



International Plant Identification Practice

Canadian Herb, Spice and
Natural Health Products
Coalition

Welcome and Thank you



- **We are the Canadian Herb, Spice and Natural Health Product Coalition - CHSNC**
- **We connect agriculture (including wildcrafting) and health together from the field to the shelf**
- **We work with leaders in this field across Canada and internationally**



am :

- **Connie Kehler**
- **Executive Director**



We encompass genetic resources from cultivation and wild collection



The Scope of our members

- **Producers, wildcrafters, manufacturers, practitioners, researchers, regulators, scientists, government partners**
- **Associations, companies, groups (Eel River MicMacs, Sisca Nations, North Forest Diversification Centre, The Pas)**
- **Mostly small – micro companies – cottage industry**



Our partners

- Health Canada
- Agriculture Canada
- Environment Canada – **SARA** (*Species at Risk Act*) and **CITES** (*Convention on International Trade in Endangered Species of Wild Fauna and Flora*)
- HRDC – Sector Council Development
- CARE Canada
- The research community
- The Non Timber Forest community
- Other related associations

What we built, are building and are part of
building

A set of protocols with supporting documentation to cover:

- *Identification*
- *Traceability*
- *Quality*
- *Safety*

Our Building Blocks



- **Plant Identification Practices**
- **CanTrace Traceability Standards**
- **HACCP (Hazard Analysis Critical Control Point) system for On farm food safety**
- **Natural Health Product Health Canada Regulations**
- **WHO (World Health Organization) GACP(Good Agriculture and Collection Practices)**

Struggles and challenges



- **Develop a respected system recognized up the chain but simple and flexible enough to be workable for everyone**
- **Have a framework that could be a base to integrate with existing and developing program – one program not many but flexible**
- **Ensure that both the buyer and seller benefit from the practice**

The foundation this is built on - social , economical and environmental

- **Develop sustainable systems and tools to help communities develop both socially and economically.**

- **Not for them but with them**

With the goal:

- **to develop effective, practical tools for people growing and collecting to accurately identifying and tracking genetic resources while ensuring safety and quality.**
- **to have this a clear simple voluntary practice available to all - that anyone anywhere would be able to use with ease**
- **to ensure traceability throughout the chain**
- **To ensure that documentation is sufficient to ensure the above but not so onerous as to not be adopted**

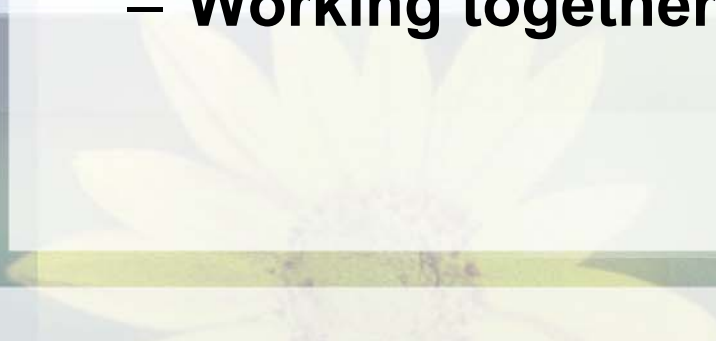


- **Building sustainability by being aware and taking into consideration**

- **Social concerns**
- **Environment concerns**
- **Cultural concerns**
- **Economical concerns**
- **Regulatory concerns**

While

- **Respecting cultural beliefs**
- **Working together with all parties it affects**



Why build a plant id practice



- **Proper plant identification is one of the keys to the development of an industry based on the safe use of high quality products**
- **Examples of misidentification, adulteration, and contamination of botanicals have been widely recorded both within Canada and around the world**
- **Questions of botanical identity and source are a key concern**
- **No matter how safely we handle and process our products, without proper botanical identification as a starting point safety cannot be guaranteed.**





Spring pholiota
(*Luehneromyces lignicola* = *Pholiota vernalis*)



Deadly galerina
(*Galerina autumnalis*)

“There are old mushroom hunters.

And there are bold mushroom hunters.

But there are no old, bold mushroom hunters.”

Confusing a harmless and a poisonous plant



Comfrey
(culinary herb)



Foxglove
(cardiac stimulant)



The driver for the collaborative effort:

- ***Since 1974, the WHO has asserted that the single greatest improvement in botanical quality would be the implementation of a program for the certification of botanical identity.... The fact that after more than 25 years, such a system had not been developed even though the technical requirements are minimal is indicative of the challenges involved.***



The questions to be answered

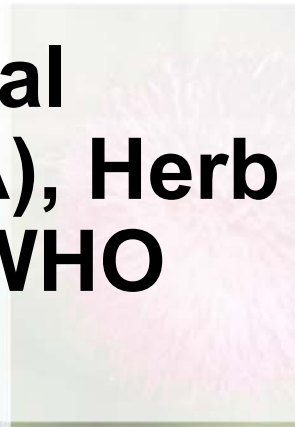


- **how could we create a high degree of certainty that genetic resources will be properly identified and traced throughout the value chain?**
- **what practices could we recommend that will be workable for producers and collectors?**



How it was developed

- a plant identification working group was created with representatives from industry, first nations, government, and educational institutions to provide advice on developing the practice... including producers, wildcrafters, first nations community, American Herbal Product Association (AHPA), Herb Research Foundation and WHO



How to ensure one model fits many situations

- **Make the model outcome and risk assessment based**
- **Each operation uses the model as a framework to build system appropriate to their system**

Risk Based

- **Each operation is evaluated by the risk of their operation.**
- **Once this risk is established based on criteria (people, plants, places) the base model of the protocol can be adapted to their situation**
- **Use what applies to your operation**



Risk communication and context

Typical Risk Management Principles/Steps		On-Farm Food Safety Steps	Actions
Understand objectives	→	Review the OFFS workbook for the Herb and Spice Industry, to become familiar with the OFFS process as to how it might apply on your operation	Read OFFS Workbook
Identify risk areas	→	Identify Hazards in the operation's production process from purchasing to sales and record by reviewing the eight GAP units in section three	Review GAPs
Assess risk	→	Assess the operation's identified hazards, using the decision tree * process (refer to section 5 #5.7 and develop action plans and timelines if a corrective process is deemed necessary	What? How?
Response to risk	→	Carry out the action plan as developed by naming who is responsible and setting timelines for completion	Who? Where? When?
Monitor and reporting	→	Keep accurate and complete records of processes. Review GAP sections periodically to monitor progress or changes in systems and to intercede potential problems and lower risk	Record processes & Review as necessary

Outcome based

- **Outcome questions are answered and substantiated with documentation**
- **Because it is outcome based existing documentation can be used if it meets the outcome required.**



ON FARM HAZARDS to EVALUATE	Hazard Rating	YES	NO	YOUR ACTION PLAN, PROPOSED COMPLETION DATE AND COMPLETION SIGNATURE
1. have a written procedure (SOP) in place for plant identification	5			
2. anyone involved in any way with plant ID, qualifies with either education, training or experience	5			
3. have someone sign off on either one of two documents	5			
4. aware of and follow wild harvesting protocols	4			
5. collect, prepare and store botanical specimens of product harvested for future reference	4			
6. use photos as a backup to botanical samples	3			
7. purchasing product from a third party, have the same assurances	3			
8. that ID is done and certified/guaranteed certificates are signed off before any secondary processing	5			
9. one person on staff responsible to sign off	4			
10. proper labelling is done at each step	4			
11. shipping is done by reliable staff and shipping company	4			
12. records are filed and kept for at least 3 years	4			

Traceability

- **having each player in the chain track where their product comes from and where it goes**
- **One up....one down model... no central data base.**



WHY THIS GAP IS IMPORTANT

- Because of possible misidentification with toxic plants, it is imperative to know what you are planting or wild harvesting
- There are some very toxic plants in Canada, either native or naturalized.(see list in this section)
- Some weeds are cause for concern as contaminants in a field grown product
- Some plants only cause mild upset or dermatitis but may still cause considerable concern as a contaminant
- Identified as the highest risk element for this industry

WHAT YOU MUST DO

- Ensure that the plant/product you are working with is identified completely before it leaves your possession.
- Ensure that there has been no cross contamination
- Ensure you are qualified to identify the plant/product
- Ensure you have the records to validate the identification and the traceability
- Keep sample of product labelled with identifier for location/date collected or harvested and correct name as per practice.

WHO MUST DO IT

- This GAP applies to everyone who produces or collects botanical material

WHEN THIS GAP APPLIES

- This practice must be applied throughout the process of production or collection but has to be complete before the product leaves your possession

This is a "MUST DO" practice and applies to all production production/collection.

This GAP addresses...

Plant/product Identification procedures for producer/collector that include:

- Canadian plants that are considered high to medium risk in the herb and spice industry
- A direct link to Section 7, 'Good Practices for Plant Identification for the Herbal Industry' *said again at the end of the paragraph* This document was developed by the National Coalition with support from many groups. The most notable of these are two from the USA, the 'Herb Research Foundation' and the 'American Herbal Products Association' It is a stand alone document and has its own glossary.

What documents must be kept?

- Complete 'Good Practices for Plant Identification for the Herbal Industry' in Section 7
- Certificate of authenticity *or*
- Declaration of identity

Regulations, guidelines and standards that apply to this GAP

- CITES - Convention on International Trade of Endangered Species
- SARA – Species at Risk Act
- Certificate of Origin obligations
- Local regulations/guidelines on wild collection
- Toxic/noxious plant lists – check with your local agriculture department
- Fisheries Act and Migratory Birds Regulations (F)
- Transportation of Dangerous Goods Act(F)
- Fisheries and Migratory Bird Regulations
- Workplace Safety regulations (P)

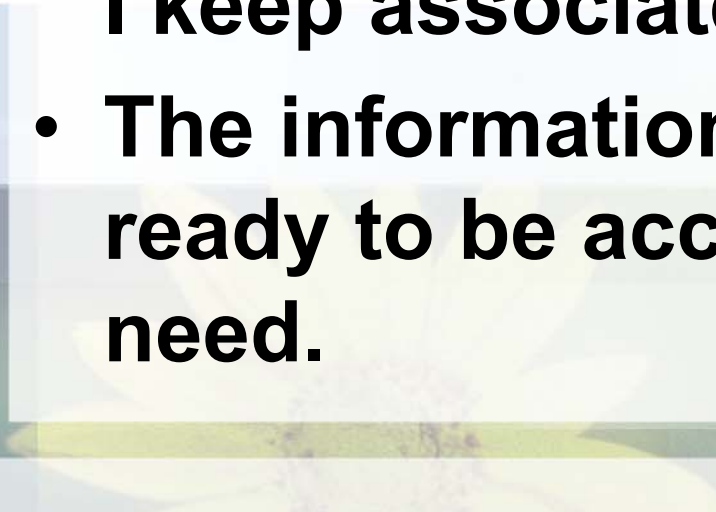
DEFINITIONS

- Botanical name** – a Latin binomial system used specifically to define a plant to its Genus, species and sometimes a sub-species.
- Raw product** – a material used in production that is not processed or changed from its natural state do you want "not unchanged" or "not changed" here.
- Retention sample**- a sample taken from a batch of raw materials retained for reference at a later time.

One Up ... One Down



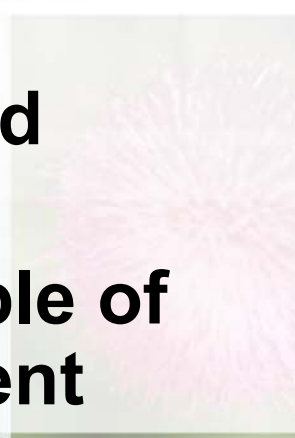
- **As a grower or collector... I must designate a batch or lot number to the product I am selling.**
- **It is my decision as to what size that batch or lot is.**
- **That identifier that has information I keep associated with it.**
- **The information is kept by me ready to be accessed if there is a need.**



What information would be associated with the identifier

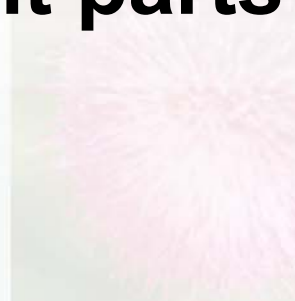


- **Depends on the operation and the risks**
- **Examples**
 - **Location of collection or harvest**
 - **If originating from planted seed – name and location of where seed came from**
 - **Relevant records of care**
 - **A retention sample of finished product sold**
 - **A voucher or specimen sample of growing resource or equivalent**



What does it look like

- **A simple clear decision tree process developed under a risk management system for plants (but inclusive of all genetic resources), people and places**
- **Encompassing identification of correct species, correct variety or chemotype and correct plant parts**



What does it cover



- **Observation and documentation of the establishment, growth and harvest stages for both cultivated and wild harvested plants**
- **Traceability with the one up one down model**
- **How to do Retention Samples**
- **How to collect plants for voucher specimen**
- **Testing methods – both macroscopic/ organoleptic, microscopic and chemical analysis**



Documentation and Records

- **Voucher Label of retention samples**
- **Certificate of authenticity**
- **Declaration of identification**
- **One up and one down documentation**



APPENDIX IA. EXAMPLE OF LABEL FOR RETENTION
SAMPLE

Scientific name³: _____

Common name(s): _____

Seed source (if applicable): _____

Harvest location: _____

Harvest date: _____

Batch/lot/shipment #: _____

Grower/Harvester (Name & company/organisation if applicable): _____

Grower/Harvester I/D #: _____

Date of sampling: _____

³ Recommended Reference "Herbs of Commerce 2nd edition", American Herbal Products Association, ISBN 0967871905

4.2 Voucher specimen label

Labels for the dry specimens can be prepared before the plants are identified, recording information known at that time. The genus/species and identifier can be added in later. Using a standardized label ensures that all necessary data are transcribed from the field book to the label accurately and efficiently.

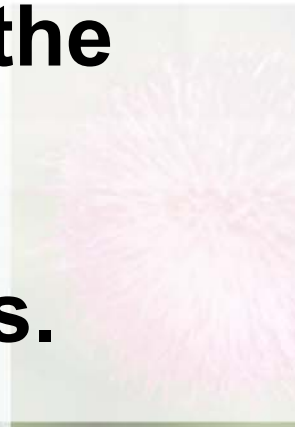
Example for a label

Scientific Name:	_____
Common Name:	_____
Location/ Habitat:	_____ _____
Collector:	_____
Collection Date:	_____ and No: _____
Identified by:	_____

Certificate of Authenticity vs Declaration of Identification



- **C of A = must be signed by a recognized authority in botanical identification**
- **Declaration of Identification = signed by harvester or producer using their knowledge base and past experience to identify the products. This is used in situations where their qualifications meet the risks.**



Certificate of Authenticity

SCIENTIFIC NAME: (GENUS) _____

(SPECIES) _____

Common name: _____

Cultivated (including woods grown)

Wildcrafted

SEED SOURCE (IF APPLICABLE): _____

PLANT PART:

Fruit/Seed: *

Inflorescence: *

Whole Plant: *

Aerial: Leaves * Stems * Both *

Bark: Aerial bark * Root bark *

Root: *

Country & Province/State of Origin: _____

Date of Harvest: _____

Stage of plant development at time of Harvest:

Pre-bloom * In bloom * Post bloom * Dormant *

Batch/Lot/Shipment ID #: _____

Grower/Harvester ID #: _____

Certification: I certify that this plant material is correctly identified as described, following the Recommended Practices for Verification of Plant Identification.

Name (Please print) _____ Date (M/D/Y) _____

Signature _____

Declaration of Identity

SCIENTIFIC NAME: (GENUS) _____

(SPECIES) _____

Common name: _____

Cultivated (including woods grown)

Wildcrafted

SEED SOURCE (IF APPLICABLE): _____

PLANT PART:

Fruit/Seed: *

Inflorescence: *

Whole Plant: *

Aerial: Leaves * Stems * Both *

Bark: Aerial bark * Root bark *

Root: *

Country & Province/State of Origin: _____

Date of Harvest: _____

Stage of plant development at time of Harvest:

Pre-bloom * In bloom * Post bloom * Dormant *

Batch/Lot/Shipment ID #: _____

Grower/Harvester ID #: _____

Declaration: I declare that this plant material is correctly identified as described, following the Recommended Practices for Verification of Plant Identification.

Name (Please print) _____ Date (M/D/Y) _____

Signature _____

Examples



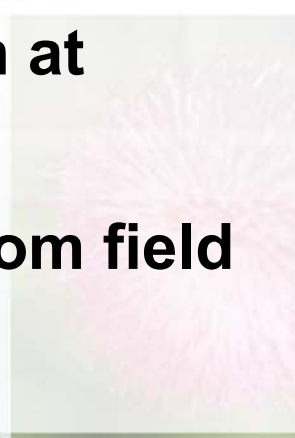
- **A hard to identify plant is being harvested by someone without relevant experience, training and/or education = C of A**
- **An easy to identify product is being harvested by a person with adequate experience, training and/or education = Declaration**



he results




- **An internationally recognized practice**
- **Stand alone and incorporated into GAP practices**
- **Adapted and integrated into Ethical Wildcrafting Practices**
- **Adopted by AHPA**
- **Accepted by WHO**
- **Developed with NHPD and Ag Canada/CFIA**
- **Available in both French and English at www.saskherbspice.org**
- **A long over due tool for the safety from field to shelf across the world.**



And finally.....

- **A concrete solution to a overarching problem throughout the industry!**





Thank you for including
us in this important
discussion

Connie Kehler