



BotaniCert

- Safety, Efficacy, Botanical expertise, Scientific validation





BotaniCert: **safety**

Identification of raw material.

Example : verification of absence of adulteration





BotaniCert : Identification of raw material

- Confirmation of botanical identity, based on analytical methods or pharmacopoeia developed by botanists experts.





BotaniCert : Identification of raw material



Securing the consumer, compliance with regulatory requirements and traceability.





BotaniCert : Identification of raw material

- Authentication macroscopic, microscopic organoleptic analysis



Reference:

European Pharmacopoeia, USP ...
Standards certified by botanical experts

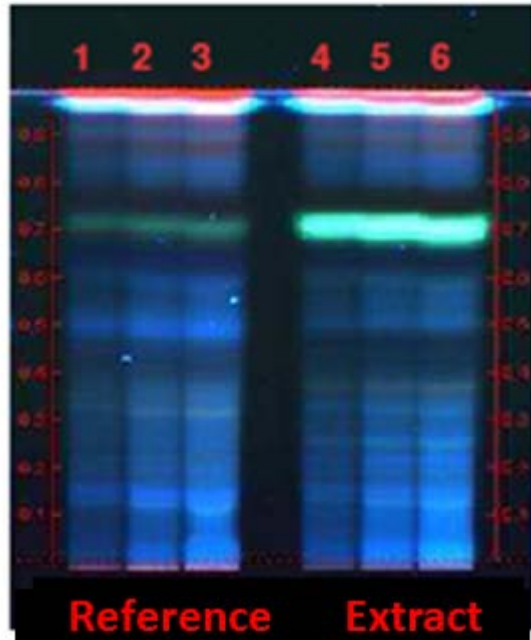
BotaniCert : Identification of raw material

- Authentication by phytochemical :

HPTLC (High Performance Thin Layer Chromatography):

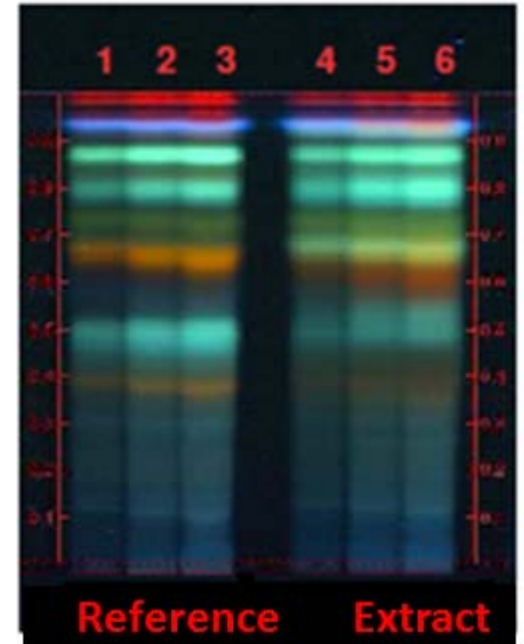
- Comparison of the chromatogram of a sample with a standard authenticated.

Before derivatization, UV 366 nm



Flower extract
Matricaria recutita L.

Before derivatization, UV 366 nm

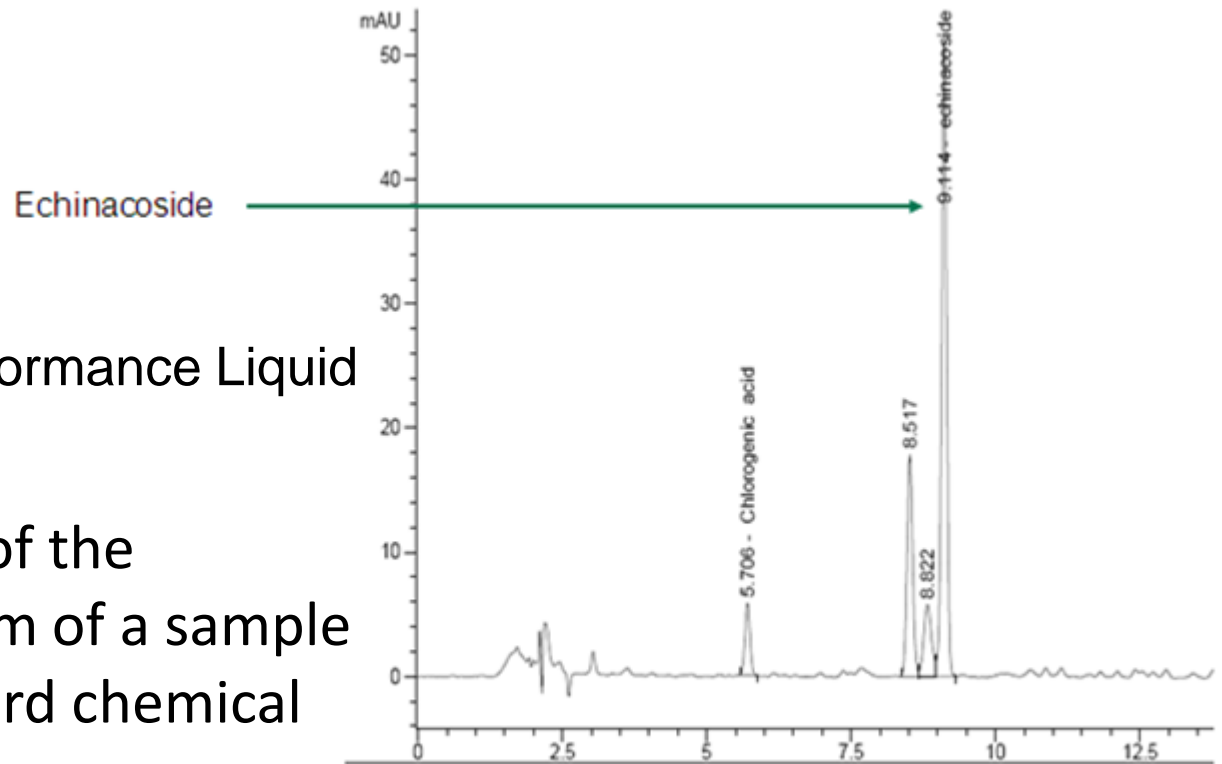


BotaniCert : Identification of raw material

- Authentication by phytochemical :

HPLC (High Performance Liquid Chromatography):

- Comparison of the chromatogram of a sample with a standard chemical



chromatogram of an extract of *Echinacea angustifolia* root



BotaniCert : Identification of raw material

- Example of *Equisetum arvense* vs *Equisetum palustre*



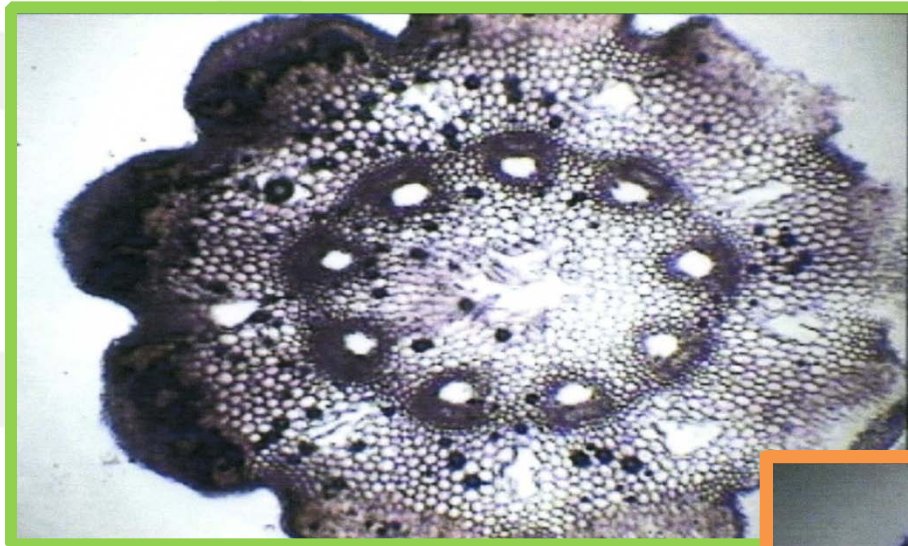
Macroscopic botanical authentication of *equisetum arvense*

Macroscopic botanical authentication of *equisetum palustre*



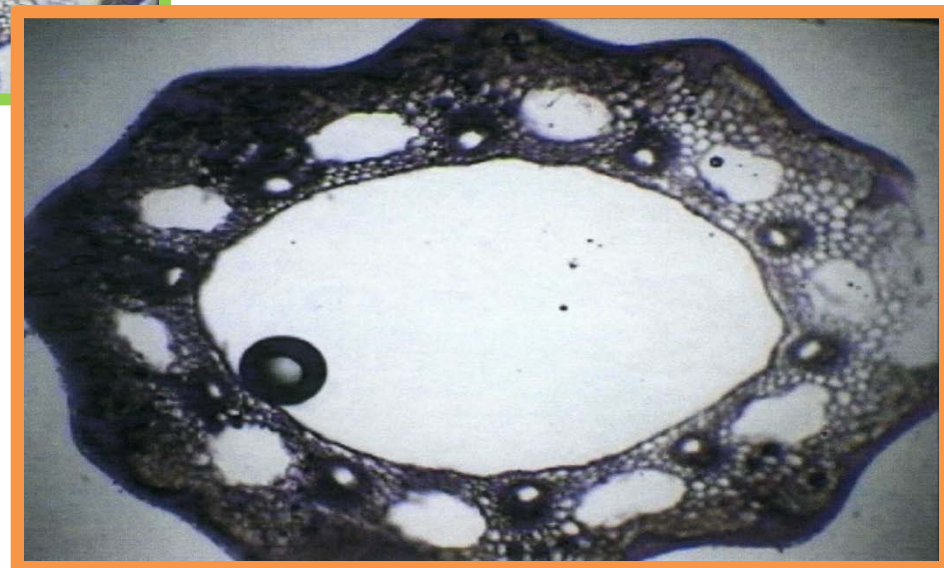
BotaniCert : Identification of raw material

- Exemple of *Equisetum arvense* vs *Equisetum palustre*



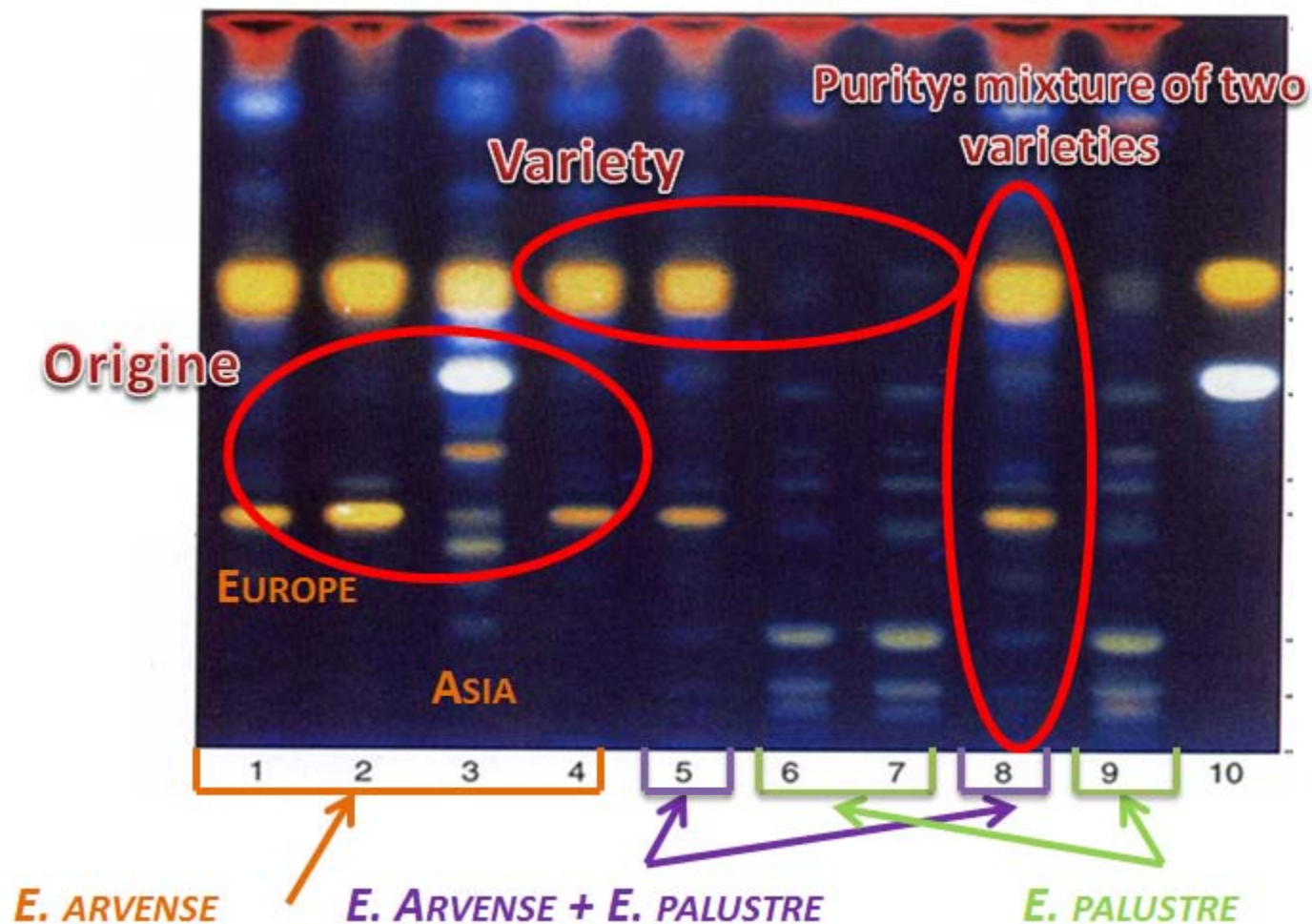
Botanical micro-authentication cross section of the rod of *Equisetum arvense*

Botanical micro-authentication cross section of the rod of *Equisetum palustre*



BotaniCert : Identification of raw material

- Example of *equisetum*- Authentication phytochemical



Characterization of the extract according to variety, origin and purity.

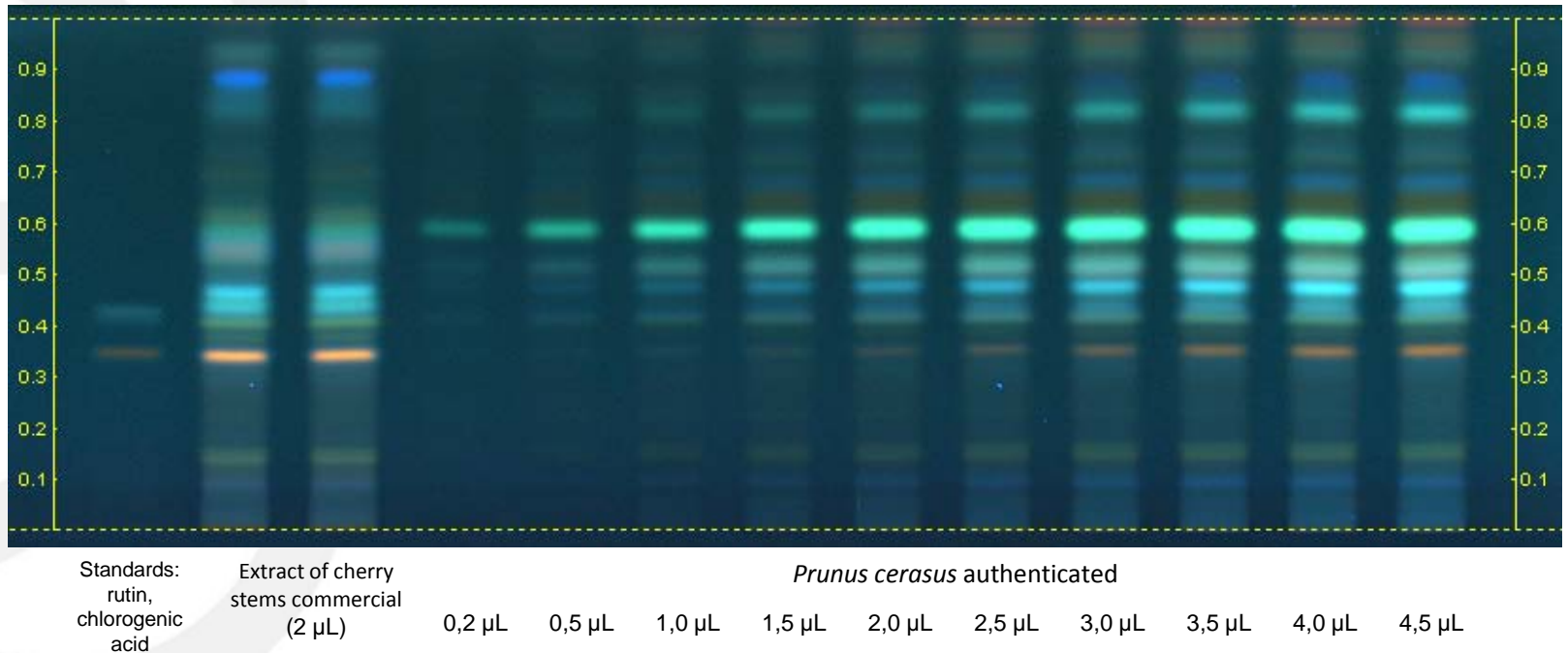
1. **BotaniCert : Presence of the phytochemical complex**
 1. Presence of the phytochemical complex responsible for the activity
 2. Evaluation of the intensity of phytochemical complex
 3. Comparison of extraction techniques and detection of adulteration



2. BotaniCert : Evaluation of the intensity of phytochemicals complex

The biological activity of a plant comes from a synergy between the molecules and its effectiveness depends on its intensity.

Chromatogram of extract of *Prunus cerasus* after revelations, UV 366 nm



The physiological activity of these profiles is it equivalent?

BotaniCert: **Scientific validation**

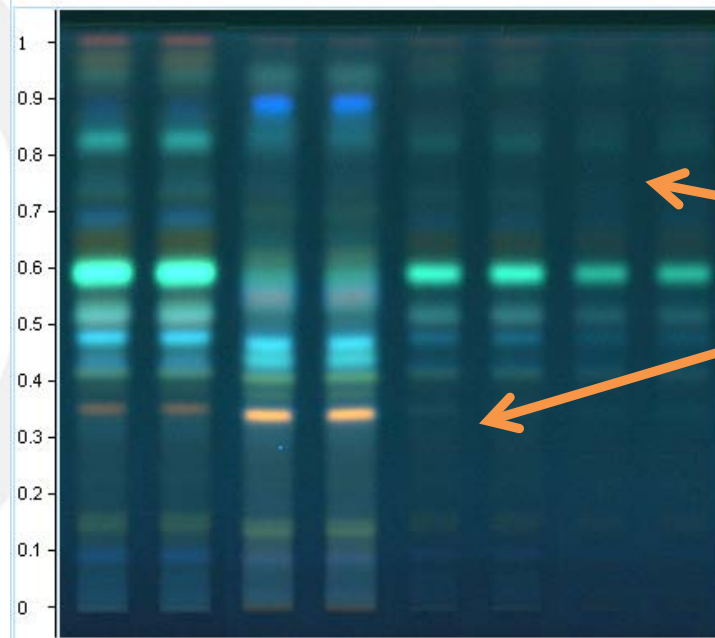
1. Verification of the extraction ratios
2. Fingerprint adulterated vs. Fingerprint natural of an extract.
3. Catalogue of botanical standards.



1. BotaniCert : Checking the extraction ratio

Two extracts defined by the same ratio may not have the same intensity as a function of the quality of the raw material and extraction yields

Chromatogram of extract of *Prunus cerasus*, UV - 366 nm



Low intensity
=
Low
concentration
of the complex
phytochemical

Reference:		Manufacturer		
Prunus cerasus		1	2	3
authenticated				



1. BotaniCert : Checking the extraction ratio

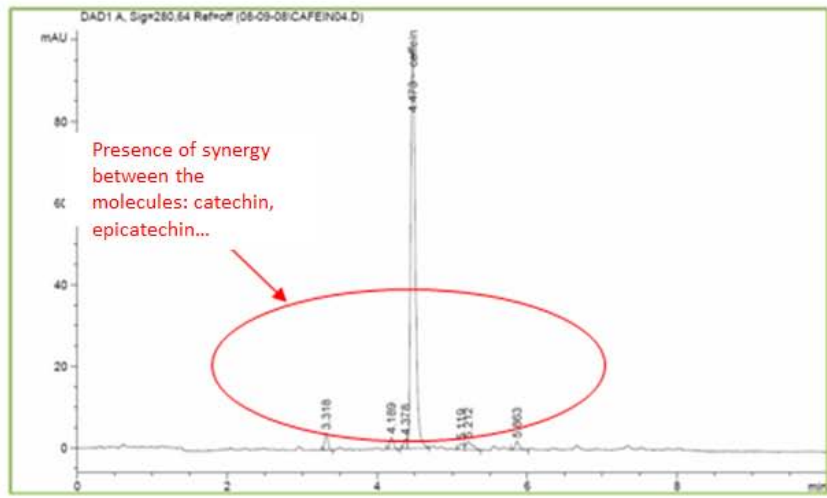


Securing supplier relationships /
regularity of the quality of
purchased materials

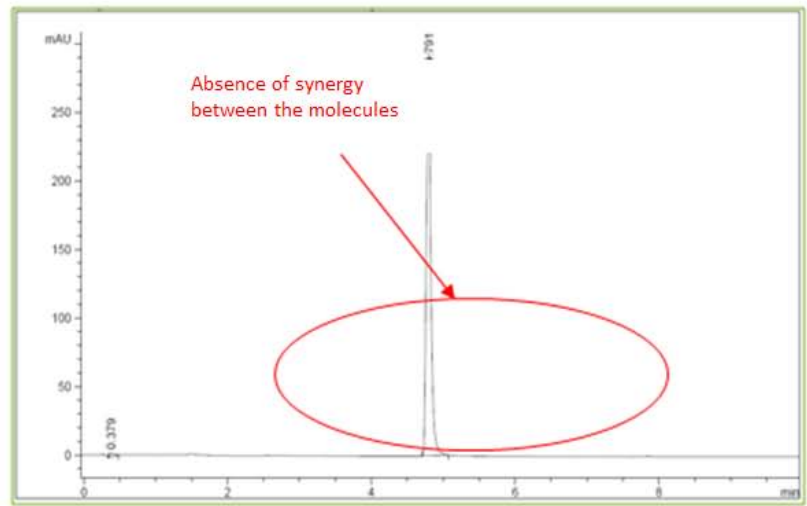
- development of specifications

2. BotaniCert : Fingerprint natural vs Fingerprint adulterated

HPLC chromatogram of an extract of natural Guarana



Chromatogram of an extract of Guarana adulterated with caffeine



Determining the percentage of adulteration by comparison of intensity of impressions



3. BotaniCert : Catalogue of botanical standards

- Standards botanical authenticated and certified by BotaniCert
 - Bag of dried plants
 - Bag of dry powder



- Safety - Expertise botany - Scientific validation



Eligibility of formulations identified and verified in intensity to the prominence of the registered mark certification botany.

- Media plan for the end of 2011 highlighted the label.

International Scientific Committee:

Pharmacognosy, Ph.D. in analytical chemistry,
Pharmacists, ethnobotanist, Botanists, Doctor in
Chemistry



Work in relation with:



Conclusion

- **Safety:** Identification is the guarantee of security of your product to the customer.

- **Expertise:** Evaluation of the presence and activity of the complex phytochemical.

Customer loyalty through effective formulas

- **Scientific validation:** Evaluation of the quality of raw materials sourced. Guarantee a quality product and eligibility for a label differentiating



