

Sustainability of the Supply Chain at the CHC National Conference October 27 and 28

Dear Member,

Please find attached below a report written by Frank Lampe, Director of Communications American Herbal Products Association (AHPA) which covers:

- Guidelines covering cultivation of herbal materials;
- Good collection practices for wild crafted botanicals; and
- Related GACP issues including personnel and recordkeeping.

To find out more about Sustainability, please register for the CHC's National Conference in Manly, Sydney this Thursday and Friday, the 27th & 28th October. The Conference covers the topic of Sustainability in the following presentations:

- **Day 1 (13:30-15:00) Herbal Authentication/Standardisation-Panel**
Speaker 6 – Suresh Govindaraghavan, Research and Development Manager, Network Nutrition
Speaker 7 - Brynn Hibbert, Chair of Analytical Chemistry, University of New South Wales
Speaker 8 – Ashley Dowell, Southern Cross Plant Science, Southern Cross University
- **Day 2 (14:15-14:45) Life Cycle Thinking and the Rising Tide of Environmental Awareness Across the Supply Chain**
Speaker 17 – Tom Davis, Director Edge Environment
- **Day 2 (14:45-15:15) The Long Term Growth and Sustainability of the Omega-3 Category**
Speaker 18 – Kevin Krail, Executive Director Omega 3 Centre Sponsored by the ComplementaryMedicines Group (CMG)

The theme of this year's conference is "**Future Health of Australia 2020**". We are proud to be able to bring together an extensive program of speakers to inspire and challenge your mind to think to the future.

With over 200 delegates and speakers, the CHC Annual Conference provides a once a year chance to network with key industry members.

For the full program and to register for the National Conference please visit:

<http://www.chc.org.au/2011-National-Conference-&-Annual-Industry-Awards>

We are looking forward to catching up with you on October 27, 2011.



Future Health of Australia 2020

2011 Complementary Healthcare Council (CHC)

Annual Conference and Industry Awards

October 27-28, 2011

Emma Burchell | BHSc(Complementary Medicine) | ND(Adv) | Regulatory Affairs | Complementary Healthcare Council of Australia
www.chc.org.au





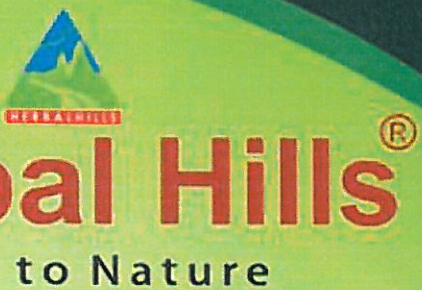
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Sustainability of the Supply Chain

Sustainable Harvesting Ensures
Botanical Quality and Supply

by Frank Lampe





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Dried black cohosh

Sustainability of the Supply Chain

Sustainable Harvesting Ensures
Botanical Quality and Supply

by *Frank Lampe*

While a number of medicinal herbs are cultivated, many are not. These are gathered, as they have been for thousands of years, through wild crafting. But regardless of the source, the sustainable harvesting of these botanical materials is a good idea for many reasons: for consumers, it benefits their health and well-being and ensures a continued supply of quality products; for business, it ensures the health of workers, maintains raw botanical resources and builds stable markets. The benefits to the environment are self-obvious.

To help manufacturers and processors of botanical-based products better understand both the purposes of and the steps involved in sustainability harvesting practices, the American Herbal Products Association (AHPA) and the American Herbal Pharmacopoeia (AHP) created the Good Agricultural and Collection Practice for Herbal Raw Materials (GACP).

The GACP describes five key areas of sustainable harvesting: agricultural practices (for cultivated or farmed plants), collection practices (for wild harvested plants), post-harvest handling, personnel, and record-keeping and retention samples.

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American ginseng plant

Good Agricultural Practices

Cultivation of herbal materials should follow six basic guidelines.

1. Selection and Care of Propagation Material

The quality of any crop begins with the quality of the propagation material from which it is grown. It is most important to carefully identify all propagation materials — whether sexual (seed) or asexual (root, rhizome, vegetative cuttings, etc.) — as to genus and species and to subspecies, variety, cultivar and/or hybrid, and ensure materials are free of pests, disease, and weeds or species not being cultivated.

If genetically modified (GM) seeds or stock are used, growers should conform to all relevant federal and regional regulations, both at the agricultural location and in the countries in which the material may be sold. Also, be sure to disclose the use of genetically modified propagation material in records and crop labeling so downstream recipients of such crops are informed.

2. Site Selection

The site where propagation material will be cultivated is key to quality control. Factors to assess include soil fertility, possible soil contaminants, weather patterns such as annual rainfall, the source and quality of the water that will be used on crops, water retention analysis, possible runoff impacts, the type of irrigation equipment used (lead pipes, for example, are clearly problematic for a sustainable harvesting plan), and even the site's use history.

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Understanding the agricultural requirements of the herbal crops being cultivated will greatly assist in site selection because some plants are more prone than others to the absorption of soil contaminants, which is why testing the soil and knowing its use history is so important.

Record and maintain any information that may have relevance to either improving or damaging the crop or the site itself. At the minimum, each of the following factors should be assessed:

- Annual and seasonal rainfall at the specific location or, at least in the location's vicinity.
- Direction of the site with relation to cardinal direction (north, south, east, west) and the amount of available sunlight.
- Access to water, if the crop requires irrigation.
- Slope, to minimize erosion and loss of topsoil.
- Identity of crops grown on adjoining sites, if known, and any treatments that may be applied to those crops.
- Location in relation to potential sources of contamination such as industrial facilities; mine tailings; parking lots; golf courses; waterways; underground storage tanks; etc.

As for understanding the site's use history, be sure to learn what crops have been recently grown on the site as well as adjoining ones; any use of chemical inputs on the site; whether the site has been used for the raising of food animals; and any corrective actions taken for environmental contamination.



Ginseng root



Echinacea purpurea

3. Crop fertilization

While fertilizers may increase crop yields, fertilizers also can negatively impact the health of environments as well as that of workers and consumers. Additionally, federal, state, and local regulations may apply to some chemical fertilizers used on commercially grown herbal crops. Organic growers are required to refrain from using any such chemicals altogether and instead supply naturally sourced amendments when needed. The GACP covers guidelines for both chemical fertilizers and for manure- and compost-based fertilizers.

4. Irrigation

Access to sufficient quantity and quality of water is essential to farm operations, and many crops rely on irrigation to supplement water received from normal rainfall. To ensure the quality of water and its efficient use, growers need to determine the water's source and purity as well as how much water different plants require. They should use clean, nontoxic irrigation equipment that will not contaminate plants (such as is the case with lead pipes, for example). And, all water district regulations need to be followed.

5. Crop Protection and Maintenance

The GACP lays out other strategies for a successful and sustainable harvest that include planting companion plants that benefit the primary crop, using alternative to insecticides, and using crop-specific cultivation methods.

6. Harvesting

The condition of the crop at the time of harvest has a significant effect on overall crop quality. Other important factors include weather conditions at the time of harvest and using harvesting equipment made of nontoxic materials that can be easily cleaned and kept clean.

Good Collection Practices

Sustainable harvesting practices for wild harvested or wildcrafted plants from woods, fields, seashores and other habitats follow many of the same guidelines for cultivated products. Good collection practice is essential for providing accurately identified and good-quality botanical raw material and for protecting species from over-harvesting. The GACP covers methods for good habitat stewardship and include the following points.

Training. Collectors must be able to accurately identify plants, obviously, but proper training is also key to protecting endangered species and ensuring the stability of plant populations and ecosystems.

Permits. Obtain necessary formal permits or permission from private and public entities before harvesting and have them available during collection times.

Site selection. Evaluate sites for the potential to produce pure plants



Gentiana

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of good quality but also for worker safety during collection. Understanding a site's use history and its locale or setting is important, just as it is with cultivated crops in order to assess any potential contaminating influences at and around the site.

Harvesting practices. The season and time of day matter with regard to the collection of good-quality, wild-plant material. In general, and ideally, above-ground parts of plants should be collected early in the day, but after any dew has evaporated, and in dry weather (though these time-of-day and weather restrictions are not relevant to barks). Again, training is crucial to understanding the requirements of different plants and habitats.

Actual handling practices used at the time of and immediately following harvest will also impact quality of the product. For example, dirt and other foreign matter (e.g., other plant parts, insects, bird nests, spider webs, lichens or fungi on barks, etc.) should be removed from harvested material simultaneous with collection.

Post-Harvest Handling

The care given to the fresh cultivated or wildcrafted herb after harvesting greatly affects final product quality. After harvesting, fresh plant material is especially vulnerable to degradation because its naturally occurring moisture content invites decay, contamination, and infestation. Throughout harvesting and processing—from transport from field or site to later steps of washing, cutting, milling, dehydrating, refrigerating or freezing, packaging, and storing—plants need special, trained handling. The GACP lays out guidelines for these steps and addresses such mitigating factors as facilities, timing, equipment, quality of inputs and materials, personnel issues, shipping and more.

Personnel

There are three primary areas related to personnel — training, safety and hygiene. Guidance for addressing these three issues in the GACP is relevant to all phases of growing, collecting and post-harvest handling. While training is perhaps the most obviously beneficial of these criteria to protect product quality, the safety and hygiene of workers is also crucial. At the minimum, be sure workers have adequate clothing and protective gear. Train them to understand and recognize potential hazards to themselves and habitats and provide the appropriate tools and equipment with which to do their jobs.

Record Keeping and Samples

Finally, it's imperative farmers and collectors keep accurate records for every stage of cultivation, harvest and post-harvest handling of herbal raw materials. These must include relevant personnel issues as well. Thorough records help to prevent costly mistakes in future planting, improve yields, increase marketability, ensure legal conformity, and solve questions about an ingredient's distribution.

In addition to keeping good records, take retention samples for each lot of herbal material produced in order to be able to trace back a specific herbal raw material to its source should the need arise.

Herbal products such as teas, dietary supplements, drugs and cosmetics are widely available in the United States and internationally, and the agricultural and collection practice of herbs have product-quality, cultural and environmental implications. The emergence of the idea that good agricultural practice needs to be clearly described and documented, however, is a fairly recent development, even for conventional agricultural crops.

With the GACP, AHPA and AHP have established guidelines to help growers and collectors of herbs destined for use in consumer products follow a sustainable harvesting strategy, one that ensures that the herbal raw materials are accurately identified, are not adulterated with contaminants that may present a public health risk, and are in full conformity with all of the quality characteristics for which they are represented. □

Frank Lampe is the director of communications for the American Herbal Products Association (AHPA). Most recently, he was the executive vice president of ImmoVision Health Media. He managed the day-to-day operations and all content-related functions for this healthy- living and integrative-medicine publishing company. Previously, he co-founded Natural Business Communications, and served as the editorial director for the Natural Products Group at New Hope Natural Media. Lampe has served on the boards of the Natural Products Foundation, the Natural Publishers Association, the Socially Responsible Business Awards and the Natural Products Quality Assurance Alliance.