation and positive economic benefit in rural, local and indigenous communities.

in order to ensure consumer safety with secondary aims of lowering regulatory costs to government and minimizing compliance costs. Recognized practitioner's bodies for each group of T&CM practice now include those representing Traditional Malay Medicine, Traditional Chinese Medicine, Traditional Indian Medicine (Ayurveda, Siddha, and Unani), Homeopathy, and Complementary Therapies. Dr. Pillay discussed progress since the 2001 *National Policy on Traditional / Complementary Medicine Malaysia*,² which envisioned the integration of T&CM into the Malaysian healthcare system, such as three Malaysian hospitals in particular that will begin integration and partnerships with traditional medicine hospitals in both China and India, the launch of the *GlobinMed* for consumer education, and four guidelines booklets prepared by the National Committee for Research & Development in Herbal Medicine (NRDHM), MOH Malaysia: (1) Guidelines for Levels and Kinds of Evidence in Support of Claims for Therapeutic Products; (2) Guidelines for the Clinical Evaluation of T/CM Interventions; (3) Guide to Intellectual Property Management; and (4) Guidelines for Standardisation, Safety and Clinical Evaluation of Herbal Medicinal Products. These NRDHM Guidelines can be purchased through the NRDHC Web site at <http://www.nrdhm.org>.

A fascinating plenary lecture entitled "Global Trends in Use and Regulation of Natural Healthcare" was delivered by Professor Gerard C. Bodeker, MD, EdD, University of Oxford Medical School (UK) and Mailman School of Public Health, Columbia University (New York). Dr. Bodeker emphasized that the focus of research on T&CM should not be limited only to evidence of safety, efficacy, and quality, but also to include the study of poverty alleviation and positive economic benefit in rural, local, and indigenous communities; for example, in cases where T&CM practices are taught to women heads of households who manage village medicinal herb gardens and herbal medicine-making in order to take responsibility for common ailments in their families and villages. Dr. Bodeker also stressed that the aims of social equity expressed in Malaysia's Ninth Plan should be viewed just as importantly as current efforts in the areas of standardization of medicinal herbal products and clinical practices and development of biotechnology, among other activities. A new book edited by Dr. Bodeker and Gemma Burford was also introduced during this plenary titled, *Traditional, Complementary and Alternative Medicine: Policy and Public Health Perspective*.³ The 472-page book was published in January 2007 by Imperial College Press and is promoted as the first book to address public health issues in traditional, complementary and alternative medicine (TCAM) and features access to data from the WHO Global Atlas on trends in the TCAM sector worldwide.

Other plenary lectures included the following: (1) "Translating Science to Traditional and Complementary Practice" by Professor Bushan Parwardhan, chief of academics, Interdisciplinary School of Health Sciences, University of Pune (India), (2) "A Scientific Insight on Evidence Based Research in Ayurveda: An Appraisal of Some Clinical Studies" by Dr. G.S. Lavekar, director of Central Council for Research in Ayurveda & Siddha (CCRAS) Dept. of Ayurveda, Yoga & Naturopathy, Unani, Siddha & Homeopathy (AYUSH), Ministry of Health & Family Welfare (India), and (3) "The International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP)" presented by this author.

Symposium Sessions

As there were nearly 60 speakers between the INTRACOM and ICTMMM parallel symposia, as well as parallel workshops, this brief article cannot provide a review of all sessions of interest, and there were many. On day three of the Congress, I was honored to co-chair an extraordinarily interesting symposium with Prof. Dr. Farzaneh Naghibi, associate professor at the Shaheed Beheshti University of Medical Sciences, School of Pharmacy Traditional Medicine & Materia Medica Research Centre" in Tehran, Iran. (At the Closing Ceremony on day 4, Dr. Farzaneh was also presented with the ICTMMM Best Scientist Award for her contribution in research and active participation in ICTMMM since its inception. She coauthored several poster presentations including "Cytotoxic activity of some medicinal plants from Iran," "Antimalarial activity of some medicinal plants from Iran," "Qualitative and quantitative analysis of some brands of valerian pharmaceutical products," "Quantitative analysis of 18 β -glycyrrhetic acid in *Glycyrrhiza glabra* extract by HPLC," and "Purification of apigenin by preparative TLC.") This was a session on herbal information technology and an initiative for information sharing that featured presentations on the (1) Global Information Hub on Integrated Medicine (*GlobinMed*): Malaysia's Initiative, by Dr. Ami Fazlin Syed Mohamed, project manager and secretariat for *GlobinMed* and Dr. Zakiah Ismail, medical officer, head of Herbal Medicine Research Centre (HMRC) of the Institute for Medical Research (IMR) (Malaysia): <http://www.globinmed.com>; (2) Islamic Network for Tropical Medicine (INTROM): Position-

Botanical Brand Nature's Herb Co.
Since 1915 100% Vegetarian Capsules

Culinary Brand
Summer Field Spices
No MSG or Additives!

Natural Tea
All Natural!

San Francisco Herb & Natural Food Co.®
Since 1969 • Oregon Tilth Certified Organic

Grower, Importer, Wholesaler & Manufacturer

- Loose Herbs & Tea Bags • Bulk Botanicals, Bulk Teas
- Culinary Spice Blends • Capsules, Extracts, Tinctures
- Private Label Packaging Available

Free Catalog

4744 Kato Rd. Fremont, CA 94538. Tel: 800-227-2830 Fax: 510-770-9021

www.herbspicetea.com

ing Its Role for Information Sharing, by Dr. Amal Nasir Mustaffa, Executive Director of INTROM (Malaysia): <http://www.imr.gov.my/affi/introm.htm>, and (3) Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMNET): Smart Partnership Amongst Member Countries, by Ms. Chen Suthing, Chief Engineer, APTMNET (China): <http://www.apctt-tm.net>.

Dr. Ami's presentation, on behalf of the *GlobinMed* project team, outlined the 9 areas of focus: (1) conservation; (2) intellectual property rights (IPR) and patent database of herbal substances; (3) medicinal herbal products information (consumer level and professional level); (4) policy, laws and regulations on T&CM; (5) research and publication; (6) safety of herbs and T&CM; (7) herbal trade and business (Malaysian and global perspectives); (8) T&CM modalities; and (9) training and education on T&CM. The *GlobinMed* project is a vast undertaking that upholds the vision of promoting and enhancing the practice of T&CM towards the establishment of integrated medicine together with conventional medicine, through global communication and education with the availability of valid, up-to-date and comprehensive information. It is a Web portal that compiles information on the aforementioned 9 areas of focus. The idea for *GlobinMed* was conceived during the 12th Commonwealth Health Minister's meeting in Barbados (1998) upon agreement that the scattered information on T&CM should be compiled, evaluated, and centralized for easy access. Malaysia spearheaded the initiative based on strong commitment of its government and the availability of the Multimedia Super Corridor (MSC Malaysia information available at: <http://www.msc.com.my>). The specific objectives of *GlobinMed* are as follows:

1. To develop a state-of-the-art information resource on T&CM

and integrated medicine, which is supported by advanced interactive technologies that is simple, easy and interactive, in tandem with consumer demand, and commercially viable and sustainable;

2. To establish a global electronic information resource that covers policy, practice, research, trade, education, safety, conservation and IPR of T&CM;
3. To promote the generation and dissemination of T&CM information that is validated, up-to-date, widely available and evidence-based to the global consumers;
4. To provide a specialized information service of T&CM information to consumers and professionals;

Malaysia's policy is to welcome strategic partnerships, especially in the development of the educational content, and the MOH believes that it is a strategic win-win situation because *GlobinMed* is a globalized "one-stop" center for information related to integrated medicine.

Also in this information technology session, Ms. Chen's concise presentation on partnership of member countries in the APTMNET provided background on the framework and objectives as well as database development. The four objectives of APTMNET are as follows:

1. To promote cooperation among member countries of Asian-Pacific Centre for Transfer of Technology (APCTT) on sustainable utilization and biodiversity conservation, R&D and processing of traditional medicine, quality control and standardization of traditional medicine production, protection of Intellectual Property on traditional medicine;
2. To promote sharing and dissemination of information on traditional medicine among member countries of APCTT;

Making Scents Magazine

Providing vital information on:

- Herbs
- Essential Oils
- Healing Foods
- Healthy Living
- Book Reviews
- Organic Product Reviews

We welcome HerbalGram readers to receive a complimentary digital back issue of our beautiful full-color magazine.

(602) 938-4439

makingscentsmag@hotmail.com

Published by:

**INTERNATIONAL AROMATHERAPY
AND HERB ASSOCIATION**



3. To promote technology transfer as well as exchange of experts and organizing relevant training programs among member countries of APCTT;
4. To promote the technical and industrial cooperation among enterprises (SMEs) and R&D institutions in the Asia-Pacific region.

There are 14 APCTT member countries (Bangladesh, China, India, Indonesia, Iran, Korea, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam), each responsible for the construction of the nodal station in that country. APCTT will promote information exchange, organization of training, and academic seminars among member countries. The nodal stations are expected to adopt the uniform standards of framework agreed to by all participating countries for nodal Web site establishment. All sites will be bilingual in the native language as well as English. Each member will be responsible for the English translation of their content. During the subsequent Q&A period, there were requests to clarify the differences and/or overlaps between the *GlobinMed* and APTMNET information portals, respectively. It is the view of the spokespersons for both projects that each offers distinctly different services, that they are complementary and not competitive, and that each are participants in the other's activities. This clarification was also to be addressed further at a subsequent event that took place in the week immediately following the ICTMMM 2007. The 2007 Asia-Pacific Traditional Medicine Network (APTMnet) Forum, organized by the MOH Malaysia IMR took place July 23-24, 2007, in Kuala Lumpur. More information on the outcome of the APTMnet Forum is available by contacting Dr. Zakiah Ismail, Herbal Medicine Research Centre (HMRC), Institute for Medical Research (IMR), Jalan Pahang, 50588 Kuala Lumpur, Malaysia, e-mail: zakiah@imr.gov.my.

Poster Presentations

In addition to the aforementioned posters co-authored by Dr. Farzaneh, there were a total of 113 posters presented. The majority of other posters were also presented by researchers from Iran. Posters presented by Malaysian researchers included,

among others, a clinical study on the effect of ketum leaf (*Mitragyna speciosa*, Rubiaceae) on drug addicts,⁴ and several studies investigating new uses for, as well as acute and subacute toxicity of, the Malaysian medicinal plant tongkat ali root (*Eurycoma longifolia*, Simaroubaceae),^{5,6,7,8} traditionally used for fever, medication after birth, boils, wounds, ulcers, syphilis and bleeding gums,⁹ and also more widely used as a male aphrodisiac.¹⁰

Official Launch of *GlobinMed*

As a featured part of the opening ceremony for ICTMMM and INTRACOM, and immediately following the welcome address and official opening speech (presented on behalf of the Prime Minister of Malaysia, Y.A.B. Dato' Seri Abdullah Bin Haji Ahmad Badawi by the Malaysian Minister of Health, Dato' Dr Chua Soi Lek), the official launching of *GlobinMed* took place in the main conference hall with much fanfare and photo-ops to accommodate all of the media who were in attendance for the launch. Partners in the *GlobinMed*, a project by the IMR of MOH Malaysia (<http://www.imr.gov.my>), include Forte Tech Solutions Sdn Bhd, (<http://www.fortetechsolutions.com>) (formerly known as Pharmaniaga Solutions Sdn. Bhd.), NHIONdemand (<http://www.nhiondemand.com>), Forest Research Institute of Malaysia (<http://www.frim.gov.my>), HerbMedPro™ (<http://www.herbmed.org>), Malay-

Table 1: Useful Web sites Related to Herbal Medicine in Malaysia

Organization	Web site
Asia-Pacific Traditional Medicine and Herbal Technology Network (APTMnet)	http://www.apctt-tm.net
Forest Research Institute of Malaysia (FRIM)	http://www.frim.gov.my
Global Information Hub on Integrated Medicine (<i>GlobinMed</i>)	http://www.globinmed.com
Herbal Medicine Research Centre (HMRC) of the Institute for Medical Research (IMR)	http://www.imr.gov.my/org/hmrc.htm
International Congress on Traditional Medicine and Materia Medica (ICTMMM)	http://www.intracom2007.org
Inter-Islamic Network for Tropical Medicine (INTROM)	http://www.imr.gov.my/affi/introm.htm
Malaysian Cocoa Board (MCB)	http://www.koko.gov.my
Malaysian Herbal Corporation (MHC)	http://www.herbamalaysia.net
Malaysian Industry Government Group for High Technology (MIGHT)	http://www.might.org.my
Malaysian Palm Oil Board (MPOB)	http://www.mpob.gov.my
Malaysian Pepper Board (MPB)	http://www.mpb.gov.my
Ministry of Plantation Industries and Commodities	http://www.kppk.gov.my
National Committee for Research and Development in Herbal Medicine (NRDHM)	http://www.nrdhm.org
Traditional and Complementary Medicine (T/CM) Division Ministry of Health (MOH) Malaysia	http://tcm.moh.gov.my/modules
World Health Organization (WHO) Traditional Medicine Regional Office for the Western Pacific (WPRO)	http://www.wpro.who.int/health_topics/traditional_medicine

sian Herbal Corporation (<http://www.herbamalaysia.net>), MARA University of Technology (<http://www.uitm.edu.my>), National University of Malaysia (<http://www.ukm.my/english>), Natural Medicines Comprehensive Database (<http://www.natural-database.com>), Royal Pharmaceutical Society of Great Britain (<http://www.rpsgb.org.uk>), University Science Malaysia (<http://www.usm.my/en>), and World Intellectual Property Organization (<http://www.wipo.int>). See Table 1 for useful Web site addresses relevant to the herbal sector in Malaysia.

Following the official launch of *GlobinMed*, representatives of the Prime Minister and the press were taken on a guided tour of the exhibition TCME 2007.

The Trade Show

The TCME 2007 encompassed 68 exhibition booths, and approximately 2,100 visitors attended the trade show. The exhibitor profile included manufacturers and marketers of bee products, botanical raw materials and extracts, cocoa, coffee, dietary supplements, essential oils, herbal medicinal finished products, natural edible pigments, organic foods and beverages, and organic health ingredients. There were also booths by purveyors of traditional medicine practice. In addition to suppliers of ingredients and finished products, other exhibitors included professional associations representing practitioners of traditional medicine, traditional medicine schools, and governmental agencies relevant to the trade. One of the largest exhibition booths, situated at the hall entrance, was the *GlobinMed* booth with numerous computer terminals set up for attendees to test out the new Web site and ask any questions

of the *GlobinMed* team. University Malaysia Pahang also exhibited and provided abstracts of various herbal research projects including "Preparation of standardized essential oil from Gaharu (*Aquilaria malaccensis*, Thymelaeaceae)," "Antiinflammatory oil from Halia Bara (*Zingiber officinale* var. *rubrum*, Zingiberaceae)," and "Environmental friendly product from Patchouli (*Pogostemon cablin*, Lamiaceae) biomass," among others. ■

Josef Brinckmann is the vice president of research and development at Traditional Medicinals, Inc. in Sebastopol, California; a consultant on market intelligence for medicinal plants and extracts for the International Trade Centre (ITC) of the United Nations in Geneva, Switzerland; editor of ITC's quarterly Market News Service for Medicinal Plants & Extracts; and a member of the Advisory Board of the American Botanical Council.

References

1. World Health Organization. *WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region*. Geneva, Switzerland: World Health Organization; 2007. Available at: http://www.wpro.who.int/NR/rdonlyres/14B298C6-518D-4C00-BE02-FC31EAD3791/0/WHOIST_26JUNE_FINAL.pdf
2. Ministry of Health Malaysia. *National Policy on Traditional / Complementary Medicine Malaysia*. Kuala Lumpur, Malaysia: Traditional & Complementary Medicine Division Ministry of Health Malaysia; 2001. Available at: http://tcm.moh.gov.my/uploads/national_policy_latest.pdf.
3. Bodeker G, Burford G, eds. *Traditional, Complementary and Alternative Medicine: Policy and Public Health Perspectives*. Hackensack, NJ: World Scientific Publishing Co. Inc; 2007.
4. Tajul Ariff AS, Noral Ashikin Y, Amal Nasir M, Salina AA, Raminder K, Zakiah I. Poster P4: Case control study: Effect of ketum (*Mitragyna speciosa*, Rubiaceae) leaf intake on drug addicts attending drug screening and confirmation unit, Hospital Kuala Lumpur and Drug Rehabilitation Centre, Ulu Langat, Selangor, Malaysia. In: *International Traditional and Complementary Congress Abstract Book*. Kuala Lumpur, Malaysia, Ministry of Health Malaysia. 2007;79.
5. Noor Rain A, Ilham A, Mohd Ridzuan MAR, et al. Poster P85: Acute and subacute study of *Eurycoma longifolia* (TA164) on Sprague Dawley rats. In: *International Traditional and Complementary Congress Abstract Book*. Kuala Lumpur, Malaysia, Ministry of Health Malaysia. 2007;120.
6. Yusmazura Z, Azimatol Hawariah LP, Noor Rain A, Asmah R, Zakiah I. Poster P81: Inhibitory effects of *Eurycoma longifolia* extracts and eurycomanone on the growth of cancer cell lines. In: *International Traditional and Complementary Congress Abstract Book*. Kuala Lumpur, Malaysia, Ministry of Health Malaysia. 2007;118.
7. Shamsul Muhamad, Azimahtol Hawariah Lope Pihie, Noor Rain A, Zakiah I. Poster P82: Longilactone C19 from Tongkat Ali (*Eurycoma longifolia*, Simaroubaceae) induces apoptosis and activates caspases in MCF-7 human breast cancer cells. In: *International Traditional and Complementary Congress Abstract Book*. Kuala Lumpur, Malaysia, Ministry of Health Malaysia. 2007;118.
8. Mohd Ridzuan MAR, Adama S, Noor Rain A, Mohd Ilham A, Zakiah I. Poster P91: *Eurycoma longifolia* extract-artemisinin combination: Parasitemia suppression of *Plasmodium yoelii*-infected mice. In: *International Traditional and Complementary Congress Abstract Book*. Kuala Lumpur, Malaysia, Ministry of Health Malaysia. 2007;123.
9. Zhari I, Norhayati I, Jaafar L. Radix *Eurycomae*. In: *Malaysian Herbal Monograph*, Volume 1. Kuala Lumpur, Malaysia: Malaysian Monograph Committee. 1999;29-32.
10. Indonesian Institute of Sciences Research Center for Chemistry. Monograph: *Eurycoma longifolia* Jack. 2001. Available at: <http://www.kimia-lipi.net/medplants/index.php>.

FURTHER YOUR GROWTH




Expand your knowledge and add a fresh perspective to your practice with our two-year part-time University validated MSc Herbal Medicine course.

MSc Herbal Medicine
 CPD points, University validated
 2 years part-time course consists of:
 2 x nine-day Summer Schools and 2 x seven-day Winter Schools
 Applications by Friday 23rd May 2008
 To start Saturday 2nd August 2008

In addition to our MSc course, we also offer a range of Herbal Medicine courses from BSc (Hons) professional training to introductory Correspondence Course.

Third SSHM Research Conference
 Sunday 13th April 2008 - Quality Hotel, Chester, UK

Please contact Karen (quoting ref. 0044) for further details on any of our courses, subscription to our Journal or forthcoming events.
 Suites 20-22 Alexander Stephen House, 91 Holmfild Road, Glasgow G51 4RY.
 Scotland UK Tel: +44 (0)141 445 2500 sshm@herbalmedicine.org.uk



the scottish school
of herbal medicine

www.herbalmedicine.org.uk

Founded by Herbal Medicine Education & Research (Scotland) Ltd.
Registered charity No. SC024323



Jack and Jill went up the hill
to fetch a pail of water.

Jack fell down and broke his crown and
Jill used Curcumin C3 Complex® to
promote a healthy inflammation response.*

It only sounds like a fairy tale.

Once upon a time there was a proprietary supplement ingredient with an impressive pedigree and intellectual property. The ingredient had eight times the antioxidant potential of Vitamin E. It was the ingredient of choice for studies at the M.D. Anderson Cancer Center. And it was proven to promote a healthy inflammation response.* Sound too good to

be true? It's no tall tale. The ingredient is called Curcumin C3 Complex® and it holds a promise for improved health that we once only imagined. To learn more, visit us at www.sabinsa.com.

CURCUMIN C3 COMPLEX®

An ingredient of Sabinsa Corporation

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Thieme Almanac

Acupuncture and Chinese Medicine



NEW



© Bryan L. Frank, MD



If you are involved in the fields of acupuncture or Chinese medicine, you will welcome the new 2008 edition of the Thieme Almanac, an international forum for the exchange of ideas, information, and resources.

The Almanac includes:

- A survey of international educational programs
- Listings of societies and relevant professional organizations
- Current information on the laws and regulations governing the field
- Congress calendar

Editors-in-Chief

Michael McCarthy, Ireland
Stephen Birch, Netherlands

2008 / 340pp / 130 illus. / softcover
The Americas: ISBN 978-1-58890-617-5, US\$ 59.95
Rest of World: ISBN 978-3-13-145081-4, €39.95

ORDER THE 2008 THIEME ALMANAC TODAY AT: www.thieme.com/almanac

Healthy Herbs: Your Everyday Guide to Medicinal Herbs and Their Use by Linda Woolven, MH, CAC, and Ted Snider. Markham, Ontario: Fitzhenry and Whiteside Limited; 2007. Paperback; 245 pages. ISBN-13: 978-155041-329-8. \$17.95.

If your bookshelves are like mine—overcrowded—then you are probably careful about which books you allow to stake claim. *Healthy Herbs: Your Everyday Guide to Medicinal Herbs and Their Use* may seem to lack the necessary prestige with its unpretentious title and presentation, but it's actually worth the small space it will take up. A handy reference tool, the book provides a snapshot of the eclectic form of herbalism that has developed over the past 4 decades, and it casts a deservedly complimentary glow, from a variety of angles, on the healing quality of herbs.

Healthy Herbs builds from an egalitarian base by blending research conclusions with the impressions of contemporary herb teachers and writers, including the authors' own experiences. The text includes a large assortment of plants, "...more than one hundred of the most important herbs on the market today." As they say of their book, "It combines the east and the west, the north and the south, the old and the new." Most importantly, fulfilling its mission as an "everyday guide," the book is readable and accessible in its language, size, and price.

Healthy Herbs is a distilled herbal compendium, organized alphabetically by common names. The reader is immersed in the world of using herbs for health with a few introductory pages dedicated to the basic foundations of herbal preparations. There's a short, basic section on the "how-tos" and "wherefores" of making infusions, decoctions, pills, and extracts, including a table that lists 10 herb properties and their therapeutic actions. For example, in this table a demulcent is listed as something that soothes "damaged, irritated or inflamed tissue," while an astringent "has a contracting or tightening effect on tissue and stops the loss of body fluids like hemorrhages and other secretions."

The paragraph on standardization lets the reader know that some scientists prefer standardization while some herbalists prefer to use the herb in its natural state. The authors explain that they use both standardized and non-standardized products and, in the compendium, address dosing

for both categories. Recommendations for gotu kola (*Centella asiatica*, Apiaceae), for example, include 6 grams a day of dried gotu kola leaves in pill form or an extract that has been standardized to 40% asiaticoside, 29-30% madecassic acid, and 1-2% madecassoside with a recommended dose of 60-120 mg a day. Dosage recommendations are also included for tinctures, extracts, and tea. Readers will find it refreshing to have clear dosages recommended, though the authors acknowledge that there are difficulties in discussing dosages due to changing information on contraindications and drug interactions.

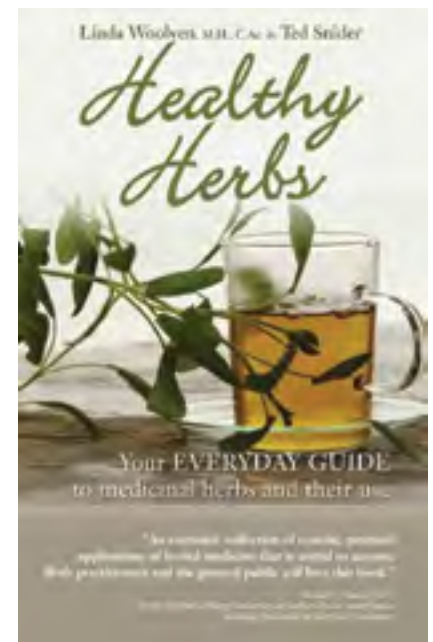
Authors Linda Woolven and Ted Snider make a clear case for the usefulness and overall safety of herbs and challenge research when they deem it suspect. Their willingness to express a cool-headed, let-the-literature-speak-for-itself manner is something that really endeared me to this book. In fact, I wish their frank interpretations regarding the herb-versus-pharmaceutical contests that have been mounted over the past decade were more prevalent in the book.

For example, St. John's wort (*Hypericum perforatum*, Clusiaceae), a stalwart of herbalists worldwide, is well championed. By walking the reader through the last decade-and-a-half of the boxing matches between St. John's wort and the expanding categories of new anti-depressive pharmaceuticals, you just may get the sense that some of these matches were rigged. The authors characterize one of the most damning reports with a certain degree of logic: "The reports stated simply that St. John's wort doesn't work. But this study (*Journal of the American Medical Association*, 2002) compared the herb to, not only a placebo, but also to the antidepressant drug Zoloft, also found that the drug didn't work. Zoloft was included in the study because we know it works. Therefore, if the drug didn't work it's because the study didn't work. So, according to Jerry Cott, who was actually involved in the study's design, it's not St. John's wort that didn't work, it's the study that didn't work."

The notorious licorice (*Glycyrrhiza glabra*, Fabaceae) also gets its fair due in the book. The authors dutifully review the warnings of a potential for an increase in blood pressure with the use of licorice but they also explore some of the contradictions and confusing literature citations.

The gist of the conversation reflects the evidence that the whole herb should not be pigeon-holed with highly concentrated extracts. Clearly rooting for the effectiveness of the rhizome, Woolven admits to successfully using licorice, "to heal her own ulcer. It not only healed the ulcer quickly, but it also began to reduce the pain almost immediately."

These acknowledgments of direct experiences, both of the authors as well as other well-known herbalists, add interest and useful, down-to-earth information. Though not footnoted, the book does an admirable job of crediting some sources of material right in the text. Much emphasis is put on information gathered from a wide assortment of periodicals. These journals, also represented in the text with the abbreviations of their titles and year of publication, are followed by a 7-page section that



references the full name of each journal. There's also a suggested reading list that includes popular titles from current and past decades.

By using the book's thorough index, it's possible to look up both conditions and individual herbs by common name or Latin binomial, which adds to its usefulness as a reliable reference book. For example, under the term "colds" in the index, there are 21 herbs listed by their common names, beginning with andrographis (*Andrographis paniculata*, Acanthaceae) and ending with

The Power of One
that Every BODY Needs.

Are you listening ?

Pycnogenol® Power... Proven, Popular, Effective, Safe.
Unleash It.

Pycnogenol® is the natural super-antioxidant power that is proven with over 35 years of scientific study and clinical trials. It's the one that Every BODY needs to look, feel, and live better.

It is popular power because taking Pycnogenol® can help Every BODY in so many ways. Even if you're feeling good it can help you feel even better.

Pycnogenol® is safe, patented and has demonstrated the power to go beyond fighting free radicals by helping to improve circulation, vision, skin tone and elasticity,

cardiovascular health and help defend the immune system*.

New product formulations are the platform for growth necessary in today's environment. Take advantage of the Power Pycnogenol® can deliver on its own or as an active ingredient in combination products that address specific health concerns.

Unleash the Power of Pycnogenol® today and help improve your customers' quality of life.

To order now, call NHS toll-free 877-369-9934 or visit our website www.pycnogenol.com

Pycnogenol® Nature's Super Antioxidant French maritime pine bark extract is distributed exclusively by NHS in North America. NHS Inc., 5 Marine View Plaza, Hoboken, NJ 07030.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease. Pycnogenol is a registered trademark of Horphag Research, Ltd, Guernsey, and its applications are protected by U.S. patents #5,720,956 and #6,372,266. © 2007 Natural Health Science, Inc. For a complete list of scientific research and further information contact NHS at 877-369-9934 or visit our website www.pycnogenol.com.

T H E S C I E N C E

QUALITY

- Patented, standardized extraction of fresh *Pinus pinaster* pine bark
- Pure, no additives, no contaminants
- Environment friendly, consistent and reliable source
- A defined mixture of fruit acids and procyanidins (bioflavonoids)
- Produced according to pharmaceutical standards and listed in the U.S. Pharmacopeia (USP)
- Multiple U.S. and International Patents

RESEARCH

- More than 5,000 people the subject of Clinical Studies
- 56 published Clinical Studies
- 168 articles published in scientific and medical journals
- Proven safe
- Science/research based, investing \$1MM per year
- Proven to be efficacious
- Water soluble and stable in many complex formulations
- GRAS affirmed

POWER

- Very powerful antioxidant*
- Binds and protects collagen*
- Helps seal leaky capillaries*
- Enhances the production of vascular nitric oxide*



PYCNOGENOL®

LOOK, FEEL, AND LIVE BETTER

yarrow (*Achillea millefolium*, Asteraceae).

However, there is a lean streak to this book that is at once admirable but at the same time may leave some feeling somewhat unsatisfied. For instance, two graphic symbols are used throughout the book: (1) an apothecary's mortar and pestle, and (2) a cross within a box. These graphic symbols are paired with information about dosage and safety, respectively. Unfortunately, definitions for these symbols are not provided in the book, so some readers may wonder about their meaning. There is also a lack of botanical family names as well as limited information about the authors, Woolven and Snider. This is regrettable since their personal experiences with the herbs help to distinguish the book. A broader view of their expertise would lend not only interest but also credibility.

Overall, I believe *Healthy Herbs* is a good reference book. While recognizing the modern analytical perspective, the book liberally acknowledges the ancient healing magic that our green world so generously provides to all, believers or not.

—Cascade Anderson Geller
Herbalist, Portland, OR

Textbook of Natural Medicine, 3rd edition, by Joseph Pizzorno and Michael Murray, eds. St. Louis, MO: Churchill Livingstone Elsevier; 2006. Hardcover; 2210 pages. ISBN-13: 978-0-443-07300-7. \$239.00.

Joseph E. Pizzorno, ND, and Michael T. Murray, ND, have done it again. As with their other publications, these two natural medicine pioneers have created a compendium of information like no other. I consider this, the third edition of the *Textbook of Natural Medicine*, the definitive textbook on the topic. Contributions from 89 authors went into creating this two-volume set, which is divided into 6 sections containing more than 10,000 citations. Topics are organized into a logical progression of information, starting with a thorough discussion of the philosophy of natural medicine in Section 1, and every section is clinically relevant. Sections include the following: Section 2: Supplementary Diagnostic Procedures; Section 3: Therapeutic Modalities; Section 4: Syndromes and Special Topics; Section 5: Pharmacology of Natural Medicines; and Section 6: Specific

Health Problems.

Anyone interested in natural medicine needs to purchase this book. For plant medicines alone, the textbook contains more than 50 monographs of plants and their extracts. Each monograph and topic in the book is organized logically and the information is presented thoroughly. For example, the discussion of *Ginkgo biloba* (Ginkgoaceae) provides detailed descriptions of this plant extract's pharmacokinetic properties, its effects on nerve cells and platelets, and a thorough review of the evidence for ginkgo leaf extract's usefulness in treating several ailments: decreased mental performance, Alzheimer's disease, tinnitus, macular degeneration, diabetic retinopathy, sexual dysfunction, depression, premenstrual syndrome, allergies, and more. Additionally, as with all plant monographs, the ginkgo monograph lists relevant dosages and potential toxicities. Other botanical monographs include onion (*Allium cepa*, Liliaceae), garlic (*A. sativum*), gotu kola (*Centella asiatica*, Apiaceae), sweet wormwood (*Artemisia annua*, Asteraceae) and wormwood (*A. absinthium*), Pacific yew (*Taxus brevifolia*, Taxaceae), and saw palmetto (*Serenoa repens*, Arecaceae).

One new feature offered by the third edition that I particularly appreciate is an online version. Along with each copy of the book purchased comes an access code that allows users to register online to view an e-edition of the book. The e-edition allows a search for words or phrases within the entire book or within any of the 216 chapters. For example, a search for ginkgo in the entire book returned 155 matches, along with descriptions of the sections and

chapters in which ginkgo appears. A search for "Cancer" returned 913 matches. The searches can be saved and one can create online notes about specific book content as well as bookmarks of favorite chapters. One can access the book anywhere he/she has Internet access, and the e-edition also allows the download of the entire book to a portal digital assistant.

When Drs. Pizzorno and Murray set out to create the first edition more than 15 years ago, their goals were to describe the scientific bases of natural medicine and provide a reference guide for clinicians, students, and educators. The scientific research has continued to evolve during that time, and this latest update is an incredible compilation of this information. No bookshelf should be without it.

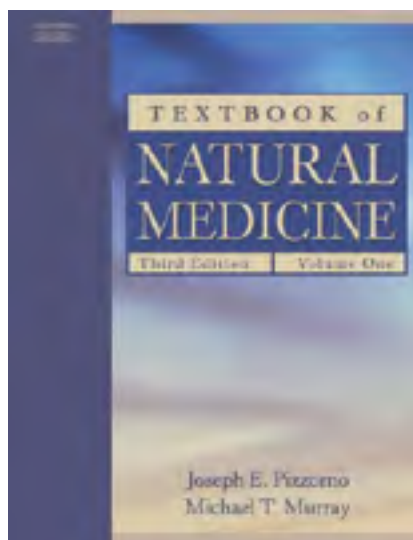
—John Neustadt, ND

Clinic Director of Montana Integrative
Medicine and President/CEO of Nutri-
tional Biochemistry, Inc (NBI) and NBI
Testing and Consulting Corp,
Bozeman, MT.

Handbook of Herbs and Spices, Volume 3 by K. V. Peter, ed. Cambridge, England: Woodhead Publishing Limited; 2006. Hardcover; 537 pages. ISBN-13: 978-1-84569-017-5. \$285.00.

This is the final volume of a 3-volume reference tailored for manufacturers and processors who use herbs and spices in their products. In addition to the introduction, the third volume is divided into 3 parts comprised of 31 chapters. The first part, entitled "Improving the Safety of Herbs and Spices," is divided into 6 chapters that review ways to improve safety of products. These include detecting and controlling mycotoxins, pesticides, and other harmful residues; using methods to remove contaminants from plant materials; and improving packaging and storage to increase shelf-life. The section also includes a chapter on Hazard Analysis & Critical Control Point (HACCP) and Quality Assurance (QA) to ensure safety of products sold globally.

The second part, entitled "Herbs & Spices as Functional Ingredients & Flavorings," is made up of 5 chapters, 2 of which give an overview of health benefits and chemistry of active principles in herbs and spices. The remaining 3 chapters elaborate on the prevention of chronic ailments such as cancer and cardiovascular and gastroin-





testinal diseases.

“Particular Herbs & Spices”—the third part—includes 20 chapters (or monographs) on 20 individual herbs and spices. The rationale behind the selection of the ingredients included in this volume is not clear, nor is it clear why 37 other plant monographs included in the first 2 volumes were chosen. Although some of the species covered in these volumes are in demand globally, not all those covered herein are used worldwide.

All the monographs on individual herbs and spices in the third volume have useful information, but none of them follow a standard format. This is perhaps because the authors of these chapters hail from different countries and have different and diverse backgrounds. The lengths of chapters also vary; for instance, the chapter on celeriac (*Apium graveolens*, Apiaceae) is 4 pages long while the one on caraway (*Carum carvi*, Apiaceae) is 28 pages. Current botanical terminology is not used consistently: the family Apiaceae is referred to as Umbelliferae, Alliaceae is referred to as Liliaceae, Lamiaceae is referred to as Labiatae, etc. Current import and export data for the herbs and spices would have been useful to the manufacturers of dietary supplements, but such data are documented for only some species. The pharmacological properties of the species are spread over each chapter. Sometimes they can be found under the title “Functional Properties,” other times under “Medicinal Properties,” and at times they are mentioned only in passing. Some authors do not appear to be familiar with pertinent medical litera-

ture. Their explanation of the mechanism of action of plant-drugs is incomplete. There are also some obvious omissions. For example, in Chapter 9, which is about cancer, the author lists over 90 different plants used in cancer therapy but fails to mention the use of *Camptotheca acuminata* in modern therapy.

The monographs of herbs and spices covered in this handbook will be useful to farmers involved in their cultivation. The authors go to great lengths in describing the propagation techniques. They describe appropriate climate, soil, sowing techniques, fertilization, harvesting techniques, irrigation, weed control, pest control, etc. Although plant synonyms and common names of plants are included in some monographs, this is not universally the case for all plants. The book could have been more useful to food technologists and manufacturers of herbs and spices if market analysis of the plant in question was included with each monograph. Each of the 3 volumes sells for \$285—a price tag that only businesses can afford. These books are unlikely to have clientele in academia since, along with the price tag, it is disheartening to find less than 20 small nondescript black and white pictures.

K. V. Peter, who has edited all 3 volumes, is professor of horticulture and the vice-chancellor and former director of research at Kerala Agricultural University, India. He was director of India’s prestigious Indian Institute of Spices Research, Calicut, from 1991 to 1999. Each of the 31 chapters is authored or co-authored by different individuals who come from reputed institutes in Argentina, Australia, Canada, China, Greece, Iran, Thailand, Turkey, United Kingdom, and India.

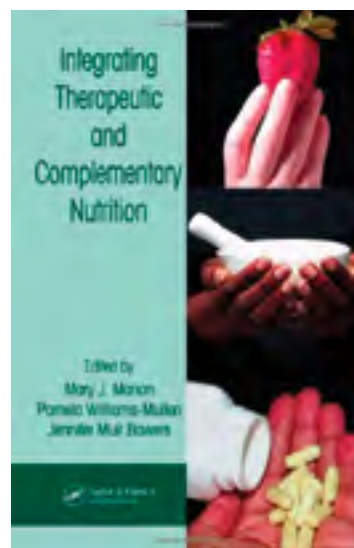
—Rustem S. Medora, PhD
Professor Emeritus of Pharmacognosy
University of Montana School of Pharmacy
Missoula, MT

Integrating Therapeutic and Complementary Nutrition by Mary J. Marian, Pamela Williams-Mullen, and Jennifer Muir Bowers, eds. Boca Raton, FL: CRC Taylor & Francis; 2006. Hardcover; 634 pages, Appendix, Index. ISBN-13: 978-0-8493-1612-8. \$80.96.

Healthcare professionals are in need of a scientifically sound book to tell them how to use both conventional and alterna-

tive nutritional therapies for their patients. In the Preface to this comprehensive textbook, written by experts in the field of nutrition and medicine, the editors suggest this book will do just that. The book contains a wealth of information on nutritional support for a variety of diseases and conditions. Most chapters include well-referenced complementary and alternative nutrition options from credible, high-quality journals. Unfortunately, the information is not always presented in a usable form for busy healthcare practitioners. Too few of the alternative therapies listed, for example, include the efficacious doses used in the clinical studies. Thus, in order to provide patients both conventional and alternative therapies, the healthcare provider would have to seek out the primary reference in order to apply them. Despite these caveats, any healthcare practitioner who wants an up-to-date book on nutritional support will want to own this book.

The book covers most conditions that can benefit from nutritional attention (e.g., those dealing in the areas of gastrointestinal, skeletal, renal, immune system, and cardiovascular). Most chapters are scholarly, well referenced, and up-to-date. It was not clear from the short biographical sketches how many of the authors of individual chapters actually practice both conventional and alternative nutrition with their patients. I suspect not very many, because too few of the case studies (only about half of the chapters had cases) actually present both forms of therapies as treatments. For example, in one case study regarding the ear, the alternative nutritional therapies cited in the text were



not used in the case study, and different alternative therapies (presumably with no scientific support or they would have been mentioned earlier) were presented. Even when good clinical support was available, several of the other cases failed to describe how alternative therapies might be applied. However, chapters on the pancreas, upper gastrointestinal tract, and joints were, to me, home runs. In these, the authors presented excellent examples of how alternative and conventional nutritional therapies can be used together. These chapters were the most satisfying and complied with the editors' intent.

As with most books this size, repetition is bound to occur. I read several different times about omega-3 fatty acids and the prostaglandin cascade, as well as definitions of alternative, integrative, and complementary nutrition. Cardiovascular disease was covered on its own and then in both the men's and the women's health chapters. Some information was not up-to-date, like the mention that commercial fish oil capsules may be contaminated with mercury. Today, all fish oil sold at reputable retail establishments is virtually mercury-free. Also, a small section was devoted to the evils of artificial sweeteners but provided no scientific support. It is fine that the author may have a bias against their use, but in terms of counseling patients, it is preferable to use the published literature as a guide.

A couple of pearls stood out in the book. The chapter explaining the traditional Indian Ayurvedic system of medicine was worth nearly the entire price of the book for me. I had heard about this mode of therapy, but never knew the intricacies surrounding food choices and disease. Really the first dietitians were those practicing this form of medicine. The chapters on joint health and liver disease were also particularly well done. They provided the amounts of the alternative therapies used in an easy-to-read style that will help the busy practitioner find something quickly. In the chapter on renal disease, the authors cautioned against using star fruit (*Averrhoa carambola*, Oxalidaceae). I wish there were more cautionary snippets like this in other chapters. This crunchy, star-shaped fruit had been reported to induce severe and potentially fatal neurological symptoms including limb numbness and seizures. Finally, I was especially pleased with the chapter on infants and children. The temp-

tation of so many parents is to use the same alternative therapies that they are using on themselves for their children. The authors make it clear that only a few (e.g., fish oil, probiotics) have been tested in children and that others ought to be avoided due to a lack of published clinical evidence documenting their safety and efficacy at a specifically tested dose.

Most chapters cited potential alternative therapies that were published in high-quality journals, and thus believable. It was clear that the authors conducted comprehensive literature searches on each condition and presented as many complementary therapies as they could find. This was one of the best parts of each chapter in this book. I had only wished that more of these potentially helpful therapies were applied to real patient situations. I suspect that in subsequent editions (and I surely hope the editors produce revisions), alternative therapies will have become more commonplace in conventional nutritional practice and more case studies will be provided using both.

—Stacey J. Bell, DSc, RD
Research & Development, Twinlab
Grand Rapids, MI

Herbal Medicines in Pregnancy and Lactation: An Evidence-Based Approach

by Edward Mills, Jean-Jacques Dugoua, Dan Perri, and Gideon Koren Abingdon. Boca Raton, FL: Taylor and Francis; 2006. Hardcover, 354 pages. ISBN-13 978-0-415-37392-0. \$129.95.

Pregnancy and lactation are certainly two of the most important phases of human growth and development, as any deleterious effect or interruption of the normal gestational development can have serious, if not fatal, consequences to the developing embryo or fetus. Products that may interfere with lactation or that possess toxic properties may pass from the mother's milk to her baby and can also have potentially devastating effects.

Herbal medicines have always been, and will continue to be, an important therapeutic option for humankind, but it is only recently that herbal products have come under scrutiny for their beneficial or potentially toxic components. Of the thousands of plants used for medicinal purposes worldwide, very little information exists regarding their effects on pregnancy and

lactation. Such an important topic merits more controlled research, especially since herbal products are very popular in various countries around the world, including the United States.

Herbal Medicines in Pregnancy and Lactation fills an important gap in the information resources regarding herbal medicine. This topic is covered only in a limited number of books regarding natural medicines (the most notable being Sheila Humphrey's *The Nursing Mother's Herbal*, Fairview Press, 1st ed, 2003).

Herbal Medicines in Pregnancy and Lactation consists of 6 chapters that cover various topics regarding the use of herbal products, as well as vitamins and other nutritional dietary supplements, during this critical period of human development.

Chapter 1 briefly covers the most important aspects of traditional usage of herbs. Chapter 2 introduces the reader to the topic of pharmacognosy, the study of drugs obtained from plants, animals, and microorganisms. This chapter focuses on important therapeutic products derived from plants. Some of the most important chemical compounds contained in plants that have therapeutic value are summarized, along with their chemical structures. Such is the case for flavonoids, which are natural phenolic pigments found in many plants and which can act both as free radical scavengers as well as natural anti-inflammatory agents. Other important natural compounds contained in plants include lignans, which not only have antimicrobial and anticancer properties, but are also characterized by possessing estrogenic properties, similar in action to the natural female hormones.

Chapter 3 succinctly explains the methodology employed in compiling the information about the use of plants during pregnancy and lactation, leading the reader to reputable sources of pertinent information for further query, including books, scientific journals, and Web sites. Among the more professional and trustworthy sources of information consulted are *The Complete German Commission E Monographs: Therapeutic Guide to Herbal Medicines* (Integrative Medicine Communications, 1998), an English translation by the American Botanical Council, and the Natural Standard database.

This brief but very important section provides the grades of evidence for the indications of beneficial use and the evidence

of harm, which are applied to the herbal medicines, vitamins, and supplements covered in the book. Grading for level of evidence for indications is indicated with letters A–F. A is equivalent to very strong scientific evidence, B1 is strong scientific evidence, B2 is good scientific evidence, C is fair scientific evidence, D is weak scientific evidence, E is theoretical and/or clinical evidence, and F is historical or traditional evidence of use by medical professionals, herbologists, scientists, or aboriginal groups.

The evidence of harm for a particular herb, vitamin, or supplement is classified into levels. Level 1a mentions strong scientific evidence that the plant can cause harm to the mother and/or infant. This information is based upon statistically significant evidence from one or more systematic reviews of the scientific literature. Level 1b pertains to strong scientific evidence drawn from one or more controlled studies. Level 1c indicates good scientific evidence, based on one or more case reports of harm on the mother and/or fetus. Level 2 indicates fair scientific evidence based upon case reports.

Level 3 contains in vitro evidence based on laboratory studies undertaken with experimental animals or human cells. Level 4 pertains to theoretical evidence based on scientific theory or expert opinion. Level 5 is for unknown effects due to lack of available information.

Chapter 4 deals with an alphabetical listing of selected medicinal plants and their therapeutic applications both in traditional (also known as indigenous or folk) medicine as well as modern scientific herbal medicine (also known as phytotherapy). This chapter is the medullar core of the book, covering 60 species of curative herbs, from alfalfa (*Medicago sativa*, Fabaceae) to yarrow (*Achillea millefolium*, Asteraceae), which are commonly used both in traditional folkloric medicine as well as phytotherapy.

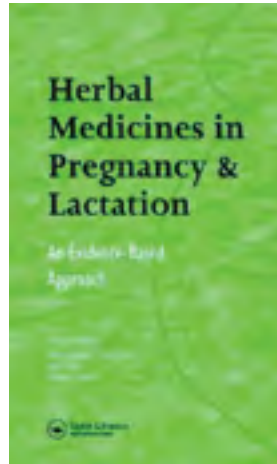
For each of the herbal species covered, the

authors mention the common and scientific (Latin) names, which greatly aid in establishing the identity of the herb in question, since various unrelated plants may share the same common name, thus causing confusion to both the consumer as well as the health practitioner. Also, the indications of usage are mentioned for both oral and topical applications of the herb in question. The effects of the plant on pregnancy are mentioned, according to evidence-based research, as well as the grades of levels of evidence put forth in Chapter 3. For each of these sections, an evidence grade has been given, based on available research in the efficacy and safety of the plant's potential applications.

Chapter 5 covers both fat- and water-soluble vitamins and their potential harm on the developing human. The effects on pregnancy of selected nutritional supplements, including bromelain, an enzyme obtained from pineapples (*Ananas comosus*, Bromeliaceae), and fish oils, a source of omega-3 fatty acids, are covered in Chapter 6.

This book is a necessary and useful resource for phytotherapists, pharmacists, naturopaths, physicians, and nurses who need a reliable source of information regarding the use of herbs and supplements during pregnancy and lactation. Intended primarily for the scientific community, its content may not be readily accessible to laypersons, including pregnant or lactating women, who lack a biomedical background.

—Armando E. González-Stuart, PhD
Herbal Research Coordinator
University of Texas at El Paso-
UT Austin Cooperative Pharmacy
Program, Austin, TX



The next, important step for you.

With the knowledge you already have of herbal medicine, there may be only one place left for you to learn. Tai Sophia Institute.

Our **Master of Science in Herbal Medicine** is the nation's first. It is designed and delivered by an international faculty which includes Simon Mills and James A. Duke, PhD. Our graduates possess the scientific knowledge and clinical skills to define this field for many years to come. Advanced standing is available. Now enrolling for Fall 2008. Call 800-735-2968, ext. 6647 or email to admissions@tai.edu.

We invite you to join us at a Graduate School Open House on Saturday, March 15 from 9:30 am - 12:30 pm.


Tai Sophia Institute
www.tai.edu
7750 Montpelier Rd., Laurel, MD 20723

New Book Profiles

Handbook of Cannabis Therapeutics: From Bench to Bedside. Ethan B. Russo, MD, and Franjo Grotenhermen, MD. Birmingham, NY: The Haworth Press; 2006. 471 pages, softcover or hardcover, tables and figures, chemical structures, b&w photos, references, index. \$39.95 (softcover); ISBN 0-7890-3097-7. \$69.95 (hardcover); ISBN 0-7890-3096-9.

Despite the controversial nature of cannabis as medicine, the authors present the medically sound aspects associated with cannabis use. They focus on its pharmacology and pharmacokinetics as they explore its medicinal use from past to present. Topics discussed in depth include the use of cannabis for AIDS, multiple sclerosis, and epilepsy, to name a few. Side effects and toxicology are also addressed.

The Male Herbal, 2nd ed. James Green. Berkeley, CA: The Crossing Press; 2007. 340 pages, softcover, b&w illustrations, resources, glossary, references, index. \$16.95. ISBN 1-58091-175-7.

James Green emphasizes health through prevention for men and boys by providing them with customized herbal programs for physical and emotional health based on their health needs, lifestyle, and body type. He provides men with the necessary tools for them to design an herbal program that caters to their needs. Also included are 30 recipes for tinctures, salves, teas, and tonics.

The Natural Fat-Loss Pharmacy: Drug-Free Remedies to Help You Safely Lose Weight, Shed Fat, Firm Up, and Feel Great. Harry Preuss and Bill Gottlieb. New York, NY: Broadway Books; 2007. 270 pages, softcover, resources, index. \$14.00. ISBN 978-0-7679-2407-8.

Written by a medical expert on weight loss, this book addresses nutritional supplements and herbs that can help people safely and effectively lose body fat, maintain or even increase muscle mass, as well as increase energy levels. Also provides guidance on weight-loss supplements that are not safe or are unlikely to provide desired results. A customized program and an easy-to-follow food plan are included; long-term weight control is also addressed.

Botanical Body Care: Herbs and Natural Healing for Your Whole Body. Karin

C. Uphoff. Illustrations by Emily Whitteley. Ft. Bragg, CA: Cypress House; 2007. 259 pages, softcover, recipes, b&w illustrations, 5 appendices, references and suggested reading, resources, index. \$18.95. ISBN 978-1-879384-67-5.

More than 80 natural, plant-based recipes for extracts, salves, tinctures, and teas that can be easily implemented into daily life to maintain health and well-being. Provides guidance on using herbs to relieve stress, strengthen the immune system, and prevent or even treat common illnesses while increasing vitality.

Nutraceuticals. Brian Lockwood. Chicago, IL: Pharmaceutical Press; 2007. 426 pages, hardcover, references, index. \$75.00. ISBN 978-0-85369-659-9.

Provides a brief introduction of the relationship between nutraceuticals, foods, and medicine, and 26 monographs on major nutraceuticals. Includes evidence for the use of nutraceuticals for the prevention and treatment of important disease states. Chapters are defined by different health problems, i.e., joint health, eye health, and mental health. The chapters include adverse effects, mode of action, and references.

Natural Therapies for Emphysema and COPD: Relief and Healing for Chronic Pulmonary Disorders. Robert J. Green Jr. Rochester, VT: Healing Arts Press; 2007. 196 pages, softcover, references, index, appendices, glossary. \$14.95. ISBN 978-159477163-7.

Presents natural therapies for respiratory disorders, i.e., detoxification, dietary changes, nutritional supplements, herbal medicine, breathing techniques, and exercise. Provides a brief overview of emphysema and COPD (chronic obstructive pulmonary disease) including anatomy and physiology, understanding the disease, and its diagnosis. A section is dedicated to smoking cessation and herbs that can assist in quitting. The chapter on herbal medicine includes each herb's main action, parts used, dosage and safety information.

The Incense Bible: Plant Scents That Transcend World Culture, Medicine, and Spirituality. Kerry Hughes. New York, NY: The Haworth Press; 2007. 209 pages, softcover, references, index, resources, appendices. \$14.95. ISBN 978-0-7890-2170-0.

Detailed guide to the spiritual mean-

ing of natural incense and how to use it in prayer, meditation, health, or to connect with divinity and nature. Examines the spiritual and ritual uses of "pure" incense, explores human attraction to fragrance, and explains how to use incense to increase wellness. Includes easily understood technical information, easy-to-use references, history of the use of incense in various countries, and information about specific raw incense material.

Complementary and Alternative Medicine: Ethics, the Patient, and the Physician. Lois Snyder, ed. Philadelphia, PA: Humana Press; 2007. 240 pages, hardcover. \$69.50. ISBN 1-588-29-584-2.

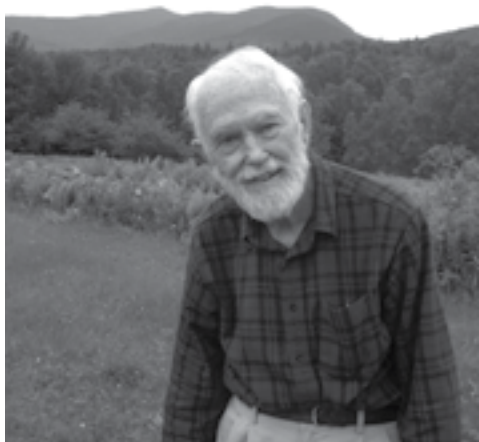
As increasing numbers of people use more complementary and alternative medicine (CAM), ethical considerations and challenges are raised for physicians, alternative medicine practitioners, and their patients. This book provides a context for thinking about CAM, its history and definitions, and its place within the scientific method in conventional medicine. It examines the ethical responsibilities of physicians, communication issues, patient education, legal concerns, and risk management.

Tea: The Drink That Changed the World. Laura C. Martin. Rutland, VT: Tuttle Publishing; 2007. 248 pages, hardcover, references, appendices, useful Web sites. \$21.95. ISBN 978-0-8048-3724-8.

After water, tea is the second most popular drink in the world. How did this come to be? This book explores the rise of tea around the world. From a harsh, bitter concoction used as medicine to a global power, from a meditation tool to a form of currency, tea has a long and influential history. Full of anecdotes and practical information.

Herb-A-Day. James A. Duke, PhD. Virginia Beach, VA: Eco Images; 2007. 468 pages, softcover, index. \$24.95. ISBN 978-0-938423-18-8. ABC Item #B547

A compilation of articles written over the past 20+ years describing usage, benefits, and research on more than 150 herbs divided by geographic regions of the world. Includes entertaining, informative anecdotes from Dr. Duke and detailed line-art drawings by his wife Peggy.



Richard H. Goodwin 1910–2007

Richard H. Goodwin, PhD, botanist and infamous protector of America's coastlines, died at 96 on July 6, 2007, in East Lyme, Connecticut.¹

Dr. Goodwin was well-known for co-founding the Connecticut Chapter of the Nature Conservancy, along with the late wetlands expert William A. Niering, PhD. Dr. Goodwin was so dedicated to this organization that he served as president twice from 1956-1958 and 1964-1966, both times without pay.² He also negotiated the group's first land purchase in California: 3,000-acres of forest along the state's northern coast.³

Among Dr. Goodwin's other accomplishments were the creation of the Conservation and Research Foundation in 1953, which awarded grants to scientists who attempt to preserve the natural environment, and the expansion of the 1,200-acre Burnham Brook Preserve in East Haddam, Connecticut. He even donated his home and 170 acres of his own land to the preserve.³

Dr. Goodwin was born December 14, 1910, in Brookline, Massachusetts.³ By 1937 he had earned a bachelor's, a master's, and a doctorate degree in biology from Harvard University. Armed with a concentration in botany, he taught the subject at the University of Rochester for several years before joining Connecticut College in 1944. There he served as a professor until 1976 and chaired the botany department for 21 years.⁴ As director of the Connecticut College Arboretum until 1965, he helped expand the 90-acre facility to 400 acres during his time there. Today the arboretum encompasses 750 acres. Though he retired in 1976, he remained highly active in the program.

"Dick stayed involved in the Arboretum and Botany Department activities right until the end," said Glenn D. Dreyer, the current Arboretum director (e-mail, August 16, 2007). In fact, Dreyer originally met Dr. Goodwin at the Arboretum's 50th Anniversary party. "He was a very impressive character to a youngish grad student," Dreyer said. "I always envied his ability to come up with a little story or anecdote in social situations that got everybody chuckling."

It was no surprise when in 1999 Dr. Goodwin was honored with the naming of the Connecticut College Goodwin-Niering Center for Conservation Biology and Environment Studies, an

interdisciplinary program first established under a different name in 1993.⁴

"It is true that the actions of a few can change the world for many," said Steven J. McCormick, president and CEO of the Conservancy, in a recent press release.² "[I]t could not be more true than when speaking of Dick Goodwin."

Dr. Goodwin is survived by wife Esther, daughter Mary Linder Wetzel, son Richard H. Goodwin Jr., 4 grandchildren, and 2 great grandchildren. HG

—Kelly E. Saxton

References

1. Hevesi D. Richard H. Goodwin, 96; Preserver of the Environment. *New York Times*. July 14, 2007;C010.
2. The Nature Conservancy. Governance Richard H. ("Dick") Goodwin, 1911-2007 [press release]. July 2007. Available at <http://www.nature.org/aboutus/leadership/art21877.html>. Accessed August 20, 2007.
3. Nelson VJ. Obituaries; Richard H. Goodwin, 96; leader in land conservation. *Los Angeles Times*. July 23, 2007;B7.
4. Current News. Richard H. Goodwin, early land preservationist and Connecticut College professor, dies at 96. The Connecticut College Web site. Available at <http://aspen.conncoll.edu/news/3537.cfm>. Accessed August 20, 2007.



Egil Ramstad 1911–2007

Egil Ramstad, PhD, past president of the American Society of Pharmacognosy (ASP) (1966-1976) and writer of the revolutionary textbook *Modern Pharmacognosy*, died March 8, 2007.¹ A gentleman, scholar, and World War II concentration camp survivor, Dr. Ramstad was a highly visible figure in the field of pharmacognosy.

"He had a different way of thinking and could see things from a different angle," said his wife Beverley Wilson (e-mail, Septem-

In Memoriam

ber 13, 2007). “As a result, *Modern Pharmacognosy* led the way to a new approach to textbooks in the field.”

“He was a genius and I had the greatest respect for him. He was the kind of person who never forgot anything,” said Professor Norman R. Farnsworth, PhD, of the University of Illinois at Chicago, a colleague of Prof. Ramstad’s (oral communication to M. Blumenthal, October 11, 2007). “His textbook on pharmacognosy was ahead of its time, because it was organized on a biosynthetic model, while other texts used chemistry, taxonomy, or pharmacological activity as the basis for their chapters’ organization.”

Dr. Ramstad was born in 1911 on an island off the coast of Norway near Namsos. He obtained a degree in pharmacy from the University of Oslo in Norway in 1935 and received his doctorate in pharmacognosy in 1939 from Liege University in Belgium. He soon joined the staff of Oslo as a professor, but in 1949 he accepted a professorship in pharmacognosy at Purdue University in West Lafayette, Indiana.

During his 22 years at Purdue, he wrote the famous *Modern Pharmacognosy* (McGraw-Hill, first edition, 1957). Where other authors took a botanical approach to the subject (classifying medicinal plants by their botanical categories), he set a new precedent by classifying the medicinal properties of plants by their chemical structures. He also pioneered the use of radioactive isotopes in the study of plants of medicinal importance, which began modern-day chemotaxonomy (B. Wilson, e-mail, September 13, 2007).

“As the seventh president of the ASP, Dr. Ramstad played an important role in the evolution of the Society in its early years,” said ASP President Roy Okuda, PhD, in a recent article in the *ASP Newsletter*.¹ “He also contributed significantly to the modern development of pharmacognosy as an academician at Purdue University, and in establishing pharmacy programs at two universities in Nigeria and at Rhodes University, South Africa.”

Always fascinated by plants, Dr. Ramstad also had a strange habit. He liked to taste the leaves of plants he didn’t recognize: “He would break off a leaf, a berry, or a piece of bark and taste it, much to the amazement and alarm of those around him—this apparently dangerous habit seemed to cause little harm as he lived to be 95,” said Wilson. “He considered any plant that was bitter worth studying. If a literature search showed that it hadn’t been investigated, it would become a project for a student.”

Dr. Ramstad is survived by wife Beverley Wilson, two sons Yngve and Tore, one daughter Liv May, and 6 grandchildren. HG

—Kelly E. Saxton

Reference

1. Kanfer I. In Memoriam: Egil Ramstad. *ASP Newsletter*. 2007;43(2):26–27.

Not a Member?

JOIN TODAY!

Call: 512-926-4900 x101
or Visit
abc.herbalgram.org/join



Already a Member?

GIVE A GIFT MEMBERSHIP

Call: 512-926-4900 x101



AMERICAN
BOTANICAL
COUNCIL

Now in Our 20th Year



Photo ©2008 Adrian Brooks, Imagewis

Anita Roddick 1942–2007

Dame Anita Roddick, environmental activist and business woman, died at 64 of a brain hemorrhage on September 10, 2007.¹ A tireless advocate for the environment and human rights, Roddick founded the Body Shop chain of cosmetic stores. She also helped establish *The Big Issue*, a magazine produced and sold by homeless people in England, and Children on the Edge, a charity for children with disabilities in Eastern Europe and Asia, HIV/AIDS, and other problems.² An avid protestor, she has been frequently pictured with picket in hand—once even alongside the musician Thom Yorke of Radiohead protesting for the Trade Justice Movement, a group of organizations that campaign for trade that helps the disadvantaged and the environment.³ But it wasn't the famous that drew her to these causes.

“She campaigned for green issues for many years before it became fashionable to do so,” said her husband Gordon, according to a recent article on the Guardian Unlimited Business Web site.² “[She] inspired millions to the cause by bringing sustainable products to a mass market.”

The Body Shop strives to sell products containing natural ingredients such as marula oil (*Sclerocarya birrea*, Anacardiaceae) from Namibia, shea butter (*Vitellaria paradoxa*, Sapotaceae), sesame oil (*Sesamum indicum*, Pedaliaceae), babassu oil (*Attalea speciosa*, Arecaceae), and even bananas from the Caribbean.⁴ It also promotes several ethical causes, such as the refusal to test cosmetics on animals and the use of community-traded natural ingredients. According to its Web site, the Body Shop community trade program purchases natural products from disadvantaged communities around the world, ranging from Australia to Zambia. These

groups, who otherwise have limited opportunities, benefit from fair pricing, better market access, and improvement in income, education, etc. Though Dame Roddick sold the store to the French cosmetic giant L’Oreal in 2006, the mission of the over 2,000 outlets has remained intact, and it’s a legacy that Roddick put in place. The Body Shop’s mission statement is “To dedicate our business to the pursuit of social and environmental change,”⁵ though it may not have started out that way.

“The original Body Shop was a series of brilliant accidents,” Roddick said.² “It has a great smell, it had a funky name... We recycled everything, not because we were environmentally friendly, but because we didn’t have enough bottles.”

Dame Roddick was born Anita Lucia Perilli in Littlehampton, England, in 1942.¹ She graduated from Bath College of Education but often called traveling her real education.⁶ In fact, it was the contacts she made in the 1980s while traveling that formed the basis for the Body Shop community trade program.⁴

Dame Roddick married Thomas Gordon Roddick in 1970.⁶ When he expressed a wish to travel from Buenos Aires to New York on horseback, she opened the first Body Shop in Brighton in 1976 with a 4,000 £ loan.² She originally opened it to provide for herself and two daughters during her husband’s absence, but soon the whole world was aware of the Body Shop’s potential. Over the next 15 years the stores spread all over Britain. There are now over 2,000 stores spread throughout 50 countries. It was Roddick’s pragmatic nature and environmentally conscious approach to business that made the difference.

“[T]he frugality that my mother exercised during the war years made me question retail conventions. Why waste a container when you can refill it? And why buy more of something than you can use?” she wrote in a Body Shop message to the reader.⁵ “[W]e reused everything, we refilled everything and we recycled all we could. The Body Shop’s environmental activism was born out of ideas like these.”

Roddick was given the title of dame by Queen Elizabeth II in 2003 for her contributions to retailing, the environment, and charity.⁶ She is survived by her husband Thomas Gordon and her daughters Samantha and Justine. More about Anita Roddick is available at www.anitaroddick.com. HG

—Kelly E. Saxton

References

1. Lyall S. Anita Roddick, Body Shop founder, dies at 64. *New York Times*. September 11, 2007;C11.
2. Glendinning L. Anita Roddick, pioneer whose dreams turned the high street green, dies at 64. Guardian Unlimited Web site. Available at <http://business.guardian.co.uk/story/0,,2166637,00.html>. Accessed September 18, 2007.
3. Jewell W. Business Heroes: Anita Roddick. The My Hero Project Web site. Available at <http://www.myhero.com/myhero/hero.asp?hero=Roddick>. Accessed September 20, 2007.
4. The Body Shop. Support Community Trade page. The Body Shop Web site. Available at http://www.thebodyshop.com/bodyshop/values/support_community_trade.jsp. Accessed September 21, 2007.
5. Roddick A. Message from Dame Anita Roddick, the Body Shop Founder. The Body Shop about us page. Available at http://www.thebodyshop.com/bodyshop/company/index.jsp?cm_re=-_Footer_-About_Us. Accessed September 21, 2007.
6. Rourke M. Anita Roddick, 64; founded Body Shop cosmetics chain. *Los Angeles Times*. September 11, 2007;B9.



Robert Hegnauer 1919–2007

Robert Hegnauer, PhD, botanist, phytochemist, and pharmacognosist, passed away on April 14, 2007, at the age of 87.¹ Author of the famous *Chemotaxonomie der Pflanzen* (*Chemotaxonomy of Plants*), Dr. Hegnauer approached botanicals in a way that was then unprecedented; that is, through the analysis of plants' chemical compounds and phylogenetical classification of their genera and families.² However, this uniquely valuable resource was printed only in German.

Dr. Hegnauer was born in Aarau, Switzerland (near Bern) in 1919.^{2,3} He received his PhD in 1948 from the world-renowned *Eidgenössische Technische Hochschule* (ETH), or the Swiss Federal Institute of Technology in Zürich, after studying under the famous Professor H. Flück. Starting in 1949, he served as a research assistant at the Institute of Pharmacy at Leiden University in the Netherlands, and at the age of 33 (1952), he was appointed a full professor of pharmacognosy. In 1962 he switched to the Institute of Pharmacy and Biology where he became a professor of experimental plant systematics.³

The *Chemotaxonomie der Pflanzen* volumes were published from 1962 to 2001 and comprised over 10,000 pages. Dr. Hegnauer wrote the majority of these pages after he retired in 1979. In these volumes he compiled the phytochemical data of plants, discussed their taxonomic impact, their variations in taxa, their biochemical pathways, and their biological functions, all without the use of online databases, according to Adolf

Nahrstedt in a *Planta Medica* article.⁴ It has been said that Dr. Hegnauer's wife, Minie Hegnauer-Vogelenzang, co-wrote the four last volumes, but according to her this is not true. "I did the type-writing but Robert wrote all volumes by hand, word after word," wrote Minie Hegnauer (written communication, November 28, 2007).

Dr. Hegnauer was awarded the Egon-Stahl-Award in Gold in 1999, the highest honor of the *Gesellschaft für Arzneipflanzenforschung* (GA), or the Society for Medicinal Plant Research.² Dr. Hegnauer received the Fluckiger Medal of the Fluckiger Foundation in 1977 and the Silver medal of the Phytochemical Society of Europe in 1987. He was an Honorary Member of the American Society of Pharmacognosy (ASP), GA, and *Deutsche Botanische Gesellschaft* (DBG), or the German Botanical Society. He also received honorary doctorates from ETH Zürich, and the University of Utrecht in the Netherlands, bringing his PhD count to 3. However, many veterans in the world of natural chemistry agree that he was more than an author and a scientist with doctorates.

"Robert's most stand-out qualities were his unpretentiousness, his honesty, and his readiness to help—not only in a scientific way, but above all in a human way," wrote Minie Hegnauer. "He tried to help everyone as much as he could—whenever it was necessary—which is why my children and I loved him so very much."

"In spite of all his successes and honors, Professor Hegnauer was always of reserved politeness, open minded, non-biased, fair, and honest," wrote Prof. Nahrstedt.⁴ "With his broad knowledge and critical sense he has stimulated many young and older scientists. [His] loss will be deeply felt in the world of plant sciences; we will miss him as a friend and faithful academic fellow; he will live on in his life's work and our commemoration."

Dr. Hegnauer is survived by his wife and his 3 children Hanneli, Evert, and Fritz. HG

—Kelly E. Saxton

References

1. Prof. Robert Hegnauer. Honorary Members page. The DGB Web site. Available at <http://www.deutsche-botanische-gesellschaft.de/html/0814HagnauerCV.html>. Accessed November 13, 2007.
2. Scheffer JJC. In Memoriam: Robert Hegnauer. *ASP Newsletter*. 2007;43(2):28, 32.
3. Baas LP. In memoriam: Robert Hegnauer 1919-2007. *Plant Science Bulletin*. 2007;53(3):117. Available at <http://www.botany.org/plant-sciencebulletin/psb-2007-53-3.pdf>. Accessed August 27, 2007.
4. Nahrstedt A. In memoriam: Prof. Dr. Drs. h.c. Robert Hegnauer (1919–2007). *Planta Medica*. 2007;73(10).

Editor's Note: The following letters were written in response to the article, *Peruvian Maca and Allegations of Biopiracy*, written by Josef Brinckmann and published in *HerbalGram* (2007;75:44-53).

“Medicine Hunter” responds to “Allegations of Biopiracy”

In Josef Brinckmann's article “Peruvian Maca and Allegations of Biopiracy,” [*HerbalGram* #75] he stated “Peru is interested in benefit sharing.” This comment was set against a backdrop of criticism of the PureWorld/Naturex maca [*Lepidium meyenii*, Brassicaceae] patents. I am no fan of those patents, though I have worked as a close advisor since 1995 with PureWorld, and subsequently with the company who acquired it, Naturex. But I can tell you this, the benefit-sharing part of the PureWorld/Naturex maca business is very strong.

In 1998, I traveled to the central highlands of Peru to investigate maca, on behalf of PureWorld Botanicals. On that trip I met and traveled with Sergio Cam of Chakarunas Trading Company, a newly established trader of certified organic maca. At the conclusion of that trip, I brought samples of maca back to PureWorld in New Jersey for laboratory analysis. Subsequently, PureWorld discovered novel compounds in maca, dubbed macamides and macaenes. The company developed a proprietary extract called MacaPure, standardized to those compounds, and patented the invention. Thus began the controversy over the PureWorld maca patents. I personally found out about the patents when I received a letter from a Peruvian native rights group, whose members assumed that I had been involved in the filing.

As Josef accurately stated in his article, Naturex, which acquired PureWorld and its various patents, has voluntarily opened up the maca patents to companies of Peruvian origin without restriction. So if a company in Lima, for example, wishes to make a maca extract to the specifications stated in the patent, they may do so without incurring any of the development costs born by PureWorld. This strong step is clear and incontrovertible evidence that Naturex is a good global citizen, not at all interested in biopiracy.

Additionally, the benefit-sharing activities that have come from the trading of maca between Chakarunas Trading Company and PureWorld/Naturex compose to date one of the strongest, most multi-dimensional benefit-sharing programs related to any plant or natural resource traded in Peru. I challenge any entity trading in maca today to match half the activities we have generated in nine years of commerce with maca. Examples of these activities include the following:

Wages—The first and most obvious place to look for shared benefits is in wages. While the average price paid to farmers in Peru today for 1 kilo of dry maca is 1 – 2 Soles, our enterprise pays farmers 6 Soles per kilo. That is between 3 – 6 times what others pay. Let critics of Naturex match that price.

Organic certification—Funded by revenues from the PureWorld/Naturex business, Chakarunas Trading Company covers all costs of organic certification, land leases when required, seed, and any equipment and supplies. The growers are responsible for growing and harvesting their maca

crops. This approach relieves growers of typical expenses, and helps to improve their overall income. And the certified organic farming means that the growers are not exposed to toxic agrichemicals.

Medical Clinic—Funded by revenues from the PureWorld/Naturex business, Chakarunas Trading Company established a medical clinic in Lima that is free to people from the highlands, and very cheap for people of Lima. That clinic ran for five years until the funds ran dry. Now it is starting up again.

Dental Clinic—In collaboration with Enzymatic Therapy of Green Bay, Wisconsin, Chakarunas Trading Company opened up a dental clinic in the maca-growing town of Ninacaca. The clinic is free. There are no costs whatsoever, whether a single person goes there or a family of five arrives. The dentist is from nearby Cerro de Pasco.

Electricity—Funded by revenues from the PureWorld/Naturex business, Chakarunas Trading Company installed electricity into about half the town of Ninacaca. Now people who used to spend their nights in the cold and dark have light and heaters.

Market Access—A key aspect of benefit-sharing is market access. The PureWorld/Naturex maca business is the only one in operation who since Day #1 has identified its supplier. Publicly identifying Chakarunas Trading Company through various promotional activities has resulted in greater market access for that trader and its growers, and additional business. I would like to see other purveyors of maca give the names and addresses of *their* suppliers. Those companies, and certainly the growers whose maca they sell, don't have the money or means to reach the international market by themselves.

Seminars—Since 1998, PureWorld/Naturex has spent about half a million dollars on seminars and presentations largely conducted by me, to promote maca and maca culture. In a “rising tide lifts all boats” effort, this work has increased awareness of maca in the United States, and in other countries including France, Spain, Malaysia, China, Dubai, and Canada. This maca-oriented educational effort exceeds in scope the aggregate educational efforts of all other maca trading entities combined.

Media—On the media front, PureWorld/Naturex has funded PR-related activities, articles, and even a one-hour TV program. Additionally, we worked with French National TV, which shot a prime-time documentary with me on the maca scene in the Peruvian Highlands. I have personally mentioned maca in hundreds of interviews with various media from all over the world. Since 1998, the greatest majority of media on maca outside of Peru has happened as a consequence of the PureWorld/Naturex maca business and promotional efforts.

Books—I have featured maca in two of my books, *Tales From The Medicine Trail* (Rodale Press, 2000) and *Hot Plants* (St Martin's, 2004).



Warehousing—Funded by revenues from the PureWorld/Naturex business, Chakarunas Trading Company operates a clean, dry, modern warehouse where many maca growers store their maca at no charge.

Additionally, PureWorld/Naturex and Chakarunas Trading Company have funded a maca festival and regional efforts to improve education. Recently, Chakarunas Trading Company established the very first Internet setup in Ninacaca. This will enable locals to connect with the world. It is huge for those people.

As Josef said in his article, “Peru is interested in benefit sharing.” That’s good news to us, because we want to see everybody trading in maca to provide real benefits back to maca growers and their communities. Real sustainability and benefit-sharing aren’t about reaching agreements at conferences. These things take place when well-intentioned entities work with indigenous people on an ongoing basis with the objective of constantly improving conditions. In a sustainable system, all entities flourish and thrive.

In summary, the PureWorld/Naturex maca business, while somewhat in the shadow of controversy related to patents, is a model of benefit-sharing and sustainability. I encourage other entities in the maca trade to step up to the plate and do the same or better.

Chris Kilham, Medicine Hunter, Inc.
Leverett, Massachusetts

Peruvian Reader Acknowledges *HerbalGram*

I would like to thank you for the very important contribution you are doing through the journal *HerbalGram* by supporting rural communities that have been unfairly treated by some companies that abuse their traditional knowledge.

Your professional vision of biopiracy will help more people to understand the problem, and that is the beginning of the solution.

It was a pleasure for me to give my little contribution [as peer reviewer] for the article, “Peruvian Maca and Allegations of Biopiracy” [*HerbalGram* #75].

I also want to congratulate you for this interesting journal that you lead; it contributes to all readers in many parts of the world to be updated with different important matters you include in your issues.

Please feel free to contact me for any further information you may need.

Best regards,

Jose Luis Silva
Chief Executive Officer
Hersil S.A. Laboratories
Lima, Peru



NEWCHAPTER®

Delivering the Wisdom of Nature

How's your neck?

How's your back?

How are *you*
responding to inflammation?

zyflamend®

The #1-Selling† Herbal Formula for
Healthy Inflammation Response*

*These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.

† According to the September 2006 Spins Data



www.newchapter.com

2008

March 13–16: Natural Products Expo West. Anaheim, CA. Natural Products Expo West, the largest natural and organic trade show, exhibits thousands of new products, cutting edge trends, engaging speakers, and informative seminars. With more than 2,800 exhibitors, new products, and new information, this is an opportunity to network or build knowledge about natural products. For more information, to register, or to reserve exhibit space, visit the Web site: www.expowest.com.

March 29–31: 3rd ICCMR. Sydney, Australia. The 3rd International Congress of Complementary Medicine Research (ICCMR) will be held at the Sydney Convention Centre in Darling Harbour, Sydney, Australia. This worldwide event will bring together an international network of researchers, practitioners, and industry leaders to discuss topics such as the role of CAM in disease prevention and health settings. The congress will include plenary sessions and concurrent symposia that explore herbalism, naturopathy, traditional Chinese medicine (TCM), cancer, women's health, chronic conditions, acupuncture, homeopathy, mind-body therapy, and Tai Chi. This congress is in collaboration with the International Society for Complementary Medicine Research. For more information please visit the Web site: www.iccmr2008.com.

April 5–6: Southwest Conference on Botanical Medicine, Tempe, Arizona. Annual conference on botanical therapies for chronic disease. Speakers: Paul Bergner, Amanda McQuade Crawford, David Crow, LAc, Deborah Frances, ND, Tori Hudson, ND, Cascade Anderson Geller, Phyllis Hogan, Mimi Kamp, Michael Moore, Kenneth Proefrock, ND, and Ayurvedic physicians Dube and Sumita from India. Topics include herbs and statins, interstitial cystitis, treating type II diabetes without Glucophage, Ayurvedic materia medica and much more. Ethnobotanical healing arts of the Hopi and other native peoples; herb walks at the Desert Botanical Garden and Friday field studies April 4. CE credits for health professionals. Information 800-252-0688 or www.botanicalmedicine.org

April 7 - April 12, 2008: At the Foot of the Sacred Mountain: Sonoran Desert Herbal Retreat. Spend five days in a lovely, comfortable rural retreat center in the heart of the spectacular Sonoran Desert beneath towering Baboquivari Mountain in southern Arizona. Each of the instructors bring decades of knowledge gained by direct experience with the amazing healing and edible plants of this, one of the most biologically diverse

deserts in the world. We'll rejuvenate and recreate with the soaring raptors and songbirds. We'll take herb walks, harvest and prepare native foods and herbal formulas using the powerful plants of the region. We'll eat well, rest and revel, just enjoying life together in one of the Earth's sacred places. For more information, go to: www.desertbounty.com & click on Sonoran Desert Herbal Retreat or contact Pam Hyde-Nakai 520-743-3980 pamhn@cox.net or Cascade Anderson Geller 503-232-0473 cag@easystreet.net.

April 12–16: 7th Annual Oxford International Conference on the Science of Botanicals & American Society of Pharmacognosy 4th Interim Meeting. Oxford, Mississippi. The National Center for Natural Products Research (NCNPR) at the University of Mississippi is pleased to announce a conference on quality and safety issues related to botanicals. This conference is supported by a cooperative agreement between the NCNPR and the Center for Food Safety and Applied Nutrition (CFSAN) of the US Food and Drug Administration (FDA). Its purpose is to review, discuss, and explore methods for determining the identity, purity, quality, and processing of botanicals. There will be dedicated sessions focusing on current pharmacognosy techniques, issues, and discoveries as well as plenary speakers outlining the current approaches, limitations, and research needs of each topic area. Contributed presentations, both oral and poster, are invited. Speakers will be leading researchers from industry, academia, nonprofit institutions, and government. For more information please visit the Web site: www.oxfordicbs.org/.

April 20–24: The Xth International Symposium on Flower Bulbs and Herbaceous Perennials will be held in Golden Tulip Hotel *De Nachtegaal* in Lisse, the Netherlands. Presented by the International Society for Horticultural Science, scientists from all over the world will have the opportunity to share their latest scientific results in lectures, poster sessions, and workshops. This will be the first symposium on flower bulbs and herbaceous perennials. Current research topics like biodiversity, sustainable production, and quality in the production chain will be part of the program as well as production, forcing, breeding, and diseases. One day of the program will provide a chance to meet with representatives of the industry, listen to their views on future developments, and exchange ideas for solving problems and creating new opportunities. For more information visit the Web site: www.isfbp2008.wur.nl.

May 26–30: The 1st International Symposium on Woody Ornamentals of the Temperate Zone. Pruhonice, Czech

Republic. The Symposium will be held at the Congress Centre of the Silva Tarouca Research Institute for Landscape and Ornamental Gardening in Pruhonice. Topics will include assessment of woody ornamentals, evaluation of the gene pools and new prospective taxa, breeding of woody ornamentals, propagation and cultivation methods for woody ornamentals, preservation of rare and endangered taxa, and woody ornamentals in the human environment. For more information call +420 296 528 336 or visit the Web site: www.woodyornamentals.cz.

May 30–June 1: World Tea Expo. Las Vegas, NV. The World Tea Expo is the largest trade-only conference in the world showcasing tea and related products. The goal is to add value to the rapidly growing tea industry by providing a true global marketplace for commerce and education. World Tea Expo is committed to displaying the most comprehensive products and resources necessary to serve the tea industry and facilitate its growth. American Botanical Council Founder and Executive Director Mark Blumenthal is also a guest speaker for this event. For more information, to register, or to reserve exhibit space, visit the Web site: www.worldteaexpo.com.

May 31–June 2: Medicines from the Earth Herb Symposium. Black Mountain, NC. Traditional and scientific approaches to botanical medicine are offered in the Blue Ridge Mountains of North Carolina. This symposium will include the latest information on the treatment of chronic disease with botanical medicine and herb walks on 1,500 acres of woodlands. Confirmed speakers include Rosita Arvigo, Paul Bergner, Mary Bove, ND, Amanda McQuade Crawford, Ryan Dreller, PhD, Doug Elliott, Cascade Anderson Geller, Chris Kilham, Kenneth Proefrock, ND, Jill Stansbury, ND, David Winston and more. For more information, please visit the Web site: www.botanicalmedicine.org/conferences/index.htm.

June 21 - July 3, 2008: Herbal Journey to Provence. Join this small caravan of herbalists and explore the fragrant herbs, natural wonders and the ancient touch of humanity in the spectacular rural regions in the south of France. Herbalists Jane Bothwell and Cascade Anderson Geller welcome you to join them as they return to enjoy concocting wildcrafted products, savoring amazing foods and reveling at festivals. For more information/registration, go to: www.dandelionherb.com or call Cascade (503)232-0473 cag@easystreet.net or Jane (707)442-8157 janeb@arcatanet.com.

July 18: Workshop: Step by Step Guide to THMPD. London, UK. This workshop, intended to help with the Traditional Herbal Medicinal Product Directive (THMPD), is

being held in conjunction with the launch of the Pharmaceutical Press publication *A Practical Guide to Licensing Herbal Medicinal Products*. Supported by the Medicines and Healthcare products Regulatory Agency (MHRA), presenters will include leading UK and international specialists in the regulatory and pharmaceutical manufacturing fields. Attendees will be guided through the herbal license application process step by step and provided with a free copy of the handbook. For more information on the workshop, e-mail: phpconferences@rpsgb.org/ and for more information on the handbook, e-mail: sales_americas@pharmpress.com.

August 3–8: 7th Joint Meeting of AFERP, ASP, GA, PSE & SIF: Natural Products with Pharmaceutical, Nutraceutical, Cosmetic, and Agrochemical Interest. Athens, Greece. This is the joint meeting of the Association *Francophone pour l'Enseignement et la Recherche en Pharmacognosie* (AFERP), or the French-speaking Association of Teaching and Research in Pharmacognosy; the American Society of Pharmacognosy (ASP); the *Gesellschaft für Arzneipflanzenforschung* (GA), or the Society for

Medicinal Plant Research; the Phytochemical Society of Europe (PSE); and the *Società Italiana di Fitochimica* (SIF), or the Italian society of Phytochemicals. Held at the Athenaeum International Hotel, this meeting will include scientific topics such as drug discovery from natural sources, natural products with agrochemical and veterinary interest, and bioavailability and quality of herbal drugs. For more information and registration, please visit the Web site: www.jointmeeting.2008athens.gr.

August 29–September 4: 68th International Congress of FIP. Basel, Switzerland. This year the International Pharmaceutical Federation (FIP) will co-host the World Congress of Pharmacy and Pharmaceutical Sciences with the Pharmaceutical Society of Switzerland. This event includes lectures, plenary sessions, poster exhibitions, section programs, council meetings, and the leadership conference. The annual Congress also serves the Young Pharmacists Group with specially planned sessions and workshops focused on current issues facing this unique segment of the profession. During the conference, the results of the Global Survey on Hospital Pharmacy Practice

will be presented. Invited experts will introduce official representatives to discuss medicines procurement, prescribing, preparation and distribution, administration of medicines, outcome monitoring, and human resources. For more information visit the Web site: <http://www.fip.org/CONGRESS/basel2008/> or call +31 (0) 70 3021982.

More calendar listings at
www.HerbalGram.org

In this department of *HerbalGram*, we list resources such as publications, organizations, seminars, and networking for our readers. A listing in this section does not constitute any endorsement or approval by *HerbalGram*, ABC, or its Advisory Board.

The Center for Plant Conservation (CPC) has updated its online conservation directory to include a convenient expertise search to help readers locate plant conservation experts in a particular field. The directory is an online database with over 1,000 plant conservation experts in the United States. These experts include federal and state government contacts that can provide information about rare and endangered plants, permit procedures, and government programs. It also includes botanists, academic and research scientists, and non-government organizations involved in plant conservation. This directory was created in 1993 and is the effort of the CPC to help in the networking of plant conservationists worldwide. The CPC was founded in 1984 to prevent the extinction of US native plants. More information about CPC and the conservation directory can be accessed by visiting www.centerforplantconservation.org.

The 2007 Nutrition Business Journal (NBJ) Supplement Business Report is now available. Containing 11 years of accumulated information, this massive 1130-page resource describes supplement sales and marketing trends, the latest developments within the industry, and vital company information to form a full picture of the \$22.5 billion US dietary supplement industry. It includes detailed sales analysis and growth projections for vitamins, minerals, herbs, specialty supplements, sports nutrition and weight loss supplements, and meal replacement. With over 160 company profiles, it also includes a complete list of the top firms in the industry in addition to their market shares in each

supplement category from 2003 to present. Compiled since 1995 and containing over 550 data charts, the report includes assessments of existing data on the industry created through *NBJ* surveys and interviews. There are also comments from key figures within the industry about the latest legislation or pending litigations which will impact the market. The complete report costs \$2,995.00. More information is available at <http://nbj.stores.yahoo.net/nbjsubure20.html>.

The WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region has been issued by the World Health Organization (WHO) in Portable Document Format (PDF) and can be downloaded from the Web. Published in June 2007, this 366-page book presents an international standard terminology to help clinical practitioners, researchers, and students in the Western Pacific Region communicate on this subject. This book is organized into 8 categories: general, basic theories, diagnostics, disease, therapeutics, acupuncture and moxibustion, medicinal treatment, and classics. The defined terms throughout each section include a specific code (organized in ascending order), the term written in Chinese, and an English description. More information and the PDF are available at the WHO Web site at http://www.wpro.who.int/publications/PUB_9789290612487.htm.

The 8th Annual Bibliography of Significant Advances in Dietary Supplement Research has been released by the National Institutes of Health's (NIH) Office of Dietary Supple-

ments (ODS). This publication provides explanations of 25 original papers representing a collection of laboratory and human studies from 2006. Herbal studies featured in the 2006 bibliography include a trial of black cohosh root extract effectiveness for bone remodeling, a study of soy health benefits on bladder cancer, a study of ginkgo leaf extract in treating Alzheimer's disease, a trial on the efficacy of St. John's wort extract for some depression, and a meta-analysis of trials on echinacea effectiveness in cold prevention. The studies were chosen from a selection of 300 papers from 45 peer-reviewed scientific journals. More information is available at the ODS Web site: http://ods.od.nih.gov/Research/Annual_Bibliographies.aspx.

The Open Nutrition Journal is the effort of Bentham Science Publishers to create a free online journal that rapidly publishes quality research articles, reviews, and letters concerning experimental and clinical nutrition. All articles accepted for publication will be immediately placed in a recognized open-access location such as Medline or PubMed where they may be viewed internationally. Accepted articles will also be indexed by PubMed, Google, and Google Scholar, which will make it more likely to be included in the top results of Internet searches for topics explored by accepted articles. The journal can be uploaded at www.benthamscience.org/open-ftp. Instructions for authors may also be viewed at www.benthamscience.org/open/tonutrj. Submission guidelines can also be obtained by e-mailing tonutrj@benthamopen.org or samreen@benthamscience.org.

Employment

Manager Wanted. Family-owned medicinal herb company seeks highly skilled, compassionate Manager for our Herbal Department. We have been experiencing consistent growth and want someone who desires to share in our vision. The ideal candidate must be an active listener and able to take direction from our founders.

Blessed Herbs prides itself on integrity and authenticity so we are looking for a candidate's expertise in:

- *Anatomy & Physiology
- *Clinical and/or Personal Healing Experience
- *Energetics
- *Herb Identification & Quality
- *Manufacture of Herbal Medicine
- *Research Skills
- *Scientific Understanding

If you are intuitively motivated, environmentally aware, and committed to a healthy lifestyle, we would like to speak with you.

Please e-mail your resume with salary requirements to scott@blessedherbs.com.

We are located in Central Massachusetts.

Publications

American Herb Association Quarterly Newsletter: \$20/yr. AHA, P.O. Box 1673, Nevada City, CA 95959.

Australian Journal of Medical Herbalism: quarterly publication of the National Herbalists Association of Australia (founded in 1920). Deals with all aspects of Medical Herbalism, including latest medicinal plant research findings. Regular features include Australian medicinal plants, conferences, conference reports, book

reviews, rare books, case studies, and medicinal plant reviews. AUD/\$95 plus AUD/\$15 if required by airmail. National Herbalists Association of Australia, 33 Reserve Street, Annandale, NSW 2038, Australia.

HerbalGram: Quarterly journal published by the American Botanical Council. A benefit at all levels of membership in ABC. See page 2 for membership information or join online at www.herbalgram.org. P.O. Box 144345, Austin, TX 78714. 800-373-7105 or fax 512-926-2345. E-mail abc@herbalgram.org.

Medical Herbalism: Subtitled "A Clinical Newsletter for the Herbal Practitioner." Edited by Paul Bergner. \$36/yr, \$60/2 yrs. Canada \$39/yr. Overseas \$45/yr. Sample/\$6. Medical Herbalism, P. O. Box 20512, Boulder, CO 80308.

Other

David Winston's Center For Herbal Studies. On-line/on-site Two-year Herbalist Training Program. For over 27 years this program has been educating Herbalists, Physicians, Nurses, Naturopathic Physicians, Veterinarians, Nutritionists, etc. in the art and science of clinical herbal medicine. Curriculum includes Materia Medica, Diagnostics, Herbal Pharmacy, Therapeutic Protocols, and Case Histories. The next two-year herbalist training course begins September, 2008. For more information, please visit www.herbalstudies.org, contact us at 908-835-0822, or email dwherbal.office@verizon.net.

Legitimately Accredited Online Master Herbalist & Holistic Health Practitioner Programs. ACHS.edu is where new careers begin and your dreams become a reality. Australasian College of Health Sciences provides dynamic, relevant, and current, scientific based holistic health programs

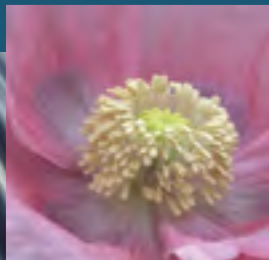
& CEU's for professionals. We also offer general interest programs for those looking to nourish their body, mind and enhance their lifestyle. ACHS.edu has a fully trained admissions department to guide your education training, leading to your success and personal fulfillment. Call us today for free career training guidance 800-487-8839 or visit us online at www.achs.edu.

Get Certified with ABC's Herbal Information Course. This self-paced online course is designed to help retail employees and multi-level distributors communicate knowledgeably with customers about herbs and dietary supplements. After successfully completing the course, you'll receive an Herbal Information Specialist Certificate and a window decal announcing "Herbal Information Specialist On Staff." Renewable annually. \$69.95 Bulk pricing available. www.nutrilearn.com.

Interns, Get hands-on experience before you graduate! If you're a future pharmacist or dietician, you can choose a rotation through ABC's internship program. You'll get a comprehensive introduction to phytomedicines, researching the medicinal, culinary and cosmetic uses of herbs, answering ABC members' questions, working with medicinal plants in ABC's 2.5 acres of herbal gardens, and preparing herbal salves, tinctures or meals. For more information, call 512-926-4900 or e-mail education@herbalgram.org.

Stock Photography that doesn't look like Stock: Steven Foster Group, Inc. Photography, Consulting, Publications. Specializing in medicinal and aromatic plants, along with the places they grow, our stock photo files include more than 120,000 images shot around the world for over 30 years. Contact us at our NEW location in the heart of the Ozarks in Eureka Springs, Arkansas. Visit our website: www.Stevenfoster.com or email: sfoster@Stevenfoster.com.

Stock Photography that doesn't look like Stock



Specializing in medicinal and aromatic plants, along with the places they grow, our stock photo files include more than 120,000 images shot around the world for over 30 years.

Contact us at our NEW location in the heart of the Ozarks in Eureka Springs, Arkansas
Photography, Consulting, Publications

Steven Foster Group, Inc. • Steven Foster, President • P.O. Box 191 • Eureka Springs, AR 72632
Phone: 479-253-2629 • Fax: 479-253-2693 • email: sfoster@stevenfoster.com

Visit our website: www.stevenfoster.com



Designed by Nature Perfected by GNC.

GNC Herbal Plus® Standardized Herbs - Finally, natural solutions you can trust.

- Guaranteed to provide a standardized amount of the herb's primary active ingredients
- Quality tested - freshness and purity guaranteed
- Only the finest, all natural ingredients

For more than 70 years, we have focused exclusively on your health and wellness needs. We provide you with the best in innovative nutrition and a dedicated staff to help you live well.

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, prevent or cure any disease. Call 1-858-477-4442 or visit www.gnc.com for the store nearest you. ©2007 General Nutrition Corporation. May not be available outside the U.S.

GNC Live Well.

SHOP NATIONWIDE OR AT GNC.COM

Get the Leucoselect® effect.



There's something special about Indena's Leucoselect®. Something we've even been telling your customers directly through a radio campaign.

Leucoselect® is the most clinically tested grape seed extract. Its optimal distribution range of oligomers guarantees maximum performance.

The proof is in the one hundred per cent chemical characterization that only Indena is able to perform on grape seed extracts.

It helps improve vascular function, inhibits destructive enzymes, and is a powerful anti-oxidant that combats the action of free radicals*. In short, Leucoselect® works.

That's why it has a powerful effect on customer loyalty. And just as powerful an effect on your business.

*This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

www.indena.com botanicals@indena.com
Indena S.p.A. - Viale Ortles, 12 - 20139 Milan - Italy - tel. +39.02.574961
Indena USA, Inc. - 811 1st Avenue, Suite 218 -
Seattle, WA 98104 - tel. +1.206.340.6140
Indena USA East, Inc. - 1719 Route 10 East, Suite 311 -
Parsippany, NJ 07054 - tel. +1.973.401.0077

 **indena**
science is our nature™