



JVBM

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**VETERINARY BOTANICAL MEDICINE ASSOCIATION**  
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## Welcome

### TO THE SEVENTH EDITION OF OUR JOURNAL

Dear Members,

As my term as President ends, I would like to thank all of the members for their participation and support. I feel during these past two years we have greatly increased our educational opportunities. We now have established a speaker track at the International Herbal Symposium and with the International Veterinary Acupuncture Society. We have established a close relationship with renowned herbalist Jeremy Ross. We are able to present three teleconferences per year. We have continued to support eco-tours. All of this while continuing our annual meeting in conjunction with the AHVMA convention. All of this is possible due to your support and participation. Please, attend our annual meeting in September in Birmingham, Alabama. The reins of the Presidency will be handed over to Dr. Hue Karreman. Hue is a leader in Organic Farming. He will be bringing into the VBMA a new dimension of ecological sustainability of our planetary resources. Hue has been using herbal medicine with dairy cows for decades.

It has been a true joy to be President of this association for the past two years. I am very passionate about herbal medicine. With our herbs we can treat any disorder while supporting the immune system, something that is impossible with drug therapy. It has been through this organization that my herbal passion was truly awakened.

I would like to thank Susan Wynn for the foresight to organize this international herbal group. If it were not for her vision, Herbal medicine in the western world would not be as well accepted and used. For her dedication to herbal medicine and her devotion to the VBMA, Susan Wynn has been honored as the first member awarded membership for life. Thank you, Susan!

Thanks also need to go to our editor, Karen Goldrick, who has been able to put together these journals for us. She will be retiring as editor for the journal after this issue. Her dedication and professional work will be truly missed.

So in closing, Thank You!

**Cynthia Lankenau, DVM, President of the VBMA**

# Goals and resources

OF THE VBMA

## Our Long Term Goals

- 1 to represent member veterinarians and herbalists as political and professional issues arise
- 2 to establish standards of training and herbal training programs and to identify established programs with the goal of developing or reviewing certification standards and Degree Programs in Herbal Medicine
- 3 to support ethical scientific clinical research in herbal veterinary medicine and maintain avenues for exploration of traditional care in veterinary botanical medicine
- 4 to explore cultural traditions such as TCM, Greek/western herbalism and Ayurveda for their proper translation to and application in modern day animal conditions and communicate these
- 5 to compile databases of existing science; ethnoveterinary medicine advances; and eventually a library on line
- 6 to liaise with manufacturers so that they have an expert body to advise them on the needs of veterinary herbalists and quality control concerns
- 7 to support sustainable environmental, agricultural and husbandry

## VBMA Purpose

The Veterinary Botanical Medicine Association is an international membership of veterinarians and herbalists dedicated to developing responsible herbal practice by encouraging research and education, strengthening industry relations, keeping herbal tradition alive as a valid information source, and increasing professional acceptance of herbal medicine for animals.

from the VETERINARY BOTANICAL MEDICINE ASSOCIATION STRATEGIC PLAN September 2010

# Certification as a veterinary herbalist

## CERTIFICATION REQUIREMENTS

### Certification of Competency

The VBMA seeks to provide animal owners, farmers, and veterinarians with some standard of competency by which to choose a veterinary herbalist. Veterinarians certified by VBMA will earn the title "Certified Veterinary Herbalist". Nonveterinary herbalists will earn the title "Certified Veterinary Herbalism Educator."

### Certification by the VBMA will require

- 1 passing the exam (100-200 questions) with a grade of at least 70%
- 2 submission of 3 case reports - publication quality, as we will encourage publication - for peer review within 1 year of taking the test
- 3 donation of at least 10 test questions for future exams

### Examination, administered yearly by VBMA

The exam is held every year at the AHVMA conference in the USA, where the VBMA holds their symposium. **In 2012 the exam will be held on September 8 at the AHVMA conference in Birmingham, AL.**

### Study Guide

Veterinary herbalists are certified as possessing a high level of competence, and should be familiar with the science, traditional use, and energetics of herbs. The herbalist should stay abreast of the accumulating research on herbs, particularly studies in companion and food animals. Modern herbalism is indeed becoming a synthesis of many traditions, and since competent herbalists keep up with the emerging literature, it is expected that there will be some crossover between Western and Chinese herbs in their knowledge. An additional hint to help pass this test is to study where the same or similar plants are used in multiple traditions or systems.

## Approximate study areas to emphasize are

### Section I: ANIMAL PHYSIOLOGY (10%)

This section will concentrate on physiology for the species chosen by the examinee. Questions may include normal temperature, pulse, and respiration and species-specific pharmacokinetics and toxicology. There will be questions that require the nonveterinary herbalist to identify life threatening and other serious disorders that require emergency or conventional care.

### Section II: PHARMACOLOGY AND TOXICOLOGY (15%)

This section is the same for both TCM and Western medicine. It will require knowledge of different classes of herb constituents (alkaloids, resins, etc). The toxicology section will require that the herbalist be aware of theoretical considerations, but especially that the herbalist knows of toxicologic case reports already reported in a variety of species. Examples from BOTH Western and TCM herbs may be used, as the ability to know and identify toxic species is of paramount importance for the herbalist.

### Section III: MATERIA MEDICA (30%)

This section will cover in depth knowledge of individual herbs - indications, common uses and contraindications for EITHER TCM or Western herbs, depending on which test the applicant has chosen.

### Section IV: CLINICAL STRATEGIES (35%)

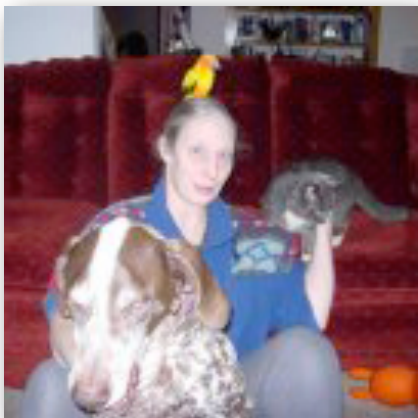
This section will include a system by system test of the herbalist's ability to choose herbs for different clinical conditions in the species of interest, as well as recognize well known or commonly used formulas of EITHER TCM or Western herbs, depending on which test the applicant has chosen..

### Section V: Botany, Wild crafting, Plant and Herb Identification (10%)

This brief section concentrates on endangered species, plant identification, and plant preparation. It may cover BOTH Western and TCM herbs. further information and suggestions for herbs to learn can be found in the study guide on the web site.

## Exam study guide

<http://members.vbma.org/continuing%20education.html>



Thankyou to our outgoing president  
Cindy Lakenau



Welcome to Dr. Hue Karreman

# MONOGRAPH

## Fennel *Foeniculum vulgare*

FROM VETERINARY HERBAL MEDICINE BY SG WYNN AND BJ FOUGERE 2007 MOSBY ELSEVIER ST LOUIS MISSOURI 63146



Virtual Tour of Medicinal Herb Garden at the Georgia State Botanical Garden  
Plants as of 4/30/03 Compiled by Duncan Ferguson

### Fennel

*Foeniculum vulgare* Mill  
fen-IK-yoo-lum vul-GAY-ree

### Distribution:

Indigenous to the Mediterranean, now growing wild or cultivated worldwide

### Similar Species:

Two species that are difficult to separate because they hybridize, commonly known as sweet fennel and bitter fennel, are cultivated under the name *Foeniculum vulgare*. *Foeniculum dulce* is Finnochio, which is cultivated as a vegetable.

### Common Names:

Fennel, Sweet Fennel, Fenchel, Fenkel, Bitterfenchel (German), Fenouil (French), Finnochio (Italian), Xiao Hui Xiang

### Family:

Apiaceae

### Parts Used:

Fruits (which are mistakenly called seeds); juice of the fresh plant. The root and dried plant are used for food.

### Collection:

Fennel can be confused with poison hemlock, so if found in the wild, care should be taken in proper plant identification.

### Selected Constituents:

Volatile oil, phenylpropanoids (including anethole and estragole), phenolic acids (including caffeic acid), flavonoids, furanocoumarins, fixed oil

### Clinical Actions:

Aromatic, stomachic, antispasmodic, carminative, expectorant, galactagogue, antimicrobial

### Energetics:

Pungent, warm; regulates Qi

## **History and Traditional Usage:**

Herbalists as early as Pliny through early English history believed that fennel was good for the eyesight. English herbalists praised fennel for its ability to help people lose weight, and the ancient Greek name for the herb, Marathron (from “maraino”—to grow thin), reflects this old belief. It is most commonly used as a remedy for intestinal gas and colic, cough, and conjunctivitis or blepharitis. Fennel was also highly regarded throughout history for stimulating milk production in women.

## **Published research**

Some fennel constituents (eg, anethole) are structurally similar to catecholamines, and they possess similar activities, such as bronchodilation and weight loss. Rat studies have shown that various fennel extracts have hypotensive activity (El Bardai, 2001). Fennel relieves inflammation and has shown inhibitory effects against acute and subacute inflammatory diseases, type IV allergic reactions and has shown a central analgesic effect (Choi 2004). Tanira et al ( ) showed that fennel extract had diuretic, analgesic, antipyretic and cholagogue activity in experimental rat studies. Doses up to 3 gm/kg were given – at this dose, depression and piloerection were noted. Fennel essential prevented liver damage in a rat model using CCl<sub>4</sub> (Ozbek, 2003).

## **Gastrointestinal effects**

Mahadi (2005) investigated in vitro efficacy of a variety of herbal extracts against *Helicobacter pylori*, and found that fennel had a moderate effect, with a mean inhibitory concentration (MIC) of 50 microgram/mL. Fennel has long been used to relieve the pain of intestinal spasm. Although the mechanism of action is unknown, fennel and other carminatives are thought to relax smooth muscle spasms that occur in response to filling of the bowels with gas, leading to relief of intestinal cramping. In animals given a fennel infusion, peristalsis tone and amplitude decreased from 2 to 30 minutes after administration. In vitro studies and animal models have indicated that fennel extracts modulate calcium availability and metabolism.

Alexandrovich (2003) studied the effects of a fennel oil emulsion for colic in babies. In this multicenter, randomized, placebo-controlled trial, fennel significantly relieved symptoms of colic (defined as a decrease in the number of hours weekly spent crying) compared with placebo.

## **Respiratory effects**

The German Commission E approved fennel for use in upper respiratory catarrh. Fennel tea increased mucociliary transport activity in frog respiratory epithelium in vitro (Muller-Limmroth, 1980). Aerosolized fennel oil suppressed cough initiated mechanically in guinea pigs (Misawa, 1990). In rabbits given anethole and fenchone, respiratory tract fluid was increased in volume and decreased in thickness (Boyd, 1971). The ethanolic extract and essential oil of fennel were shown to relax guinea pig tracheal muscle, but the aqueous extract had no such effect. The authors suggest that the effect is mediated through potassium channels (Boskabady, 2004).

## **Estrogenic effects**

Because fennel was reputed to increase milk production, increase libido, and promote menstruation, it has been investigated for estrogenic effects. The fennel constituents dianethole and photoanethole resemble stilbene and diethylstilbestrol; anethole is structurally similar to catecholamines, a fact that may influence secretion of prolactin. In a study on goats, fennel oil benefited milk production and fat content. Fennel extracts appear to induce estrus in rats (Mills, 2000). A case report describes the effects of ingestion of large amounts of fennel and anise tea on human infants. The mothers were drinking over 2 liters daily of the combination tea to stimulate lactation, and the infants were presented for vomiting, weakness in suckling, muscle tone and crying, and a reduced pain response. Blood tests were normal, and all signs resolved when the mothers discontinued the tea (Rosti, 1994). One group investigated the effect of fennel on male pattern hair growth in women with normal menstrual cycles. A 2% alcohol extract applied as a cream resulted in a significant reduction in hair diameter compared to placebo in this double blind,

placebo controlled trial (Javidnia, 2003). Sixty women with dysmenorrhea were treated with a fennel extract, mefenamic acid or placebo. In this study fennel was effective (though less than mefenamic acid) in improving pain. More women in the fennel group withdrew from the study, primarily due to the odor, although one woman reported a mild increase in flow (Namavar, 2003).

#### **Indications:**

Chronic digestive problems, bloating, flatulence, infantile colic, dyspepsia, colitis, irritable bowel syndrome, suppressed lactation

#### **Potential Veterinary Indications:**

Flavouring agent for formulas, colic, flatulence, abdominal pain, chronic cough, inflammatory bowel disease, reduced lactation, colitis

#### **Contraindications:**

Essential oil and concentrated extracts should be used with caution in pregnant animals, but infusions appear to be safe. Very high doses should be avoided in those with liver disease.

#### **Toxicology and Adverse Effects:**

AHPA class 1. GRAS (generally regarded as safe) as a spice or flavoring. Photodermatitis and contact dermatitis have been reported. A cross-reactivity known in humans as celery-carrot-mugwort-condiment syndrome suggests that an allergic individual may react to other members of the Apiaceae. Seizures resulted when sustained high doses were used, according to one report.

#### **Drug Interactions:**

None reported, although theoretical cautions using diuretics, blood pressure medication, and ciprofloxacin (Zhu, 1999) have been raised.

#### **Notes of Interest:**

Fennel given to laying hens gave an aromatic flavor to their eggs (Richter, 2002).

#### **Dosage:**

##### **Human:**

Dried herb: 2-10 gm TID, up to 6 times daily for acute conditions

Infusions and decoctions: 5-30 gm per cup of water, with 1 cup of the tea given TID, up to 6 times daily acutely

Tincture (usually 60% ethanol):

1:2 or 1:3: 1 - 5 mL TID, up to 6 times daily for acute conditions

##### **Small Animal:**

Dried herb: 25-75 mg/kg divided daily (optimally TID) if extracted and dried; triple or quadruple dose for unprocessed herb.

Infusion: 5-30 gm per cup of water, administered at a rate of 1/4-1/2 cup per 10kg (20lb) divided daily (optimally TID)

Tincture (usually in 60% ethanol) 1:2 – 1:3 : 0.5-1.5 mL per 10kg (20lb) divided daily (optimally TID) and diluted or combined with other herbs

#### **Historic Veterinary Doses:**

Farm animals (Karreman): 30–60 mL for horses and cows; 8–12 mL for sheep and goats

#### **Selected References**

Alexandrovich I, Rakovitskaya O, Kolmo E, et al. The effect of fennel (*Foeniculum vulgare*) seed oil emulsion in infantile colic: a randomized, placebo-controlled study. *Altern Ther Health Med* 2003;9: 58–61

Boskabady MH, Khatami A, Nazari A. Possible mechanism(s) for relaxant effects of *Foeniculum vulgare* on guinea pig tracheal chains. *Pharmazie*. 2004 Jul;59(7):561-4.

Boyd EM, Sheppard EP. An autumn-enhanced mucotropic action of inhaled terpenes and related volatile agents. *Pharmacology*. 1971;6(2):65-80

Choi EM, Hwang JK. Antiinflammatory, analgesic and antioxidant activities of the fruit of *Foeniculum vulgare*. *Fitoterapia*. 2004 Sep;75(6): 557-65.

El Bardai S, Lyoussi B, Wibo M, Morel N. Pharmacological evidence of hypotensive activity

of *Marrubium vulgare* and *Foeniculum vulgare* in spontaneously hypertensive rat. *Clin Exp Hypertens*. 2001 May;23(4):329-43.

Javidnia K, Dastgheib L, Mohammadi Samani S, Nasiri A. Antihirsutism activity of Fennel (fruits of *Foeniculum vulgare*) extract. A double-blind placebo controlled study. *Phytomedicine*. 2003;10(6-7):455-8.

Karremans, Hue, 2004. *Treating Dairy Cows Naturally: Thoughts and Strategies*. Paradise Publications, Paradise PA.

Mahady GB, Pendland SL, Stoia A, Hamill FA, Fabricant D, Dietz BM, Chadwick LR. In vitro susceptibility of *Helicobacter pylori* to botanical extracts used traditionally for the treatment of gastrointestinal disorders. *Phytother Res*. 2005 Nov;19(11):988-91.

Mills, Simon; Bone, Kerry, 2000. *Principles and Practice of Phytotherapy: Modern Herbal Medicine*. Churchill Livingstone, New York.

Misawa M, Kizawa M: Antitussive effects of several volatile oils especially of cedar leaf oil in guinea pigs. *Pharmacometrics* 1990;39:81-93.

Muller-Limmroth W, Frohlich HH. Effect of various phytotherapeutic expectorants on mucociliary transport. *Fortschr Med* 1980;98(3):95-101

Namavar Jahromi B, Tartifzadeh A, Khabnadideh S. Comparison of fennel and mefenamic acid for the treatment of primary dysmenorrhea. *Int J Gynaecol Obstet*. 2003 Feb;80(2):153-7.

Ozbek H, Ugras S, Dulger H, Bayram I, Tuncer I, Ozturk G, Ozturk A. Hepatoprotective effect of *Foeniculum vulgare* essential oil. *Fitoterapia*. 2003 Apr;74(3):317-9.

Richter T, Braun P, Fehlhaber K. [Influence of spiced feed additives on taste of hen's eggs.] *Berl Munch Tierarztl Wochenschr* 2002;115:200-202.

Rosti, L. A. Nardini, M. Bettinelli, and D. Rosti. Toxic effects of a herbal tea mixture in two newborns. *Acta Paediatrica*; 1994 83:683.

Tanira MOM, Shah AH, Mohsin A, Ageel AM, and Qureshi S. Pharmacological and Toxicological Investigations on *Foeniculum vulgare* Dried Fruit Extract in Experimental Animals. *Phytotherapy Research* 1996; 10:33-36.

Zhu M, Wong PY, Li RC. Effect of oral administration of fennel (*Foeniculum vulgare*) on ciprofloxacin absorption and disposition in the rat. *J Pharm Pharmacol*. 1999 Dec;51(12):1391-6.

## Practice Pearls

### PRACTICAL TIPS FROM VETERINARY HERBALISTS

#### A few tips from VBMA member Rona Sherebrin

- When dispensing extract granules from stock bottles in humid weather, throw a little packet of silica beads in to keep the herbs from clumping up.
- Used green tea leaves (drained, after tea is brewed and drunk by the client) can be added to the diet as a source of polyphenols. TCM damp-draining, cooling, aids in weight loss by increasing metabolic rate. Usually there is only minimal amount of caffeine left, but if excitability is a concern, use naturally decaffeinated tea. Give 1 tsp twice a day per 50lb.
- To aid in palatability and consumption of herbs, make little hamburger cubes in an ice-cube tray (may want to dedicate one just for this purpose) using raw or cooked meat. When it is almost time for the next dose, pop out the meat, let it thaw and mix in the herb powder or tincture. A nice yummy treat that hides the medicine. (From Dr. Allyson MacDonald)
- A few drops of lavender or mint essential oil in the bottom and on the top edge of the garbage bag helps mask the wafting lingering scents of any stinky stuff that goes in.
- Use a slicker brush to get the hair off the (low-pile) carpet if your vacuum isn't up to it. If you don't have a carpet in your exam room- why not? It's a non-slip surface, softer to sit on for treatments, and creates a less-threatening "living-room" vibe. There are numerous carpet-cleaners who will pick up, clean and return the rug on a regular basis (ie whenever it gets peed or pooped upon!) for a reasonable fee.

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# Practice Insights

## AN INTERVIEW WITH SUSAN WYNN, FOUNDING MEMBER AND NOW LIFE MEMBER OF THE VBMA.

To pay tribute to Susan, our first life member, here is a reprint of the interview from our 4th edition in May 2009, with a few new questions included.

Susan G. Wynn, DVM completed a residency in small animal nutrition with the University of Tennessee, is an adjunct faculty for the University of Georgia's College of Veterinary Medicine. She earned her veterinary degree from the University of Georgia in 1987 and went on to complete an internship and subsequently to study viral immunology in the Emory School of Medicine as a post doctoral fellow. She consults for the Veterinary Information Network as well as pet food and supplement companies from the U.S. to Japan. She has authored or co-authored four professional level textbooks, including: *Veterinary Herbal Medicine* (2007), the *Manual of Natural Veterinary Medicine: Science and Tradition* (2003), and the seminal text, *Complementary and Alternative Veterinary Medicine: Principles and Practice* (1998). Dr. Wynn is a registered herbalist (American Herbalists Guild), was certified in acupuncture in 1997 and Chinese herbal medicine in 2003, and practices clinical nutrition, herbal medicine and acupuncture with Georgia Veterinary Specialists in Atlanta, GA. She has delivered keynote speeches internationally and lectured for veterinarians at all of the major U.S. veterinary conferences.



### When and how did you become passionate about herbal medicine?

I loved plants before I went to vet school, and grew a huge number of orchids and other tropicals in high school. I don't even know when I put medicine and plants together, but I do know it was sparked by my discovery of the American Holistic Veterinary Medical Association. There were great herbal medicine articles in the older journals from the 80's and 90's.

### Do you have a favorite herb, or herbal formulae?

My favorite formula is for moderate to severe osteoarthritis, and is 1/3 devils claw, 1/3 corydalis, and 1/3 ashwaganda. I've had a few dogs taking this combination for a couple of years with no problem or changes in liver enzymes, and the benefit is pretty dramatic in most cases. I use tonic formulas or food as a tonic in addition, as needed.

## **What would you keep in a first aid kit for pets?**

This would be my professional kit - I'd change it a bit for clients.

Slippery elm

Ginger

Tea (as in green or black tea)

Chamomile

Corydalis

Tea tree oil

## **What types of animals do you treat? Do you have a preference?**

Dogs and cats only for me. When I went through school, the sum total of our education in birds was production chicken medicine, and I remember next to nothing about rabbits and their ilk. I leave birds, pocket pets and exotics to the experts. I have on occasion treated my own horses and find them really responsive to herbs and acupuncture.

## **Do you have pets?**

All I have left is a bodacious 15 year old cat - Nancy. Her calico personality prevents me from adopting anyone else until she passes on.

## **Why did you decide to form the Veterinary Botanical Medicine Association?**

It seemed to me that while herbal medicine was busy getting the most scientific support of all holistic modalities, there was not a corresponding groundswell of clinical information or resources for veterinarians to incorporate herbs into their practices. My hope was that in bringing together interested veterinary herbalists, we could all learn herbal medicine more easily and thoroughly.

## **As briefly as possible: what did you need to do to set it up?**

As briefly as possible, find interested others.

## **Do you think it is achieving the goals you set out to?**

I do - I've been amazed at the way it has bloomed in the last couple of years, providing the educational opportunities and leadership I'd hoped it would. The VBMA is in great hands.

## **What are you up to now?**

Still studying nutrition, training for my first 5K, designing a new garden.... and whatever else interests me!

## **Describe your garden. What is your favorite place, and what herbs do you grow?**

Well, I just moved and have no garden - I have a clean slate to work with. I'm currently taking a landscaping class to learn now not to make the same mistakes I did in my last garden of eighteen years. As before, I plan to mix perennial flowers with medicinal and culinary herbs, vegetables and fruit shrubs and trees.

## **What advice would you give some-one just beginning the journey into integrative veterinary care?**

Find a mentor and join a few associations until you discover which kinds of medicine resonate with you. One of the worst pitfalls I experienced was reading books with poor quality information, because there was no one to tell me which books to trust. The experts in the various associations can make good recommendations, so an aspirant does not waste so much time.

### **What is your favorite piece of music?**

Impossible question! I'll tell you what's on the ipod at the moment - Lenny Kravitz, Jethro Tull, Lyle Lovett, collective soul, Herb Alpert and the Tijuana Brass, Genesis, Blue Man Group, Republica, Rihanna, Rolling Stones, String Cheese Incident, U2....But if I had to live with one piece the rest of my life - maybe Beethoven's 5th.

### **Susan, you have co-written three essential texts for herbal veterinarians. Which other book or books do you find essential (or enjoyable) reading for veterinary herbalists?**

There are SO many. I really learned a lot from reading the seminal texts that changed medical history, like Samuel Thompson, John Scudder, Nicholas Culpeper, Hippocrates..... I collect strange specialty books, like herbals specifically dealing with psychoactive plants, anti-inflammatory plants, abortifacients, etc. When I travel, I try to find books on local herbs and herbal treatments, so my ethnomedicine collection is pretty extensive. For the most comprehensive and up to date clinical herbal medicine, I can't live without the books by David Winston, David Hoffman, Christopher Hobbs and Jonathan Treasure.

### **Which part of your work do you enjoy most?**

Talking to the animals. If I could make a living being the person who hangs out in ICU looking out for the patients' mental well-being, I would do that. Otherwise I love it all - developing treatment plans, talking with other doctors, speaking, writing - I'm the luckiest person I know to have settled into a career with a job description (or benefits, as I think of them) like these.

### **Do you think vet students should begin learning about holistic modalities such as acupuncture and herbal medicine as undergraduates, or should they get "straight medicine" under their belt first?**

I think that basic herbal medicine and acupuncture could very easily be integrated into the curriculum without crowding out anything else, even in today's crowded curriculum. That's what vet school is for - getting a brief introduction into the most useful treatments.

### **What are the challenges for holistic vets in practice? Have things changed since you started practice?**

Things have definitely changed since I entered practice 21 years ago, because I see colleagues more willing to consult us when they have clients who want natural treatments. What hasn't changed is the call for - and need to - have our claims proven through controlled studies. I don't think that's going to go away!

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## CASE STUDY

# Congenital Cardiac Defect in an Equine Supported with Chinese Herbal Medicine

CASE SUBMISSION FOR IVAS/ CIVT CERTIFICATION VETERINARY CHINESE HERBAL MEDICINE

Dr. Cynthia Lankenau, DVM

### ABSTRACT

Chinese Herbal Medicine is successfully supporting a thoroughbred filly, diagnosed with significant congenital cardiac defects. Before the addition of Chinese Herbal Medicine, the filly was in early stages of Congestive Heart Failure.

### INTRODUCTION

Congenital equine cardiac defects are not thought to be common in the equine (Reef, V., 1985). Among the known defects, the most common are interventricular septal defects, followed by patent ductus arteriosus, tetralogy of Fallot, tricuspid atresia, and persistent foramen ovale. Arab foals are the most commonly affected (Hall, TL, 2010).

The life expectancy of these animals is dependent on the severity of the defect and concurrent symptoms of poor weight gain and exercise intolerance. Ventricular septal defects that are small, 1-2 mm, have usually insignificant consequences (Pipers, F., 1992). When larger defects are seen with exercise intolerance and/or congestive heart failure, death will be the result (Reef, V., 1985). A poorer prognosis is given when multiple defects are found.

### ASSESSMENT

### SIGNALMENT

4/29/10-Ten month old thoroughbred filly, Piper, was examined with a chief complaint of poor growth and diarrhea.

### PERTINENT HISTORY

Piper was purchased from a large thoroughbred farm on April 6, 2010. She had no past medical history. She was very small for her age (270 kg) and had a stunted, poor appearance with watery diarrhea\*\*\*.

### CLINICAL SIGNS/PHYSICAL EXAM

On April 15, 2010, Piper a ten month old thoroughbred filly was examined. She was in poor condition; lethargic, thin and reluctant to move. She had a very rough, dry coat, was small, 11 hands 2 inches, and underweight (270 kg). Her tongue was pale, swollen, with viscous, tenacious phlegm. She had a holosystolic murmur; grade VI/VI with a palpable precordial thrill that radiated over the whole cardiac silhouette.

Her pulse was deep, thin, fast but soft and fluttery; no pulse felt in the Kidney and Spleen position. The pulses are assessed in the jugular furrow. The Kidney Yang pulse is felt closest to the body on the right side;

the Spleen pulse in the middle on the left side. Her pulse rate was 60 beats per minute. She had a moist weak cough with rapid and labored respiration. On auscultation, her lungs sounds were heavy and harsh. Her manure was soft, cow plop consistency and slightly sour smelling.



**Figure 1: Picture taken of Piper on April 15, 2010. She would stand with a head extended posture with a rapid respiration and a moist soft cough.**

On palpation, Bl 20 was cold and turgid; Bl 23 was empty and cold; the point was recessed with thinning of the skin. The Acupuncture points Bl 13, 14, 15 were painful (reactive).

Her clinical signs were compatible with a congenital cardiac defect with secondary congestive heart failure. Echocardiographic exam was performed at OSU Veterinary Hospital on May 10, 2010. The findings were: Relatively normal LA and LV size (mild enlargement possible), normal LV systolic function, large outlet VSD (2 to 3.5 mm) located just underneath the pulmonic valve area, shunt-flow left to right, parts of the VSD were obstructed by the non-coronary AV cusp, small PA with valvular PS (doming), based on velocity severe-based of anatomy most likely only moderate, Mild PI, AR, TR, normal LV systolic function and normal pericardium.

#### **WESTERN DIAGNOSIS:**

Congenital cardiac defects: Large left to right shunting subpulmonic VSD (2-3.5 mm and partially restrictive), valvular pulmonic stenosis, mild aortic regurgitation, possibly small PFO, early signs of ventricular enlargement.

#### **CHINESE DIAGNOSIS:**

Her Chinese medical diagnosis was primarily a Qi deficiency (Heart, Kidney, Lung, and Spleen) with secondary dampness and phlegm from the root cause of a Kidney Jing Deficiency.

The initiating cause was thought to be a Kidney Jing deficiency, as this is a congenital issue. The empty depression felt at Bl 23 supports the diagnosis of a deficiency of Kidney Essence with no vitality felt at this point.

Qi deficiency was evident in the Spleen, Lung and Heart. Piper's pulse was deep and soft yet fast and thin indicating a Qi with slight Blood/Yin deficiency (her coat was very rough and dry) as opposed to a Yang deficiency. Her tongue was pale and swollen indication a Qi deficiency with the viscous Phlegm indicating interior Damp and Phlegm. Her Spleen Qi deficiency with dampness yielded the symptoms of loose cow plop like manure, (there was too much dampness in the stool and her Spleen/Kidney was too weak to properly form normal manure), her lethargic attitude, and the palpable turgid feeling at Bladder 20.

The soft moist cough was due to Lung Qi deficiency with Damp accumulation; supported by the reactivity of Bl 13. Her Heart Qi was also deficient with stagnation, her heart rate was soft (deficiency) rapid and thin (heat from stagnation with slight blood deficient) with a holosystolic murmur (stagnation). The stagnation was evident in the precordial thrill palpable over her cardiac silhouette. Bl 14 and 15 were also reactive. The lack of proper circulation would add to her impaired digestion.

Fetal exposure to toxic substances during the first trimester of pregnancy could obstruct the fetal Triple Heater meridian obstructing the ability of the Kidney essence to spark Piper's Qi. But no evidence was found of a Triple Heater Obstruction on physical exam. There was no available history of Piper's dam or of the pregnancy therefore, one can only speculate as to the cause of the Kidney Essence deficiency.

## **ETIOLOGY AND PATHOGENESIS FROM A CHINESE PERSPECTIVE**

The primary Qi is derived from the Kidney Essence. This is the original dynamic motive force for initiating normal activities in an animal's body. It spreads to the whole body by the San Jiao, stimulating and impelling the Zang fu organs to bring normal activities into play, and maintains normal growth and development. (Xie, 1994)

Ancestral Qi gathers in the chest in the area known as the "sea of qi" or chest center. It ascends to the trachea and descends into the Qi thoroughfare. Ancestral Qi penetrates the heart and the vessels, driving the heart and regulating the pulses (Wiseman, 1994). If the Kidney Essence is deficient, there is not enough Qi to activate the Zang-fu organs, and then to penetrate the heart and vessels.

An animal with a Kidney Essence deficiency could fail to develop a proper heart and associated vessels, and also fail to activate the Spleen Qi. During Piper's early life, her food would not be properly transformed and transported leading to an even further Qi deficiency. The Lung would not receive the proper Qi from the Spleen to make proper Zhong Qi to circulate in the body.

With a Spleen Qi deficiency, a secondary consequence would be dampness. A deficient Lung Qi would be unable to properly distribute these fluids creating stagnant Phlegm. A vicious cycle was formed as the weak Kidney Qi could not rise up to grasp the Lung Qi, forcing the Lung Qi to be unable to function. The Kidney Yin Fire was unable to rise up and mist the Heart Yang thereby preventing the Heart Yang to descent to the Kidney preventing the perpetuation of the ministerial fires, resulting in a further lack of Qi production. This cycle was resulting in congestive heart failure and, if continued, death.

## **PERTINENT FACTORS**

Piper's owner was committed to give Piper the best chance at a full life. Euthanasia was not considered an option.

## **ASSESSMENT OF CASE**

Piper had poor growth with a large ventricular septal defect (2-3.5 mm) and signs of slight ventricular chamber enlargement, with multiple defects; OSU Veterinary Hospital had given her a very poor prognosis. The recommendation they made was to urgently institute exercise reduction, no pharmaceutical is used preventatively for congestive heart failure (Hurcombe, S., 2011).

From a Chinese perspective, there is no replacement for Kidney Jing Essence, but there are many herbal approaches that can be employed to maximize the body's use of the available Jing Essence and Qi thereby improving the body's ability to function. These herbs can encourage the intermingling of Yin and Yang thereby producing more available Qi. Even though Piper looked very poor, Chinese Herbal Medicine was felt to offer a good prognosis for life with a possible performance career.

## **HERBAL MEDICINE**

Piper was showing signs of impending cardiac failure. The first treatment goal was to strengthen the Heart Qi. Heart Qi formula: Yang Xin Tang (a) is a formula developed to tonify the Heart Qi and invigorate blood for individuals with evidence of congestive heart failure, cardiomyopathy, and chronic fatigue and lethargy (Xie, H, 2004). This formula contains: Codonopsis, Dang Shen; Astragalus, Huang Qi; and Licorice, Gan

Cao; to tonify Qi; Fu Ling, Poria, to drain Damp and strengthen Spleen; Ligusticum, Chuan Xiong; to move Blood; Angelica, Dang Gui, to nourish blood; Biota, Bai Zi Ren, and Polygala, Yuan Zhi, to tonify Heart; Schisandra, Wu Wei Zi to Astringe fluids; and Cinnamon, Rou Gui, to warm Yang.

Science supports the use of these herbs in treating and supporting cardiac function. Codonopsis, Dang Shen, activates blood circulation and nourishes cardiac function (Chen, JX, 2003). Studies have shown that Codonopsis can improve blood flow and inhibit platelet aggregation (Xu, 1995). Codonopsis can help replenish Qi to the heart (Wang, 2002). Astragalus, Huang Qi, works synergistically with Codonopsis in cases of Congestive Heart Disease to improve cardiac function (Liao, et al, 1988). Studies illustrate that Astragalus can significantly help the immune function of children with tetralogy of Fallot (Li, ZP, 2004) and improve cardiac function (Li, DP, 2006). Astragalus significantly prolonged the life of individuals in Congestive Heart Failure (Yang, YZ, et al, 2001). Licorice, Gan Cao, helps increase the activity of the myocardium by preventing mitochondrial oxidation injury (Zhao, DY, et al, 2008). Ligusticum, Chuan Xiong, can protect vascular endothelial cells (Gao W, et al, 2005). Angelica, Dang Gui, has potent cardioprotective effects by enhancing myocardial and RBC glutathione status thereby increasing resistance to oxidative-stress (Mak, DH, 2006) Polygala, Yuan Zhi, can relax the endothelium through NO and cGMP pathways (Sui, H, et al, 2011). Schisandra, Wu Wei Zi induces endothelium relaxation in the aorta through inhibition of RhoA/Rho-kinase pathway (Seok, YM, 2011), through NO production (Park, JY, et al, 2009), and also has a direct effect on vascular smooth muscle cells via dephosphorylation of myocin light chain phosphatase MLC (Park, JY, et al, 2008).

Concurrently with the Heart Qi exhaustion, was the chief complaint of poor weight and diarrhea. Another treatment goal was to tonify Spleen and Lung Qi and resolve Dampness. To achieve this, Piper was also given Liu Jun Zi Tang. Liu Jun Zi Tang (LJZT) is a formula that is designed to treat Damp and Phlegm accumulation from a Spleen and Lung deficiency. This formula is of benefit where Qi is depleted. LJZT will vigorously augment the Qi of the whole body (Marsden, 2008). This formula contains: Ren Shen, Ginseng, which tonifies the Yuan Qi, strengthens the Spleen and nourishes the Stomach; Bai Zhu, Atractyloides, tonifies Spleen Qi and dries dampness in the middle Jiao; Fu ling, Poria, tonifies the middle and dispels dampness, Gan Cao, tonifies the spleen Qi and harmonizes the herbs with Chen Pi, dries dampness and regulates Lung Qi to reduce profuse phlegm, and Ban Xie, Pinellia to break up Qi Stagnation and relieve chest stuffiness (Chen and Chen, 2009).

It is very important to have an herb such as Ginseng in the treatment plan. Ginseng is one of the few herbs that can stimulate the source Qi. Ginseng, Ren Shen, and Bai Zhu, Atractyloides, can improve intestinal morphology and immune activities of the PMNs, which increase nutrient digestibility and can reduce diarrhea (Huang, CW, et al, 2011). Ren Shen can protect heart muscle by an endothelial NOS-dependent mechanism (Zhou, H, et al, 2011). LJZT has been shown to resolve cases with mild diarrhea (Kum, WF, et al; 2009)

The final treatment plan was to nourish and stimulate the Kidney Jing Essence; Solomon's Seal, *Polygonatum spp*: thirty drops twice a day. This herb is a Kidney Essence tonic and also has a supportive effect on the heart and intestines (Wood, 2006).

## **DOSAGE AND DISPENSING**

Piper was started on one tablespoon of Yang Xin Tang twice a day with added 30 drops of Solomon's Seal (b) mixed in with a high protein grain mixture of rice bran and oats and barley. In Chinese Food therapy, barley assists the Spleen and Stomach, and promotes urination (Lu, H 1986).

At noon, a separate feeding of 80 drops of Six Gentlepets (c), a tincture form of Liu Jun Zi Tang, fed in grain-rice bran mixture.

## **CONCURRENT MEDICAL NUTRITIONAL SUPPORT**

Co Q 10 400 mg: daily supportive supplements used were 400 mg of Co Q 10 per day. Co Q 10 can attenuate pulmonary hypertension in cases of congenital heart disease (Li, F, 2009).

One teaspoon of Hawthorn, *Crataegus monogyna*, powder twice a day to be given in her grain. Hawthorn has cardiogenic effects with both cardio and vasoprotective properties (Koch E and Malef, FA, 2011).

A vitamin/mineral mixture that included yeast based Selenium was added. Fresh air, good sunshine and green grass were in abundance.

## PROGNOSIS

Conventional wisdom states that if there are signs of poor weight gain with congenital cardiac defects, a poor prognosis is given. From a Chinese perspective, a strong optimism was given.

## FOLLOW UP-

### MAY, 2010

On May 24, Piper had slightly soft but normally formed manure. She had gained at least fifty to seventy five pounds. She stood almost an inch taller with a stronger posture, she was able to hold her head up with normal respiration.

Her respiration was normal, and she had better exercise tolerance. Her tongue was pale pink and her pulse was stronger. The treatment plan was to continue all. Her heart rate was 50 beats per minute.

### JULY 2010

On July 2, 2010, Piper was sleek and well fleshed. No change in her heart murmur but her pulse was strong, 45 beats per minute. Her tongue was pink. She was becoming quite active with no respiration stress and no cough.

Her manure was normal, both in consistency and form. Her treatment plan was to half the Six Gentlepets for two weeks then discontinue but to maintain on Yang Xin Tang, One tablespoon twice a day, the Solomon's Seal, 30 drops twice a day, and continue all nutritional supplements.



Figure 2: July 2010-Piper is sleek and shiny.

### SEPTEMBER 2010

9/16/2010: By September 16, 2010, there was further improvement. On cardiac auscultation, two distinct heart sounds were heard within the murmur. The murmur has decreased in intensity, now a grade IV/VI.

There was no palpable precordial thrill. Her tongue was pink and slightly dry possibly slight lavender, her pulse is slightly tense with a rate of 35 beats per minute.

She had the stature of a yearling. She stood 14 hands and weighed 900 hundred pounds. She could run and play with the herd with no visible exercise intolerance. There was slight a slight empty feeling at Bl 23, but slight reactivity at Bl 14 and 15.

Her Chinese diagnosis was Heart Qi deficiency and slight Blood stagnation and Yin deficiency due to the purplish, dry tongue and tense pulse with an underlying Kidney Qi deficiency. The treatment plan was to include 20 drops of Salvia, Dan Shen, with the Yang Xin Tang. Dan Shen, *Salvia miltiorrhiza* activates blood circulation and also nourishes and cools the Blood (Chen and Chen, 2004). Its pharmacological effects include a negative chronotropic and inotropic effect on the heart and increases renal perfusion (Shang, 1980).



**Figure 3: November 2010: Same holder.**

## **DECEMBER 2010**

12/12/2010- The weather had been unseasonably cold. Piper's tongue was slightly pale, swollen, pulse deep, soft, with no palpable pulse in the Kidney position. Bl 23 reactive, slight sensitivity on Bl 14 and 15. Piper had been acting well; had been well with normal exercise, and she had normal manure. Her heart had two distinct heart sounds. The systolic murmur had continued to decrease in its intensity, now a grade III/VI. There was no palpable precordial thrill. Her heart rate was 20 beats per minute.

Her Chinese diagnosis was still Heart Qi deficiency but with a Kidney yang and qi deficiency (Pulse-deep, soft with a slower rate; tongue pale). The treatment plan was to still maintain Piper on Yang Xin Tang, one tablespoon twice a day, but to add Jin Gui Shen Qi Wan (d) for Kidney Qi tonification: 20 tea pills twice a day in her grain. Jin Gui Shen Qi Wan contains Shu Di Huang, prepared Rehmannia; Shan Yao, Chinese Yam; Shan Zhu Yu, Cornus; for Kidney Yin tonification balanced with Fu Ling, Poria; Ze Xie, Alisma; and Mu Dan Pi, Moutan to move and drain. These are added with Rou Gui, Cinnamon and Fu Zi, Prepared Aconite as Kidney Yang tonics. Thus this formula intermingles Kidney Yin and Yang to produce Kidney Qi. The Kidney energy is critical to rise up and grasp the Lung qi and to mist the Heart Yang so it can descend to create Qi.

Rehmannia has strong renoprotective effects including the suppression of angiotensin II (Lee, et al, 2009).



**Figure 4: March 2011: the same holder**

## MAY 2011

5/11/2011: Piper was growing well. She looked like a normal two year old. She was 15 hands, 1000 pounds. She had normal exercise tolerance. In April, Piper's left fore leg became trapped under a fence and suffered a de-gloving wound on the entire cranial aspect of her metacarpal. It healed uneventfully. Heart rate: 25 beats per minute; tongue was little purple/red, pulse tense; her sclera were slightly injected; BI 14 and 15, CV 14 were very reactive; BI 23 was normal

Her Chinese Medical diagnosis was Blood Stagnation. This diagnosis was supported by the purple tongue, tense pulse and the injury which could result in Blood Stagnation. Her Chinese Herbal formula was changed to Xue Fu Zhu Yu Tang; one tablespoon twice a day. This formula activates Blood and Qi circulation and dispels blood stagnation. It's focus is moving stagnant Blood so the subclass of Blood moving herbs that are in Yang Xin Tang are also in Xue Fu Zhu Yu Tang: Angelica, Dang Gui; Di Huang, Rehmannia; Ligusticum, Chuan Xiong; and Licorice, Gan Cao. This formula contains two sub formulas: Si Ni San of Bupleurum, Chai Hu; Citrus Bitter Orange, Zhi Ke; Peony, Chi Shao; and Licorice, Gan Cao to move Qi to the periphery. Si Wu Tang to move blood to tonify it: Peony, Chi Shao; Ligusticum, Chuan Xiong; Rehmannia, Di Huang and Angelica, Dang Gui added to Tao Ren, Persica, and Hong Hua, Carthamus to activate Blood circulation and break up Blood stagnation and Platycodon, Jie Geng to bring the effect to the chest. This formula is well used in China to treat heart disease (Liu, et al, 2004) with a regulatory effect on the blood vessels (Zhong, 1993) while decreasing blood viscosity (Zhong, 1990).

5/20/2011-Phone update: Piper's owner felt she was more lethargic off of Yang Xin Tang. Her treatment was changed to one heaping tablespoon Yang Xin Tang in the morning and one heaping tablespoon of Xue Fu Zhu Yu Tang in the afternoon feeding.

## JULY 2011

7/11/2011 Piper was active, alert, with normal respiration, normal pulse, heart rate was 22 beats per minute, pulse was full, tongue was pink. The treatment plan was to continue alternating Xue Fu Zhu Yu Tang with Yang Xin Tang every other day, one tablespoon each, and daily Co Q 10; 400 mg.

## NOVEMBER 2011

11/11/11-Piper was 15 hands 2 ½ inches, and over 1,000 lbs, heart rate-20 beats per minute. Her murmur seemed slightly louder. Her tongue color was slightly purple, pulse slight taunt. Her treatment plan was to continue alternating Yang Xin Tang and Xue Fu Zhu Yu Tang but her dose was to be increased slightly, one heaping tablespoon of Yang Xin Tang in the morning and one heaping tablespoon of Xue Fu Zhu Yu Tang at night, daily.

It was felt that with her growth, her previous herbal dose was not adequate to support her.



Figure 5: Piper on November 11, 2011

## DISCUSSION

Piper's heart is malformed. She will always have an abnormal hemodynamic flow. Chinese Herbal Medicine has successfully supported her cardiac function, prevented heart failure, and improved her quality of life.

During her first four months of treatment, she developed into the statue of a normal thoroughbred for her age. She has a normal heart rate; normal respiration and exercise tolerance. She has become a "normal" horse despite her severe malformation. Piper will most likely require the use of Chinese Herbal Medicine throughout her life to maintain her quality of life. During the brief time she was off Yang Xin Tang, her Qi level did decline and she had become lethargic. It is felt that her herbal medicine is truly supporting her development; strengthening her heart and preventing the development of congestive heart failure.

Her Kidney Qi deficiency appears to have resolved since her treatment with Jin Gui Shen Qi Wan. It is still to be seen what effects there will be on her life expectancy.

Conventional cardiac drug therapy has been used in the equine only when overt congestive heart failure has occurred and all athletic use is severely restricted. (There are no pharmaceutical drugs used preventatively.) Furosemide is used as a diuretic which increases venous compliance and decreases right atrial pressure, pulmonary artery pressure, and pulmonary blood volume (Hinchcliff, KW and Muir, WW, 1991). With concurrent use of Digoxin, the resting heart rate can be decreased (Sweeney RW, et al, 1993). Toxicity and expense are major problems limiting their use. Other drugs such as Enalapril have been shown to be poorly absorbed or inadequately converted (Sleeper, MM, 2008).

Chinese Herbal Medicine has demonstrated its importance and usefulness to improve and support organ function. Its use has allowed an animal with early signs of congestive heart failure and significant grow retardation, to develop into a normally functioning animal.

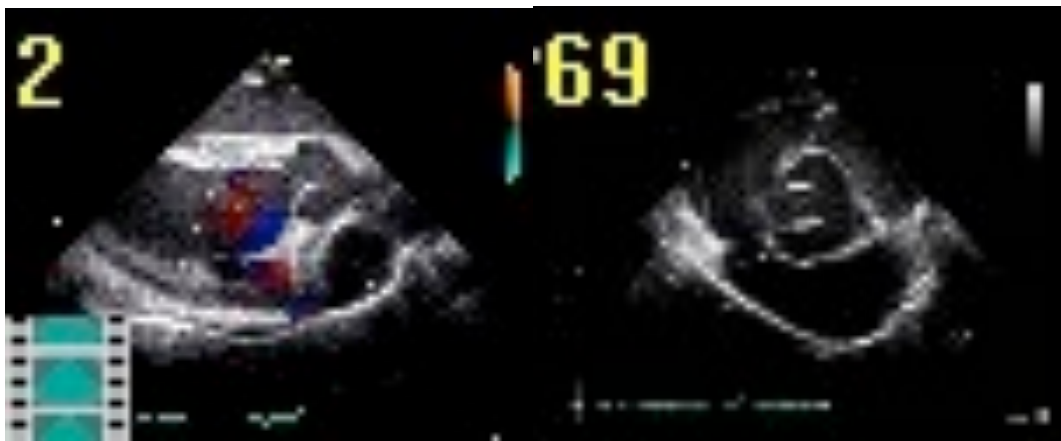


Figure 6: Echocardiogram results from Ohio State University, Veterinary Medical Center illustrating the increased velocity and the size of the VSD. Special Thanks to Drs. Sam Hurcombe and Schober at OS Veterinary College.

## FOOTNOTES

- a. Jing Tang Herbal Company, Reddick, FL
- b. Herbalist and Alchemist, Washington, NJ 07882
- c. K'an Herb Company, Santa Cruz, CA
- d. Mayway Corp., 1338 Mandela Parkway, Oakland, CA. 94607

## References

1. Reef V.1985. Cardiovascular Disease in the Equine Neonate. *The Veterinary Clinics of North America* April; 1: (1): p.117-130.
2. Hall TL, et al. Congenital cardiac defects in neonatal foals: 18 cases. (1992-207). *J Vet Intern Med* 2010 Feb; 24 (1): 206-212.
3. Pipers F, 1992. Congenital Cardiovascular Disorders. *Current Therapy in Equine Medicine* 3. Philadelphia, PA: W.B. Saunders.

4. Xie H. 1994. *Traditional Chinese Veterinary Medicine* Beijing Agricultural University, China: p.37.
5. Wiseman N. 1994. *The Fundamentals of Chinese Medicine*. Paradigm Publication, Brookline, MA: p. 19.
6. Hurcombe S. 2011. Personal conversation regarding Piper..
7. Xie H. 2004. *Chinese Veterinary Herbal Handbook*. Chi Institute of Herbal Medicine. Reddick, FL.
8. Chen JX, et al. 2003. Effect of different drug dosage to activate blood circulation and to nourish qi on cardiac function and structure of congestive heart failure rats after myocardial infarction. *Zhongguo Zhong Yao Za Zhi*. May; 28 (5): 446-449.
9. Xu X, et al. 1995. Clinical and experimental study on codonopsis pilosula oral liquor in treating coronary heart disease with blood stasis. *Zhongguo Zhong Xi Yi Jie He Za Zhi* Jul; 15 (7): 398-400.
10. Wang ZT, et al. 2002. Comparative study on effect of recipe for activating blood circulation and replenishing Qi on left ventricular remodeling in rats with left heart failure after myocardial infarction. *Zhongguo Zhong Xi Yi Jie He Za Zhi* May; 22 (5): 376-378.
11. Liao JZ, et al. 1988. Pharmacologic effects of Codonopsis pilosula-astragalus injection in the treatment of CHD patients. *J Tradit Chin Med* Mar; 8 (1): 1-8.
12. Li ZP, et al. 2004. Effect of milkvetch injection on immune function of children with Tetralogy of Fallot after radical operation. *Zhongguo Zhong Xi Yi Jie He Za Zhi* Jul; 24 (7): 596-600.
13. Li DP, et al. 2006. Effect of yiqi huoxue method on cardiac function in patients with congestive heart failure. *Zhongguo Zhong Xi Yi Jie He Za Zhi* Jun; 26 (6): 552-554.
14. Yang YZ, et al. 2001. Observation on collaborative treatment of dilated cardiomyopathy. *Zhongguo Zhong Xi Yi Jie He Za Zhi* Apr; 21 (4): 254-256.
15. Zhao DY, et al. 2008. Study on activity and mechanism of Sini Decoction anti-mitochondrial oxidation injury caused by myocardial ischemia/reperfusion. *Zhong Yao Cai* Nov; 31 (11): 1681-1685.
16. Gao W, et al. 2005. Protective effect of the pretreatment with Chuanxiong-phthalide A on the vascular endothelial cells impaired by the ischemia and reperfusion in isolated rat hearts. *Zhongguo Zhong Yao Za Zhi* Sep; 30 (18): 1448-1451.
17. Mak DH, et al. 2006. Dang Gui Buxue Tang produces a more potent cardioprotective effect than its component herb extracts and enhances glutathione status in rat heart mitochondria and erythrocytes. *Phytother Res* Jul; 20 (7): 561-567.
18. Sui H, et al. 2011. Endothelium-dependent vasorelaxation effects induced by apigenin on the thoracic aorta of rats and its possible mechanism. *Wei Sheng Yan Jiu* Jul; 40(4): 416-9,422.
19. Seok YM, et al. 2011, Effects of gomisin A on vascular contraction in rat aorta rings. *Naurvvn Schmiedebergs Arch Pharmacol*. Jan; 383 (1): 45-56.
20. Park JY, et al. 2009. Gomisin A induces Ca<sup>2+</sup>-dependent activation of eNOS in human coronary artery endothelial cells. *J Ethnopharmacol* Sept; 7:125 (2): 2991-296.
21. Park JY, et al. 2009. The mechanism of vasorelaxation induced by Schisandra chinensis extract in rat thoracic aorta. *Epub* Oct 14.
22. Marsden S. 2008. *CIVT 1002, IVAS Course in Chinese Herbal Medicine* Russell Lea, NSW: p.117.
23. Chen J, and Chen T. 2009. *Chinese Herbal Formula and Applications* Art of Medicine Press, City of Industry. CA.
24. Huang CW, et al. 2011. Effect of dietary supplementation of Chinese medicinal herbs on polymorphonuclear neutrophil immune activity and small intestinal morphology in weanling pigs. *J Anim Physiol Anim Nutr (Berl)* May 2; Epub
25. Zhou H, et al. 2011. Ginseng protects rodent hearts from acute myocardial ischemia-reperfusion injury through GR/ER-activated RISK pathway in an endothelial NOS-dependent mechanism. *J Ethnopharmacol* May 17; 135 (2): 287-98.
26. Kum WF, et al. 2009. Treatment of Idiopathic Parkinson's Disease with Traditional Chinese Herbal Medicine: A Randomized Placebo-Controlled Pilot Clinical Study; Evid Based Complement. *Alternat Med* Aug 19; Epub
27. Lu H. 1986. *Chinese System of Food Cures; Prevention & Remedies* Sterling Publishing Co. NY.

28. Wood M. 2009. *The Earthwise Herbal; a Complete Guide to New world Medicinal Plants* North Atlantic Books. Berkeley, CA: p.274-278.
29. Chen J and Chen T. 2004. *Chinese Medical Herbology and Pharmacology* Art of Medicine Press, City of Industry. CA: p.638.
30. Shang Hai Di Yi Xue Yuan Xue Bao. 198. *Journal of First Shanghai Medical College* 7 (5): 347.
31. Li F, et al. 2009. Acute inhibition of Rho-kinase attenuates pulmonary hypertension in patients with congenital heart disease. *Pediatr Cardiol* Apr; 30 (3): 363-366.
32. Koch E, Majek FA. 2011. Standardized extracts from hawthorn leaves and flowers in the treatment of cardiovascular disorders-preclinical and clinical studies. *Planta Med* Jul; 77(11): 1123-1128.
33. Lee BC, et al. 2009. *Rehmannia glutinosa* ameliorates the progressive renal failure induced by 5/6 nephrectomy. *J Ethnopharmacol* Feb 25; 122 (1): 131-135.
34. Lui L, et al. 2004. Phytochemical analysis of anti-atherogenic constituents of Xue-Fu-Zhu-Yu-Tang using HPLC-DAD-ESI-MS. *Chem Pharm Bull (Tokyo)* Nov; 52 (11): 1295-301.
35. *Zhong Yao Yao Li Yu Lin Chuang*. 1993. Pharmacology and Clinical Applications of Chinese Herbs. 9 (1): 8.
36. *Zhong Gao Yi Yao Xue Bao* 1990. Chinese Journal of Medicine and Herbology. (4): 33.
37. Hinchcliff KW, Muir WW. 1991. Pharmacology of furosemide in the horse: a review. *J Vet Inter Med* Jul-Aug; 5(4): 211-218.
39. Sweeney RW et al. 1993. Pharmacokinetics of digoxin administered to horses with congestive heart failure. *Am J Vet Res* Jul; 54 (7): 1108-11.
40. Sleeper MM, et al. 2008. Chronic oral therapy with enalaprol in normal ponies. *J Vet Cardiol* Dec; 10(2): 111-115.

The pictures tell the whole story:

April 15, 2010- ten months old



July 2010-One year and a month old





November 2010-One year five months old



March 2011-One year and nine months



November 2011-2 years five months

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# VBMA Ecotour 2012

A RECAP OF THE ECOTOUR TO SPAIN IN APRIL THIS YEAR FOR THOSE WHO MISSED OUT

Cindy Lakenau and Victoria Farthing

## Traveling in Juliette de Bairacly Levy's footsteps in Spain-VBMA's 2012 eco-tour.

Sunny Spain was our destination and it was sunny and beautiful. Three members of the VBMA and one family member made up our gallant group who travelled to Spain in late April of 2012. We started our adventure in Granada. The history of this area is fascinating.



The above is a picture of the Alhambra built during the Nasrid Dynasty, After learning about the rich history and visiting the cultural sites in Granada, we met our hosts of the Bootlace tours. The scenery through the curvy mountains roads is stunning. Below, in the delta of the two rivers, is the home of Chris Stewart, the Author of the book "Driving over Lemons".

We stayed at a wonderful house complete with a swimming pool.



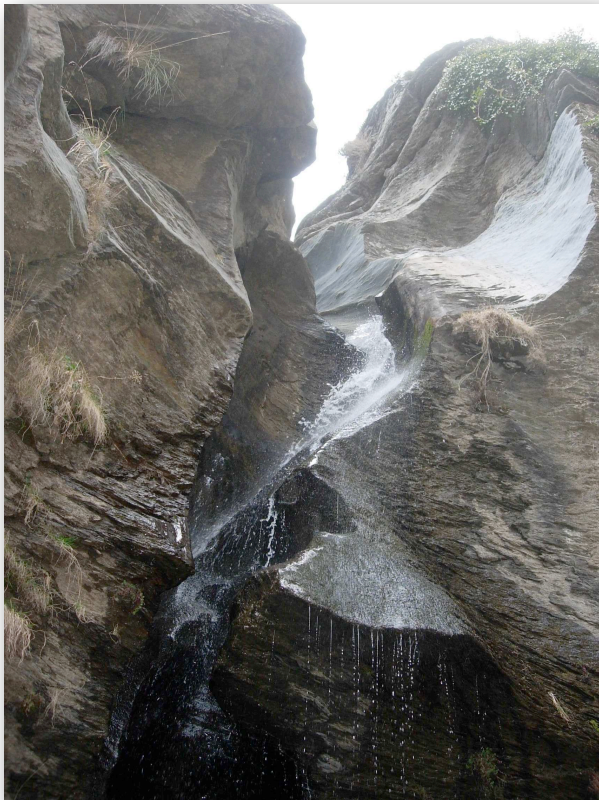


Paul and Fiona, our hosts, filled us every day with their amazing cooking. The tour was split between intense herbal instruction and stunning hikes through the Alpujarra region.



Spain still has a strong tradition of herbal medicine. Many villages have a “curandera” or “curandero” (healer). We first met Julio at his herbalist’s stall in a local market with his sacks of herbal formulas. He is a reminder of the Moorish culture which is soaked into the bones of the Alpujarra. This herbal culture was also expressed by Juliette de Bairacli Levy who also lived and learned herbal lore in Spain.

**Julio was our main herbal instructor.** He has lived for over two decades in his typical Alpujarran *cortijo*, La Palmera, surrounded by lush green gardens. He has brought up his children in this wonderful environment, and devoted his working life to the study, cultivation and use of medicinal plants. Hidden in the valley of Padre Eterno his home is named after the palm tree beside the house. He has chosen a simple and healthy lifestyle: growing, gathering and preserving herbs, making unguents and selling products in local markets and shops. He owns no car. To reach his home you follow the old “camino” down a steeply terraced hillside, or find the path beside one of the three Moorish “acequias” whichater the fertile valley



The above picture was taken during our first hike with Fiona as she was showing us the way to Julio’s house. Later that day we hike by this waterfall.

**We spent our days with Julio**, walking through the countryside and along the acequias, stopping every few steps to learn a new tidbit of herbal lore. Within ten feet of our villa, we found Ivy, Olive, Thuja, Inula, Bread of the Poor, and Verbascum to discuss. As we chewed on Fennel, we wandered and learned and learned and learned



The Olive tree that was by our villa



Julio discussing how the resins of Cypress are good astringents and are good to treat varicose veins



Fresh Iris root is toxic but after drying for a year it is not. Julio uses it to improve the taste of some of his formulas, and is also good for the respiratory system.



Anagalis Arvensis is a little pretty blue flower, important “just to look at”

Julio would also warn us about many plants too strong to take internally. This is a vine with red fruit, Tomus comunis, which is addictive, and too strong a cardiac stimulating herb.

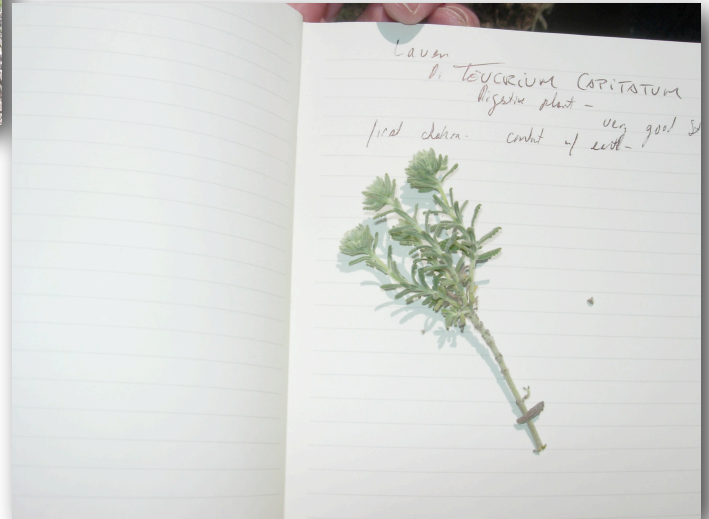


Julio was full of practical tips; here is Sonya with the flower head of Spanish lavender in her nose to open up her breathing. Also good for children with nightmares; for intestinal gas; put in bath to relax; or in a pillow to help sleep.



Sysimbruim off. "Plant of Singers". An infusion of these flowers will help a singer's throat. Mix with lemon and honey, drink 1/2 hot then rest gargle

**We spent almost two whole days, walking and learning with Julio. He is an incredible wealth of knowledge**



The VBMA group with Julio and Lily in front of the Hawthorn tree



Vicki and Chad walking with the largest Prayer Wheel

Hiking past some ancient Spanish Oaks trees on the way to the Tibetan retreat. Look at the snow in the peaks of the Sierra Nevada mountains!!!



*Pistacia lentiscus*- the shrub in the background-the resin is good for mouth problems and produces mastic gum. In the Mango family.



One of the many mints that-helps decrease cholesterol



*Teucrium capitatum*-digestive plant very good to treat stomach pain



Oleander, even the odor of the flowers is toxic!



*Cynodon dactylon*-grass that is very good for horses and cows; also stimulates kidney and good to rid stones.



Pomegranate tree: use the walls of the fruit in a decoction. Drink in the AM with pumpkin seeds, 3-4 Walnuts and 1 spoon of Red Cabbage juice to treat tapeworms



*Paronychia argentea*: Paper plant- useful to decrease blood pressure



Poppy: use the leaves to help sleep. Also for cough in children (best with thyme and mallow). Helps to relax. Only a very little opiate in plant.



*Melilotus officinalis* helps to return blood. Do not allow herb to ferment. Must dry well after harvesting (plant with yellow flower).

Another picture of a pomegranate tree just leafing out



*Poterium Sanguisorba*-astringent, stops bleeding and diarrhoea. Drink as a decoction. It is in the Rose family

*Borage officinalis*: good to eat, good for cough and fever-diaphoretic



*Fumaria Capreolata*-clears toxins out of the skin and liver



The barely visible purple flowers are *Viborera Echium vulgare*- topical use to remove toxins from bites of snakes and insects. Flower is a diaphoretic for fever. Use preventatively for flu.

*Calendula officinalis*-very helpful for menstration problems and also immune system and liver.



Shepard's Purse- stops bleeding. If nose bleed pack with fresh leaves. Used if low blood pressure.

Mallow- *Malva neglecta*- use flower for cough- make an infusion, good to protect respiratory tract.



Rosemary-used for heart and rheumatism



Periwinkle-used to treat leukemia- must be very very careful



In the center there is a Hazel Nut.  
The leaves of the Hazel Nut Tree can be used to help treat high blood pressure.





Julio's drying room for his herbs, note the nice bright colors in the Calendula!!



Incredible oak trees



A beautiful little Milk Thistle plant

In addition to Julio, we also had a wonderful time working with Sophie. Sophie grew up in the Alpujarras, completing her higher education and degree studies in the UK. In 2006 she graduated from Middlesex University with a BSc in Herbal Medicine. We spent a day with Sophie, learning how to make potions, decoctions, infusions, ointments and liniments. We had great practical experience treating cuts and bruises and sprains with amazing results.



Sonya measuring out tinctures to put in her linament, on the back deck of our villa



Sonya busy helping us make our ingredients



Our VBMA group with Sophie, her mum and daughter!! Note the view from the villa we were staying at!!



Sophie getting ready to strain an infusion.



**Our last day** was an incredible hike with Paul through the valley that was the last Muslim area during the 1500's, the Valley of Blood. This is a valley where a group of 7 villages was given to the Muslims when they were evicted from Granada. They were supposed to have this valley for ever, but 150 years later, they no longer had it.



This is a picture of a bridge made during Roman times that up until 40 years ago was the only road into the area.

**"This was one of the most incredible trips that I have been on."**

## Practice Pearls

### PRACTICAL TIPS FROM VETERINARY HERBALISTS



**Dr Cindy Lankenau, DVM President of VBMA,  
on herbal first aid for vets**

**I thought it would be neat to put together all of  
our favorite Western emergency herbal  
products. This might make a nice little  
emergency kit to carry one oz. tinctures for  
travel.**

- Acute allergies-facial swelling: Euphrasia
- Acute earache, tooth abscess: Chamomilla
- Bites from spiders, noxious critters: Plantain. (Chew a leaf and put chewed leaf on bite)
- Bleeding: Yarrow (although I will break my own rule and put on Yunnan Paiyou in this list)
- Burns: Topically Aloe Vera, Yarrow. Later: Witch Hazel
- Brusies: Yarrow
- Cuts: Yarrow, purple loosestrife
- Collapse: from heat stroke:one drop of Belladonna.  
From blood stagnation: Yarrow
- Diarrhea, acute-without blood: Marshmallow,  
Blackberry. Diarrhoea with blood: Rose Hips, Yellow Dock
- Fevers: Sudden onset: Yarrow, Blue Vervain

**Cindy Lankenau, DVM President of VBMA**  
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**Holistic Center for Veterinary Care**  
9002 Sunset Drive  
Colden , NY 14033

### **The Button Mushroom and Galactophyga:**

Basidiomycetes: *Agaricus bisporus*: (Mu Gu)  
Galactophyga.

**Dr Ihor Basko**

**All Creatures Great & Small,**

**Kauai, Hawaii**

[drbwavevet@hawaiiink.net](mailto:drbwavevet@hawaiiink.net)

I had a brindle tiger-striped female Pit cross about 1 year old named “Lava” come in to see me for a “checkup”. A nice couple rescued the dog, from a “bad home”. I checked her over, and found her experiencing a “false pregnancy,” and infected with parasites including heart worms.

Her tongue was a little pale, lavender, and dry. The next 6 months were involved with the processes of improving Heart and Blood (Deficiency) health along with a “slow kill” method to eradicate the heart worms (Excess),as well as the other worms.

Herbs (Dan shen (salvia. Milit.), Tang Kuei (angelica sinensis), Zzyphus antioxidants (CoQ10, Vit E), and nutraceuticals (L carnitine, taurine, Omega 3), were employed to Tonify, Invigorate, and Move the Blood, as well as Dispel Damp heat toxins.

She came out of the treatment well, and then proceeded to come into “heat” again. The owners wanted to spay her ASAP, but I told them to wait until after the estrus cycle was over.

She came out of Heat and right into another false pregnancy. Her owners called me on my day off, and this time were concerned about her breast engorgement which caused the “leaking of milk” all over their carpeted house. .

They sounded like they were frustrated and were looking for a “quick fix” solution. As this was my day off, I wanted something easy and quick acting....but what that would that be?

What herbs would stop milk secretion? Looking through all my books, there was not very much said about the problem. Most books had listed herbs to treat lack of milk (agalactia). It was only when I took out one of the first books on herbology that I had studied by Dr. John R. Christopher that I found the answers. He used the term, “galactophyga”...herbs that diminish or arrest the secretion of milk<sup>1</sup>. Listed he had: “Agaricus, betel, bilberries, cassia bark, cranesbill, garden sage, and parsley (poultice)”.

Since my clients did not have access to betel nuts, bilberries, cassia bark (cinnamon?), or even garden

sage, I went for the easily available mushroom for my “long shot” of a treatment, plus hope.

I thought, “What kind of Agaricus? So many species!” Dr. Christopher did not elaborate. I had to assume it was the easily available edible white button mushroom we buy in the grocery store, *A. bisporus*. Or, did he mean the related wild mushroom known as the “meadow mushroom”, *A. campestris*?



[http://www.mushroomexpert.com/agaricus\\_campestris.html](http://www.mushroomexpert.com/agaricus_campestris.html)

I thought, that probably the easiest “herb” for them to acquire were the white button mushrooms available in all the markets. The average American only eats about an average of 2.2 lbs. per year. Not everyone likes mushrooms. Some people have a fear about them, while others find them more mysterious than appetizing. Feeding a dog mushrooms when its sick does not seem “natural”.

Until this dog came along with its problem, I did not really investigate this mushroom as thoroughly as I have had the medicinal mushrooms. Including the button mushroom in a dog’s diet plan would be beneficial for many reasons, not just to treat galactophyga.

*A. bisporus* exists as a native to North America and introduced species also exist. The industry has developed a brown strain of the species, which it markets as “crimini” and “portabello” mushrooms.<sup>2</sup> The wild species are found under cypress, spruce, and mesquite trees.

I have recommended white button mushrooms in the past as a good substitute for meat in some cases, such as protein allergy problems. Not as exotic as other mushrooms maybe, but you will be surprised to know that the button mushroom is very nutritious, and when cooked very bioavailable.

Here are some facts. 100gms of mushroom contain the following nutrients<sup>3</sup>:

Protein	3g
Carbohydrate	1g
Sugars	1.5g
Fiber	1g
Folic Acid	16mg
Niacin	3.6mg
Choline	17.5mg
Betaine	9.3mg
Vitamin D	18 units
Minerals	
Selenium	9 mcg
selenomethione	
Potassium	318mg
Sodium	5mg
Zinc	0.5mg
Calcium	3mg

The white button mushroom contains polysaccharides (Beta-glucans) which inhibit sarcomas, enzymes such as trypsin, maltase, and tyrosinase (lowers blood pressure), and chitin. This agaricus also contains 8 essential amino acids: isoleucine, leucine, lysine, methionine, phenylalamine, threomine, tryptophan and valine, as well as vitamins B1 &2 and C<sup>4</sup>, Conjugated linoleic acid.

How did Dr Christopher know about Agaricus and galactophyga? For those who do not know who master herbalist Dr. John R. Christopher, MH., N.D. was (he died in 1983), see links below. He has created some amazing Western herbal formulas that have helped to heal many people. One of the recent pioneers in spreading the word about herbs in the US and Canada.

<http://www.herballegacy.com/>

<http://www.zhealthinfo.com/doctor.htm>

<http://www.herbalinsight.net/>

[dr\\_john\\_r\\_christopher.php](http://dr_john_r_christopher.php)

## TCM

In many Asian cultures, white mushrooms were eaten by women to prevent breast cancer. Current clinical trials demonstrated that women who ate these mushrooms had a 65 percent lower risk of breast cancer. With the addition of green tea, cancer risk was 90 percent lower risk.

[http://wiki.ask.com/Agaricus\\_bisporus](http://wiki.ask.com/Agaricus_bisporus)

<http://www.mushroomsforlife.net/science-of-mushrooms-health-s102/>

Nature: slightly cooling

Flavor: Sweet

Meridians: Lungs, Large Intestine, Stomach and Spleen

Actions: Tonifies Qi and Blood, Sedates Yang, clears summer Heat, lowers blood pressure, anti tumor detoxifies<sup>5</sup> Calms Spirit<sup>6</sup>, regulates Qi, and transforms Phlegm.<sup>7</sup>

Going back to” Lava” with the engorged breasts leaking all over the house...

What to do? I could not find any evidence that would suggest that these mushrooms would “dry up” milk. In one book, the “Icones of Medicinal Fungi From China”, the authors suggest that the mushroom would **increase** milk production.

I took a leap of faith, and I asked the woman to feed Lava ½ cup of cooked mushrooms tonight and for breakfast the next morning.

It was a simple recipe of 1 cup of ground (free range) beef cooked with ½ cup of button mushrooms.

The next morning, the clients reported a noticeable reduction in breast size, 30 percent. They fed “Lava” breakfast and went to work. When the people came home from work that evening, they were surprised at the progress and called to say that the milk stopped dripping and the breasts were reducing back to normal size.....this is less than 24 hours! I was very surprised.

Although the clients were happy, I was mystified because I did not totally understand why it worked so quickly.

I can only thank Dr. Christopher for saving the day and “Lava” for eating the mushrooms. Three weeks later, “Lava” was spayed.

Some current research on the medicinal properties of the button mushroom

### **White Button Mushroom (*Agaricus Bisporus*) Exhibits Antiproliferative and Proapoptotic Properties and Inhibits Prostate Tumor Growth in Athymic Mice**

Lynn S. Adams, Sheryl Phung, Xiwei Wu, Lui Ki, and Shiuan Chen

*Department of Surgical Research, Beckman Research Institute of the City of Hope, Du*

CLA inhibited proliferation in the prostate cancer cell lines

**Dietary Supplementation with White Button Mushroom Enhances Natural Killer Cell Activity in C57BL/6 Mice<sup>1,2</sup>** Dayong Wu<sup>3,\*</sup>, Munkyoung Pae<sup>3</sup>, Zhihong Ren<sup>3,5</sup>, Zhuyan Guo<sup>3</sup>, Donald Smith<sup>4</sup> and Simin Nikbin Meydani<sup>3</sup>2007 [American Society for Nutrition](http://www.nutrition.org) J. Nutr. 137:1472-1477, June 2007

**Medicinal mushrooms: a rapidly developing area of biotechnology for cancer therapy and other bioactivities** John E. Smith, Neil J. Rowan and Richard Sullivan [Biotechnology Letters](http://www.biotechnologyletters.com) **Volume 24, Number 22**, 1839-1845 2011

**Radical-scavenging properties of extracts from the white button mushroom, *Agaricus bisporus*** Jean-Michel Savoie, Nathalie Minvielle, Michèle L Largeteau Research article. 2008 Society of Chemical Industry Journal of the Science of Food and Agriculture Volume 88, Issue 6, pages 970–975, 30 April 2008

<sup>1</sup> Dr. John R. Christopher, (book) School of Natural Healing. P 592 Bi Word Publishers, In, Provo, Utah 1976

<sup>2</sup> Michael Kuo / [www.mushroomexpert.com](http://www.mushroomexpert.com)

<sup>3</sup> Basko, Ihor Lecture Introduction to the Use of Medicinal Mushrooms in a Veterinary Practice 2008

<sup>4</sup> Icones of Medicinal Fungi in China by Ying and Mao

<sup>5</sup> /The Tao of Nutrition Maoshing Ni, Ph.D., C.A

<sup>6</sup> Henry C. Lu. Ph.D. :Chinese Herbs with Common Foods:

<sup>7</sup> Prince Wen Hui's Cook: Chinese Dietary Therapy. Bob Flaws and Honora Wolfe.

n

see Dr Ihor Basko's recipe for Mushroom Rice and Egg in the Mastechef section on page

## CASE STUDY

# Idiopathic Heptobiliary Disease in an Equine treated with Chinese Herbal Medicine

CASE SUBMISSION FOR VBMA CERTIFICATION

Dr. Cynthia Lankenau, DVM

### ABSTRACT

A fourteen year old Arab gelding was diagnosed with idiopathic heptobiliary disease from a Western perspective. Traditional Chinese Medicine diagnosed a life-threatening Triple Heater obstruction caused by Liver Fire from Liver stagnation with Liver/Spleen deficiency. Using Chinese medical principles, he was treated with acupuncture and a series of Chinese Herbal formulas. His response was dramatic. Within two weeks, he was acting clinically normal, however his underlying disharmony took six months to resolve.

### INTRODUCTION

Liver disease frequently occurs in horses and its incidence is increasing. (Divers, 1992) Our equine athletes are exposed to innumerable toxins during their training and show competitions.

This increased load on the liver is reflected in the amount of hepatic disease seen today. The prognosis is related to the amount of toxic exposure. (Smith, 2003) There are over 900 drugs that have been implicated in causing liver damage. Chemicals often cause subclinical injury to the liver and in the human literature, chemicals are responsible for over 50% of all acute liver failures. (McNally, Peter, 2006). Interestingly iron supplements have been frequently blamed as a toxic cause of liver failure. (Pearson, 2001)

Biliary obstruction secondary to gastrointestinal disease may sporadically cause hepatic failure. Hepatic disease has been seen concurrently with displacements of the large colon (Divers, 1992), papillary structures caused by duodenal ulcer (Buote, 2003), and neoplasia. Obstructions can also be caused by portal vein thrombosis.

Other causes of liver disease include infectious causes such as Tyzzer's Disease, and metabolic causes such as hepatic lipidosis and hyperammoninemia from gastrointestinal disease. (Divers, 2005)

Chinese Medicine uses the history of a case to provide clues to the ultimate manifestation of a disease. This reveals the individual "pattern of disharmony" and allows individualization of treatment.

In this case, "Chili", had evidence of a chemical intolerance with a subsequent large colon torsion months prior to his onset of liver disease. It is possible that the additive effect of all of these events predisposed Chili to hepatic disease triggering the "idiopathic" biliary disease. Traditional Chinese Medicine can look into these individual pieces of the puzzle to see the whole picture and delve into an even deeper cause for all of his disease manifestations: an obstruction of his Triple Heater Meridian, a diagnosis representing both a set of symptoms and an underlying pathophysiology from a Chinese Medicine perspective.

### CASE REPORT PRESENTATION:

#### SIGNALMENT

Chili is a fourteen year old gelded Arabian Equine. He is a nationally rated show horse who had a very intensive training and showing career.

## TCVM DIAGNOSIS

Triple Heater Obstruction from Liver Fire (3/5/11) with a Damp-Heat pathogenic factor trapped in the Shao Yang layer.

## CONVENTIONAL MEDICAL DIAGNOSIS:

Idiopathic Hepatobiliary Disease (3/1/11)

## HISTORY

Chili had been showing at a national level. This is demanding both at a physical and emotional level. His show schedule was full and demanding. Like most equine athletes, he was exposed to many environmental toxins, pesticides, and routine health treatments. In May of 2010, he received Tetanus, Eastern and Western Encephalitis, Influenza, Rhinopneumonitis, West Nile Virus, and Rabies (1) immunizations. He was on daily wormer: Strongid C.(2)

7/30/10-Chili had a significantly restricted motion in the lower Lumbar vertebrae and cervical vertebrae 3 and 4, temporal-mandibular joint (TMJ) pain and pain over his hips. His tongue was purple. His pulse was wiry and fast.

His TCM diagnosis: severe Blood stagnation. The appearance of his stiffness was concurrent with the use of the daily wormer. Chili was started on Body Sore.(3) Body Sore is based on the classical formula Shen Tong Zhu Yu Tang (Xie, 2004). This formula is indicated when there is a fast pulse and purple tongue caused by channel blockage (in this case evidence by chiropractic subluxations) with Qi and /or Blood stagnation.

The formula contains: Ligusticum, Chuan Xiong and Notopterygium, Qiang Huo, to relieve pain and activate Blood; assisted by Angelica, Dang Gui; Epimedium, Yin Yang Huo; Eucommia, Du Zhong; and Psoralea, Bu Gu Zhi, help to strengthen Yang and bone; Achyranthes, Niu Xi helps to strengthen the bones and limbs; Angelica, Du Huo and Clematis, Wei Ling Xian relieve pain and eliminate Wind-Damp; Cuscuta, Tu Su Zi, nourishes Liver and Kidney; Corydalis, Yan Hu Suo is a strong pain reliever and resolves stagnation and moves Qi and Blood; Persica, Tao Ren, and Carthamus, Hong Hua breaks down Blood Stasis and relieves pain; Millettia, Ji Xue Teng Nourishes Blood; Peony, Chi Shao, relieves pain and cools the Blood; and Saussurea, Mu Xiang relieve pain and move Qi. He was started on 2 tablespoons twice a day.

11/18/10-In November, 2010, Chili's show season ended. While he had a successful show season, on examination, he had very severe Left sided TMJ pain, his brachiocephalicus muscle was in spasm; his lumbar-sacral joint was restricted in its lateral motion; his pterygoideus internus muscle was severely painful, and his first two cervical vertebrae were less mobile. His tongue was purple, his pulse was choppy and fast. His parotid gland was very swollen.

In his recent clinical history, he had been given a Rabies booster On further clinical examination, his acupuncture points, LI 4, 11, 16, and Bl 11, 25 were very sore. At this time, his TCM diagnosis was still blood stagnation but with a Blood Toxin. The swollen parotid glands may have been associated with a frequently observed "Rabies Vaccinosis" effect. (Lankenau, 2009) It was felt the TMJ; the cervical pain; pterygoideus internus pain; and the spasms in his brachiocephalicus muscle were all inter-related with this residual heat toxin in the parotid gland.

Chili's formula was changed to address this perceived toxin. Two products were used: Spirolyd Compound (4) incorporates Sarsaparilla rhizome, Smilax, Guaiac resin, and Stillingia root, as a traditional treatment for syphilis with Andrographis to clear blood heat while Prickly ash bark, balances the temperature, stimulates circulation and absorption and relieves pain.(Winston, 2006) The rationale for the use of this product has been its ability to remove trapped pathogens, like Lyme spirochetes, from the Shao Yang layer. This was

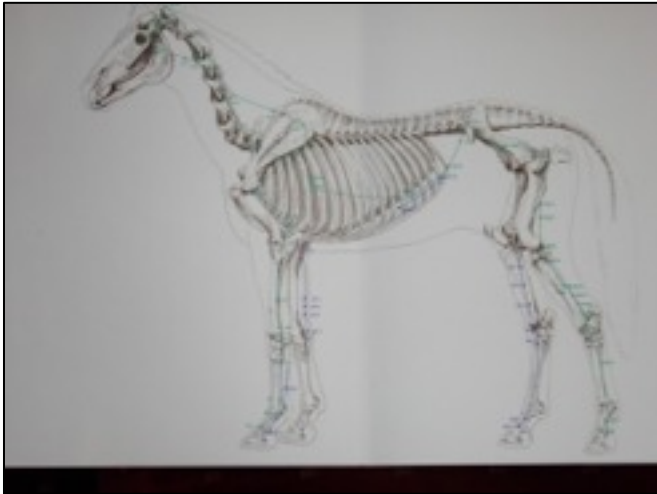
mixed 50-50 with a second formula, a liquid form of Shen Tong Zhu Yu Tang (5) The dose was 60 drops twice daily. One week later, Chili was improving

12/19/10-In December, a cold front hit the area and Chili was found down in his stall. Upon rectal palpation, he was diagnosed by his regular veterinarian with large colon torsion and he was shipped immediately to Cornell's Surgical hospital. He recovered uneventfully

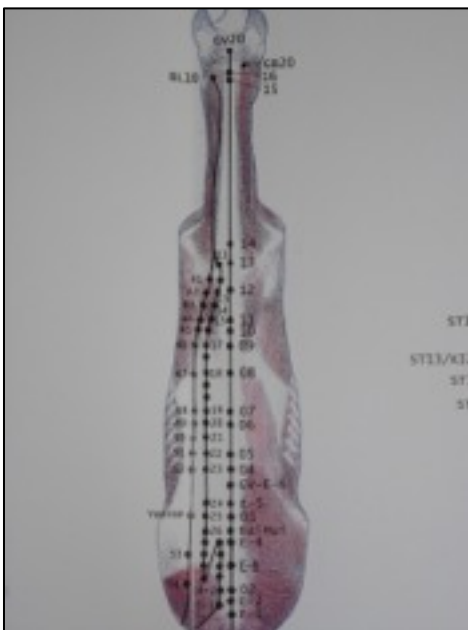
### **RECENT HISTORY AND TREATMENT**

On 3/1/11-Chili had an acute history of inappetence, head pressing and colic signs. His conventional veterinarian found him to be markedly icteric. Blood was drawn. He was started on Trimethoprim-Sulfadiazine (6) and Banamine (7). Laboratory work showed increasing bilirubin values. Chili's prognosis was guarded to grave.

3/5/11- Chili was still depressed. But he would only pick at some hay since the antibiotic and Banamine was started. From a Chinese perspective, antibiotics have a heat clearing effect and the Banamine (non-steroidal) has a Qi moving effect. (Marsden, 2008) On physical exam, Chili was very lethargic and depressed. He seemed in a daze then would abruptly jerk awake. He was intensely painful and hot along his costochondral junction. The acupuncture points GB 25, 29, 30, 31, 34; Liver 13, 14 and Bl 18, 19, 20, 21, 22 were all reactive.



(Van den Bosch)- Then entire Gall Bladder median was hot and very painful. Note especially GB 25, 27, 28, 28, 30, 34). Chili's pulse was fast and forceful but very tense and wiry. It was soothed when Gall Bladder points were needed.)



(Van den Bosch, 1995) Illustrated is the dorsal Bladder meridian.

Chili's sclera was bright yellow, pulse fast and forceful but very tense and wiry. Edge of tongue was bright red, the rest of his tongue was very purple/red/yellow but very, very swollen. His TCM diagnosis at this time was Triple Heater Obstruction ( GB pain) from a pathogenic obstruction caused by a Liver Fire; (red, edge of her tongue, fast pulse); from liver stagnation (wiry pulse with purple tongue) and damp from a Spleen deficiency/stagnation as evidenced of the swollen tongue. The Triple Heater Obstruction was felt to be the cause for the current life threatening episode.

Laboratory results (3/1/11) support the Chinese medicine diagnosis. Low normal RBS and WBC support an underlying Spleen qi deficiency; high AST 808 u/l (175-340), high TBIL-5.9 mg/dl (0.5-2.3), and high GGT 124 U/L (5-24) support liver stagnation and fire. (See appendix 2) On 3/2/11, the bilirubin had increased to 6.6 and his bile acids were 84 umol/L (0-12). A value greater than 20 is considered diagnostic of hepatobiliary disease by Cornell's Diagnostic Center at the Veterinary College.

**The treatment** included Open the Liver Canal: 60 drops twice a day, Liver Happy: four tablespoons a day and Qing Hao: 1 teaspoon twice a day.

Open Liver Canal (8) is a variation of Xiao Chai Hu Tang that is produced by Natural Path Company (Marsden, 2006). This formula expels obstructive pathogens out of the Shao Yang layer. It contains Chai Hu, Bupleurum to expel pathogens up and out; Huang Qin, Scutellaria to descend Yang back down to the lower burner, with Pinellia, Ban Xie to resolve phlegm, with Red ginseng, Shi Zhu Hong Ren Shen, as a strong Spleen tonic; Ginger, Gan Jiang, and red Jujube, Hong Zao to assist and ensure a harmonized middle Jiao. This formula includes Turmeric root, Yu Jin to have a stronger Qi and Blood moving effect especially in the liver. Turmeric has a strong cholagogue effect.

Liver Happy (9) is based on Xiao Yao Wan (Xie, 2004). This formula helps resolve the Liver Stagnation with heat. Liver Happy uses as the King herb Cyperus, Xiang Fu Zi to soothe the Liver and resolve stagnation; assisting are Citrus, Qing Pi, to move the Qi, soothe Liver and resolve stagnation with Peony, Bai Shao Yao, and Bupleurum, Chai Hu to soothe the Liver; with Saussurea, Mu Xiang and Mentha, Bo He to move Qi; Moutan, Mu Dan Pi cools the Liver; while Gardenia, Zhi Zi clears Heat; Angelica, Dang Gui, helps to move Blood; and Licorice, Gan Cao as a harmonizer.

Qing Hao (10), *Artemisia annua*, ½ teaspoon twice a day was also added to his treatment regime. Qing Hao is an effective herb against malaria (Chen and Chen, 2004). It is very effective for clearing Heat; Liver Heat and Yin deficient Heat and cools Heat in the Ying level. Qing Hao was added to augment the other two formulas by focusing on the Heat component of the condition.

## **FOLLOW UP**

### **MARCH 2011**

3/8/11- AST decreased to 513 U/L (175-340); Bilirubin normal at 2.1 mg/dl (0.5-2.3); GGT- 149 U/L (5-24). Banamine had been stopped on 3/7/11 as he seemed much more bright and alert. Antibiotics were stopped by the owner.

3/14/11-AST decreased to 391 u/L (175-340); TBIL 2.3 mg/dl (0.5-2.3); and GGT 126 U/L (2-24).

3/19/11-Appetite is normal. Mentally Chili is brighter; sclera no longer icteric but the scleral vessels are slightly injected. He is still very reactive (painful) on his GB points with more pain on Liver points especially Bl 18. Pulse is forceful rapid, surging and slippery. The assessment is now more Liver Damp Heat instead of stagnation. Treatment plan is to remain on Open Liver Canal and Qiang Hao but changing Liver Happy to Long Dan Xie Gan Tang (11).

Long Dan Xie Dan Tang is ideal to clear Damp Heat from the Qi level when the GB/Liver is affected. It sedates excess fire in the Gall Bladder Meridian (Chen, 2009). Long Dan, Gentian, sedates fire in the Liver and Gallbladder; assisted by Huang Qin, Scutellaria, and Zhi Zi, Gardenia, to sedate fire and damp-heat in all three Jiaos; Ze Xie, Alisma; Mu Tong, Akebia Che Qian Zi, Plantago, dispel Damp-Heat through

urination; Di Huang, Rehmannia, and Dang Gui, Angelica sinensis nourish and protect the Yin and Blood; Chai Hu, Bupleurum, regulates Liver Qi and guides the herbs to the Liver; and Gan Cao, Licorice harmonizes the formula. Long Dan Xie Gan Tang has very strong anti-bacterial anti-inflammatory effects, and is clinically shown to have great effect in hepatitis and cholecystitis (Chen, 2009).

3/29/11-AST normal 267 U/L (175-340); TBIL normal at 2.0 mg/dL (0.5-2.3); but still elevated is GGT: 72 U/L (5-24).

#### **APRIL 2011**

4/29/11-Chili has marked improvement. Sclera are clear; no injected vessels. Tongue is slightly pale and swollen with a few petechial hemorrhages. Pulse is thin slightly slippery. He still has significant heat at GB 25, 30, 29 and 34; Bl 18, 19 and 22 are still reactive. His Triple Heater Obstruction still is evident but less Damp Heat is present. He now has is showing evidence of his underlying Spleen Qi deficiency with slight Damp, Liver Blood deficiency and stagnation.

Treatment plan: continue Open liver and Qiang Hao but stop Long Dan Xie Gan Tang and start Dang Gui Shao Yao San (12), two tablespoons twice a day. Dang Gui Shao Yao San nourishes the blood to soften the Liver while strengthening the Spleen to resolve Damp. This formula uses Dang Gui, Angelica sinensis, to tonify the blood and activate the circulation, Chuan Xiong, Chuanxiong, to activate and regulate the blood circulation, Bai Shao, White Peony, to nourish the Blood and consolidate Yin; Bai Zhu, Atractyloides, and Fu Ling, Poria, to strengthen the Spleen and resolve dampness assisted by Ze Xie, Alismatis. This formula is known to have strong hemodynamic effects.

#### **MAY 2011**

5/27/11-Chili is back in training. There is only a very slight amount of reactivity at GB25. But his Pulse is slightly forceful and slippery. Tongue is pink. There has been an incredible heat wave. Chili's treatment reverted back to Long Dan Xie Gan Tang but only one tablespoon a day. He was continued on Open Liver. Qiang Hao was stopped; that extra redness of his tongue was gone.

#### **JUNE AND JULY 2011**

6/03/11- AST:231 U/L (175-349); TBIL 1.5mg/dL (0.5-2.30; GGT 25 U/L (5-24)

7/14/11-AST: 232 U/L (175-349); TBIL: 1.4 mg/dL (0.5-2.3) : GGT 15 U/L (5-24)- All within normal limits.

7/23/11-TH obstruction seems to be resolved. There is no reactivity at GB 25 or 34. His gums are slightly pale pink, a few petechial hemorrhages are present. Pulse is thin again. Treatment plan is to revert back to Dang Gui Shao Yao. We seem to be going between slight Damp-Heat in the Liver/GB to slight Liver deficiency/ stagnation with slight Sp Qi deficiency. Open Liver Canals was stopped since there was no evidence to support Triple Heater obstruction.

#### **AUGUST 2011**

8/18/11: Chili is doing well. However there is slight red-edge to his tongue. The stiff neck symptom is resurfacing; there is a little heat in the GB meridian as it courses over his neck. There is a slight amount of damp-Heat that is still retained in the Qi level. The treatment plan is to stop Long Dan Xie Gan Tang and change to change to Artemisia combination (13) which is based on the classic Yin Chen Hao Tang. This formula also eliminates Damp and clears Damp Heat as there is still some type of a retained pathogen in his GB. Artemisia uses Artemisia, Yin Chen Hao to clear Damp Heat in the Liver assisted by Zhi Zi, Gardenia, to clear Damp-Heat in The TH. This formula is different from the others in that Da Huang, Rhubarb, is used to clear that residual internal heat. Coptis, Huang Lian clears Damp-Heat; Rehmannia, Sheng Di Huang to clear Heat and nourish Yin; Moutan, Mu Dan Pi, to cool the Liver and resolve stagnation; Peony, Chi Shao

Yao to Cool Blood; Poria, Fu Ling to Drain Damp, strength Spleen, and the Polyporus, Zhu Ling, and Alisma, Ze Xie, to drain Damp.

### **SEPTEMBER 2011: FINAL TREATMENT**

9/22/11-Chili is doing very well. He is back in full training, no soreness, and great appetite. Tongue: healthy pink except two little petechial hemorrhage. Chili's Pulse is normal. No reactivity found on any Gall Bladder, Liver, Spleen points. The plan is to maintain him on a few dashes of Turmeric on his grain twice a day. Turmeric is very effective to control bleeding due to any blood stasis; it is strongly hepatoprotective. The Turmeric used is organic scalded, dried rhizome of *Curcuma longa* from Frontier Herb Company.



This is a picture of Chili in April, 2011 when he really feeling better.

### **OCTOBER 2011**

10/3/11-Owner called ecstatic. His petechial hemorrhages are gone.█

### **DISCUSSION:**

Chili had not been feeling well for a year before his acute hepatobiliary obstructive disease. Looking back at his case, he had Damp-Heat in his Gall Bladder meridian in July of 2010. The Damp Heat pathogen was probably caused by modern horse husbandry. He was being fed a diet high in carbohydrates; a stress to his Spleen and a potential cause for pathologic phlegm while on a daily chemical wormer; a source for Liver Stagnation and then secondary heat. In addition; he was had to handle an incredible load of vaccines; another source of a Heat/Blood toxins from a Chinese medicine perspective. His final Rabies vaccination after a stressful show season seemed to be that final toxin that overwhelmed him; causing him to hold this pathogen in his parotid lymph nodes. Although he seemed to be feeling better, the acute environmental cold caused a life-threatening stagnation and colon torsion. It is probable at this time, Chili must have had either a complete Triple Heater Obstruction or his underlying Spleen deficiency had created a severe stagnation. The conventional literature recognizes that large colon torsion is a cause of Hepatobiliary obstructive disease so it is possible the trauma from the torsion increased Chili's predisposition to hepatobiliary obstructive disease. When Chili presented in March of 2011, his Triple Heater obstruction was a significant factor in the severity of his condition.

Triple Heater Obstructions are not a commonly discussed or diagnosed syndrome in Equine Patients yet Triple Heater Obstructions are commonly recognized in Small Animal Medicine (Marsden, 2008). In Chinese medicine terms, the Triple Heater facilitates the movement of Yin and Yang energy up and down the body's long axis. If this flow of energy is completely obstructed, the intermingling of Yin and Yang energy is stopped. This situation is life-threatening. If the obstruction is complete, collapse and death will occur. If the obstruction is only partial, syndromes such as hepatitis can occur.

This typical obstruction in the Triple Heater occurs in the middle Jiao and is usually some type of a Damp Heat pathogen. Damp-Heat pathogens fill a show horse's life. Their diet is high in grains a source of carbohydrates and gluten; many of which are genetically modified. This carbohydrate load is thought to exhaust the Spleen's ability to transform Qi and so pathogenic Damp and Phlegm is produced. A modern interpretation of Heat and Blood toxins is in the form of vaccines which contain modified pathogens. Drugs, especially those used on a regular basis such as Chili's daily wormer can contribute to a toxic load on the liver as they all need to be metabolized. All these factors predispose to create a Damp Heat pathogenic factor. This "pathogen" is then thought to obstruct the Triple Heater meridian. This situation is becoming more commonly observed in the Equine (Lankenau, C; 2011).

Open Liver Canal was crucial in the resolution of Chili's Heptobiliary Disease; his Triple Heater Obstruction. This formula is a modification of Xiao Chai Hu Tang augmented with Yu Jin, Turmeric root tuber. Yu Jin has a cold and bitter taste. It is used to move the Blood from Liver stagnation clears Heat and cool the Blood to treat bleeding tendencies; clear Liver Damp Heat to treat Gall Bladder obstructions. Jiang Huang is the rhizome. The rhizome is known to tonify and regulate Liver Qi with a cholaretic, hepatoprotective effect, with an ability to regulate Blood and clear Heat Phlegm with a cardioprotective, anti-inflammatory, antioxidant, antiplatelet effect (Ross, 2010). It is fascinating that Turmeric or Curcuma longa was the herb that resolved his final symptom; chronic mild petechial hemorrhages. His response would indicate that the petechial hemorrhage was due to blood heat from a slight, still present Liver stagnation.

Turmeric has been widely studied. It has been found to be ant-inflammatory, including the hepatic microvasculature (Lukita-Atmadia, W, 2002), anti-arthritis, antiulcer, carminative, cholaretic, hepatoprotective (Kim, 2011), it can improve the liver's ability to detoxify (Deshpande, UR, 2003), and antiplatelet and anticoagulant effects (Prajash, P; 2011).

In future years, horses like Chili need a protocol to help protect them from the metabolic stresses they encounter. Diet change and consideration towards the toxic load on intensively worked horses is critical. Turmeric is likely to play a large role in this protocol.

<b>Appendix 1 table of specific liver abnormalities in the blood work:</b>				
Date:	Bile acids (0-12)	AST 175-340 U/L	TBIL 0.5-2.3 mg/dl	GOT 2.7-24 U/L.
3/1/11		808	5.9	124
3/2/11	84			
3/8/11		513	2.1	149
3/14/11		391	2.3	126
6/3/11		231	1.5	25
7/14/11		232	1.4	15

**Appendix 2: Complete table of all blood work**

Test	Normal	3/1	3/2	3/8	3/14	6/3	7/14
WBC	(5.4-14.3) 10+9/l	6.68		7.44	6.22	7.35	
LYM	(1.5-7.7) 10 <sup>9</sup> /l	1.45		2.88	2.39	1.97	
MON	(0-1.5) 10 <sup>9</sup> /l	0.33		0.38	0.08	0.09	
NEU	(2.3-9.5) 10 <sup>9</sup> /l	4.85		4.12	3.65	5.19	
EOS	(0-1) 10 <sup>9</sup> /l	0.05		0.05	0.09	0.07	
BAS	(0-0.3) 10 <sup>9</sup> /l	0.01		0.01	0.02	0.01	
LY %	(17-68) %	21.6		38.7	38.5	26.9	
MO%	(0-14) %	4.9		5.1	1.2	1.3	
NE%	(22-80) %	72.6		55.4	58.6	70.7	
EO%	(0-10) %	0.7		0.7	1.4	1.0	
BA%	(0-2) %	0.1		0.1	0.3	0.2	
RBC	(6.8-12.9) 10+12/l	7.62		8.60	8.60	8.20	
HGB	(11-19) g/dl	12.8		14.3	14.2	13.4	
HCT	(32-53) %	36.62		40.35	40	41.06	
MCV	(37-59) fl	48		47	47	50	
MCH	(12.3-19.7) pg	16.8		16.6	16.5	16.3	
MCHC	(31-39) g/dl	35		35.5	35.4	32.6	
RDWc	%	22.3		22.2	22.0	23.5	
PLT	(100-400) 10+9/l	126		169	164	183	
PCT	%	0.09		0.11	0.13	0.11	
MPV	fl	6.9		6.8	7.9	7.0	
PDWc	%	33.8		35.0	40.0	35.6	
Bile Acids	(1-12)		84				
Na	(126-146) mmol/L	130		130	134	138	131
K	(2.5-5.2) mmol/L	3.8		4.2	4.1	4.8	4.6
tCO2	(20-33) mmol/L	31		32	31	28	28
CK	(120-470) U/L	195		168	246	239	157
GLU	(65-118) mg/dL	93		105	101	108	117
Ca	(1.5-14.2)mg/dL	12.6		13.1		13.8	13.0
BUN	(7-25) mg/dL	16		17	17	17	17
CRET	(0.6-2.2) mg/dL	1.1		1.1	1.3	1.1	1.1
AST	(175-340) U/L	808		513	381	231	232
TBIL	(0.5-2.3) mg/dL	5.9	6.6	2.1	2.3	1.5	1.4
GGT	(5-24) U/L	124		149	126	25	15
ALB	(2.2-3.7) g/dL	3.2		3.1	3.2	3.3	3.1
TP	(5.7-8) g/dL	7.3		7.0	6.9	7.1	6.8
GLOB	(2.7-5) g/dL	4.1		3.9	3.8	3.7	3.7
ICT		2+	10	0	0	1	0
Lipemia		1	8	0	0	0	0
Hemolysis		0	3	0	0	0	0

### **.Appendix 3**

1. Vaccines: Fort Dodge Company
2. Strongid C: Daily wormer, Pfizer Company
3. Body Sore: Jing Tang Herbal Company; Reddick, FL.
4. Spirolyd Compound: Herbalists and Alchemist; Washington, N.J.
5. Meridian Passage: K'an Herb Company; Santa Cruz, CA.
6. Tribriksen: Trimethoprim-Sulfadiazine; Merck Animal Health
7. Banamine: Flunixin meglumine; Schering-Plough.
8. Open Liver: Natural Path Herb Company;
9. Liver Happy; Jing Tang Herbal Company; Reddick FL.
10. Qing Hao: May Way; Plum Flower Brand; Oakland CA.
11. Long Dan Xie Dan Tang; Jing Tang Herbal Company; Reddick, FL.
12. Dang Gui Shao Yao; KPC Products, Inc.; Irvine, CA.
13. Artemisia Combination: Jing Tang Herbal Company; Reddick, FL.

### **REFERENCES:**

1. Divers T. 1992. Current Therapy in Equine Medicine: Hepatic Disease. W.B. Saunders Co: p.253.
2. Smith MR, Stevens KB, Durham AE, et al. 2003. Equine hepatic disease: The effect of patient-and case-specific variables on risk and prognosis. *Equine Vet J*; 35 (6): 549-552.
3. McNally Peter. 2006. GI/Liver Secrets with Student Consult Access. Saint Louis. C.V. Mosby. ISBN 1-56053-618-7.
4. Pearson EG, Andreasen CB. 2001. Effect of oral administration of excessive iron in adult ponies. *J Am Vet Med Assoc*. 218(3):400-404.
5. Buote M. 2003. Cholangiohepatitis and pancreatitis secondary to severe gastroduodenal ulceration in a foal. *Can Vet J*. 44 (9): 746-748.
6. Divers T. 2005. Diagnosis and Treatment of Liver Disease. Lecture given at the AAEP Focus Meeting, Quebec, Canada.
7. Lankenau C. (2009). AHVMA Proceedings, 2009 Annual Conference. Bel Air, Maryland: p. 169-178.
8. Xie H. 2004. Chinese Veterinary Herbal Handbook. Chi Institute of Chinese Medicine: p 104-105.
9. Chen J and Chen T. 2004. Chinese Medical Herbology and Pharmacology. Art of Medicine Press, Inc. City of Industry. CA: p.244-245.
10. Winston David. 2006. Tick Borne Disease: Botanical & Complimentary Therapies. Audio DVD. Herbal Therapeutics, Inc. Research Library. Herbalist & Alchemist.
11. Marsden Steve. 2008. Lecture Notes CIVT 1002. IVAS Course in Chinese Herbal Medicine. Russell Lea, NSW.
12. Marsden Steve. 2006. Handbook for Veterinarians. Kan Essentials Chinese Herbs for Animals. Kan Company. Scotts Valley; CA: p. 139-144.
13. Van den Bosch Emiel. 1995. Acupuncture Points and Meridians in the Horse. Van Wilderode. Zaventem Belgium.
14. Cornell University Animal Health Diagnostic Center; <http://diagcenter.vet.cornell.edu>

15. Chen J. and Chen Tina. 2009. Chinese Herbal Formulas and Applications. Art of Medicine Press. City of Industry. CA: p. 371-378.
16. Lankenau C. (2011). Case Log for IVAS's Course in Chinese Herbal Medicine.
17. Ross Jeremy. 2010. Combining Western Herbs and Chinese Medicine: A Clinical Materia Medica. Greenfields Press. Wald, Germany: p.78-79.
18. Kim J et al. 2011. Chemopreventive effect of Curcuma longa Linn on Liver pathology in HBx transgenic mice. *Integr Cancer Ther.* Jun; 10 (2): 168-177.
19. Deshpande UR, Et al. 2003. Heptobiliary clearance of labeled mebrotfenin in normal and D-galactosamine HCl-induced hepatitis rats and the protective effect of turmeric extract. *Indian JPhysiol Pharmacol.* July; 47 (3): 332-336.
20. Lukita-Atmadia W et al. 2002. Effect of curcuminoids as anti-inflammatory agents on the hepatic microvascular response to endotoxin. *Shock.* May; 17 (5): 399-403.
21. Prakash P, et al. 2011. Anti-platelet effects of Curcuma oil in experimental models of myocardial ischemia-reperfusion and thrombosis. *Thromb Res.* Feb; 127 (2): 111-118.

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## Book Review

Each month we review a publication from one of our members

### THE PROOF IS IN THE POODLE

by Donna Kelleher

Donna Kelleher has woven an amazing tale that can touch all of us. As a holistic practitioner and fellow veterinarian there is so much in this book that touches my heart and soul. I think we all have our own journey here and many of those in this profession have a path of animals, experiences and trying moments that have gotten us to where we are today.

Donna is able to open up her own experiences in a way that we can feel them. This is not a book of home remedies and cures. It is a book that talks about the meaning of what we all do and the road we walk on in doing so. Donna weaves together her childhood, special cases, great teachers and her own lessons in humanity and healing while connecting with the reader on the elements of life that bring us joy and meaning.

This is a book about the human/animal bond, about that can happen when we believe and love, and the sadness and acceptance that must come when life comes full circle and the final kindness we can give our best friend is to let them go.

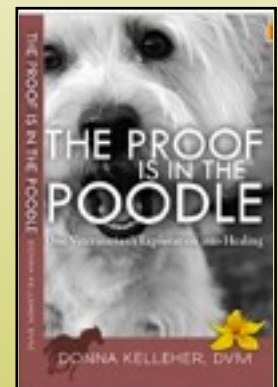
I highly recommend this wonderful book to anyone in a healing profession or who has experienced the love of an animal friend.

review by: Lena McCullough DVM CVA

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[www.pathwithpaws.com](http://www.pathwithpaws.com)

[www.lenamccullough.com](http://www.lenamccullough.com)



# Book Review

## MEDICINE AT YOUR FEET: HEALING PLANTS OF THE HAWAIIAN KINGDOM

**David Bruce Leonard, L.Ac**

It's wonderful to receive acknowledgements and thank you "gifts" from one's clients. In Hawaii and in Japan, I have experienced this most frequently. It's part of the culture....giving little gifts of acknowledgment and appreciation.

One of the latest gifts came from one of my clients who works as an Intensive Care nurse. She is Hawaiian, and is studying herbal medicine, essential oil therapy, and Magnetic Resonance Therapy for use on humans. Well, after one visit with her dog Leilani, she asked me if I had this book: "Medicine At Your Feet".

"No" I said, "but I just heard the author (David Bruce Leonard) interviewed on the radio weeks before."

I did not remember him mentioning this book. He had an easy manner and spoke very well on the different levels of his healing work: acupuncture, massage therapy, herbal medicine and his latest book "How to Worship the Goddess and Keep Your Balls: A Man's Guide to Sacred Sex".

His other books and articles include: "Science: Good Servant, Poor Master", and articles such as "Everything You Know is Wrong", "Visiting Old Friends-Plant Gathering Protocols" and "A Gathering of Old Friends"

He is an interesting man, and one with a sense of humor which permeates his book with little comments in parenthesis.

This book: "Medicine at Your Feet", is great for beginners and healers with intermediate knowledge of food therapy, TCM and plant medicine. He puts each and every one of the plants/food into the following categories which helps one see the full spectrum of plant's character and abilities:

Plant name and similar species/ Common names/ Family, genus, species/ Part used/ Preparation/ TCM category, properties, energetic functions, meridians, and Traditional uses/ Western functions and uses/ Native American, Aboriginal, Polynesian, and Ayer Vedic uses/ and backed up with scientific sources for the information: research papers and websites for more scientific data.

### Some of the plants listed are:

- Papaya
- Banana
- Aloe
- Spanish Needle
- Gotu Kola
- Turmeric
- Lemongrass
- Fennel
- Red Hibiscus
- Noni
- Sorrel
- Kava
- Ginger
- ...and more

James Duke says about the book: “This book is exactly what I want with me on my next trip to Hawaii.....or even if I stay home.”

Dennis McKenna (Senior Lecturer and Research Associate, Center for Spirituality and Healing at University of Minnesota) says about the book: “David is a thorough scholar who really knows his plants. This is an excellent resource.”

The author includes such information as the spiritual and ceremonial use of many of the plants listed....even their psychoactive properties. It’s a great book and will give the practitioner another look at plants known, but not explained in such interesting ways.

The next book of his I will definitely read is “How to Worship the Goddess and Keep Your Balls: A Man’s Guide to Sacred Sex”.

Man’s Guide to Sacred Sex”.

\$30 large paperback

<http://www.medicineatyourfeet.com/davidbruceleonard.html>

reviewed by Ihor Basko

All Creatures Great & Small,

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the author David Bruce Leonard, L.Ac



## VBMA MASTERCHEF

### Wholistic recipes from VBMA members

#### MYSTERYBOX INGREDIENT: WATERMELON



#### WATERMELON TOMATO GAZPACHO

##### Ingredients

- 8 pound(s) seedless watermelon, (with rind)
- 3 Kirby (pickling) cucumbers, unpeeled, cut into chunks
- 2 pound(s) (6 medium) ripe tomatoes, cut into chunks
- 1/3 cup(s) fresh basil leaves, packed
- 1/4 cup(s) (from 2 to 3 limes) fresh lime juice
- 1/2 teaspoon(s) Salt
- 1 green onion, chopped

##### Directions

Cut watermelon into 1-inch chunks (you should have 8 cups) and discard rind.

In food processor, puree 6 cups melon in batches and pour into a large bowl.

In same food processor, puree two thirds cucumber with tomatoes, basil, lime juice, and 1/2 teaspoon salt.

Stir into watermelon puree in bowl.

Coarsely chop remaining watermelon and cucumber; add to puree in bowl.

Stir in green onion.

Makes 12 cups.

Pour gazpacho into large container with tight-fitting lid.  
Chill until ready to serve, up to 1 day.



## WATERMELON FRAPPE

### Ingredients

- 4 cups cold watermelon chunks
- 8 mint leaves

### Directions

Run the blender at medium speed and drop chunks of watermelon through the feed hole one at a time until they are well integrated.

Add the mint and run the blender at medium speed for 1 minute until the watermelon has liquefied.

Strain into a bowl with a pouring lip.

Pour into goblets, garnish with a sprig of mint and enjoy!



## WATERMELON BLUEBERRY SMOOTHIE

### Ingredients

- 2 cups of chopped seedless watermelon chunks
- 1/2 cup of either sparkling water, pure water, or coconut milk if you want it creamy
- fresh squeezed juice from 1/2 lime
- 1/2 cup of frozen blueberries
- 3-4 chunks of ice
- optional: mint leaves for blending or just topping

### Directions

Blend all of the ingredients together in your blender and voila! – you have a juicy, summery, replenishing smoothie that is a great alternative to a glass of water and will help restore minerals and vitamins you may be lacking on a 100 degree day.



## HOMEMADE WATERMELON WINE RECIPE

### Ingredients

- 2 large RIPE watermelons: the mixture with dandelions and grapes looks like a great liver tonic, a ripe water melon will disintegrate overnight, leaving your kitchen looking like a blood bath. The timing of the use is important to the flavour.
- 5 lbs sugar
- 1 1/2 teaspoons acid blend
- 1 Campden tablet
- 1 1/2 teaspoons yeast nutrient
- 1 packet Champagne yeast

### Directions

Extract juice from watermelons using juicer. ( I cut up the red part and put it inthe blender, the juicer is too much work, you can get seedless ones, or take out the seeds, however if crushed these can take the over sweet off the wine).

Discard pulp. This should produce 1- ½ gallons of juice.

Pour into primary fermentation container.

Add sugar, acid blend, crushed Campden tablet, and yeast extract.

Cover and let sit for 1 day.

Uncover and add yeast.

Cover again and stir once daily for 1 week.

Let rest another week without stirring.

Rack into secondary fermentation container and attach airlock.

Let rest for 3 months.

Rack into bottles and let age for one year.

<http://www.easy-wine.net/watermelon-wine-recipes.htm>

<http://winemaking.jackkeller.net/watermel.asp>



## GRILLED SPICY WATERMELON

### Ingredients

- 1 tbsp lime zest-organic lime
- ¼ cup lime juice
- ¼ cup raw honey
- 2 tsp garlic chili sauce
- 1 pinch rosemary salt
- 1 medium-sized watermelon
- 1 tsp fresh chopped cilantro

### Directions

Preheat grill to high

In a small bowl whisk together lime zest, juice, 3 tsp of the honey, garlic chili sauce and salt  
Cut watermelon into 1 inch thick wedges. Lightly drizzle each side with remaining honey and place on grill.

Grill until just browned which is about 2 minutes per side.

Place watermelon slices on a plate and drizzle with lime dressing.

Garnish with cilantro

Serves 8-10

Analysis 120 calories per serving (31 gm carbohydrates and 45 mg of sodium)

Recipe in Energy Times



Watermelon Tomato Gazpacho, Watermelon Frappe, Watermelon Blueberry Smoothie and Grilled Spicy Watermelon supplied by Patricia Jordan  
[seasidenaturalhealth@gmail.com](mailto:seasidenaturalhealth@gmail.com)

Homemade Watermelon Wine Recipe supplied by Charissa Smith  
[charissa.smith@uqconnect.edu.au](mailto:charissa.smith@uqconnect.edu.au)

## Canine Recipe from Dr Ihor Basko

### FROM HIS PRACTICE PEARLS: BUTTON MUSHROOMS

(see page 50)

#### MUSHROOM, RICE AND EGG

##### Ingredients

- ½ cup of chopped button mushrooms
- ½ cup of snow peas
- ½ cup of hamburger
- 1/2 cup of chicken broth (organic)
- ½ cup of cooked brown rice
- 1 egg
- ½ teaspoon of sea salt
- 1 tablespoon of sesame (cold pressed) oil or Chicken fat

##### Directions

Heat oil in wok or skillet to medium high, add mushrooms and salt. Cook for 5 minutes and add snow peas and cook sauté for another 5 minutes. Add broth, bring to a boil....stir reduce heat to medium let cook for 5 minutes. Add egg and cook in the frying pan until done (sunny side up). Put rice in a bowl and top with the cooked mushrooms snow peas, and egg combination.



**Notes:**

**Snow peas** *Pisum sativum* (xue dou) are neutral in energy, benefit the Spleen and Stomach systems, and provide protein, carotenoids, vitamins B1,2,6, and essential fatty acids.

**Salt** was added to the recipe to “Move Energy Inwards”, i.e. the fluid composition of the milk back into the blood stream.

**Brown rice** was chosen for its mild diuretic effects. i.e., “Drain Dampness”, and to supply carbohydrates, fiber, minerals, B vitamins, gamma oryzanol (lowers lipids in the blood, subaleurone (lowers blood pressure via Angiotensin II suppression) A good dish for veterinarians too!:)



“Riding an Andalusian horse in Andalusia; life can be no better!!!”



## CASE STUDY

# Treatment of Mastitis in a Jersey Cow with Chinese Herbal Medicine

CASE SUBMISSION FOR IVAS/ CIVT  
CERTIFICATION VETERINARY CHINESE HERBAL  
MEDICINE

Dr. Cynthia Lankenau, DVM

### Abstract

A five year old Jersey Cow with a penicillin resistant *Staphylococcus aureus* mastitis in her right rear mammary gland was treated with Chinese Herbal Medicine, Long Dan Xie Gan Tang. In ten days, the mammary gland and milk were clinically normal. No bacteria have been cultured from the mammary gland since treatment.

### Introduction

Mastitis in the dairy cow is a significant problem. Many organisms, including *Staphylococcus aureus*, are very difficult control (McDonald, 1984). *Staph. aureus* can colonize on the teat and udder skin if the skin is susceptible. It has been know to persist for several months on many body locations including teat lesions and tonsils. The organism is difficult to eradicate because as it invades the glandular tissue of the mammary gland, the body tends to wall off the infected area with abscess formation and it can hide in an intracellular, protective location within the phagocytes cells in milk and tissue. Only a 40% cure rate was achieved in a penicillin sensitive strain of *Staph. aureus* (Smith, et al, 2006) when both antibacterial treatment and vaccination programs were used. The majority of the cows remain in a chronic carrier state. It is a disease where response to conventional treatment is comparatively poor, and satisfactory methods for the eradication of staphylococcal mastitis from infected herds have not been devised (Blood and Henderson, 1983). The presence of *Staph. aureus* in market milk may be considered to present a degree of risk to the consumer (Blood and Henderson, 1983). The market for milk products is dependant on its value as a safe food.

Delilah's owner supplies organic raw milk to the parents of a local Waldorf school. It was critical that Delilah be completely cleared of the organism.

### Assessment of Animal

#### Signalment

Delilah is a five year old lactating Jersey cow.

#### Pertinent History

Delilah had been part of a 70 head commercial dairy. She had calved two months prior (March 28, 2011) and was producing 60 pounds of milk daily. May 16, 2011, she had been purchased by a small dairy producer (3 Cow dairy) who supplies raw milk for the parents of a local Waldorf School. For the past week, since May 26, 2011, she had shown signs of mastitis in her right rear quarter. Her owner had been using homeopathic medicines with no clinical success.

#### Clinical Signs

On physical exam, June 2, 2011, Delilah had a swollen red tongue with intense red edges. Her pulse was fast, surging/wiry, and slippery but with an underlying empty feeling.

Her right hind mammary quarter was swollen twice its normal size. It was very warm to the touch; it was edematous and very turgid. Yet she seemed to enjoy pressure on her mammary gland. On strip cup exam, her milk had many thick clots, while the rest of the milk was watery. The California Mastitis test (CMT), a highly efficient cow side test, had a 3 reaction which indicates a leukocyte count of over 8,100,000 (Blood and Henderson, 1983).

Her other three quarter were slightly warm. The milk on the strip cup was normal but there was a trace reaction with the CMT indicating a cell count of 300, 000.

Her temperature was 101.5 degrees Fahrenheit. Her rumen was contracting normal to slightly slowly but no gas filled organs. There was no evidence of ketosis. Her appetite was slightly decreased.

On palpation of her acupuncture points: Bladder 20 was turgid and slightly painful (reactive); Liver 14, 13, and Bl 18 were hollow and empty but significantly reactive; Bl 19 was very reactive. St 36 and 40 were hot. There was a big empty feeling to Liver 1. Her pulse became slightly smoother when an acupuncture needle was placed in St 36; almost normal feeling when a needle was placed in Bl 40.

#### Laboratory tests

She had a positive culture for a penicillin resistant strain of *Staphylococcus aureus* from her right rear quarter taken on May 27, 2011; CMT -3 in her RH quarter; trace in the other three.

### **Western Diagnosis:**

*Staphylococcus aureus* (penicillin resistant) infection causing mastitis in the right rear mammary quarter

### **Chinese diagnosis**

Pathogenic Excess Damp Heat in the lower Jiao due to an underlying Spleen Qi deficiency and stagnation with pathologic phlegm/damp with an underlying Liver Blood deficiency with secondary Stagnation and Heat.

### **Chinese medical etiology and pathogenesis**

Delilah was a very high producing dairy cow. Sixty pounds of milk per day is outstanding and requires a large amount of metabolic support to sustain this milk production with good health. While under this high metabolic stress (Stress on her Liver and Spleen), she was sold and moved to a backyard dairy. In this new environment, only pasture grazing was provided for nutritional needs. She was not provided with any other mineral and energy support.

This contributed to a Spleen Qi and Liver Blood deficiency. In addition, the area had a record amount of rain. The grass had been growing at such a rapid rate the energy concentration in the grass was very low; not enough to support the metabolic needs of a cow such as Delilah.

Delilah, as the new cow, had suffered some bullying from the boss cow; creating emotional worry damaging the Spleen (Ni, 1995). Delilah was forced to rest in the wetter and more uncomfortable area in the pasture; a source of a local pathogenic damp.

Her swollen tongue and slippery yet empty Pulse verify Spleen Qi deficiency with secondary phlegm; supporting evidence was the turgid points at Bl 20. The Spleen stagnation was evident by the reaction at St 36; Phlegm- St 40. Her underlying Liver Blood deficiency was indicated by the empty feeling at Bl 18.

These underlying deficiencies had weakened Delilah's Wei Qi making her very susceptible to the invasion of the external pathogen of Damp Heat, *Staph. aureus*.

Her mammary gland swelling and heat was caused by the Damp Heat pathogen in the Lower Jiao. The rapid surging pulse and red tongue illustrate the Heat, while the intense redness of her tongue edges indicated

greater GB/Liver fire; Damp Heat at the Qi level. The reactive Bl 19 point indicated heat/stagnation in the Gall bladder meridian. The improvement of her pulse when Bl 40 was stimulated supported the presence of a local excess condition.

### **Assessment of the case**

Delilah needed a therapy that could drain the Damp-Heat pathogen from her lower jiao yet support her in a curative fashion until she was completely cleared of her pathogen. Chinese herbal medicine was the most logical choice of modalities. She was too energy deficient to respond to well selected homeopathic medicine. Clinical studies have proven that antibiotics are not very effective in these types of mastitis (Barkema, HW, et al; 2006). Delilah's owner supplies organic raw milk. She had to be completely cleared of the organism; antibiotic therapy has been unable to achieve this in penicillin resistant infections. Also, Delilah would lose her organic status if antibiotics were used. She would have to leave the organic world. Organic farms will use conventional antibiotic therapy only if an animal is truly in a life-threatening situation with no other alternatives.

### **Herbal Medicine**

Long Dan Xie Dan Tang (a) was the Chinese herbal medicine used. Long Dan Xie Dan Tang is ideal to clear Damp Heat from the Qi level when the GB/Liver is affected. It sedates excess Fire in the Gall Bladder Meridian; and clears Damp-Heat in the lower Jiao (Chen, 2009).

Long Dan, Gentian, sedates Fire in the Liver and Gallbladder and clears Damp-Heat in the lower Jiao. This action is assisted by Huang Qin, Scutellaria, and Zhi Zi, Gardenia, to sedate Fire and Damp-Heat in all three Jiaos. This type of action is necessary to clear Delilah of any potential carrier state.

Ze Xie, Alisma; Mu Tong, Che Qian Zi, Plantago, dispel Damp-Heat through urination; Di Huang, Rehmannia, and Dang Gui, Angelica sinensis, nourishes and protects the Yin and Blood from any excess action of the bitter cold herbs in the formula. Chai Hu, Bupleurum, regulates Liver Qi; and Gan Cao, Licorice harmonizes the formula.

Long Dan Xie Gan Tang has very strong anti-bacterial and anti-inflammatory effects and has been clinically shown to be effective in cases of mastitis (Chen, 2009).

Current scientific research supplies biochemical evidence for its effectiveness. *Scutellaria baicalensis* has proven anti-sepsis effect (Fu, J., et al, 2008) with strong anti-bacterial effect (Yang, et al, 2000). *Gardenia*, *Zhi Zi*, can bind lipopolysaccharides for a protective effect against sepsis (Sheng, X., et al, 2010). *Plantago*, *Che Qian Zi*, has known anti-bacterial and anti-inflammatory effects (Wiegner, T., and Kraft, 1999). Science has shown that herbal products can resolve mastitis by activating blood flow and removing blood stasis (Lu, Y et al; 2008). *Rehmannia*, *Di Huang*, and *Angelica*, *Dang Gui*, have proven blood moving effects (Marsden, 2008), reinforcing the importance of blood flow. Chinese herbal medicine can blend their therapeutic actions together and achieve an enhanced synergistic effect. As an ingested oral herbal formula, Delilah would be able to clear her entire body of this “Damp-Heat” pathogenic influence.

### **Dosages**

Three tablespoons of Long Dan Xie Dan Tang were added twice a day in a soybean based grain with cotton seeds.

### **Concurrent therapies**

Delilah needed additional nutritional support. A soybean based grain was designed to supply Delilah with needed energy without the stress of a grain containing high level of gluten such as corn. Cotton seeds and sunflower seeds were added to provide a good source of essential fatty acids needed to support the skin integrity. She was started at three pounds of grain twice a day and slowly increased to twenty pounds of grain daily. Concurrently a broad spectrum vitamin mineral supplement designed for high producing dairy cows was top dressed on her grain with additional organic Selenium. An increase in blood levels of selenium has been associated with a decrease in all infections, including infections by *Staphylococcus aureus* (Jukola, E, 1996). A proper nutritional support would be vital to her recovery. A thorough exam of the milking equipment was done. The vacuum line was found to be normal and all of the equipment was clean with new inflations in the milking machine. The owners milking techniques were good. He hand stripped the quarters, he prepared the udder for milking well and he encouraged her to stand after milking to ensure proper closure of her teat sphincter muscles.

### **Follow Up:**

#### **June 2011**

June 7, 2011: Delilah’s milk was clinically normal, her tongue was pink, her pulse was slightly fast. Her mammary gland was still slightly swollen but the heat and turgid feeling was gone. The plan was to continue Long Dan Xie Gan Tang at three tablespoons twice a day. CMT was still 1-2 when testing milk from the right hind quarter.

June 13, 2011: Delilah was clinically normal, her tongue was pale pink, her pulse possibly deep; her mammary gland was supple with no heat. Her milk looked normal on a strip cup but tested a trace positive on CMT in her right hind quarter. Her assessment was that the Damp Heat pathogen was eliminated but her underlying Spleen deficiency with secondary Phlegm still was an underlying problem.

The treatment plan was to change her Chinese herbal prescription to Wei Qi Booster (a), a formula based on the classic Si Jun Zi Tang, two tablespoons twice a day mixed in her grain. Wei Qi Booster is designed to treat Qi and Blood deficiency thereby strengthening the Wei Qi. The formula is Astragalus, Huang Qi, with Codonopsis, Dang Shen, to tonify Qi and Wei Qi; Angelica, Dang Gui, tonifies the Blood. Lindera, Wu Yao, moves Qi and boosts Wei Qi; Citrus, Chen Pi, to move Qi and transform Phlegm; added in is *Scutellaria*, *Ban Zhi Lian*, to clear Heat Toxins and *Oldenlandia*, *Bai Hua She She Cao*, to clear Toxins; and *Scrophularia*, *Xuan Shen*, to Cool the Blood and nourish the Yin (Xie, 2004).

Current Science has demonstrated the immune stimulatory effect from Astragalus and Angelica (Gao, 2006) by increasing the phagocytosis of macrophages and secretion of interleukin-2. Codonopsis, Dang Shen, has strong antilipogenic anti-inflammatory effects (Cha, A, 2012). *Lindera strychnifolia* has many biochemical effects; it has strong cytotoxic and antibacterial effects with *Staphylococcus aureus* the most sensitive strain tested (Yan, R. 2009). The alkaloids found in *Lindera* effectively alleviate inflammation (Luo, Y., 2009). *Lindera* has been shown to improve mitochondrial function through scavenging hydroxyl radical and thereby protecting against post-ischemic damage (Wang, N, 2004). Phytochemical isolates from *Lindera* have shown the ability to affect blood pressure and blood flow through NO production (Sumioka, H., et al, 2011).

*Oldenlandia diffusa* has many strong anti-inflammatory mechanisms including inhibition of the production of

tumor necrosis factor, interleukin and prostaglandin E(2); it can regulate the activation of nuclear factor; inhibits the enhanced levels of cyclooxygenase (COX)-2 and inducible nitric oxide synthase (NOS) induced by lipopolysaccharides (Kim, SJ., et al , 2011). Oldenlandia has a unique ability to inhibit the formation of fibroblasts (Wu, PK., et al, 2009). This ability may be critical to prevent the formation of micro-abscesses in the mammary tissue to prevent the typical carrier state that is found with this type of mastitis. Scrophularia, Xuan Shen, has strong anti-inflammatory effects through inhibition of NO and activation of macrophages (Azadmehr, A., et al, 2009). The phenolic acid fraction isolated from Scrophularia, Xuan Shen, has been shown to possess potent antibacterial activity (Fernandez, MA., et al, 1996).

### July 2011

July 16, 2011-Delilah has a pink tongue, normal pulse, milk was clinically normal, her milk culture was negative; CMT was normal. Delilah's milk production was 55 pounds a day. The treatment plan was to slowly wean her off Wei Qi Booster down to one tablespoon a day.

### September 2011

September 20, 2011: The other two cows in the herd had calved and were milking normally, no evidence that Delilah had spread the *Staph aureus* to the other herd members. Delilah is normal; normal tongue and pulse. Her owner cultured her milk-negative. Wei Qi Booster was stopped; milk production was 50 pounds a day.

### Reassessment/outcome

Delilah had an acute invasion of a Damp/Heat pathogen due to an underlying deficiency. Her response to Long Dan Xie Gan Tang was excellent. She had been cultured with a penicillin resistant *Staphylococcus aureus*. This is a very intractable organism, yet she responded very well to treatment in five days, with no evidence of a chronic carrier state. The first treatment goal was to treat the pathologic Damp Heat, as soon as that was resolving she was changed to an herbal formula, Wei Qi Booster, that supported her immune system by tonifying Qi and Blood but still having Toxin clearing herbs in the formula. Her underlying susceptibility was caused by the metabolic stress dairy cows are under, which was magnified by the lack of nutritional support at her new barn. This deficiency state resolved well with Wei Qi Booster and more appropriate nutritional support. She

resolved her mastitis completely with no evidence of a carrier state. This is remarkable for a mastitis caused by penicillin resistant *Staphylococcus aureus*.

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**Figure 1: Delilah is to the far right. Picture was taken in mid-August, 2011.**

### Discussion

The therapeutic efficacy of antibiotics in many cases of mastitis is decreasing. The cure rates for *Staphylococcus aureus* is reported to be of an intractable nature with a less than 35% (Owens, WE, et al, 1997). *Staphylococcus aureus* has several genetic variants that create antibacterial resistance (Gao, J, et al, 2011). This evidence supports the concern of any antibiotic use in food producing animals. Studies suggest that treatment with antibiotics should be discouraged in older animals, chronic infections, or penicillin-resistant isolates (Barkema, HW, et al, 2006).

The dairy industry has been searching for more effective therapies. There are promising results with the use of ginseng saponins, propolis and other herbal extracts (Malinowski, 2002). Science has been trying to investigate the action herbal medicine has upon the mammary gland. One study found that herbal products resolve mastitis by activating blood flow and removing blood stasis (Lu, Y et al; 2008). Clearly herbal medicines are indicated in the treatment of our food producing animals.

The oral use of a herbal formula as opposed to an intramammary infusion has a strong advantage to clear the chronic carrier state when the organism can be found outside of the mammary gland, as *Staph. aureus*. The use of herbal formulas, as seen in this case, can reduce the incidence of chronic carrier states by influencing blood flow and decreasing scar tissue formation. These chronic carrier states not only create a life-long stress on the individual but also these organisms can be spread via the milking equipment to other individuals in the herd.

Chinese herbal medicine is an effective modality to treat mastitis in the dairy cow. There is a concern to determine safe milk and meat withholding times. The excretion of herbal medicines through milk has not been fully determined (He, SM, 2011). Delilah's milk was withheld for the typically antibiotic time for 72 hours.

Footnotes

a. Jing Tang Herbal, Inc. Reddick, FL 32586

## References

1. McDonald, J. 1984. Streptococcal and Staphylococcal Mastitis. *The Veterinary Clinics of North America, Symposium on Bovine Mastitis*. Philadelphia, PA: W.B. Saunders. p.269-285.
2. Smith, GW, et al. 2006. Efficacy of vaccination and antimicrobial treatment to eliminate chronic intramammary *Staphylococcus aureus* infections in dairy cattle. *J Am Vet Med Assoc* Feb 1: 228 (3): 422-425.
3. Blood, et al. 1983. *Veterinary Medicine*. London. Bailliere Tindall. p.467.
4. Ni, M. 1995. *The Yellow Emperor's Classic of Medicine*. Boston, MA. Shambhala.
5. Barkema, HW, et al. 2006. Invited Review: The role of cow, pathogen, and treatment regimen in the therapeutic success of Bovine *Staphylococcus aureus* mastitis. *J Dairy Science* Jun: 89 (6): 1877-189.
6. Chen, J. and Chen, T. 2009. *Chinese Herbal Formulas and Applications*. City of Industry CA. Art of Medicine Press. p. 371-378.
7. Fu, J. 2008. An anti-sepsis monomer, 2',5',6',7'-tetrahydroxyflavanol (THF), identified from *Scutellaria baicalensis* Georgi neutralizes lipopolysaccharide in vitro and in vivo. *Int Immunopharmacol* Dec 10: 8 (12); 1652-1657.
8. Yang, D. et al. 2000. Study on the inhibitory activity, in vitro, of baicalein and baicalin against skin fungi and bacteria. *Zhong Yao Cai* May; 23 (5): 272-274.
9. Zheng, X, et al. 2010. Identification of a new anti-LPS agent, geiposide, from *Gardenia jasminoides* Ellis, and its ability of direct binding and neutralization of lipopolysaccharide in vitro and in vivo. *Int Immunopharmacol* Oct (10); 1209-19.
10. Wegner T, Kraft K. 1999. Plantain (*Plantago lanceolata* L.): anti-inflammatory action in upper respiratory tract infections. *Vien Med Wochenschr* 149 (8-10); 211-216.
11. Jukola E, et al. 1996. Blood selenium, vitamin E, vitamin A, and beta-carotene concentrations and udder health, fertility treatments, and fertility. *J Dairy Science* May, 79 (5): 838-845.
12. Xie H. 2004. *Chinese Veterinary Herbal Handbook*. Reddick, FL. Chi Institute of Chinese Medicine
13. Gao QT, et al. 2006. A Chinese herbal decoction, Danggui Buxue Tang, prepared from *Radix Astragali* and *Radix Angelicae Sinensis* stimulates the immune responses. *Planta Med* Oct; 72 (13); 1227-1231.
14. Cha A, et al. 2012. Antilipogenic and Anti-inflammatory Activities of *Codonopsis lanceolata* in

Mice Hepatic Tissues after Chronic Ethanol Feeding. *J Biomed Biotechnol* 2012;141395.

15. Yan R, et al. 2009. Cytotoxicity and antibacterial activity of *Lindera Strychnifolia* essential oils and extracts. *J Ethnopharmacol* Jan 30; 121 (3); 451-466..
16. Luo Y, et al. 2009. Total alkaloids from *Radix Linderae* prevent the product of inflammatory mediators in lipopolysaccharide-stimulated RAW 264.7 cells by suppressing NF-kappaB and MAPKs activation. *Cytokine* April; 46 (1); 104-110.
17. Wang N, 2004. *Lindera strychnifolia* is protective against post-ischemic myocardial dysfunction through scavenging hydroxyl radicals and opening the mitochondrial KATP channels in isolated rat hearts. *Am J Chin Med* 32 (4); 587-698.
18. Sumioka H, et al. 2011. Linderolides AF, eudesmane-type sesquiterpene lactones and linderoline, a germacrane-type sesquiterpene from the roots of *Lindera strychnifolia* and their inhibitory activity on NO production in RAW 264.7 cells in vitro. *Phytochemistry* Dec; 72 (17); 2165-71.
19. Kim SJ, et al. 2011. Antiinflammatory effect of *Oldenlandia diffusa* and its constituent, hentriacontane, through suppression of caspase-1 activation in mouse peritoneal macrophages. *Phytother Res* Oct; 25 (10); 1537-46.
20. Wu PK, et al. 2009. Oleanolic acid isolated from *Oldenlandia diffusa* exhibits a unique growth inhibitory effect against ras-transformed fibroblasts. *Life Sci* July 17; 85 (3-4); 113-21.
21. Azadmehr A, et al. 2009. Suppression of nitric oxide production in activated murine peritoneal macrophages in vitro and ex vivo by *Scrophularia*

- stryata* ethanolic extract. *J Ethnopharmacol* Jul 6; 124 (1); 166-9.
22. Fernandez MA, et al. 1996. Antibacterial activity of the phenolic acids fractions of *Scrophularia frutescens* and *Scrophularia sambucifolia*. *J Ethnopharmacol* Jul 26; 53 (1); 11-14.
23. Owens WE, et al. 1997. Comparison of success of antibiotic therapy during lactation and results of antimicrobial susceptibility tests for bovine mastitis. *J Dairy Science* Feb; 80 (2): 313-317.
24. Gao J, et al. 2011. Molecular types and antibiotic resistance of *Staphylococcus aureus* isolates from bovine mastitis in a single herd in China. *Vet J Epub* Oct 14.
25. Malinowski E, 2002. The use of some immunomodulators and non-antibiotic drugs in a prophylaxis and treatment of mastitis. *Pol J Vet Sci* 5(3): 197-202.
26. Lu Y, et al. 2008. Selection of component drug in activating blood flow and removing blood stasis of Chinese herb medicinal formula for dairy cow mastitis by hemorheological method. *J Ethonpharmacol* Mar 5;116 (2); 313-317.
27. Marsden S. 2008. CIVT 1002: IVAS Course in Chinese Herbal Medicine, Lecture Notes. Russell Lea, NSW.
28. He SM, et al. 2011. ADME properties of herbal medicines in humans: evidence, challenges and strategies. *Curr Pharm Des* 17 (4); 357-407.

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# Calendar of Veterinary Herbal Events 2012/2013



**AUGUST 29 – SEPTEMBER 1, 2012**

## **38TH ANNUAL INTERNATIONAL CONGRESS ON VETERINARY ACUPUNCTURE**

**GALWAY, IRELAND**

### **KEYNOTE SPEAKERS**

Bruce Ferguson, DVM, MS - We would like to welcome as one of the keynote speakers Dr. Bruce Ferguson. Dr. Ferguson graduated with his Masters Degree in Animal Behavior in 1986 from the University of Florida in Gainesville, Florida.

He graduated with honors with his Doctorate in Veterinary Medicine in 1992 from the University of Florida in Gainesville, Florida. He was certified in Veterinary Acupuncture and Veterinary Herbal Medicine from the Chi Institute of Chinese Medicine in 1999. Dr. Ferguson has also attended human acupuncture school, but has elected to not be a licensed human acupuncturist due to his passion for his veterinary patients. Dr. Ferguson lectures both nationally and internationally in the field of TCVM.

Dr. Ferguson will be speaking on :

- Where are the points, Introduction
- Beyond Transposition: Symmetry and Balance in Small Quadruped Distal Points
- How I treat Wei and Bi Syndrome with TCVM
- Introduction to Food Therapy in Traditional Chinese Veterinary Medicine

Judith M. Shoemaker, DVM and Dr. Karen Gellman – Dr. Shoemaker is an internationally known practitioner and educator in complementary veterinary medicine and therapy. She is a 1980 graduate of the University of Georgia College of Veterinary Medicine. She is licensed to practice in most of the states on the East Coast and in Colorado, Kentucky, Indiana, and Alabama. Dr. Shoemaker lectures extensively, both in the United States and abroad, on Integrative Medicine and therapy, as well as providing instruction through her practice. She has served as a board member and representative for AVCA, AAVA, IVAS, and AHVMA.

Dr. Karen Gellman – Dr. Gellman is a graduate of Cornell College of Veterinary Medicine, and has a doctorate from Cornell in animal locomotion biomechanics. She has advanced training and certification in veterinary acupuncture and veterinary chiropractic.

Drs. Shoemaker and Gellman will be speaking on: • Living with Gravity

- Normal and Abnormal Posture
- Spinal Biomechanics
- Upper Cervicals, Feet and Teeth -- the Big Three Players in Normal Posture
- Equine: Postural Rehabilitation on Horses

<http://www.ivas.org/ivas-congress/>

SEPTEMBER 8-11

## THE 2012 AHVMA ANNUAL CONFERENCE SHERATON IN BIRMINGHAM ALABAMA

This is also our 30th anniversary, so watch for special events here.

<http://meetings.ahvma.org/index.php/home>

SEPTEMBER 11-15

## 2012 AHVMA RETREAT CAMP MCDOWELL, NAUVOO, ALABAMA

<http://meetings.ahvma.org/>

OCTOBER 20-21, 2012

## 4 QI IMBALANCES AND 5 ELEMENTS

Jeremy Ross teaches a unique system of diagnosis to help practitioners form precise evaluations that help clarify complex cases and the optimal choice of acupuncture and herbs for treatment.

Diagnosis and treatment:

Patients with chronic disorders are rarely simple to diagnose and treat, and many have so many different complaints and Chinese syndromes, that it is difficult to see the forest for the trees. Jeremy's new visual system can simplify complex cases and give a clear overview, and also help practitioners develop greater precision in their herb and point choices. This results in safer and more effective treatment.

Key diagnostic questions:

Jeremy has a special gift for zeroing in on the key diagnostic questions that solve a case, and for communicating this ability to practitioners. He will demonstrate how to use key questions to separate similar Chinese syndromes, and then give star ratings to each Chinese syndrome so that the practitioner knows how many herbs or points to use for one syndrome and how many for another.

Compare and choose acupuncture points:

In the 4 Qi Imbalances and 5 Element system, each point is rated 0-3 stars, depending on how much it tonifies, moves, calms, or drains. This makes it easy to compare points and to choose the best point for each situation, even from similar points on the same channel.

Compare and choose Western herbs:

Jeremy will show participants how to use the 4 Qi Imbalances and 5 Element system to bring out the essential differences between similar herbs in the same group. For example, how to choose between the sweet tonics saw palmetto, oats, American ginseng, and oriental ginseng, using star ratings from 0-3 for tonify, move, calm, or drain.

University House,  
4400 Stone Way North  
Seattle, Washington

<http://www.jadeinstitute.com/jade/seminar-details.php?id=16>

OCTOBER 26-28, 2012

## COMBINING WESTERN HERBS AND CHINESE MEDICINE: DERMATOLOGY

With an engaging and unique approach to teaching herbal medicine, Jeremy Ross offers a system that successfully integrates the paradigms of Chinese medicine, Western herbal tradition, and phytopharmacological research. His seminars help students to develop concise diagnosis and treatment, and facilitate both a deep understanding of individual herbs and the sophisticated use of herb combinations that are effective and safe.

In this 3-day course, Jeremy Ross will be teaching his system of combining Western herbs and Chinese medicine in application to dermatology disorders. He will primarily address oral herb prescriptions, but will also offer some topical preparations and as well as herbal detoxification treatments.

<http://www.jadeinstitute.com/jade/seminar-details.php?id=15>

TUESDAY, NOVEMBER 13TH.

## VBMA TELESEMINAR

THE HERBAL TREATMENT (BOTH CHINESE AND WESTERN) OF EQUINE METABOLIC DISEASE AND LYME DISEASE WITH DR. JOYCE HARMAN

<http://www.vbma.org/teleseminar%20programs.html>

JUNE 28th - 30th 2013

11TH INTERNATIONAL HERB SYMPOSIUM CELEBRATING THE HEALING POWER OF PLANTS  
WHEATON COLLEGE, NORTON, MASS.

The International Herb Symposium is known for representing a wide range of ideas, beliefs, and the various methods we have of working with healing plants from shamanic and folklore to ethnobotanical, clinical and scientific. The teachers and classes we've chosen for this year's IHS represent some of the great diversity found amongst herbalists and herbalism in the world today.

We come together in the spirit of health, healing and cooperation to share and learn from one another. We invite teachers to present what they are most passionate about and to offer their views and thoughts as openly and freely as you wish. In thoughtful respect to the wild-hearted nature of plant people, we honor the many diverse paths we each follow and the great diversity of the Green Nations.

<http://www.internationalherbsymposium.com/>

## VBMA CERTIFICATION

The VBMA seeks to provide animal owners, farmers, and veterinarians with some standard of competency by which to choose a veterinary herbalist. **For certification by VBMA, the herbalist must pass a competency examination with a grade of 75%.** In addition, the herbalist must submit and have accepted 3 case reports that are publication quality. Veterinarians certified by VBMA will earn the title "*Certified Veterinary Herbalist*". Non-veterinary herbalists will earn the title "*Certified Veterinary Herbalism Educator*."

[CLICK HERE](#) to download the study guide.

## COLLEGE OF INTEGRATIVE VETERINARY THERAPIES

CIVT is committed to providing the highest quality education in natural medicine for animals, drawing on the expertise and knowledge of leading veterinarians and educators across the world. Our College offers accredited and non-accredited tertiary education. CIVT is a government (Australian Skills Quality Authority) Registered Training Organisation TGA 91769 which conducts itself under the Australian Quality Training Framework guidelines.

<http://www.civtedu.org/the-college/>



Sonya Whiteley, Vicki Farthing, Julio, and Cindy Lanckenau with the dog Lily in front- from the VBMA's 2012 Ecotour to Spain- see the inspiring images pages 22-25

# Application Form

HOW TO BECOME A MEMBER OF THE VETERINARY BOTANICAL  
MEDICINE ASSOCIATION



## Who can apply

Regular membership is open to any veterinarian with an interest in herbal medicine. Nonveterinarian herbalists may join as associate members, provided they are professional members of the AHG or NIMH, or have equivalent experience. Affiliate membership is for members of the industry to remain current in the needs and concerns of veterinary herbalists, and does not imply clinical expertise or certification of any sort.

Regular, Associate and Affiliate membership is \$80 per year. Veterinary student membership is \$15 per year. Multiple membership is available to family or hospital groups (so that each e-mail address can have access to the listserv, get a web password, etc); the cost is \$80/year for the first member, and \$45 for each additional member. To qualify, the snail mail address of each group member must be the same.

Special allowance for DEVELOPING COUNTRIES: VBMA accepts membership applications and grants membership to qualified applicants in developing countries for \$30/year.

## Veterinary membership

Please fill out the form below, for the first part of your membership application. If you are still a student, fill in your expected year of graduation and the state you expect to practice in.

Your Name

Year of Graduation

Veterinary Hospital/Clinic name

Work Address 1

Work Address 2

City

State/Province

Zip Code

State or country (if not U.S.) of primary license

Veterinary School Attended

Veterinary License Number

Email address

I wish to have my information visible on the website for pet owner referral

Yes

No

# Contributions to the JVBM

## INSTRUCTIONS TO AUTHORS

The VBMA invites contributions to the Journal of Veterinary Botanical Medicine. The JVBM publishes material on all aspects of veterinary medical herbalism with emphasis on the clinical application of medicinal plants in veterinary medicine, the philosophy of veterinary herbal medicine, and the phytochemistry, pharmacology, herb drug interactions and research that applies to veterinary botanical medicine.

### Editorial Policy

Subject material must relate to veterinary botanical medicine. Feature contributions (case studies and monographs) are subject to peer review and editing.

### Contribution Requirements

Contributions should be word processed and forwarded by email to the editor, with the file(s) saved in plain text or Microsoft Word formats. All statements must be referenced and a full reference list must be included (if references are lengthy, they may be published in full on the VBMA website rather than in print). If the statement is the author's observation or opinion, this should be made clear. All statements should be of a professional nature and exclude any inappropriate style of writing. An abstract of the article should be included. A brief profile of the author should be included.

### Peer Review

All feature articles will be reviewed by two independent peer reviewers. Reviewed articles will be returned to the author for modification if required.

### Referencing

Textual citation method should be employed. Requires the name of author and year of publication in brackets at the end of statements or paragraphs. The reference list should be arranged in alphabetical order using the following format:

**JOURNALS** Author's surname Author's initials. Year. Title of article. Journal name volume; issue: page numbers.  
for example: Bauer V, Bauer F. 1999. Reactive oxygen species as mediators of tissue protection and injury. *Gen Physiol Biophys* Oct; 18 :7-14

**BOOKS** Author's surname Author's initials. Year. Book title. Edition. City of publication: Publisher. for example:  
Bensky D and Gamble A. 1993. *Chinese Herbal Medicine: Materia Medica*. Seattle, WA. Eastland Press, Inc.

### Submission of Articles

Please contact the VBMA re submission of articles