

# American Herbal Pharmacopoeia<sup>®</sup> *and Therapeutic Compendium*

## *Osha*

*Ligusticum porteri* J.M. Coult. & Rose

Standards of Analysis, Quality Control, and Therapeutics

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#### Medical Disclaimer

The information contained in this monograph represents a synthesis of the authoritative scientific and traditional data. All efforts have been made to ensure the accuracy of the information and findings presented. Those seeking to utilize botanicals as part of a health care program should do so under the guidance of a qualified health care professional.

#### Statement of Nonendorsement

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#### Design & Composition

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*Ligusticum porteri*  
Columbine-Hondo Wilderness  
Study area, Taos Co., New  
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# A proposal by the American Herbal Pharmacopoeia (AHP) in Collaboration with United Plant Savers (UpS) August 11, 2014



## Introduction

The American Herbal Pharmacopoeia (AHP) in collaboration with United Plant Savers (UpS) is embarking on the development of an AHP Monograph and Therapeutic Compendium for the North American native botanical osha (*Ligusticum porteri*). No such monograph on osha has ever been developed, so this will be historic. The genesis of the monograph arose from prior formal population and cultivation studies being funded partially by the American Herbal Products Association (AHPA) ERB Foundation and the United States Forestry Service. This work is being developed by noted research botanist Kelly Kindscher of the University of Kansas. As with all AHP monographs, a suite of scientifically valid identification tests will be provided, with appropriate drawings and photographic images to help in the identification of the species. This is critical as adulteration with potentially deadly species within the Apiaceae can occur. To our knowledge, no formal differentiation between various species of *Ligusticum* root and their chemical profiles with the potential adulterants has been done. Additionally, there is a delicate balance that must be struck between its commercial use and conservation. We are hoping the combination of the monograph, which will address identification and sustainable harvesting practices, along with the formal population studies, will help strike that balance so we can approach the use of this plant safely and very consciously.

## A Historically Important Botanical

Osha is one of the most highly regarded of North American botanicals, but among the most neglected in terms of research. Whereas monographs for a large number of herbs can be found in the historical literature, none can be found on osha. According to AHP President Roy Upton; “Throughout its growing range osha is considered one of the most important medicines of Native Americans. It is used both as medicine and for ceremonial purposes being used by tribes from the Southwest to Pacific Northwest and the Plains.” Osha is also used in a number of dietary supplement products. According to a 2007 report of the AHPA, the use of osha is trending upwards which makes a monograph such as this so important.

## Environmental Sustainability

Osha is considered by many to be an environmentally sensitive plant due to it being limited to natural growth primarily at elevations above 8000 feet and preferring higher elevations. Efforts to cultivate osha have been largely met with failure, though a few successes have been reported. To date, there has been no widespread commercial cultivation of osha. Utilizing data from formal populations studies, growing experiments, and interviews with wildcrafters, the monograph will address various aspects for the sustainable harvest of osha as well as look at closely related species of *Ligusticum* that may be used interchangeably with *L. porteri*.

### **Problems with Potentially Deadly Adulteration**

Osha is a member of the Apiaceae family. Many Apiaceae share common identifying features. Differentiating between species can be extremely difficult for those not intimately familiar with the family or genus. Most notably, there is historical report of potential contamination or adulteration with the highly poisonous poison hemlock (*Conium maculatum*). It has been reported that even a peanut-sized amount of poison hemlock ingested by a human can cause death and that death can occur through contact with the juice. This makes it critical to have appropriate identification methods for the plant and roots. Additionally, there is a potential for adulteration of osha to occur with a number of the Chinese species of *Ligusticum* that are found in trade. While this has not been reported, it is likely that such an adulteration can occur in much the same way that adulteration of the North American native botanical *Actaea racemosa* (black cohosh) with Chinese species of *Actaea* (*Cimicifuga*) has.

### **Monograph Development**

All AHP monographs are developed by acknowledged experts in the field of medicinal plants and include a diverse array of experts in botany, pharmacognosy, natural products chemistry and analysis, pharmacology, toxicology, and traditional herbal medicine. The osha monograph will be no exception. AHP has already received pledges of collaboration by noted botanists Kelly Kindscher and Wendy Applequist, Apiaceae botanical expert Steven Yeager, naturopathic and integrative medicine specialist Francis Brinker, microscopist Reinhard Laenger, HPTLC expert Eike Reich, and editor of AHPA's Botanical Safety Handbook Zoe Gardner. Other experts and reviewers will be sought as we get into the monograph development process.

### **Funding Proposal**

The cost of monograph development will be considerable less than other monographs, due to the lack of available data. At the same time, there will be some difficulty in developing the original work necessary for developing chemical profiles for the various species, including the adulterants. The following page provides a general budget and sponsorship form.

### **Initial Funding Received**

AHP has received a number of positive responses from industry regarding the development of this work. Initial contributions of \$5000 have been made before the project was formally announced. We hope this will underscore the importance of this monograph to other industry members. We expect to be able to raise another approximately \$5000 from industry and hope the AHPA ERB Foundation will consider contributing the balance of \$4700 to make this work a reality. We also hope the ERB Foundation can help to spread the word and encourage support of this project to AHPA members.

With sincere regards for your consideration,



Roy Upton, President  
American Herbal Pharmacopoeia  
herbal@got.net; 831-461-6317

# MONOGRAPH DEVELOPMENT BUDGET\*

## & PLEDGE FORM for *Osha (Ligusticum porteri) Root*

<u>Monograph Budget Items</u>	<u>Expenses</u>
Literature Retrieval	\$600.
External writing/ editing	\$1,000.
Analytical Methods	\$1,000.
Illustrations and photography	\$400.
Internal writing/ editing	\$8,000.
Office overhead	\$2,500.
Graphic Layout	\$1,200.
<b>Total Cost</b>	<b>\$14,700.</b>

\* Figures are close approximations. Budget will fluctuate depending on complexity of the botanical and breadth of available data.

■ **Yes, we would like to Sponsor the *Ligusticum porteri (Osha)* monograph development with a pledge of (please check below):**

- Benefactor \$14,700.
- Patron \$7,350.
- Sponsor \$3,600.
- Supporter \$1,000.

■ **Payment Options:**

- Send monthly invoice
- Send quarterly invoice
- Send invoice for full amount
- Full amount enclosed (US dollars only or Credit Card up to \$5,000.)

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■ **In addition, our company can provide any of the following services:**

- Methods validation
- Literature retrieval
- Photographs
- Translations: Chinese, French, German, Italian, Russian, Other \_\_\_\_\_

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