



*bio-dynamic*



# Organic and Biodynamic Wines

Geoff Scollary

[scollary@unimelb.edu.au](mailto:scollary@unimelb.edu.au)

Presented at University House, The University of Melbourne, 2019

# Terminology overview

- Organic viticulture: no synthetic chemicals; requires registration
- Organic winemaking: restrictions on some practices, especially limited use of sulfur dioxide
- Biodynamic: a viticulture practice based on principles of Rudolf Steiner; requires registration



Acido citrico / Acido L(+)-tartarico / Acido L-ascorbico / Acido L-malico D.L. malico / Acido lattico / Acido metatartrico / Acidificazione tramite elettrolisi a membrana bipolare \* / Albumina d'uovo / Anidride solforosa (SO<sub>2</sub>) / Autoarricchimento tramite evaporazione \* / Autoarricchimento per osmosi inversa \* / Batteri lattici / Bentonite / Bicarbonato di potassio / Bisolfito di potassio / Bisolfito di ammonio / Carbonato di calcio / Carboximetilcellulosa (CMC) / Gomma di cellulosa (CMC) / Caseinato di potassio / Caseina / Carbone enologico / Chitina-Glucano / Chitosani / Citrato di rame / Colla di pesce / Cloridrato di tiamina / Biossido di silicio (Gel di Silice) / Scorze di lieviti / Elettrolisi \* / Enzimi beta glucanasi / Fermentazione alcolica spontanea \* / Pastorizzazione rapida \* / Gelatine / Gomma arabica / Fosfato diammonico / Cremor di tartaro / Lieviti secchi attivi (LSA) / Lisozima / Mannoproteine dei lieviti / Proteine di origine vegetale ottenute dal frumento o dai piselli / Metabisolfito di potassio / Microfiltrazione tangenziale \* / Chips di legno di quercia / Mosto concentrato / Mosto concentrato rettificato / Polivinilpirrolidone (PVPP) / Enzimi per l'attivazione della pectinasi / Resine scambiatrici di cationi \* / Solfato di rame / Solfato di ammonio / Tannini enologici / Tartrato neutro di potassio

**VINO  
CONVENZIONALE**

Acido citrico / Acido L(+)-tartarico / Acido L-ascorbico / Acido lattico / Acido metatartrico / Albumina d'uovo / Autoarricchimento tramite evaporazione \* / Autoarricchimento per osmosi inversa \* / Batteri lattici / Bentonite / Bisolfito di potassio / Metabisolfito di potassio / Bicarbonato di potassio / Carbonato di calcio / Caseinato di potassio / Caseina / Carbone enologico / Citrato di rame / Colla di pesce / Cloridrato di tiamina / Biossido di silicio (Gel di Silice) / Scorze di lieviti / Fermentazione alcolica spontanea \* / Gelatine / Gomma arabica / Fosfato diammonico / Cremor di tartaro / Lieviti secchi attivi (LSA) / Proteine di origine vegetale ottenute dal frumento o dai piselli / Microfiltrazione tangenziale \* / Chips di legno di quercia / Mosto concentrato rettificato / Enzimi per l'attivazione della pectinasi / Solfato di rame / Tannini enologici / Tartrato neutro di potassio / Anidride solforosa (SO<sub>2</sub>)



**Organic/  
Biological**

Albumina d'uovo / Anidride solforosa (SO<sub>2</sub>) / Bentonite / Carbone enologico / Microfiltrazione tangenziale \* / Fermentazione alcolica spontanea \*



**Biodynamic**

Anidride solforosa (SO<sub>2</sub>) / Fermentazione alcolica spontanea \*



**Natural**

**Conventional**

# Organic viticulture

- No synthetic herbicides, fungicides, pesticides, fertilisers
- Can use copper sulfate and elemental sulfur – natural (?)
  - Assists in controlling downy and powdery mildew



# Organic viticulture

- No synthetic herbicides, fungicides, pesticides, fertilisers
- Can use copper sulfate and sulfur – natural (?)
  - Assists in controlling downy and powdery mildew



**France's wine industry can become "the first in the world without glyphosate", President Emmanuel Macron said Saturday at the Paris Agriculture Fair.**

**Source: France 24**

# Organic winemaking

- Wine from Organic Grapes versus Organic Wine



- Limits use of major manipulation: dealcoholisation, electrolysis
- Long list of approved additives – no GMO material
- Limited sulfur dioxide used

# Organic viticulture



Organic



Conventional

# Organic viticulture





# Biodynamic viticulture

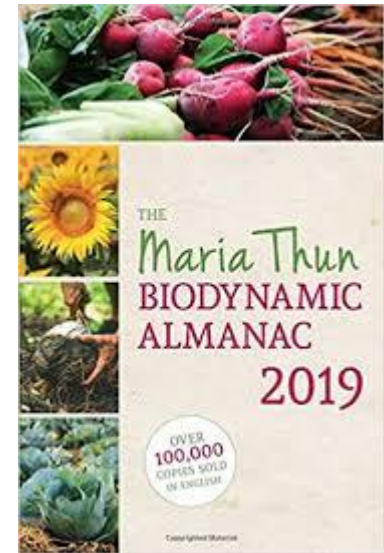
- Based on the principles set out by Rudolf Steiner in 1924
- Complex management linked to phases of the moon/cosmos
- Natural fertilisers – 500 is the best known
  - Cow manure placed in female cow horns over winter
  - Used to make a spray for the soil in spring and summer
- Herbal extracts – chamomile, dandelion, valerian...
- Intensive management with significant cost

# Biodynamic viticulture

## Maria Thun calendar

‘Besides the lunar phases, the calendar also considers the effect of other celestial bodies moving in front of the zodiac background.

By knowing and taking into account the calendar, work becomes easier’.



# Biodynamic viticulture

Fertiliser 500



# SUMMARY

## Biodynamic and Organic

- Better soil health
- Disease pressure can be high (site selection critical)
- Crop losses can be high, partly due to downy and powdery Mildew
  
- Management costs are high
- Reflected in market price point
- But obvious market demand

# Resources

- Hugh Johnson's Pocket Wine Book 2019
- Henschke Vineyard Management (<https://www.henschke.com.au/our-landscape/sustainability/> )
- Rudolf Steiner (<https://www.biodynamics.com/steiner.html> )

Jancis Robinson

*(Financial Times Weekend, 29/30 Sept 2019, p. 19)*

‘Anyone who has visited a wine region and seen chemicals being sprayed that are so potent that the vineyard workers are clad as if they are investigating a Novichok incident is likely to find organically grown grapes an attractive proposition’