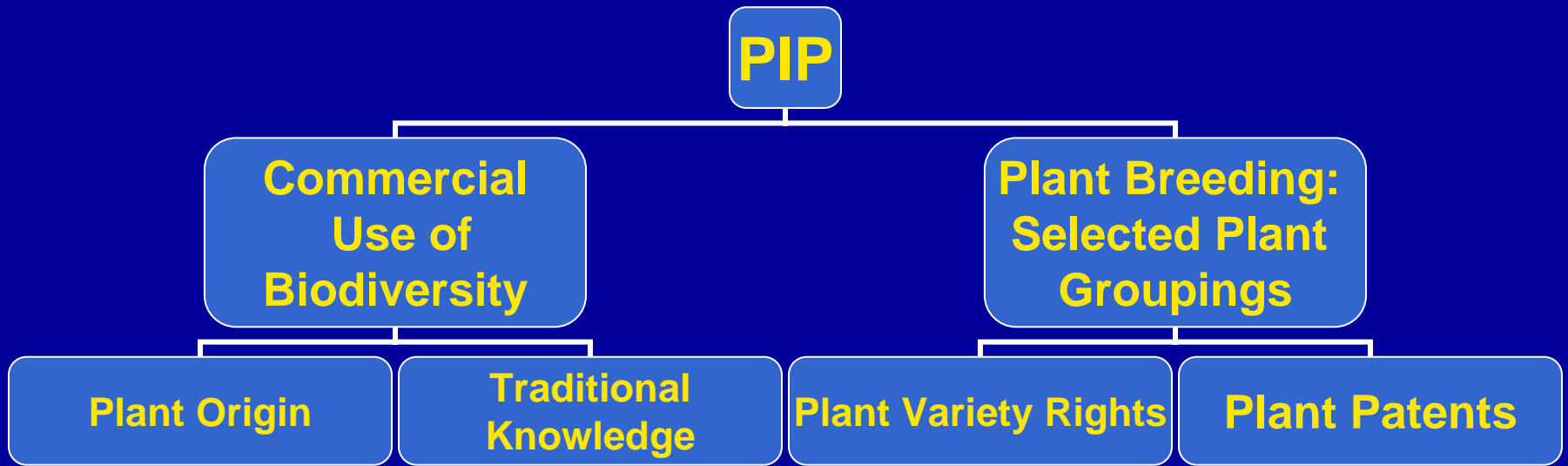


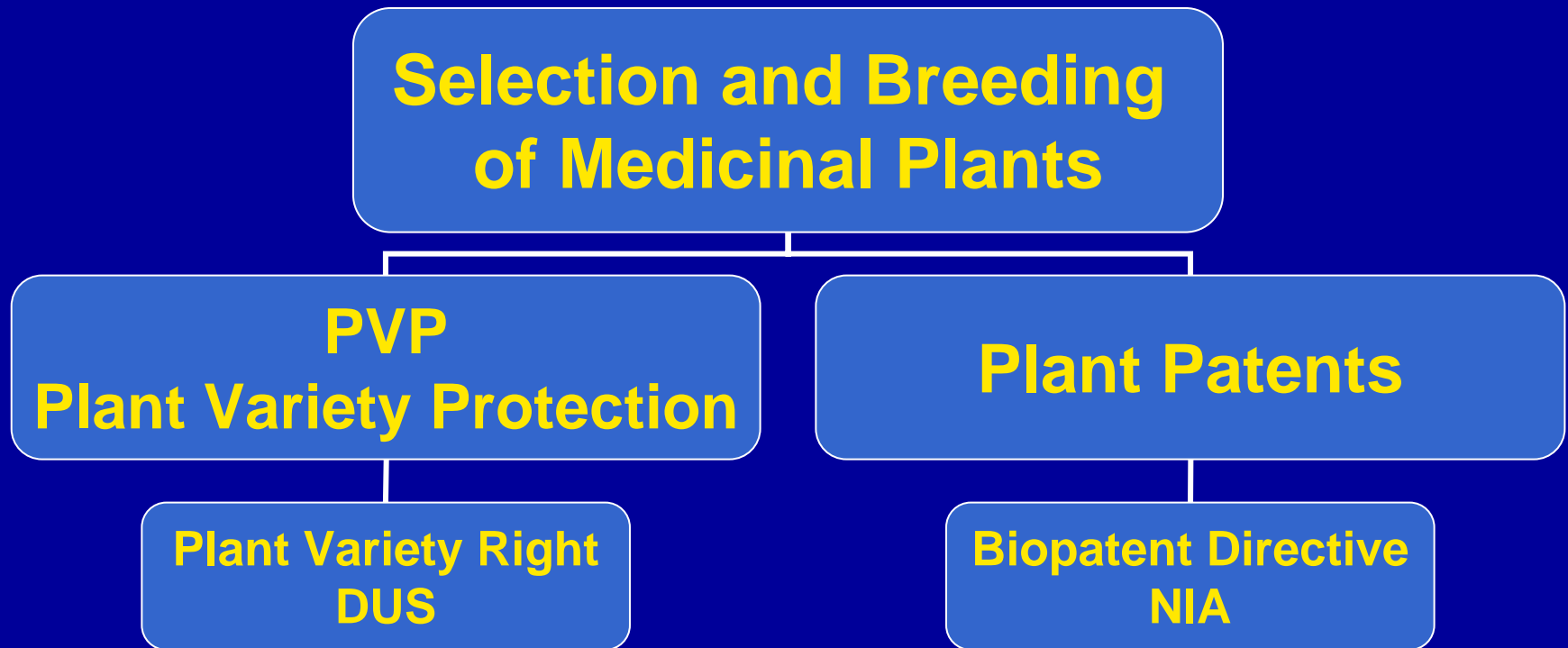
Plant Intellectual Property Rights (PIP)



Detection \neq Invention

**„Natural Nature“
is *not* patentable !**

Intellectual Property Protection for Plant Innovations: Which Right for Which Variety?



PVRs and Specialised Plants

Breeding Goals / Important Characteristics:

1. *Phytochemical*

(active principles)

1.1 qualitative:

composition of secondary
plant products (=chemotype)

1.2 quantitative:

content/yield on secondary
plant products

1.3 processing ability

2. *Agronomical*

(general cultivation value)

2.1 morphology and yield characteristics

shape, vigour, ripeness,
useful plant parts, yield, ...

2.2 resistances against pests and diseases

2.3. ecological amplitude

Mentha piperita cultivation: light (,white‘) and dark (,black‘) varieties



Vitex agnus castus



Urtica dioica



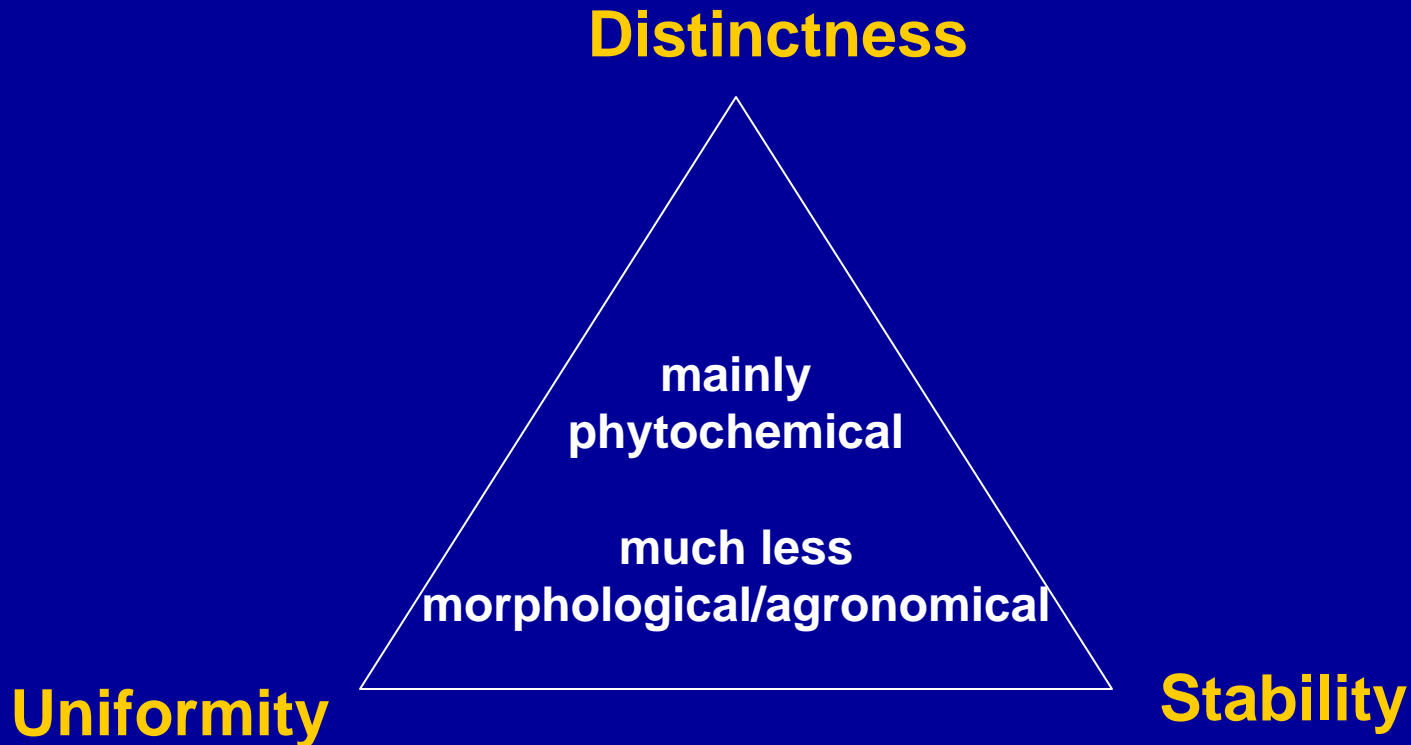
Thymus vulgaris





Differentiation Characteristics !

Importance for Specialised Crops



but:

Novelty: Yes

Inventive Step: Yes/No

Industrial Application: Yes



PVRs and Specialised Plants

	Process for producing a new tetraploid camomile variety DE 34 23 207	A process for producing a new tetraploid and bisabolol-rich camomile having improved properties DE 35 42 756
<i>Application (filing) date</i>	22.6.84	04.12.85
<i>Patent granting</i>	13.11.86	11.02.88
<i>Granting after revision</i>	26.09.96	04.09.97

Decision „Tetraploid Camomile“ of the Federal Supreme Court, 30.03.93: To the disclosure, inventive Steps and formulation of claims of an invention concerning a grouping of several plant individuals“ (X ZB 13/90 of 30.03.93)

PVRs and Specialised Plants

Decision for the Protection of a „new“ camomile variety

- Distinctness:
- 1) Plant height: high (application: low-medium)
 - 2) Inclination of Below Branches: difference 0,2 of 5.0 points
 - 3) Diameter of Flower Baskets without Ray Flowers (10 %)
 - 4) Full Blooming: early (application: medium-late)

Uniformity: weak (but accepted)

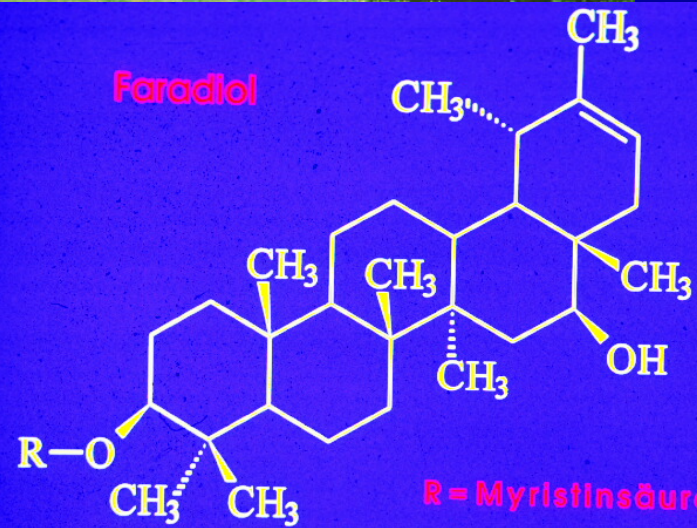
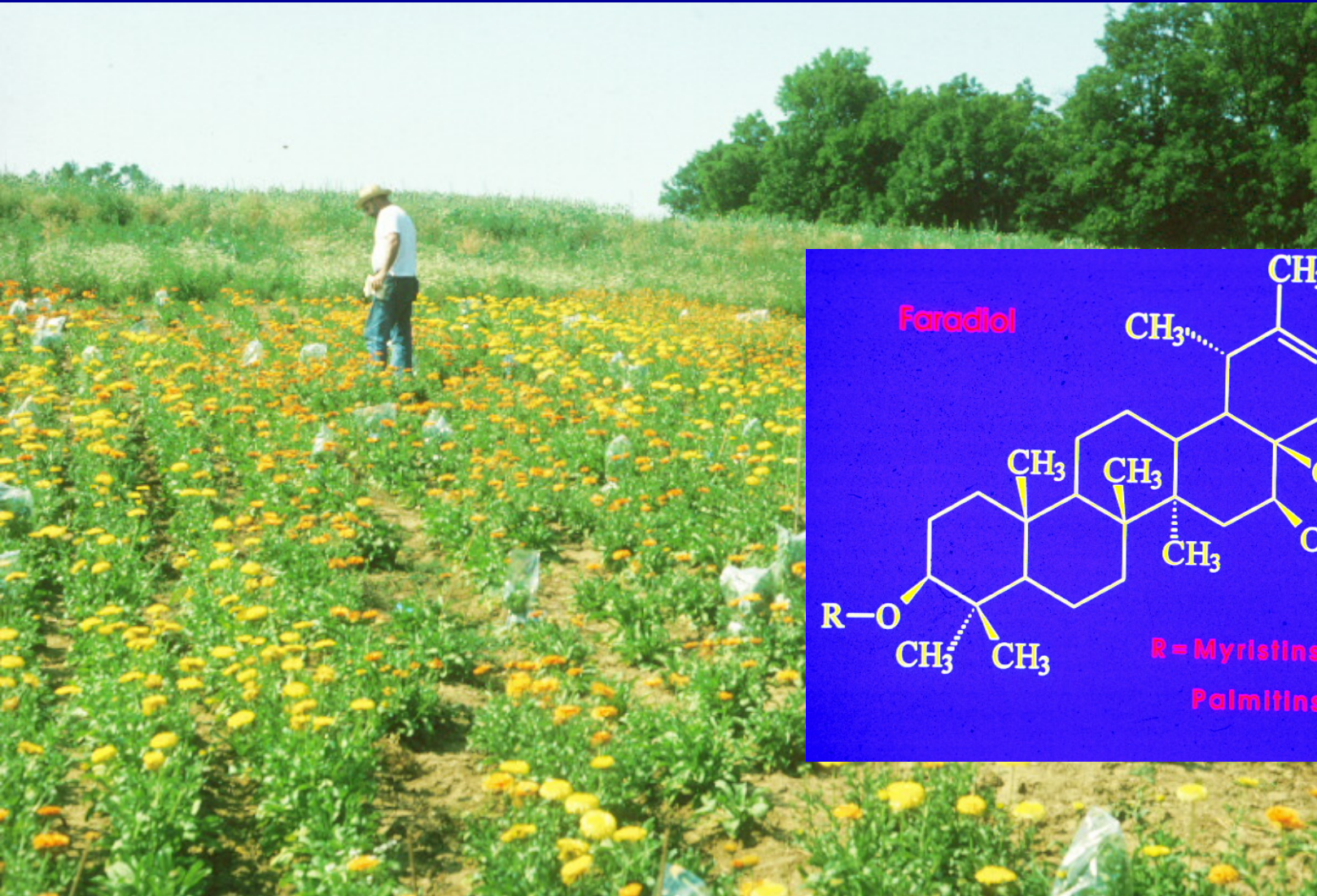
Stability (Repeatability): based on

- 1 growing site (of 2)
- 1 planting date (of 2)
- 1 testing method (of 2)
- 2 years

(i.e. 1/4 - 1/8 of all observations/tests)

Starting Material: not declared (essentially derived variety ??)

Calendula officinalis



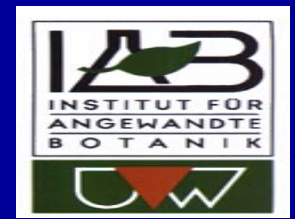
R = Myristinsäure (C14) 14:0

Palmitinsäure (C16) 16:0

New variety: RINATHEI



PVRs and Specialised Plants



Calendula Characteristics (UPOV and CPVO 1998)

- Plant: height
- Plant: branching
- Plant: diameter
- Plant: attitude of side shoots
- Stem: intensity of anthocyanin coloration at base
- Leaf blade: length
- leaf blade: intensity of green color
- Bud: intensity of anthocyanin coloration of tips of sepals
- Flower: diameter
- Flower: color of ray floret
- Flower: color of disc floret
- Flower: number of rows of ray florets
- Time of beginning of flowering

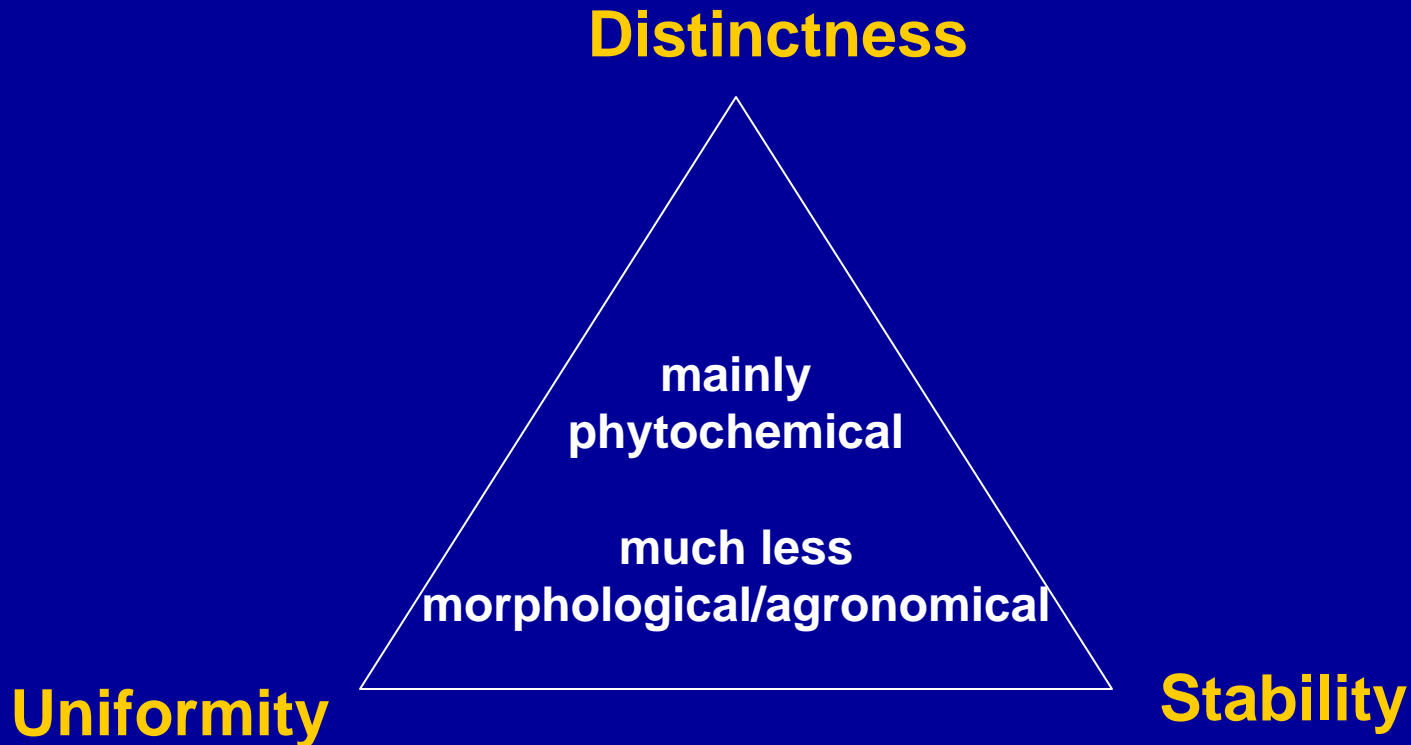
Remark: No secondary plant products (neither carotenoids nor faradiolesters)

PVRs and Specialised Plants

„The reason why the draft variety description does not mention the (secondary substance) content is that this is considered to be a value for cultivation and use (VCU) characteristic, whereas the technical examination for plant breeders' rights assesses distinctness, uniformity and stability (DUS) by observing and measuring the variety's morphological characters (only).”

CPVO, Angers, 29.11.1999

Importance for Specialised Crops



but:

Novelty: Yes

Inventive Step: Yes/No

Industrial Application: Yes

Advantages and Disadvantages of PVP versus Patent Protection of Specialist Minor Crops (Medicinal and Aromatic Plants)

PVP	Patent
• Beginning of protection: registration date	Beginning of protection: application date
• Restricted to "varieties"	"Varieties" not patentable, but any other grouping of plants
• Requirements: DUS= distinctness, uniformity, stability	Requirements: novelty, inventive step, industrial applicability
• Free choice of characters to be used	Repeatability
• for DUS by PVO	Product by process option
• Phenotypical, mainly morphological characters (phytochemicals of minor importance)	"essentially biologically process" not patentable (but Biopatent Directive!)
• Value for cultivation and use	"Natural nature" not patentable
• characteristics (VCU) not protected	Claims (e.g. Phytochemical characters) depend on applicant
•	Phytochemical characters and use/application patentable

Conclusion

- **With respect to the enormous biodiversity and infraspecific variation of medicinal plants and related species, a case by case decision will be necessary for choosing the appropriate type of protection: either plant patents or plant variety rights. In conformity with the UPOV Convention of 1991**
 - **a strong plant intellectual property right is requested,**
 - **including chemical markers (as e.g. secondary plant products) as characteristics,**
 - **strong depending rights for essentially derived varieties since it is easy to plagiarise such crops,**
 - **”double protection” would be very useful,**
 - **but also researchers exemption and breeders privilege with fair access to genotypes for further development is necessary.**
- **Strong protection does not hinder usage and development, it depends on a fair arrangement only.**