BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS

HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

FUTURE GRAPEVINE VARIETIES IN DISCUSSION !

Ferdinand REGNER, HBLA und BA Klosterneuburg, Austria

Email: Ferdinand.Regner@weinobst.at

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

Discussion about

- Changes of EU legislation
- 1. *Vitis labrusca* (and crosses with other *V. species*) can be registered and classified
- 2. Forbidden varieties (direct producers) should be allowed for classification (Clinton, Herbemont, Isabelle, Jacquez, Noah, Othello)
- 3. Possibility to use crosses from *V. vinifera* with other *V. sp*. for production of PDO and PGI wines

Historical development

- Reason for use of different *V. species*
- Direct producers
- Advantages of direct producers
- Disadvantages of direct producers
- Further breeding activities
- Piwi varieties (*Vitis vinifera* with some foreign chromosomes)

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

Family Experiences

- 1921 planting of Noah
- Ripening behavior
- Quality of wine
- 1924 grafting with Veltliner
- 1936 prohibition

Prohibition and consequences

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Arguments for prohibition:
- Wine quality, market, methanol content, human health
- Stop of new plantings, forbidden of blends
- Interdiction of sale, only home consumption
- Decrease of planted area within decades
- 80ies ban of house wine
- 90ies allowance for local wine
- Today fruit wines

Methanol in labrusca types

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Higher values in Concord than in *V. vinifera* (actual data, 2015)
- Not reached the treshold (250 or 400 mg/l) OIV regulation
- Health risk more than 100mg consumption /kg body weight
- Relation to ethanol 1: 1000 but also 10-14: 1000 (Seifert, 1928)
- 1l wine 12,5% Ethanol 100g ratio 1:1000 contains 100 mg Methanol
- Noah, AxR, Clinton resulted in 600-1400mg/l (toxic?)
- Depending from variety, vinification method and ripeness
- Not enough studies (combination with ethanol and higher alcohols)

Damage on the foetus

- Breider et al. 1965 Embryonalschäden nach Genuß von Hybridenweinen, Weinberg & Keller 12, 165-182
- Feeding experiment with chicks
- Water, wine from V.v. (Sylvaner), wine from V. *riparia* off spring (Siegfriedrebe, Oberlin 595, MG 143A)
- Significant diff, no damage with water, damage around 1% with Vv. Wine, 3,5 – 14,8% damage on the foetus, bad posture
- Interference of vitamin metabolism?
- 1963 and repetition 1964 (other authors- other results- not identical experiment)
- Larue, Le Noah monte a la tete, Le progres agricole et viticole 1929 S. 281

Phytosanitary aspects

BUNDESMINISTERIUM FÜR NACHHALTIGKEIT UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Less or no sensitivity against mildew diseases (exceptions)
- Other fungal problems: Black Rot, Brenner
- Phylloxera: leaf galls contribute for spreading
- Scaphoides titanus sig.more nymphes and imagines on Concord than V.v. Welschriesling (Gangl et al.,2017) = increased F.D. risk
- Hyalesthes obsoletus adult cicades only at V.v.

Actual situation in Austria

- Depending from the federal state
- No quality wine from direct producer
- No commercial plantings with forbidden varieties
- Uhudler as protected label (wine from Concord alias Ripatella)
- New Piwi varieties (V.v.) for quality wine and varietal wines
- Piwi (abbreviation for Pilzwiderstandsfähig)

Actual situation in neighbour countries

- IT: no com. production but „*utilizzi speciali*“, no quality wines, IGT wines from modern Piwi varieties,
- DE: no production with *V. labrusca* types, no problem to register *V. labrusca*, possibility to register as ornamental vines, classification?

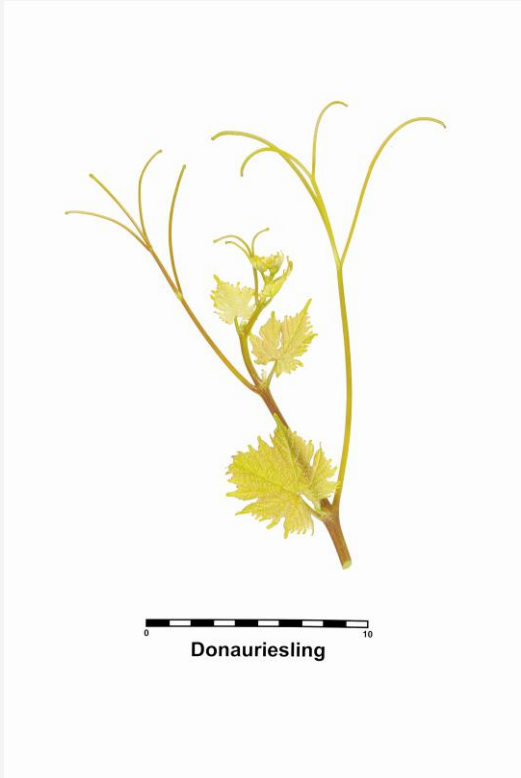
Current legal requirements for a new grapevine

BUNDESMINISTERIUM FÜR NACHHALTIGKEIT UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Registration before classification (EU directive 68/193)
- DUS test (distinctness, uniformity, stability)
- *Vitis vinifera* but also possible for *Vitis labrusca or IC*
- Experimental planting in the federal state, wine evaluations
- classification
- Piwi varieties for quality wine (*Vitis vinifera*)
- Table grape: regulation (2789/1999) marketing of table grapes

Registration as *Vitis vinifera*

Empiric separation of the species
Continous transition between species possible
Relevant is the plant not the genealogy
Important traits:
Open shoot tip,
Lack of erect hairs on internodes
Discontinous distribution of tendrils on the shoot
Fully developed flower (hermaphrodite)
Shape of blade and arrangement of lobes
Bunch and berry size
Particular flavour



Future Scenarios

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Nothing else will happen (decision about class. is regional)
- The whole frame will be excessively used
- More probable: different countries with different approaches, small part of production, especially organic production will use some of the varieties
- Importance of the single variety and adaptation for a terroir
- Usually wines will be blended (cuvée of V.v. with other species)
- Plausibility and reliability?

Possible results with direct producers

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Production is cheaper and easier
- high yields
- minor quality – lower prices
- limited market acceptance,
- burden for other new varieties (Piwi)
- fresh consumption (amending the table grape regulation)
- Juice and fruit additives for the food industries
- Risks: phylloxera, erinose, black rot, Scaphoideus titanus (FD)

	Former Hybrids DP	New Piwi cultivars	Traditional Var.
Genetics	IC with American species	Several backcrosses with Vitis vinifera	Selection from natural resources
V.vinifera percentage	50 – 75 %	90% and higher	100%
Shoot tip	closed	open	open
Phylloxera (roots)	tolerant	sensitive	sensitive
Phylloxera (leaves)	sensitive	Have to be stable	stable
Uncinula n.	stable	stable	sensitive
Plasmopara	stable	stable	sensitive
maturity	late	variable	Depending from region
Off- flavour aromas	Frequently and intensive	absent	Absent as decided in the past
Hybrid- colour	present	Should not be	no
Quality of wine	low	variable	Selected during centuries

New varieties (Piwi)

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- To many varieties do not allow to get a profile for a region, single varieties with optimal adaptation
- Avoid inflation of cultivars and confusion within Piwi varieties
- Customer should be familiar with the flavour of the wine
- Slow steps are better than a hurry by introducing new varieties
- Classification should be open for changes but not the place for viticultural experiments
- By increasing pressure to the markets you need products which are not inferior compared to imports

Results with Piwi varieties

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Wine quality (each variety evaluated)
- mildew diseases and other fungal diseases
- Plant protection and frequency of spraying (reduction 50-70%)
- Plantages on terraces or steep slope vineyards
- Organic production
- Considering new platforms for marketing (AOC and all others, maybe will not be opended for Piwi varieties)
- Support with arguments for the sustainability

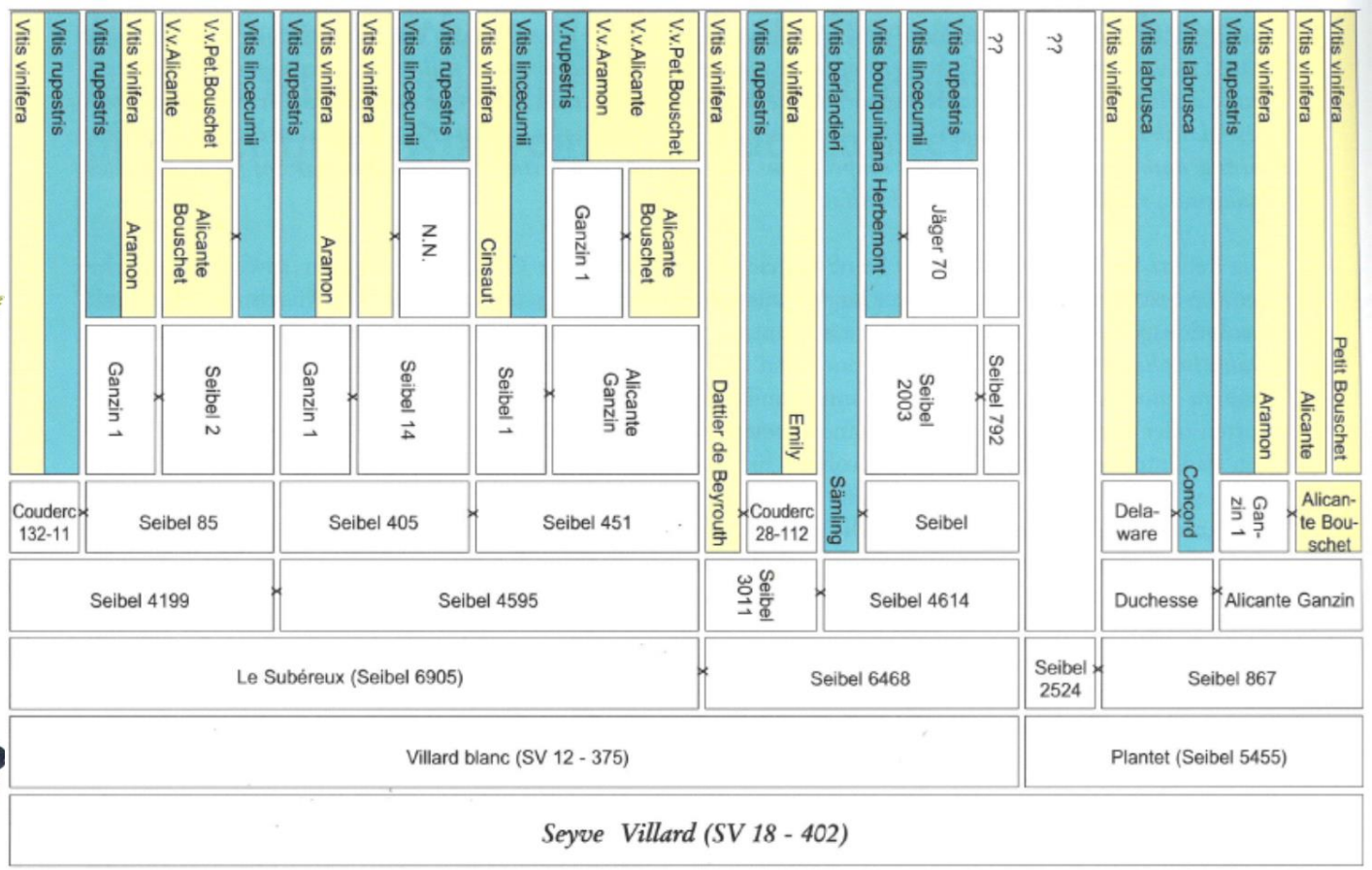
Piwi varieties: Les cepages résistants
Panorama européen, ICV 2015

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Most successful new Piwi variety (Regent)
- Germany 2000ha , classified in CH and AT
- Used in NL, BE, DK, SE, UK, IT, CZ, BG
- Cross Diana x Chambourcin
- Classified as V. vinifera
- Problem: content of Malvidin 3,5-diglucoside

Piwi variety Roesler

- Classified since 1995, qual. wine since 2000
- In Austria 300 ha, used in CZ, CH, DE
- Cross: Zweigelt x KLBG 1189-9-77
- Classified as V. vinifera, free of Malvin
- No indications for non vinifera origin
- Chance to taste wine from vintage 2015



SV 18402 x BF (V.v.) = Klbg 1189-9-77

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

Piwi Variety Donauriesling

- Classified since 2011, varietal wine since 2013
- In Austria 30 ha, used in GE, CZ, CH,
- Cross: Riesling white x Fr 589-54
- Classified as V. vinifera
- No indications for non vinifera origin
- Not able to differentiate from RR
- Wine for tasting (vintage 2017)

Piwi Variety Blütenmuskateller

- Classified since 2011, varietal wine 2013, quality wine 2018
- In Austria 20 ha, used in CZ, RU,
- Cross: Severnij x Muskat
- Classified as V. vinifera
- No indications for non vinifera origin
- Intense flavour, Muskat aroma
- Wine for tasting

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS
HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

CONCLUSION

- Evaluation should be done for each single variety
- No classification without registration
- Registration should be linked with wine analyses
- In the case that non *V.vinifera* varieties are used extended chemical analyses and sensorical evaluations should be a prerequisite

BUNDESMINISTERIUM
FÜR NACHHALTIGKEIT
UND TOURISMUS

HBLAuBA KLOSTERNEUBURG
WEIN- UND OBSTBAU

- Thank you for your interest and good luck for your discussions !