BIO-METAETHICS VITICULTURE PROPOSED BY THE GiESCO. DIRECT CHARTER WITH PRODUCERS. EXAMPLE OF EVALUATION OF TRAINING SYSTEMS

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Abstract:

The key points of the current GiESCO charter 'BIO-MetaEthics' are exposed. The new development in cooperation with Giovanni Cargnello is to apply the principles and the content into the practice by establishing a direct contract with producers and other actors of the wine sector. An evaluation sheet is proposed and tested in a new advanced vineyard. For illustrating the methodology of evaluation, the example of the choice of the training systems is detailed on a wide range of situations.

Keywords: Sustainable Viticulture, BIO-MetaEthics Viticulture, Direct Charter, Evaluation sheet, Evaluation of training systems.

1. Introduction

Following the presentations in GiESCO 19 and 20 of the BIO-MetaEthics charter, the new step presented here is its application into the practice by a direct contract with a producing unit. A general evaluation sheet is produced with an example of application, and a focus on the evaluation of training systems is detailed.

2. Basis of the BIO-MetaEthics charter

Considering that the current forms of sustainable Viticultures are open to criticism (integrated, agroecological, organic, biodynamic), the GiESCO proposed a new way which looks more complete and acceptable on scientific basis, and wrote a general charter which is potentially adapted to any kind of vineyard : charter of 'BIO – MetaEthics' Viticulture (GiESCO proceedings n°19, 20). The main principles which must be fulfilled at first are :

1/ Put Man in the depth of all concerns in a universal context:
(grower, consumer, citizen, work valuing, education, security)
2/ Insure minimum impact on environment by optimizing cultivation technics:
(maximum of natural biodegradable products, friendly practices, short channels, renewable energies, terroir sustainability)
3/ Warrant transparency and evaluation of all operations:
(traceability of the production line, complete analyses of the products, use of secure scientific methods, wide communication).

3. Direct charter with producers

Those conditions will be applied into the practice by establishing direct contracts with the producers. First applications are made by Giovanni Cargnello and Alain Carbonneau. In that context an evaluation sheet is proposed (figure 1).

EVALUATION SHEET FOR ' DIRECT GiESCO CHART ' – *Key points*

GiESCO member(s) evaluator(s) :

1) Principle 1 objective 'Priority to man' :
2) Principle 2 research 'Minimum impact' :
3) Principle 3 guarantee 'Transparency & evaluation' :

Figure 1. Evaluation sheet at the level of a vineyard and of all its plots (if required). It can be published by the concerned producing unit with the agreement of the GiESCO representative.

Vineyard descriptor	Manager response	GiESCO score (1-5)	Comments	
Name of the vineyard				
General description of the territory (see annex for details)				
General description of the vineyard (see annex for details)				
General description of the cellar and enological practices (see annex for details)				
Cultivation system applied to every plot (see annex for details)				
• Canopy management				
• Soil management				
• Irrigation				
• Fertilisation				
• Pests control				
• Mode of harvest				
• Degree of mechanization				
Global				
Plot n°1 particularities				
• Natural terroir				
• Variety / rootstock				
• Cultivation practices				
• Pruning				
• Type of wine				
Plot n°2 particularities…				

4. Example of a new innovative vineyard in Turkish Thracia

Figure 2 presents the result of the evaluation of this vineyard (Arcadia).

EVALUATION SHEET FOR 'DIRECT GiESCO CHART' – *Key points*

GiESCO member(s) evaluators : Alain CARBONNEAU

1) Principle 1 objective 'Priority to man' : OK
2) Principle 2 research 'Minimum impact' : OK
3) Principle 3 guarantee 'Transparency & evaluation' : OK

Figure 2. Global result of the evaluation of Arcadia vineyard in Turkish Thracia. More technical details are available in annexes such as the annual programme of spraying and vineyard control.

Vineyard descriptor	Manager response		GiESCO score (1-5)	Comments (improve)
Name of the vineyard	Arcadia			
General description of the territory (see annex for details)	Turkish Eastern Thracia			
General description of the vineyard (see annex for details)	Hamitabat district Gentle slopes			
General description of the cellar and enological practices (see annex for details)				
Cultivation system applied to every plot (see annex for details)				
• Canopy management	Open Lyre metallic trellis		5	Maintain center open
• Soil management	90% natural grass covering		5	Control grass under row
• Irrigation	Supplementary irrigation from tank		4	Drip irrigation in some plots
• Fertilisation	Natural compost		4	Modulated / leaf analysis
• Pests control	Biodegradable products, elicitors of natural defenses, limitation of copper		4	Use more biodegradable products when pressure is low
• Mode of harvest	Manual		5	Selected picking
• Degree of mechanization	Every operation excepted harvest and pruning		4	Leaf removal machine to be used
Global			4-5	Charter OK
Plot n°1 particularities				
• Natural terroir				
• Variety / rootstock				
• Cultivation practices				
• Pruning				
• Type of wine				
Plot n°2 particularities…				

4. Evaluation of training systems

Table 1 synthesizes 40 years experience on training systems which allows to make pertinent choices in function of vineyard characteristics.

Table 1. Choice of the training system.

Preferential technico-economic ranking of the training systems in function of:

- Profitability:quality undergoing beneficiation by the price or need for minimizing the costs,

- potential of vigour and production with the risk of drought

- plot:constraint of slope or state justifying or not a transformation,

- degree of possible or desirable mechanization with respect to quality.

The regulatory constraints are not taken into account;they apply a priori (in particular the Vertical Shoot Positioning - VSP at high density), but this guide has the aim of encouraging with more rational evolutions.

WINE QUALITY AND PRICE : PRIORITY	POTENTIAL OF VIGOUR AND YIELD	CONSTRAINT OR STATE OF THE PLOT	DEGREE OF MECHANIZATION : PRUNING, HARVEST	OPTIMAL TRAINING SYSTEM
Price allowing priority to quality	Severe drought, very low production	Flat or sloping plot	Manual pruning and harvesting	1/ low and very large Vase
//	Drought, very low to low production	Flat or sloping plot	Manual pruning and harvesting	1/ open or trained Vase
//	Low to average vigour and production	Flat or weak to average sloping plot	Manual pruning and harvesting	1/ truncated Lyre 2/ VSP H/E=0,6
//	Low to average vigour and production	Flat or weak to average sloping plot	Manual pruning, mechanical harvesting	1/ foldable Lyre 2/ VSP H/E=0,6
//	Average vigour and production	Flat or weak to average sloping plot	Manual pruning and harvesting	1/ open Lyre 2/ VSP H/E=0,8 3/ Lys
//	Average vigour and production	Flat or weak to average sloping plot	Manual pruning, mechanical harvesting	1/ foldable Lyre 2/ VSP H/E=0,8 3/ Lys
//	Low to average vigour and production	Very steep sloping plot : narrow terrace	Manual pruning and harvesting	1/ Arpa 2/ Lys 3/ VSP H/E=0,8
//	Low to average vigour and production	Steep sloping plot : wide terrace	Manual pruning, manual or mechanical harvesting	1/ Lys 2/ VSP H/E=0,8
//	Low to average vigour and production	Steep sloping plot : slope-oriented rows	Manual pruning, manual or mechanical harvesting & operation (winch)	1/ Lys 2/ VSP H/E=0,8
Price imposing priority to low costs	Average to high vigour and production	New or transformable plot	Compulsory full mechanization	1/ Minimal Pruning + necessary adapted grass covering
//	Average vigour and production	Non-transformable plot	Compulsory full mechanization	1/ Close Pruning – low free cordon 2/ Box Pruning
//	High vigour and production	Non-transformable plot	Compulsory full mechanization	1/ Close Pruning – high free cordon or 'sprawl' 2/ Box Pruning

NB: as an indication for productions of wines of a certain quality or an optimal quality, the levels of mean yields/ha correspond to the following approximate range:

[Very weak: 1 – 3 t/ha ; Weak :3 – 5 t/ha ; Average: 5 – 10 t/ha ; High: 10 – 15 t/ha.]

Figure 3 illustrates some optimal choices of training systems under particular situations.

Figure 3. Views of characteristic training systems.

- Top left : Lyre vines in Arcadia vineyard (Turkish Thracia)
- Top right : High VSP late-harvested Pinot gris vines on slope near Krakow (Poland)
- Bottom left : Harpa vines on small terraces in Valtellina (Italy)
- Bottom right : Minimal Pruning vines for varietal wines near Perpignan (France)

5. Conclusion

This presentation launchs the application of the direct G*i*ESCO 'BIO-MetaEthics' charter into the practice.

6. Acknowledgement

To Zeynep Arca Manager of Arcadia vineyard who adapts the G*i*ESCOBIO-MetaEthics guide to her terroir.

7. Literature cited

G*i*ESCO proceedings n°19, 20.