

Naturally Informed
Reimagining Botanicals: Mastering the Market Schedule
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**Navigating the Current Crisis
 in Botanical Sourcing and Supply Chains**



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Disclosure statement


Speaker: Josef A. Brinckmann:

- ❑ Employee of a California herbal product company **Traditional Medicinals, Inc.**
- ❑ President of the **American Botanical Council (ABC)** Board of Trustees and Advisory Group member of ABC's **Sustainable Herbs Program (SHP)**.
- ❑ Elected member of the **United States Pharmacopeia (USP) Botanical Dietary Supplements and Herbal Medicines Expert Committee**.
- ❑ Member of the **American Herbal Pharmacopoeia (AHP)** advisors on commercial sources & handling.
- ❑ Member of the **American Herbal Products Association (AHPA) Sustainability Committee**.
- ❑ Member of the **Medicinal Plant Specialist Group (MPSG)** of the **International Union for Conservation of Nature (IUCN) Species Survival Commission**.
- ❑ Former member of the **FairWild Foundation (FWF)** Board of Trustees, a standards setting organization for sustainable wild collection of medicinal & aromatic plants.

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**Increasing global botanical supply chain risks:
 agroclimatic, anthropogenic and geopolitical**



Anthropogenic contamination of crops: *heavy metals* via industrial emissions, mining, smelting, landfills, conventional agriculture (fertilizers); polluted irrigation water, sewage sludge; *microplastics* (ubiquitous!); *nonpoint source pesticide pollution* (drift and runoff); *pharmaceutical drug residues* (in irrigation water).

Changing socio-economic conditions (labor shortage; migration from rural areas to urban areas seeking more reliable and better paying jobs).

Climate change disruption (increasing frequency of extreme weather events, hotter and colder extremes, phenological mismatch; climate refugees).

Disappearance of pollinators (due to pesticide pollution from conventional agriculture).

Geopolitical unrest (annexations, civil wars, coup d'états, separatist movements; displaced persons)

Loss of habitat due to development and urbanization (changes in land use causing rapid loss of biodiversity).

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The global botanical trade in the 21st century occurs in a context of market & regulatory challenges



International treaties: *Convention on Biological Diversity (CBD)*, *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS)*, *Convention on International Trade in Endangered Species (CITES)*

Local acts: *California Transparency in Supply Chains Act*; *Germany's Supply Chain Due Diligence Act*.

National acts, directives, laws and rules: *EU Corporate Sustainability Due Diligence Directive*; *EU GACPs for Starting Materials of Herbal Origin*; *cGMPs*, *FSMA Traceability*; *HACCP*; *Quality Management Systems*.

...and...

...market demand continues to increase for herbal products that carry assurances of quality, safety, visibility (traceability and transparency), ethical and responsible supply chains.

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Implementing quality and sustainability standards can be part of a solution towards reliable access to quality herbal materials and supply chain visibility

Certain standards may be implemented at different stages of the value chain and audited for verification. **Different standards are relevant for different species, methods of harvest, and the specific regions of production.** Each standard provides one piece of a puzzle. One size doesn't fit all.

Quality assurance	Environmental	Economic & Social	Responsible biz
Good Agricultural and Collection Practices (GACP) for medicinal plants	Farms: NOP Organic, Regenerative Organic, or Demeter Biodynamic	Fair for Life Certification Programme for Fair trade and Responsible Supply Chains	Certified B Corporation; California Green Business Certification
Good Manufacturing Practices (GMP)	Wild: NOP Organic wild-crop harvesting practice standard and FWF FairWild Standard	FWF FairWild Standard	California Benefit Corporation
Pharmacopoeial quality specifications (USP and PhEur)	EC regulation concerning the traceability and labelling of GMOs; Non-GMO Project Verification;	FLO Fairtrade Standards for Herbs and Herbal Teas; FTUSA Agricultural Production Standard	California Transparency in Supply Chains Act
	Wildlife Friendly practice standards (WWF Panda friendly; WFN Elephant friendly)	UEBT Ethical BioTrade Standard	CBD Nagoya Protocol on Access to Genetic Resources, Fair & Equitable Sharing of Benefits

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Supply chain visibility afforded by implementation of VSS

Implementation of VSS's not only fill in the gaps in GACP guidelines and organic agriculture rules, but also provide the value-addition of certifications that demonstrate compliance with credible international standards, bolstering the economic viability of botanical production operations.

Good farmer retention: For herb farmers to remain a stable and reliable source of botanical raw materials (of your brand's specified quality), they need to earn a dignified livelihood. VSS's help to assure long term commitment, crop planning and a fair cost and price structure for the crops.

A brand's commitment to support the implementation of credible VSS's in its value chain enables long-term equitable and collaborative trade relationships – which improves access to botanical materials and supply chain visibility.

Relationship-based procurement (partnership model) builds trust and reliability over time, helps to avoid shortages and out-of-specification quality rejections, enables troubleshooting when problems arise, and mitigates sudden post-marketing changes or gaps in the production scenario.



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