

HOW DO WINE GROWERS PERCEIVE VOLUNTARY ENVIRONMENTAL APPROACHES?

A sociological analysis exploring the case of a French cooperative

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ABSTRACT:

Like most agricultural sectors, the wine industry is undergoing a wave of profound socio-technical changes aimed at meeting the environmental, climatic and health challenges of recent decades. This transition towards greater sustainability has seen the emergence of various environmental labels, whose impact on consumer behaviour is still limited. This study explores how winegrowers experience various voluntary environmental approaches, and how their perceptions of these labels affect their engagement with the latter.

Members of a wine cooperative in the Mâconnais (Burgundy, France) were sampled to participate in semi-directive interviews on this issue. The objective was to illustrate and explain the diversity of opinions on four environmental procedures proposed by the cooperative winery (Sustainable winegrowing, High Environmental Value Agriculture, Organic, and a subsidised group working on the theme of Biodiversity). Nine interviews were transcribed in order to perform a thematic content analysis and assess the dominant representations.

The study highlighted the dynamics of change in a terroir, that is completing a transition to integrated agriculture and is beginning to explore new production paradigms. From this socio-technical context, as described by the winegrowers, two main categories of environmental approaches could be identified, along with their own adoption and rejection factors. One category aims to promote the efforts made so far in this transition through positive communication, and the other is more in break with the production paradigm and intends to explore and design new farming systems.

Two lessons can be drawn from this observation: firstly, two dominant winegrowers profiles could be identified based on their labels preferences, each being either attracted by integrated agriculture initiatives, or by localised pioneering approaches. Secondly, the establishment of collective projects appeared to be the most effective lever for informing and mobilising farmers to work on the redesign of agroecosystems.

KEYWORDS:

Rural Sociology – Eco-labels – Farmer’s perceptions – Voluntary environmental approach – Viticulture
– Wine industry – Dynamics of change – organic agriculture – integrated agriculture.

INTRODUCTION:

I. International context:

Over the last few decades, a growing scientific consensus studied the necessity for a shift in agriculture towards more sustainability in both technical (Tilman et al., 2002) and social (Nicolopoulou-Stamati et al., 2016) aspects. In these circumstances, it can be assumed that such an evolution would be accelerated if consumers are willing to change their purchasing behaviour in line with these new principles. As a food producer, wine sector also faces a similar evolution (Gilinsky et al., 2016), however, review of current literature seems to hardly bring evidence over a shift in the nature of consumer's demand.

Many socio-economic studies estimating Willingness to Pay for more sustainability show mixed results: A study from Ginon et al. (2014) indeed portrayed and classified 28 factors motivating the purchases of burgundy wines by local consumers. The price of the bottle, the year and place of production, the type of wine and the pairing with food or the appellation, all ranked higher than the quality labels, and the research for environmentally sustainable production. The study from Bazoche et al. (2008) using experimental economics models to estimate consumers' willingness to pay for environmental characteristics could neither show a higher willingness to pay for environmentally labelled wines regardless of the information available (blind tasting, label examination, full information tasting). Similar observations were published for American consumers with the studies of Schmitt et al. (2013) and Loureiro (2003). An article from H. Rемаud, published in 2010, investigated the geographical factor for such consumer behaviour, by comparing French and Australian purchase motives, and his work could not put in evidence any dominant preference for sustainable products in both populations. A virtual shop experiment from Brouard et al. (2015) also could not observe a higher purchase rate for eco-labelled wines except for biodynamic ones.

Some studies did however highlight positive results, but for specific situations with underlying factors, such as labelling, access to information etc. The example of Ay et Al. (2014) highlighted a price premium for locally produced eco-labelled wine and measured a strong effect of public policies on consumption's nature. In Italy, it has been observed that young (18-35) Neapolitan consumers also have a significantly higher willingness to pay for wines that are either environmentally (carbon neutral) or socially sustainable (contributing to the fights against the Italian mafia, or the aids virus in Africa) (Vecchio, 2013). Finally, the work of Barber et al. showed in 2009 that American consumers with higher degree of sensitivity and consciousness about environmental concern linked with wine production, were more likely to present a higher willingness to pay for sustainable wines (Barber et al., 2009).

II. The case of France: a complex network.

France is a world leader on wine market: 2nd world producer for the volumes and 1st in terms of value with 13 billion euros of export sales in 2019. Those figures making the wine industry the second biggest contributor to the country's trade balance. As a whole wine also carries values that go beyond economics, it is essentially part of the country's culture and international image. Through oenotourism it does indeed even plays a major role in France's 1st economic activity which is tourism. (CNIV, 2019). Despite showing great economic results, the French wine sector is confronted with a steady decrease of the national consumption during the second the half of the 20th century (Besson - INSEE, 2004). A hypothetical shift in consumption then appears as a major stake, that the sector might have to face in the years to come.

In addition, the evolution towards more sustainability is fostered by both public and private powers. French vineyards represent 20% of the national consumption of phytopharmaceutical products, for only 3,7% of the country's total cultivated area (PAN-EUROPE; MDRGF (France), 2008). Thus, the sector is strongly targeted by recent national policies such as "Plan Écophyto" (*a national strategic plan aiming at reducing 50% of chemical use by 2025*), or the establishment of non-treated areas surrounding dwellings, rivers etc (Ministère de l'agriculture et de l'alimentation, 2020).

The French wine industry thus displays an interesting paradox: it produces a luxury good that is deeply rooted in local and national identities, but which is also increasingly confronted with sustainability issues. Those two statements are encapsulated in the national designation system. This system is based on the French notion of *terroir*: a term that holistically designates the quality of an ecosystem for the production of a particular food product, including the combination of topography, climate, and human influence as well as the evolution of those characteristics through history (Fourcade, 2012). Designations do not only promote the cultural significance of the wines, but they also ensure a certain economic value. To do so, a designation label sets stringent boundaries for many agronomic components, such as the eligible area, the plantation density, the grape variety, a maximum harvest yield, and a maximal rate of fungal contamination on the grapes. Such regulation allows to protect a cultural heritage as well as controlling the supply, which guarantees minimum prices according to the designation prestige and requirements. However, it does also reduce the range of agronomic practices that the wine growers can deploy to reach more sustainability (Bélis-Bergouignan and Saint-Ges, 2009).

Ultimately from both a French and international perspective, global wine production is undergoing a complex technical and marketing evolution, mostly motivated by ecological concerns. This thesis therefore focuses on one of this transformation's consequences: the rise of **voluntary environmental approaches** (abbreviated VEA hereafter). Such approaches can be defined as "*individual or collective initiatives designed to integrate environmental constraints on a voluntary basis, they can be driven by public authorities but also by other actors (companies, associations, inter-professional organisations etc.) and may or may not result in a label or an economic incentive*" (Adapted from Cazals, 2009).

While the debates around social expectations and consumer behaviour are well documented in the scientific community, the question of how farmers perceive such changes seems to have been relatively unexplored.

III. Research problem and questions:

The global aim of this document is to investigate the different perceptions that winegrowers have about the concept of voluntary environmental approaches. To achieve this, a sociological enquiry has been conducted on nine winegrowers of a French cooperative, it is structured around 3 subsidiary questions.

What understanding do the winegrowers have of the environmental issues affecting their activity? And how do they associate these with the local socio-technical context?

What values do they perceive in environmental approaches? What are the factors influencing the adoption or the rejection of such approaches?

How do winegrowers assess the relevancy of four voluntary environmental approaches proposed by their cooperative?

IV. Local Context: the “Mâconnais” vineyard and the “Cave de Lugny” cooperative.

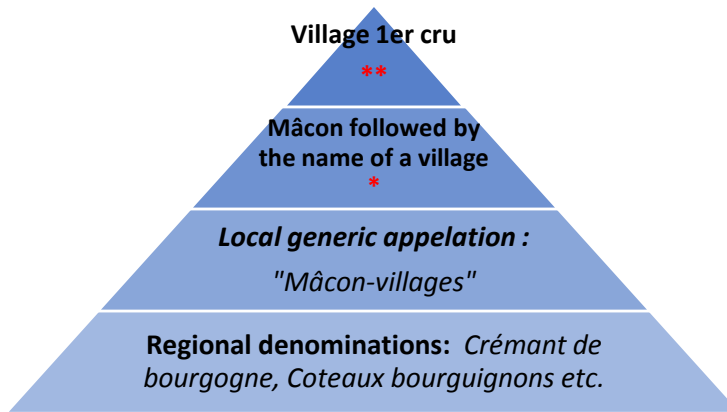
1. Area of production:

The geographical region in which the study takes place is called “le Mâconnais”, it is located around the city of “Mâcon”, in the south end of the “Saône et Loire” department and the Burgundy region.



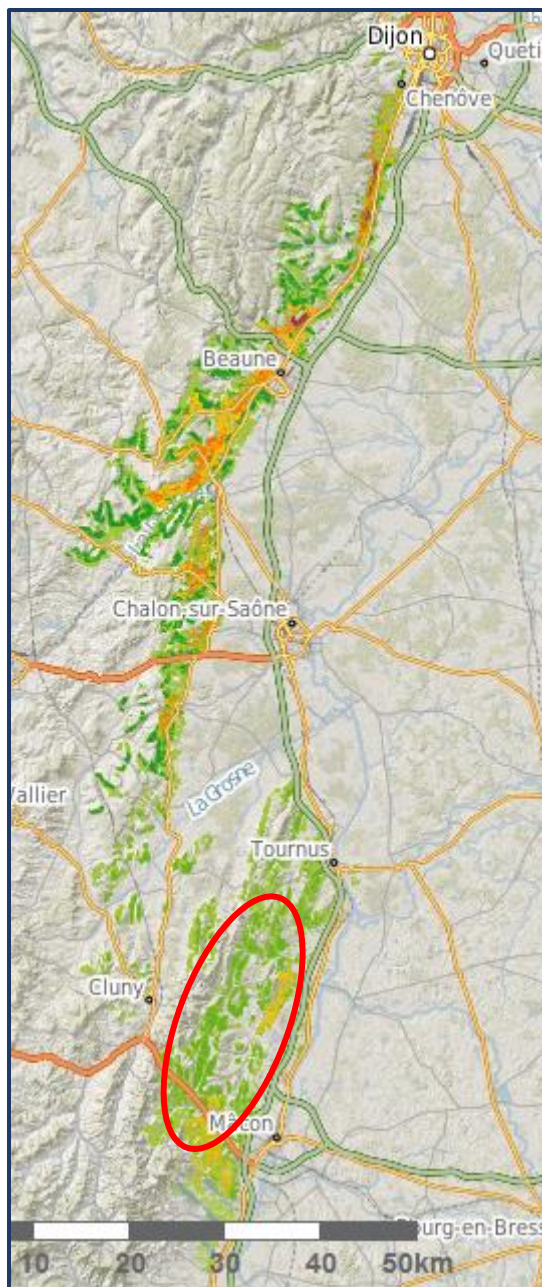
Figure 1 - location of the Mâconnais vineyard in France. (Retrieved from vin-vigne.com)

A report published in 2016 by the National Institute for statistics and Economic Studies (INSEE) explored the situation of the wine sector in this department. The “Mâconnais” vineyard weighs 6900 hectares, which approximately represents half of the department’s total vineyard surfaces (Froissart et al., 2016). In the French wine sector, origin denomination is a very important symbol of recognition and added value, here below is the pyramid of appellations from the studied area. It is noticeable that the more geographically specific the denomination is, more added value and recognition the end products have.



*Figure 2: Pyramid of Origin denomination in the "Mâconnais" vineyard
Adapted from vins-bourgogne.fr*

The most frequently encountered varieties or "cépages" are "Chardonnay" and "Aligoté" for white wines; and "Pinot noir" and "Gamay" for the red ones. It is worth noting that locally (unlike the northern part of Burgundy), the sector is characterized by a strong presence of cooperatives (*half of the total volume produced*) whose members are relatively small exploitations (*between 5 and 30 ha*). Lastly the 2016 INSEE report indicates education and demographic trends among the wine growers within the department: 8 growers out of 10 is a man, 4 out of 10 reached a high school graduation, and one grower out of two is aged over 50 with uncertain succession in 50% of cases (Froissart et al., 2016).



- Appellations Grands Crus
- Appellations Villages Premiers Crus
- Appellations Villages e.g. "Mâcon" + "name of a village"
- Regional Burgundy appellations followed by geographic denomination
- Regional Burgundy appellations or "Mâcon" followed by the term "villages"
- Generic regional Burgundy appellations
- Studied area

Figure 2: Geographical areas of the south burgundy appellations between Dijon and Mâcon. Adapted from "Bourgogne-maps.fr" property of "Bureau interprofessionnel des vins de Bourgogne (BIVB)".

2. The « Cave de Lugny » cooperative:

The "Cave de Lugny" cooperative was created in 1927. It has, since then, merged with two other cooperatives from neighbouring villages: Saint-Gengoux-de-Scissé in 1966 and Chardonnay in 1994. It nowadays encompasses around 1300 ha (30% of the Mâcon vineyard) with 200 members from 25 municipalities. It holds an average yearly production of 83 000 hectolitres of wine, for approximately 6 million bottles per year. It is the first producers of "Chardonnay" wines in the burgundy region, and also the first producer of "crémant de Bourgogne" wines. It has a wide spectrum of clients with three main destinations: 47% of the sales are exports, 35% are bought by large retailers and 18% are destined to "traditional circuits" (wine merchants, restaurant industry, and direct selling). The major exporting markets are the United Kingdom (39%), the United States of America (23%) and Belgium (10%).

The cooperative developed a strategy for environment and quality over its history. It aimed and received different certifications (ISO 9002 in 1997, ISO 14001 in 2001, as well as IFS & BRC in 2012). Over the last decade, environmental sustainability has become a major preoccupation. The cooperative indeed got certified “*Vignerons engagés*” (*sustainable winegrowing*) in 2014, involving the establishment of a corporate social responsibility commitment for its transformation sites and a transition towards integrated agriculture for its members. Even more recently, two different certifications were proposed to the growers, on a voluntary scheme this time. The first one was organic and was managed collectively, with the creation of a certified collective organic farm in 2017. This allowed any member to choose and convert only a few of their parcels to organic (*instead of their whole farm*) by “administratively” ceding them to the collective structure. The second certification developed is HVE (presented below), this time being performed at the individual farm level, which raised the interest of 16 growers. The certification is also managed collectively by the cooperative and was reached in the summer of 2020. Lastly, the creation of a subsidized collective on the theme of biodiversity was also initiated in 2020.

3. Focus on the four Voluntary Environmental Approaches developed by the cooperative:

GIEE: Economic and Environmental Interest Groups (*Groupement d'intérêt économique et environnemental*), are subsidised farmers collectives. This status is granted by the French government to projects that are committed to changing or consolidating practices by targeting economic, environmental, and social performance (Ministère de l'agriculture et de l'alimentation, 2014). The studied cooperative hosts and leads two recognised initiatives: one aiming at developing organic agriculture (detailed below) and a second one whose goal is to promote biodiversity-friendly practices. The aim of this last project is to gather the members (*10 currently*) that are interested in experimenting and exchanging about agroecological practices and biodiversity preservation. They will form a group, which will be responsible for many projects dealing with those topics, in order to allow a concrete positive communication for the cooperative and spread innovative practices among its members. In practical terms, this group tied professional relationships with various local stakeholders (research centres, museums, associations, schools, companies ...) in order to inventory wild fauna and flora biodiversity in the vineyards, as well as implementing measures to support it.

HVE: High environmental value agriculture.

HVE (“*Haute valeur environnementale*”) is a governmental grid to establish an environmental certification for integrated agriculture at the farm level. This scheme does combine results and mean-based approaches through a multi-level certification. The certification only allows the labelling of the products (no subventions so far) after the farm validates three successive audits, also called “levels”. The level one involves matching the European Common Agricultural Policy cross compliance, as well as maintaining regular environmental diagnosis. The second level is closer from a mean-based approach with a mandatory set of practices to optimise inputs and losses (for water, fertilizers, and chemicals) at the farm level, it has been designed to have equivalences with many other labels, thus allowing immediate validation. Finally, the third and ultimate level requires quantitative results to be matched for either agronomic or economic indicators in regard to agroecological practices and infrastructures. Option A, known as the “thematic approach”, consists of an evaluation of four indicators: biodiversity, phytosanitary, fertilisation and irrigation, each of which is made up of about ten elements worth a certain number of points. To validate it, 10 points are required in each of the indicators. The second option is called the global approach and implies that 10% of the farm's useful area is dedicated to agro-ecological infrastructure (dry stone walls, hedges, groves, etc.), and that annual purchases of inputs do not exceed 30% of the farm's turnover. (Ministère de l'agriculture et de

l'alimentation, 2021). At the cooperative winery level, 23 member farms were certified in the summer of 2020.

Sustainable winegrowing (« *Vignerons engagés*» hereafter abbreviated « SW »)

This is a voluntary commitment scheme created in 2006, by a cooperative of winegrowers in south of France. Its label aims at ensuring that the private domains and collective structures engage themselves in a **corporate social responsibility** process (under ISO 26 000 norm). This procedure then has a broader impact than just environment and biodiversity concerns, it indeed includes a set of requirements for the other pillars of the sustainable development: **Governance and managerial practices, Economic performance** as well as **Corporate Social Responsibility (CSR)**. This approach involves the whole food chain (from the vine to the glass) on many topics such as waste and hazard management, working conditions, fair prices and remuneration, short supply chains, products traceability, continuous improvement etc. In Lugny, the whole cooperative is certified, meaning every member and employees are involved in the CSR approach. The main impact on the growers is that their farm has to receive a diagnosis every 5 years on the themes mentioned above, resulting on a grade and a list of objectives for their farms until the next diagnosis. (Vignerons Engagés, 2018)

Organic:

As explained previously, in 2017 the cooperative created a **GIEE** to encourage its members to experience **organic farming**. This collective created an administrative farm that got certified organic and to which any co-operator could cede one or several plots. All inputs and machineries are bought collectively, the group receives regular advice from a specialized agronomist and members can arrange for mechanised interventions among themselves. Therefore, every cooperative member can choose to convert a few of their plots to organic with the incentives of not putting the whole farm at risk, being supported by a collective, and having little investments required. For wine production, the organic label requires that that no synthetic inputs are used in the production of grapes nor in the processing of wine (European commission, 2012).

MATERIALS AND METHOD:

Semi-structured sociological enquiries were performed with vintners from the “Cave de Lugny” cooperative. These qualitative interviews were conducted on a face-to-face basis, in accordance with pre-established themes and questions from an interview grid (*Cf. Appendix 1*). They took the form of an informal discussion in which the interviewer had a limited impact on the answers and the flow of the exchange. Interviewees were free to go off-on tangents if such digression allowed the collection of useful data. The interview guides were adapted after each interview to add or narrow down some of the issues discussed. These exchanges were recorded, and later transcribed for a verbatim analysis. The aim of the study was to cover the largest range of possible opinions; therefore, the respondents were sampled based on four factors that might influence their perception and answers:

First factor: The **age group** that they belong to, with two categories.

- Vintners that are below 45 years old.
- Vintners that are older than 45.

Second factor: the **size of their farm** (total cultivated area):

- Total cultivated area (TCA) < 15 hectares.
- TCA > 15 hectares.

Third factor: their **degree of implication in professional decision councils** (Cooperative or designation board of directors, wine appellation syndicate etc), with two categories:

- Members of at least a professional decision council.
- Non-members (and that have not been members yet).

Fourth factor: their **degree of commitment** in the different **voluntary environmental approaches** proposed by the cooperative.

- Vintners only involved in the compulsory procedure (sustainable winegrowing).
- Vintners involved in a total of two or more procedures (at least one voluntary based one).

This classification resulted in a potential total of sixteen interviews distributed as shown on the graph below (Figure 3.).

The global themes that were discussed during the interviews were:

- Introduction: presentation of the respondent’s farm history.
- The social demand for environment friendly products and how the respondent feels it impacted their work and territory.
- Respondent’s definition of an environmentally friendly vineyard.
- Respondent’s opinions and preferences on how to promote environmental sustainability.
- The main lockdowns and incentives for the respondent to join an environment-based initiative.

However, considering the semi-directive nature of the exchanges, the possibility of refining this grid after each interview was retained.

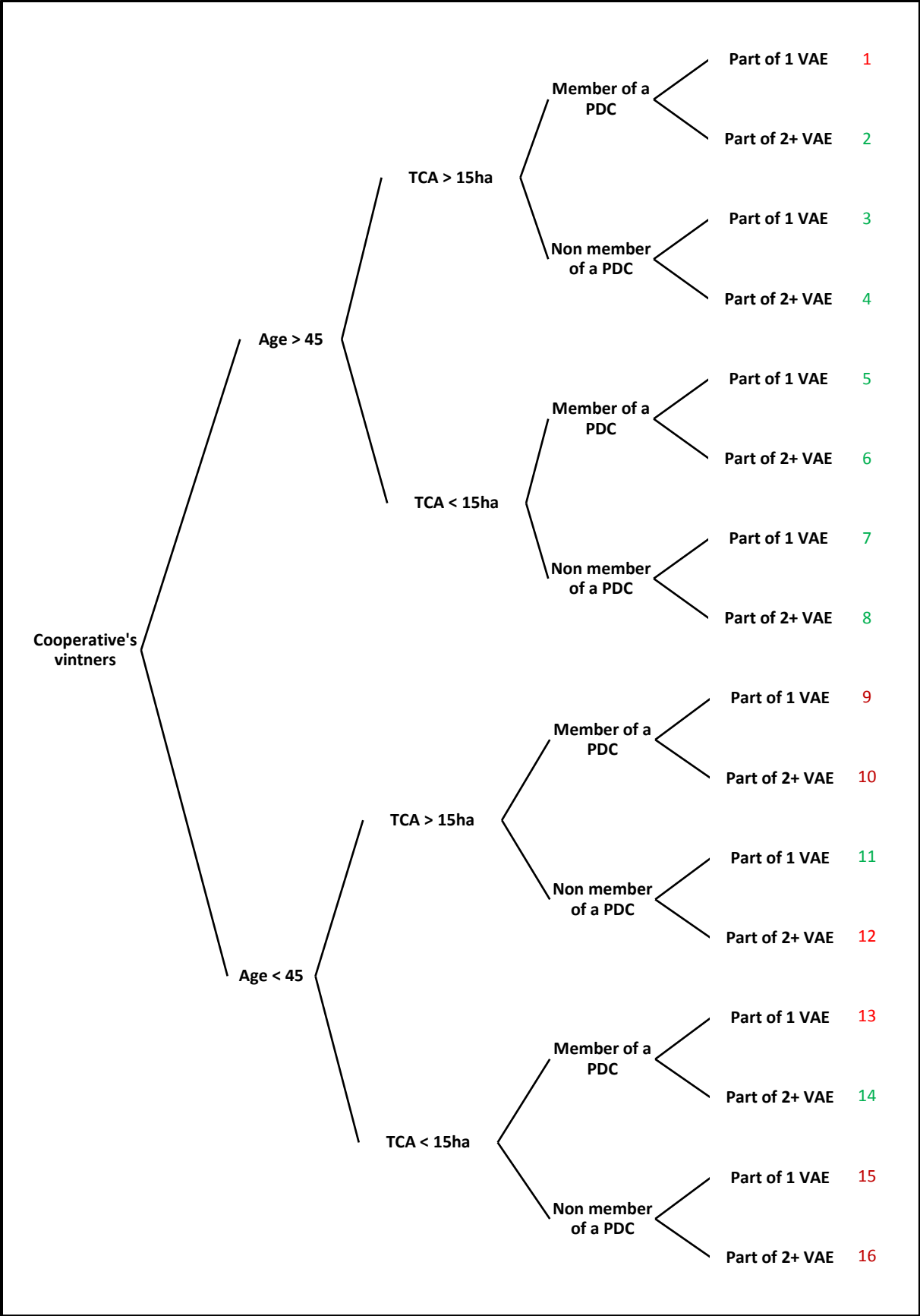


Figure 3 - Respondent sampling scheme

The interviews were then manually transcribed into verbatims, so that their content could be analysed by theme discussed, words and tone used. The objective is to depict the range of personal perceptions on different topics covered by the problematic. While reading the verbatims, thematical categories were chosen in order to capture what farmers said about common and useful topics for the study (see list of categories and their descriptions in Table 1 below).

Analysis categories	Description of what is extracted from the verbatims	
Evolutions of mindsets towards more sustainability	<i>Did the interviewee notice a change of paradigm? how is it described (what practices, dates etc.)?</i>	
Causes of this evolution	<i>What are the elements that the interviewee considers to be at the origin of the evolution described?</i>	
Outcome of this evolution	<i>How does the respondent personally feel about this evolution? How has it impacted its professional and personal life?</i>	
Purpose of a Voluntary environmental approach	<i>How does the respondent define a VEA? What are the main perceived interests and roles?</i>	
Factors influencing adoption / rejection of VEA	<i>What are the conditions, as described by the interviewee, under which a VEA is interesting or not?</i>	
Opinions on the four studied VEAs	<i>Organic</i>	<i>What is the respondent's assessment of the four initiatives studied? How does the interviewee justifies involving in some of them and not some others?</i>
	<i>Sustainable winegrowing</i>	
	<i>HVE</i>	
	<i>GIEE on biodiversity</i>	
Futures stakes of the profession	<i>What problems does the wine profession have to solve in the near future according to the respondent? What solutions are outlined?</i>	

Table 1 - Verbatim Analysis categories and their description

Then for each thematic category, all the most relevant extracts of discourse have been isolated and separated according to whether they belong to the field of **practices** or **representations**. The purpose of this dichotomy is to study the degree of involvement of the farmer in his assertions:

When the respondent talks about actions or behaviours that were held or observed, and that could have been described in a similar way by an outside observer, we classify this extract in the field of "practices". Conversely, extracts containing the farmer's own perceptions and judgements, which are not observable from the outside, are included in the "representations" field. (Methodology adapted from Caroline Brand ISARA courses, 2017-2018) Analysis grids of verbatims are available in appendix 2.

For the sake of accuracy, respondents' quotes will be reported in French in this document and also translated into English. To facilitate the reading of this document the original French quotes are written in *blue*, and their English translation in *grey*. The verbatims of all interviews have been anonymised to ensure a higher answer rate and eliminate potential bias. To identify the source of a quote, the interview number (as shown in Figure 3) appears in square brackets at the end of the quote.

Operational framework of the thesis:

This thesis was carried out in the frame of an “operational internship” in the “Cave de Lugny” wine cooperative, in Burgundy, France, from February to July 2020. Hence, alongside with the pedagogical objective of designing a scientific deliverable, this thesis was also an opportunity to discover and achieve operational missions in a professional context. The conception of this thesis’s purpose and methodology was adapted in relation with the practical objectives of the cave de Lugny cooperative. **Among the interviews, seven could not be carried out either due to restricted conditions caused by the sanitary crisis, or a lack of voluntary respondent in the category. These empty categories are highlighted in red in the figure 4 scheme.**

RESULTS:

I. Dynamics of change in “le Mâconnais”, and how are they perceived?

1. The emergence of efficiency-based strategies in an ongoing transition towards integrated agriculture:

To understand farmer’s willingness or reluctance to engage in a voluntary environmental approach, it is important to investigate the social and technical context of such commitment. Every grower in the study agreed to state that their profession has undergone a significant evolution from the 1990s onwards, with environmental issues becoming increasingly important.

« Si, je dirai qu’il y a quand même eu une grosse évolution. Avec l’apparition de l’enherbement, de quand même ... des traitements raisonnés, ... c’était quand même les prémices on va dire ! » [3]

“I would say there has been a big change. Especially with the reasoning of treatments, and the grassing of vine inter-rows which was the beginning of it all”

Most interviewees shared the same observation and description of a shift of practices lead by environmental concerns, in the last three decades. The main changes mentioned is a reduced usage of phytosanitary products, with both less treatments and weaker doses than twenty or thirty years before as well as traceability of interventions. Other changes were also cited for this period, namely an increased use of tillage, a stronger focus on landscape maintenance (hedgerows and trees), a generalised grassing of the inter-row space, and an increased use of organic fertilisers instead of mineral ones. While explaining this shift further, six respondents referred to the term “integrated agriculture” or “sustainable agriculture” (“*agriculture raisonnée*”) to describe their current vineyard management as a result of this evolution.

2. The socio-technical causes of this evolution, as perceived by the winegrowers

The respondents had various interpretations on this shift of practices, in total, seven different causes were highlighted in their answers, they are listed in the table below:

Cited in 5/9 ITWs	The economic benefit from adjusting the treatments to reduce costs while maintaining production levels.	<p>“Ce qui nous a le plus motivé c'était l'aspect économique des choses ! tout simplement. Ben non, c'est parce qu'on avait des valorisations qui étaient relativement ... basses ... et donc ça nous a obligé à raisonner sérieusement toutes nos intervention quoi ! ” [3]</p> <p>“What motivated us most was the economic aspect of things! Because we had relatively low added values, and so it forced us to seriously reconsider all our interventions.”</p>
Cited in 3/9 ITWs	An improved technical support from extensionists and observational technologies (group projects, weather or pest pressure data, ...).	<p>“Y avait du conseil déjà, d'la part des chambres d'agriculture [...] maintenant qu'y a eu quand même plus de méthodes pour observer c'qui s'passe, avoir les avis d'la météo, le suivi des... des pressions malades, donc ça se... ça aide quand même à la décision” [5]</p> <p>“We had advice from the state extension services [...] and now there's plenty of tools and methodology to make observations, and reports to foresee the weather or pest pressure, which helps in the decision making”</p>
Cited in 3/9 ITWs	An increased occurrence of heavy storms leading to landslides in the 90s, that have fostered the suppression of inter-row weeding.	<p>“Mais on désherbaient en plein, heu (souffle du nez) ... sur les années 90 on a eu beaucoup d'orages dévastateurs ou il y a eu beaucoup d'érosion ... Alors c'est là qu'on a commencé à enherber ! Moi aujourd'hui mon vignoble est tout enherbé” [4]</p> <p>“We used to weed chemically the entirety of our plots ..., until the 90's when we got a lot of devastating storms and erosion ... So, then we stopped weeding and today there's grass everywhere in my vineyard !”</p>
Cited in 8/9 ITWs	A global societal transformation: easier access to information, change of mindsets, new “appeal” for more environment-friendly products, stronger media coverage of agriculture (agribashing etc.).	<p>« C'est vrai que je pense qu'internet fait, fin c'est vrai qu'on voit... Y a déjà un effet un effet de mode. On voit bien, fin bon, je sais pas si vous suivez un peu, un peu la politique, [...] dans les dans les grandes villes, Europe écologie les verts sont passés, fin bon c'était un truc euh... les écolos ça existe, fin excusez, mais ça existait presque pas quoi. [...] je pense que la jeune génération bah elle suit [...] l'effet de mode pour euh, pour rester un peu entre guillemets à la page. » [11]</p> <p>“I think there is also a “fashion effect” because of internet... I don't know if you follow politics at all, but the green parties got elected in many big cities. You know ... a few years ago such they were barely influent. [...] And I think the young generation of farmers has to follow that trend to keep up with the times”</p>
Cited in 2/9 ITWs	A change of paradigm in the education of winegrowers, which gets increasingly noticeable with the new generations.	<p>« Moi... j'avais un prof de viti qui m'a... m'avait appris à désherber hein, 2 fois par an j'passais pis terminé quoi... J'avais marqué que moi je labourais entre les rangs. Je m'étais ramassé une mauvaise note ! (Rires) » [2]</p> <p>“I had a viticulture teacher that taught me how to weed, and that I should do it twice a year without caring more about it. I once answered that I could also till the inter-row, and I got a pretty bad grade for that! (Laughs)”</p>
Cited in 3/9 ITWs	A change of demography in the villages, with the arrival of "neo-ruralists" and “eco-tourists” which implied a different cohabitation.	<p>“Beaucoup d'pression déjà euh... d'la part des... des riverains, des bah... la cohabitation avec les gens, y a beaucoup de néo- ruraux qui sont venus qui connaissent pas forcément... nos façons d'travailler...” [5]</p> <p>“We faced a lot of pressure from some of the residents ... and a difficult cohabitation with former city-dwellers who moved in the villages, and did not understand ... the way we work”</p>
Cited in 5/9 ITWs	An increased awareness of the dangers of certain phytosanitary treatment molecules.	<p>“Après ben ... comme les CMR, moi j'ai un collègue viticulteur sa gamine elle est ... elle est née avec une maladie reprogène ... Ben ça c'est logique d'interdire ! ” [8]</p> <p>“Also, ...the CMR (carcinogenic, mutagenic, or reprogentic chemicals) ... I have a colleague whose kid was born with a reproductive disease ... Well, that's a logical thing to ban these products!</p>

This shift of practices then seems to be the result of both internal and external factors, with two distinct phenomena that took place simultaneously. On one hand the respondents described a spontaneous initiative from the wine industry to optimise production costs and reduce impact on their environment and health. On the other hand, many interviewees mentioned an increasing occurrence of external solicitations from medias, policies, and communities for winegrowing to become more sustainable.

3. Wine grower's reflexion on the current state: what are the outcomes of this shift in practices?

When asked to assess the current sustainability of the region's vineyards, almost all the vintners surveyed considered it to be satisfactory (eight out of nine). There was a general consensus on the perception that the vineyards of the Mâconnais were as much or more sustainable than those of other French regions (particularly with regard to grassing).

<p>« Après je pense qu'on est déjà pas si mal (ndt en termes de durabilité). Je pense qu'on est un des vignobles les plus enherbés ... de France. » [14]</p>	<p>"After all, I think we're not so bad (transcriber's note: in terms of sustainability). I think we are one of the most grass-covered vineyards ... in France"</p>
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Despite a rather positive common conclusion, many differences were observed in the personal opinions of the winegrowers regarding this transition to integrated agriculture. Many respondents expressed a supportive perception of this dynamic, mentioning in particular their curiosity to learn new techniques and knowledge (*four verbatims*).

<p>« On faisait des réunions, on nous expliquait, bah tiens, y a moyen p't'être d'arrêter les insecticides par exemple...tout ça ... ça nous a alertés, hein... pas bête ça ! En comptant les bestioles...y avait un intérêt curiosité aussi, d'apprendre des choses » [2]</p>	<p>"We attended workshops to reduce the use of insecticides. By getting information and counting insects, we became aware of the problem. And we also developed a certain curiosity and a desire to learn about these issues."</p>
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In contrast, a majority of verbatims (*five*) mention the intensification of media and societal pressure regardless of the progress achieved. Lastly, some winegrowers (*three*) pointed to the increasing complexity of the regulatory framework for environmental purposes. The main apprehensions they expressed were the fear of being confronted with technical impasses due to the banning of practices, machineries, or molecules (especially glyphosate for the latter).

<p>« Mais ... quand on aura plus de désherbant, et puis ça va vite arriver. Qu'il faudra labourer sous le rang ... ça je sais pas encore comment je vais faire ! Si un jour je gratte sous le rang pour remplacer le désherbant ... on va polluer l'atmosphère hein ! Parce qu'on aura pas tous des enjambeurs électriques dernier cri hein » [6]</p>	<p>"But ... when all weedkillers will be banned, which might happen soon, I still don't know how I'm going to proceed! We will have to plough under the row ... If one day I have to till under the row to replace the weedkillers ... that'll pollute the atmosphere! Because we won't afford state-of-the-art electric straddlers."</p>
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A final noteworthy observation in the corpus of responses is the fact that three winemakers spontaneously admitted a lack of communication regarding the changes entailed by this transition to integrated agriculture.

<p>« La lutte raisonnée, parce que ... on s'y est tous mis en même temps la viticulture, les céréaliers, les éleveurs etc. c'était une démarche volontaire de notre part ! Et là où on a un grosse part d'erreur c'est qu'on a jamais su communiquer là-dessus ! » [7]</p>	<p>"The integrated agriculture, because ... it all started at the same time for the wine growers, or the other sectors. It was a voluntary approach of ours! And where we made a big mistake is that we never managed to communicate about it!"</p>
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II. How do winegrowers see the value of voluntary environmental approaches? What factors influence their adoption or rejection?

1. The purpose of an environmental certification:

As explained in the introduction, the discussions with the nine winegrowers focused mainly on the different environmental actions established by the cooperative winery. During these exchanges, respondents had the opportunity to give their overall understanding of the value of certification.

The most frequently cited purpose (*five verbatims*) seems rather pragmatic and relates to a specific economic issue for cooperative wineries. Certification is then described as a way to gain access to certain volume markets (traders, bulk, distributors) by conforming to their own environmental policy.

<p>« Après moi ce que je leur trouve à ces chartes là c'est ... ça ... Ça amène ... ça amène pas de plus au consommateur, ça amène peut-être plus aux courtiers ou alors aux négociants ... ou aux intermédiaires alors une certification ça permet de mieux vendre » [4]</p>	<p>"After all, what I find with these charters is that they don't bring any real information to the consumer, they perhaps bring more to the brokers or to the traders ... or to the intermediaries, so a certification allows them to sell better"</p>
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Two of these respondents shared the same perception of environmental certifications, but they complemented this view with an additional remark. In their eyes, that this kind of initiative is mostly beneficial to the pioneers or "first movers".

<p>« Toujours dans le même dans le même but : d'être parmi les premiers quoi ! c'est là où on peut en tirer profit. Forcément ... si tout le monde l'est ... Vous ne vous démarquez pas donc euh ... ça n'apporte rien. Enfin ça n'apporte rien ... Ça apporte toujours quelque chose ! Mais personnellement, pas au niveau d'une structure commerciale quoi voilà ... » [3]</p>	<p>"Always with the same objective: to be among the first! That's where you can benefit from it. Of course, if everyone else has it... You don't stand out, so, uh, it doesn't bring anything. I mean it doesn't do anything... It always does! But personally, not at the level of a commercial structure."</p>
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In contrast, some respondents identified the potential to positively inform the consumer as a primary purpose of certification. While explaining this, they often referred to their own consumer experience.

<p>« Je pense que ça permet de donner des points de repère aux clients quand-même, voilà, à la société en général. Et que ça, c'est une attente aussi, les gens ils ont besoin de savoir ce qu'on fait. On leur a... enfin ils ont l'impression que... (...) On a oublié comment c'était fait ce qu'on mange donc là euh... ils veulent des preuves de comment on le fait » [14]</p>	<p>"I think that it allows us to give reference points to our customers, or to society in general. And that's a consumer's demand too, people need to know what we do. They have... well, they have the impression that... (...) We've forgotten how what we eat is produced, so they want proof of how it's done"</p>
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Marginally, some respondents mentioned a more personal usefulness of the qualifications, explaining that they allow a simpler organisation of work for environmental actions. According to them, they offer the farmer a framework that is easier to follow and more effective than a spontaneous approach.

<p>« Ah oui, oui, niveau bah organisation hein, dans l'environnement bien sûr ...ça, ça m'a apporté de... d'aller voir le bio hein, puis la biodiversité... ; y a quelque part le VDD c'est p't'être le départ de tout ça.. ». [2]</p>	<p>"Oh yes, yes, in terms of organisation, of course, in the environment ... that, that brought me to... to go and look at organic farming, and biodiversity...; somehow the sustainable winegrowing programme is perhaps the starting point for all this..."</p>
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Lastly, a few vintners expressed an opposite perception, involving that the establishment of certifications rarely has a strong effect on fostering the transition towards more sustainability, but rather supports existing processes.

« Bah... Je pense pas que c'est l'fait d'être certifié que... qui euh... Va faire changer les choses quoi, bon... après ça... ça pousse euh... voilà... ça pousse à s'y mettre plus vite sûrement... Mais ... ah tout l'monde pourrait, voilà... peut faire des efforts et essayer d'en faire euh voilà pour... pour s'améliorer sur le terrain mais... j'pense pas que ce soit LA certification qui... 'fin c'est pas un Graal » [5]

“Well, ... I don't think it's the fact of being certified that... that's going to make things change, well... then, it... it pushes you to... to get going faster surely... But ... ah everyone could make efforts and try to do some uh here to... to improve on the subject but... I don't think it's THE certification that... It's not a Holy Grail”

Ultimately, respondents identified three overall objectives for certification: ensuring access to certain markets, develop an additional communication medium for the general public, and obtaining a clear and proven reference framework for more virtuous vineyard management.

2. Factors influencing the adoption of a VEA:

From the interviews, a list of the factors influencing winegrower's choice to join or not a structured collective approach has been established. To achieve this, the reasons for engaging or not engaging in each of the four cooperative's initiatives have been compiled from the nine verbatims. Four main factors that facilitate engagement in a sustainability structured approach could be identified:

The most mentioned one is the collective dimension of the project at stake. Seven vintners out of nine clearly expressed a higher attraction for collective approaches, citing in particular the virtue of exchange dynamics, the supervision of the group by an extensionist, the management of administrative procedures by dedicated staff, or a grater direct impact on the environment.

« Donc on peut réussir à plusieurs, comme on peut ne pas réussir à plusieurs aussi. Mais du coup, on n'est pas tout seul dans l'échec. Et ... des fois, bah tu galères, puis tu vas voir le collègue, ... alors il galère, mais il a trouvé une solution [...] t'as toujours le droit d'aller voir ton voisin, c'est pas... Mais là en plus on n'a pas de concurrence entre nous. On va pas avoir de secret de... de... hein. C'est la même bouteille qui... qui est partagée en 300 donc euh... (rire) » [14]

“So, you can succeed together, just as you can fail together. But as a result, you are not alone in your failure. And ... sometimes, well, you're having a hard time, then you go and see your colleague, ... so he's having a hard time, but he's found a solution [...] you always have the right to go and see your neighbour, it's not ... But here we have no competition between us. We're not going to have any secrets. It's the same bottle which... which... which is shared in 300 so um... (laughs)”

A second factor that was common to three verbatims is the determination to be proactive with regard to social and regulatory changes. Respondents also emphasised the importance of this factor for young winegrowers in their early career:

<p>« J'ose espérer ! Qu'un jeune soit plus motivé ... qu'un vieux on va dire. [...] Parce que son avenir en dépend quand même ! » [3]</p>	<p>"I can only hope that a young person is more motivated ... than an old vintner, so to speak. [...] Because his future is at stake!"</p>
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Another class of factor identified is curiosity and the desire to communicate through a sense of pride in one's profession. While presenting this explanation, some respondents also included the attraction of better economic valuation.

<p>« La bonne image et la bonne rémunération et qui apportent une certaine fierté aux adhérents quoi. Donc du coup de l'implication et ... un déblocage quoi... » [2]</p>	<p>"The right image and the right remuneration and that brings a certain pride to the members. So, therefore higher involvement and ... a removal of stereotypes."</p>
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3. Factors influencing the rejection of a VEA:

Several reasons were given by some respondents for not joining a particular initiative. Below is a classification of these, sorted by occurrence.

The main cause put forward is the perception that such initiatives are administratively cumbersome, while five respondents showed resentment over bureaucracy or administration in general. To some extent, this perception questions the technical legitimacy of certain labels considered to be overly disconnected from technical reality.

<p>« C'est bien d'avoir un trame qui est commune disons ... pour que ça pousse tout le monde dans le même sens. Après il faut pas arriver dans des ... Des inepties de bureaucrates voilà ! » [8]</p>	<p>"It's good to have a common framework, let's say ... so that it pushes everyone in the same direction. But then, it's essential not to come up with ... bureaucratic nonsense, that's all!"</p>
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The next most cited reason is the recent proliferation of environmental labels. According to the winegrowers who raised this criticism, such an abundance of undistinguished initiatives undermines their legitimacy. Some respondents also reported feeling lost as consumers or professionals when faced with so many alternatives.

<p>« Ben de toute façon je les connais pas tous ! si vous les citez (NDT : les différents labels) je vais dire je les connais ... mais je connais pas ... à quoi ça correspond réellement quoi ! Alors après c'est comme tout hein de toute façon ... Plus on en met plus on perds le consommateur et même les professionnels alors bon ! » [3]</p>	<p>"Well, anyway, I don't know them all! If you name them ("the different labels") I'll be able to recognise them ... but I don't know ... what they really correspond to! So, it's like everything anyway ... The more you add, the more you confuse the consumer and even the professionals !"</p>
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Another psychological lock-in could be observed in the verbatims, although it was less frequently cited or more implicitly. It encompasses a broad form of disinterest or even ideological divergence towards such approaches, perhaps even an anxiety about change or failure.

<p>« Je devrais peut-être plus m'y intéresser c'est vrai, mais... au jourd'hui euh... non, honnêtement non. Ça m'intéresse pas. [...] J'ai pas envie de, honnêtement j'ai pas envie de trop, trop chambouler ma ... ma façon de faire quoi » [11]</p>	<p>"Maybe I should pay more attention to it, but... nowadays, uh... no, honestly no. I'm not interested. [...] I don't want to, honestly I don't want to disturb my ... my way of doing things too much"</p>
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Another observed lock-in was also sometimes expressed in a more direct way: through the proximity of the respondents' retirement. Three vintners have in fact expressed their regret at the late emergence of certain approaches and admitted that they would have willingly joined in if their careers were not so close to the end.

<p>« C'était ... c'était trop tard, j'étais à deux ans de la retraite, j'allais pas me mettre dans le groupe bio... autrement je me serai mis dans le groupe bio hein ! [...] Ça se serait fait dix ans plus tôt, je serai parti c'est sûr ! » [3]</p>	<p>"It was ... it was too late, I was two years away from retirement, I refused to join the organic group ... otherwise I would have been part of it! [...] It would have been done ten years earlier, I would have committed for sure!"</p>
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Finally, the last category of reasons given had a more technical and economic character. Many respondents explained why they did not want to engage in an environmental approach as they considered it unsuitable for the technical and financial characteristics of their farms.

<p>« Quand tu parles de qualité d'environnement, sur les intrants ... bon après je dis pas ... je parle pas désherbage, parce que désherbage ça a un coût ! Mais autrement quand tu vois le coût à l'hectare c'est presque plus cher ! ... Non mais même pour des grosses valeurs ajoutées ! » [4]</p>	<p>"When you talk about environmental issues, about inputs ... well, except for conventional weed control, which has a cost! But otherwise, when you see the expenses per hectare it's almost always more expensive! But even for bigger added values !"</p>
<p>« Y a le fait aussi que... que j'étais aussi pépiniériste... en même temps que... et souvent bah voilà... Cette année y a des... les mois d'grosses périodes déjà dans les vignes quand y a les greffes qui s'rajoutent, et qu'les vignes sont en avance comme cette année, euh... bon... bah y a des fois où on a du mal à être partout » [5]</p>	<p>"There's also the fact that... I also own a vine nursery... at the same time as my farm... This year there are... months of big periods in the vineyards, when the grafts are done, and the vines are in early bloom like this year, um... well... sometimes it's hard to be everywhere"</p>

III. Winegrower's opinion on the four initiatives proposed by the cooperative.

As explained in the introduction, the objective of the experimental scheme was to investigate the opinions of the co-operators on the four environmental initiatives carried out. It also enabled to isolate the main motivations and obstacles to the adoption of such initiatives, and to describe the techno-social context determining these decisions. Thus, below is an analysis of the comments made by the winegrowers interviewed on each of the approaches under consideration.

1. Sustainable winegrowing:

Two main trends could be observed among the respondents' opinions on the "Sustainable Winegrowing" label. The predominant one is rather favourable: many vintners commented positively on the holistic dimension of the scheme. In particular, they highlighted the fact that the label had enabled them to look at sustainability from a more distant perspective, through the prism of social responsibility.

<p>« C'était vraiment la démarche qui me... me convenait le plus, qui était progressive et voilà... donc qui permettait de ... que tout le monde puisse évoluer à son rythme, ça c'était vachement important, pis qui me paraissait la plus complète » [2]</p>	<p>"It was really the approach that suited me the most, because was progressive and therefore allowed ... everyone to evolve at their own pace, that was really important, and it seemed to me the most comprehensive."</p>
<p>« La RSE [...] pour moi, elle est hyper importante aussi parce que... c'est une façon... que les gens... Si les gens sont bien dans leur travail, bah forcément, ils travaillent mieux. Et puis tu... tu peux leur du coup leur demander, avoir des exigences qui sont plus hautes aussi. » [14]</p>	<p>"CSR [...] for me, it's also very important because... it's a way... that people... If people feel good about their work, then they necessarily work better. And then you... you can ask them to make higher expectations of themselves too"</p>

This perception was sometimes also complemented by a few arguments, shared with some other initiatives: the notion of progressive enhancement and the dynamics of exchange.

The second trend is quite different, as it would seem that some of the cooperative's members find the benefits of the programme difficult to perceive. As its specifications do not impose any obligation of result at the level of the individual farm, some respondents highlighted the lack of concrete changes following the label's award.

<p>« ... Notre traçabilité, on l'a toujours faite euh... Euh... (Soupir) On utilise toujours des produits phyto. Non, honnêtement, moi euh.. Sur mon exploitation... Bon, on est VDD, c'est ... c'est très bien, c'est voilà pour ... pour le consommateur tout ça, et je sais qu'il faut évoluer tout ça. Mais, au jour d'aujourd'hui, qu'est-ce qui a changé sur mon exploitation parce que je suis VDD ? Euh honnêtement, pas grand-chose hein. » [11]</p>	<p>"... We've always done our traceability, uh... Uh... (Sigh) We still use pesticides. No, honestly, I, uh, on my farm... Well, we're SW, it's... it's very good, it's for... for the consumer, and I know that we must make progress. But, as of today, what has changed on my farm because I have the SW label? Honestly, not much."</p>
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2. High Environmental Value Agriculture:

Opinions seemed less divergent on HVE, as a form of consensus was observed on two main traits. Many respondents identified the strategic objective of this certification: to respond to a growing demand from mass distribution channels.

<p>« HVE c'est même pas trop une demande du client, c'est plus la demande de l'intermédiaire ! Euh si nos acheteurs nous demandent ce label, si on l'a pas ils peuvent aller voir d'autres acheteurs donc on a pas le choix aujourd'hui quoi ! » [4]</p>	<p>"HVE is not even a request from the customer, it's more the request of the intermediaries! If our purchasers ask us for this label, without it they may go and see other suppliers, so we don't have the choice today!"</p>
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Then, six growers out of nine shared a negative opinion on the standard of this label. They indeed perceived that the impact on the environment would be limited, and often they often regretted that the label did not push them further up, as they already matched most of the requirements.

<p>« Ça reste une démarche très réglementaire... euh... quasi une évidence quoi ...on met juste un nom sur quelque chose que... qui est évident et qui va pas, à mon avis pas assez loin, donc c'est plus un truc un peu... imposé... par l'état et quelque chose qui n'est pas forcément si... si vertueux que ça, qui va pas assez loin pour moi. » [2]</p>	<p>"It's still a very reglementary approach... um... almost an obvious one... we're just putting a name to something that... that is obvious and doesn't go far enough in my opinion, so it's more of a thing that's a bit... imposed... by the state and which isn't necessarily so... so virtuous, it doesn't go far enough for me."</p>
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Despite a majority of rather defeasible opinions expressed, a few causes of satisfaction were highlighted by some vintners. Notably the graduated structure of the specifications, and the idea of establishing a common framework for all environmental approaches.

<p>« HVE est plus clair [...] on est peut-être plus guidés ... Voilà il y a peut-être des trucs où on va plus loin[...] C'est bien d'avoir un trame qui est commune disons ... pour que ça pousse tout le monde dans le même sens. » [8]</p>	<p>"HVE is much clearer [...] we are perhaps more guided ... There might be aspects where we get further [...]. It's good to have a framework that is common let's say ... so that it pushes everyone in the same direction."</p>
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Lastly, analysing some transcripts revealed a common vision towards both integrated farming labels: HVE and SW. The latter were seen as alternative means of communication to the organic farming label, offering a more neutral economic impact (both less added value and specific costs).

<p>« Parce que ces labels-là, c'est quand même une alternative ... au bio ! On est pas bio on fait de la lutte raisonnée et on fait pas n'importe quoi quand même ... » [6]</p>	<p>"Because these labels are an alternative ... to organic! We're not organic, but we're doing integrated pest management and we're not fooling around ..."</p>
<p>« Nous on se remet plus souvent en cause parce qu'on toujours ce problème de valorisation ... bon alors c'est vrai que HVE et VDD, tout ça ... c'est pas ... ça n'engendre pas de coûts supplémentaires » [3]</p>	<p>"We question ourselves more often because we always have this problem of valuation ... so it's true that HVE and VDD (SW), all this ... it's not ... it doesn't generate additional costs"</p>

3. Organic Agriculture:

In line with expectations, the organic label was by far the most debated. Opposing views were expressed in comparable proportions by all sample members. A substantial part of the vintners indeed seemed sceptical about the viability of organic viticulture, expressing mostly doubts about the ecological virtue of this vineyard management method.

<p>« Si les gens savaient comment sont extraits le cuivre et le soufre...nous on a l'impression de faire de l'écologie, alors qu'on est en train de détruire une partie de la planète. Et... et... c'est euh... hypocrite de se le cacher ! Bah une mine de Cuivre à ciel ouvert en Argentine ou au Chili, c'est une catastrophe écologique et sociale ! » [14]</p>	<p>"If people knew how copper and sulphur are extracted...it feels like we're doing something green, when we're destroying part of the planet. And... and... it's uh... hypocritical to hide it! Well, an open-pit copper mine in Argentina or Chile is an ecological and social disaster!"</p>
<p>« Un (viticulteur) bio qui va traiter 19 fois et puis un autre qui va avoir un produit plus méchant et qui va traiter beaucoup moins... Je ... je sais pas là. Après bon il y a tout ce qui rentre dans le sol et ce qui rentre pas mais ... et le soufre il est pas mieux et puis le cuivre qu'autre chose hein dans le sol ! » [8]</p>	<p>"An organic winegrower who sprays 19 times a year and another who has a nastier product and sprays much less... I ... I don't know. Afterwards, there's what goes into the soil and what doesn't, but ... and sulphur and copper aren't any better than anything else in the soil!"</p>
<p>« C'est sûr que l'empreinte carbone quand tu fais du bio faut pas en parler quoi ! Parce qu'entre le nombre de passage de traitements et puis euh ... le travail mécanique... » [4]</p>	<p>"It's certain that the carbon footprint of organic farming should not be commented on! Because given the number of treatments and the mechanical work..."</p>

The criticisms of this certification are mainly related to the nature of the inputs, the dosage and durability of which are questioned by some respondents. Another aspect of criticism concerns the consumption of hydrocarbons, which is believed to be higher than in conventional viticulture. Such mistrust could be observed beyond the environmental aspect, the economic viability also raising questions: some members of the cooperative have expressed their fear of underproduction (in quality or quantity of grapes) despite higher charges.

<p>« c'est pas parce qu'on produit une cuvée bio qu'elle va se vendre plus facilement que ça, après faut la valoriser mieux parce que... malgré tout euh... l'entretien des sols et zéro désherbage ça coûte cher et nous au jour d'aujourd'hui, 'fin si tout était... produit dans ces conditions-là sur la cave... euh... j'pense qu'y aurait un soucis parce que [...] on a des... des rapports qualité/prix euh... quand même vraiment super intéressant pour l'consommateur mais... si on multiplie le prix... par 1 fois et demie, j'suis pas sûre que... qu'on aura... joué les bonnes cartes » [3]</p>	<p>"it's not because we produce an organic cuvée that it will sell more easily. Then we have to valorise it better because... after all... soil cultivation and zero weed control is expensive, and if everything was... produced in these conditions in the winery. ... uh... I think there would be a problem because [...] we have... quality/price ratios that are uh... really interesting for the consumer but... if we multiply the price... by one and a half times, I'm not sure that... we will have... played the right cards"</p>
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Finally, more moderate criticisms have been voiced against the label. Among other things, the poor understanding of the label by consumers, and the rigidity of the regulatory framework were mentioned.

<p>« Ben je sais pas les ... les gens ils parlent que du bio alors maintenant ... parce que quand les gens disent bio, c'est qu'il y a pas de traitement, mais c'est pas le cas ! » [6]</p>	<p>"Well, I don't know... people only talk about organic so now... because when people say organic, they mean there is no treatment, but that's not the case !"</p>
<p>« Et à côté de ça, moi ça, ben par exemple, je fais pas mes essais dans le Bio... Mes couverts végétaux, je les fais pas dans le Bio les moutons je les ai pas fait dans le Bio non plus, parce que, règlementairement... C'est super chiant ! Non mais il faut faire euh quinze paperasses pour euh se mettre trois graines... Je voulais semer des fleurs, entre... les jachères, entre mon piquet et mon arc-boutant, le certificateur a pas voulu parce que euh... le... dessus c'était marqué substrat ! » [14]</p>	<p>"For example, I don't do experiments in my organic vineyards... I don't plant covercrop nor do i send my sheep to graze there, because, legally speaking... It's really tiresome! You have to do, um, fifteen pieces of paperwork to, um, sow three seeds... I wanted to sow flowers, between... the fallow land, between my stake and my arch, but the certifier didn't approve because, um... the... it was labelled as substrate!"</p>

In contrast, a substantial amount of positive feedback was also observed in the nine verbatims. The system set up by the cooperative was praised six times, including in the responses of farmers with a negative opinion of the label. This enthusiasm, which may seem a little paradoxical, tends to focus on the possibility of starting a collective, supervised and progressive conversion to organic farming, rather than engaging the whole of the agricultural area at once.

<p>« Et ben moi j'ai été surpris quand le groupe bio s'est mis en place parce qu'il y avait moyen justement parce que j'étais dans l'idée que ... il fallait engager toute l'exploitation. Et là justement ils ont trouvé un dérivé qui permet de mettre le doigt dedans mais progressivement. Ça c'est vachement bien ! » [3]</p>	<p>"Well, I was surprised when the organic group was set up because I was convinced that ... the whole farm had to be involved. And now they've found a bypass that allows you to get into it gradually. That's really good!"</p>
<p>« Bio à la cave, c'est... c'est bien, déjà, on prouve qu'on est capables de le faire. C'était pas gagné, fin c'était... c'est pas gagné que les gens le croient. Et tu te dis en trois ans, on est passés de treize à vingt-huit... Donc voilà, ça veut dire qu'on a doublé déjà... En trois ans, on a doublé le nombre de coopérateurs qui sont prêts à essayer. » [14]</p>	<p>"Organic at the cooperative, it's... it's good, already, we're proving that we can do it. It wasn't easy, it wasn't easy for people to believe it. And let me tell you that in three years, we have gone from thirteen members in the organic group to twenty-eight... So that means that we have already doubled... In three years, we've doubled the number of co-operators who are willing to try"</p>

The winegrowers therefore often expressed their satisfaction with this system, and also indicated that it allowed a psychological breakthrough for their more reticent colleagues. Under these circumstances, some winegrowers appeared to be convinced of the organic label's virtue and expressed largely favourable opinions.

<p>« Ouais enfin l'entretien du sol c'est sans herbicides, donc, y a, y a une vraie avancée pour l'environnement, une vraie protection de l'environnement » [2]</p>	<p>"Yeah, well, the soil maintenance is without herbicides, so there's, there's a real progress and protection for the environment"</p>
<p>« Oui parce que concrètement je veux dire ... C'est du concret ! Heu la ... comment la croix Salain ou biodiversité au moins c'est du concret ! on peut montrer aux gens ... on voit la finalité ... » [4]</p>	<p>"Yes, because concretely I mean... It's tangible! Well ... how the "croix salain" (the name of the organic collective farm) or biodiversity group are at least concrete! we can show people ... you can see the end result ... »</p>

4. Economic and Environmental Interest Group on vineyard's Biodiversity:

Concerning this last environmental approach, a smaller number of opinions could be collected in the verbatims. This collective was in the process of being set up during the study period, and as a result fewer winegrowers expressed an opinion on it.

Nevertheless, the comments received were generally positive and most respondents expressed their curiosity about the project.

<i>« Le GIEE biodiversité [...] ça m'a beaucoup intéressé, mais j'aurais presque pas été... bah... pas parce que ça m'intéressait pas mais par manque de temps un peu, voilà... C'est en m'disant : bon, bah j'suis pas obligé d'y aller euh... j'y ai été quand même hein... j'en suis très... très content et pis j'regrette pas. C'est intéressant. » [2]</i>	<i>"The biodiversity group [...] interested me a lot, but I almost wouldn't have joined... well... not because I wasn't interested, but because I didn't have enough time. I said to myself: well, I'm not forced to go, er... I went anyway, eh... I'm very... very happy with it and I don't regret it. It's interesting."</i>
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Enthusiastic winegrowers praised the spontaneity of the project, the flexibility it offered and its very good communication potential.

<i>« Tu fais un groupe ... (claque du doigt) biodiversité ! Et ben au moins c'est plus parlant je trouve ... et puis au moins tu peux communiquer, tout ça tu peux moins bien com... ben t'as d'autres moyens quoi en gros ! » [4]</i>	<i>"You're doing a group ... (snaps finger) biodiversity! Well, at least it's more meaningful, I think ... and at least you can communicate, you have other options, basically!"</i>
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However, two vintners expressed their reservations about the fact that the project would not lead to a label, which they felt was necessary for effective communication.

<i>« GIEE ouais je sais pas ... nous on l'a pas ... enfin moi je ne l'ai pas ... ça ne me dit rien ! [...] Je suis un peu contradictoire, parce que j'explique le contraire mais ... Ça ne m'interpelle pas le GIEE machin... Alors peut être qu'on fait la même chose mais il y a pas le papier ! (Rires) (NDT en comparaison avec HVE) » [8]</i>	<i>"I don't know... we don't have it... well, I don't have it... it doesn't mean anything to me! [...] I'm a bit contradictory, because I explain the opposite but ... I don't care about the GIEE thing... So maybe we're doing the same thing but there's no paper! (Laughter) (Transcriber's note: in comparison with HVE)"</i>
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IV. Sampling efficiency and distribution of perceptions

The sole purpose of selecting the respondents was to maximise the diversity of the profiles identified, through the use of four factors that could be expected to condition opinions on environmental issues. However, although the survey conditions and sample size do not allow conclusions to be drawn about their individual impacts, it is interesting to observe these four factor's effects on the results of this study.

Sampling factor	Observed effect on respondent's perceptions
Respondent's age	the age of the respondents did not seem to cause a clear trend in any recorded perception, but the distribution of this factor does not allow for a sound observation (<i>2 respondents under 45 years old against 7 over 45 years old</i>).
Respondent's farm size	The main tendency induced by this factor is that winegrowers from small farms more often cited technical-economic constraints (investments and work time) as reasons for not engaging in a VEA.
Respondent's involvement in professional decisions councils	A wide disparity of opinions was observed across the verbatims, regardless of the farmers' degree of involvement in the decision-making councils. However, it was observed that winegrowers belonging to these councils have more often identified integrated farming labels as a purchaser requirement.
Number of VEA the respondent is committed to	It is interesting to note that the farmers involved in several VEAs seemed to have a better appreciation of the "sustainable winegrowing" label. Whereas those who were only engaged in this approach seemed a bit more sceptical on its benefits and purpose.

Table 2 - Main trends in responses for each sampling factor.

Overall, a great diversity of opinions was found in the sample. However, this diversity is not necessarily attributable to the sampling, as it did not enable us to isolate significantly different responses for each value of its factors.

Under these conditions, it can be assumed that the diversity observed in the responses is not as great as the actual diversity of perception. But such an assumption might have been invalidated if all the 16 winegrowers had been interviewed.

DISCUSSION:

I. Dynamics of change in “Le Mâconnais”:

As described by the winegrowers in the interviews, the Burgundy vineyards have been undergoing a transition to integrated agriculture for several decades. Claude Compagnone (2004) described this regional transition through the prism of dialogical interactions between winegrowers. Integrated agricultural production can be defined as *“agricultural systems with multiple enterprises that interact in space and or time and the interactions result in a synergistic resource transfer among enterprises”* (Hendrickson et al., 2008). In this regard, the term widely employed by the winegrowers in the study may not correspond exactly to the phenomenon they described. This slight semantic discrepancy can probably be explained by a translation problem: the French term “agriculture raisonnée” has no equivalent in English and is often translated by “integrated agriculture”. A more appropriate term would be “sustainable agriculture”, given that “agriculture raisonnée” is defined as *“agriculture that aims to control, in the best possible way, at the whole farm level, both the positive and negative effects of agricultural activity on the environment, while ensuring the quality of the food products, and the maintenance or even the improvement, of the economic profitability of the farms”* (translated from Paillotin, 2000).

Furthermore, the changes in practices perceived by the nine winegrowers proved to be very much in line with reality: significant decreases in the uses of chemical weed control and insecticides were observed since 2013 in Burgundy’s vineyards, and “saône et loire” is indeed the department where the vines are the most grassed (Agreste, 2019). According to the framework for the transition from conventional to sustainable agriculture Hill & McRae (1996), such a change dynamic reflects a strategy based on efficiency. Most of the changes in practices highlighted by the winegrowers indeed seem to appear as minor changes in the functioning of existing agroecosystems. However, when added together they allow for sound input management and a sustainability approach to be initiated, while maintaining the production of conventional systems.

Of the nine causes that could be isolated to explain this evolution, it is difficult to quantify which was the most influential, both in facts and in perception, nonetheless their diversity helps to visualise the complexity of such a phenomenon.

Overall, winegrowing in the “Mâconnais” region seems about to complete a long run transition towards a sustainable state of conventional agriculture. It now faces two higher stakes: raise awareness of the efforts being made for this transition and begin to standardise more advanced processes that challenge the current production paradigm.

II. Winegrowers and voluntary environmental approaches:

Voluntary environmental approaches appear to be tools for addressing the two challenges mentioned above: reducing information asymmetry between producers and consumers and standardising innovative technical itineraries. They can hence be used as communication mediums, or as regulatory frameworks that guide practices towards the redesign of systems. To summarise the observations made by this study, it seems relevant to present the opinions and issues perceived by the winegrowers, according to their expected use of the approaches under study.

1. High Environmental Value and Sustainable Winegrowing, moderately welcomed integrated farming labels:

Most of the winegrowers have identified the HVE label as a process motivated by economic and political opportunities. Indeed, as part of the negotiations on the future European Common Agricultural Policy, France plans to include HVE certification in the eco-regimes of its national strategic plan. This decision is much debated, especially as many specialists question the real environmental impact of the label and would like to see it revised upwards (Aubert and Poux, 2021). Although recent and intended for all agricultural sectors, this certification is mainly used by winegrowers: in 2020, out of 8218 certified farms, 6699 had winegrowing as their main production (Ministère de l'agriculture et de l'alimentation, 2020). Such an asymmetry can be explained by the way the label is awarded: as explained in the introduction, it is obtained following certification of level 3, for which one of the options is clearly favourable to winegrowers. This option, called "global approach" mainly requires that inputs do not account for more than 30% of turnover, this is easily achievable in sectors such as viticulture where the added value is high and main expense are workforce or mechanisation (Aubert and Poux, 2021). Given the conditions of attribution, the complexity of its specifications and the political expectations, it seems legitimate for some winegrowers to wonder about its viability. HVE has already been criticised in the traditional media for pesticide residues in labelled wines ("Des traces de pesticides dans des vins certifiés « haute valeur environnementale », 2020), or more generally for competing with organic farming without guaranteeing the same environmental standards ("Label Haute valeur environnementale – Greenwashing de l'agriculture...", 2021).

The case of the "Sustainable winegrowing" approach is more delicate to deal with. Although the opinions of the winegrowers interviewed were divided, a significant number of them did not seem to fully grasp the concept of Corporate Social Responsibility. The potential causes of this lack of interest could be manifold: a weak involvement of some members in the actions of the cooperative, a lack of results obligation for the labelled winegrowers, a lack of communication by the cooperative regarding the sustainability achievements, etc. Aside from being sometimes misunderstood, this approach also seems to suffer from the multiplication of similar labels. Besides being confusing to consumers (Ginon et al., 2014), it is questionable whether this does constitute an additional obstacle to the adoption of such an approach by farmers. Despite the reservations that may have been expressed about this label, there were nevertheless grounds for satisfaction: In the study's verbatims, this kind of label was repeatedly described as a proof of good faith to fight against "agribashing". But also, as a tangible alternative or complement to organic farming, leading to a much less restricted vision of sustainability (with the notions of short circuits, access to employment, working conditions etc.).

2. The GIEEs, environmental approaches seen as a method for anchoring change:

Since they condition certain agricultural practices and thus have an economic and social impact, voluntary environmental approaches are embedded in the wide set of socio-technical concepts that characterise modern agriculture. In sociology, this complex is sometimes referred to as a socio-technical regime, one of the most common definitions being the one given by Rip and Kemp: “A *technological regime is the rule-set or grammar embedded in a complex of engineering practices, production process technologies, product characteristics, skills and procedures, ways of handling relevant artifacts and persons, ways of defining problems—all of them embedded in institutions and infrastructures*” (Rip & Kemp, 1998). Therefore, according to the multi-layer perspective framework, dynamics of change within a socio-technical regime sometimes cover the inclusion of grass-root initiatives called niches (Tuttonell et al., 2016). For the case of this study, the two cooperative’s GIEE projects could be considered as niches within the regime since their specific format and actions are anchored by local agents, and that they operate within a national regulatory framework. The majority of opinions were in favour of this specific environmental format (i.e, GIEE) for three main reasons: the notion of progressive improvement and the mitigation of economic risk, as well as the group dynamics. Indeed, more and more studies tend to underline the importance of exchange and collective learning dynamics for examples of similar grassroots initiatives (Nguyen et al., 2013; Vergote and Tanguy, 2021). The aggregation of such collective projects allows, among other things, to reconnect farmers to the world of research (Demeulenaere and Goulet, 2012; Warner, 2006), and it was this opportunity to become stakeholders in the environmental transition that seems to have appealed many of the winegrowers in the sample. This perception of sovereignty over the actions carried out, as well as the reassuring aspects of the two collective approaches, seemed to have a strong impact on the opinion of the cooperative’ members. To such an extent that even winegrowers who were either not involved in the projects, or reticent about the topics addressed (organic farming in particular), expressed their esteem for those initiatives.

3. How does perception affect adoption?

Ultimately, the choice of one of the two different types of approach described above is conditioned by several factors both specific and external to the winegrower and his structure. An article by M. Belis-Bergouignan and M. Cazals, published in 2006, highlighted these different conditions of commitment to organic and integrated farming in the Bordeaux vineyards. They reached similar conclusions to those observed in this study. The main factors influencing the choice of approach are the technical limitations of the farm, the farmer's personal beliefs, the technical support available to the farmer, the environmental sensitivity of economic markets, and legislative regulation (Belis-Bergouignan and Cazals, 2006).

Such a description obviously appears simplified, and only reflects the dominant profiles. There are nevertheless two main trajectories which are those described above: one based on communication, aiming to improve the existing agricultural model, and the other based on the gradual break-up of this same model, in our case via the exchange dynamic grassroots initiatives. Although they are described as opposites, these two environmental transition trajectories can be carried out in parallel within the same agricultural structure. This was notably the case for most of the winegrowers interviewed in this study, which seems to reinforce the idea that the Mâcon vineyards are facing an evolution regarding their handling of environmental issues. On a side note, it is interesting to witness how the cooperative has grasped the adoption factors for the environmental approaches it implements. Each and every of the four environmental initiatives being managed collectively, and administrative procedures being carried out by dedicated employees. The constitution of the two collectives also seems to respond to many of the preconceptions formulated by the reluctant winegrowers, as can be seen in the table below.

	Communication based approaches (HVE & SW)	Grassroot initiative-based approaches (Organic & Biodiversity GIEEs)
Personal convictions	<ul style="list-style-type: none"> - Willingness to show that current vineyard management is not harmful to the environment. - Apprehension about changing the way of working. 	<ul style="list-style-type: none"> - Willingness to have sovereignty over the nature of environmental actions. - desire to be pioneers of new kinds of systems.
Structural limitations	<ul style="list-style-type: none"> - Reluctant investment in mechanical equipment. - Proximity of retirement. - Willingness to reduce costs per hectare. 	<i>No evidence of generalizable limitations</i>
Technical support	<ul style="list-style-type: none"> - Regular internal audits. - Optimisation of practices in line with the last three decades. 	<ul style="list-style-type: none"> - Collectives managed by external specialised extensionist. - Improvement through exchange dynamics.
Market sensitivity	<ul style="list-style-type: none"> - National objective to create a market for low-input French products. - Adapting to the environmental requirements of supply chain stakeholders. 	<ul style="list-style-type: none"> - Organic conversion premiums. - Added value of the organic label perceived as low.
Regulatory framework	<ul style="list-style-type: none"> - No direct economic incentives for the winegrower. - Willingness to anticipate regulatory changes. 	<ul style="list-style-type: none"> - GIEE status conferred by the state to drive agro-ecological transition at local level. - Possibility of committing only part of the farm's area.

Table 3 - Factors that characterise commitment in both types of voluntary environmental approach

III. Raised issues and perspectives:

This study focuses on a limited geographical area and a single professional structure. In order to picture more broadly the issues linked to voluntary environmental approaches in viticulture, similar enquiries could be conducted with different actors. Thus, it would have been interesting to cross-check these results with the perceptions of individual winegrowers or other actors in the supply chain (retailers, associations, sales representatives, consumers). Also, since from a technical and economic point of view the notion of terroir is so important in the identity of French wines, it would seem worthwhile to investigate the disparities in perceptions between production areas of different regions.

Another issue is the proliferation of eco-labels, which seem to undermine their legitimacy to the eyes of both farmers and consumers. The similarities between labels, their multiplicity and perceived lack of transparency can indeed lead to a lack of interest. The main challenge for these labels is then to develop effective ways of informing and mobilising the consumer. And for the competent authorities such as the French ministry of agriculture, the wine interprofessional association, or consumer associations, to provide a regulatory framework that: makes labels easily interpretable, dissuades the emergence of greenwashing, and turns certain initiatives into attractive tools for the agroecological transition.

Finally, one could question the social and technical interest of environmental labels. Sustainability and agroecology are not static states, but the fruits of a perpetual reflection on evolving agricultural knowledge and practices. Their categorisation by a label or a specification therefore seems difficult to achieve in the long term. While the impact of these labels on consumers is debated, they seem to remain often misunderstood by farmers.

IV. Limitations of the study:

Several limitations need to be considered in this study. The first and most obvious one concerns the sampling methodology, as only half of the planned interviews could be conducted. The emergence of the Covid-19 pandemic cut the study by almost two months of fieldwork, and the health context that followed was not particularly favourable to face-to-face interviews. Consequently, the distribution of the respondents on the sample tree is very uneven: only two winegrowers under 45 years of age are recorded. It is therefore conceivable that the initial objective of recording the greatest possible diversity of opinion may not have been achieved. However, this diversity seems to be consistent across the nine verbatims analysed and we can assume that it is close to reality.

In order to optimise the sampling, it would also have been interesting to carry out a set of preliminary interviews. Such preparation would have helped to isolate and use more precisely the factors that have the strongest influence on how winegrowers perceive voluntary environmental approaches. In addition, this preliminary study would have enabled training in the interviewer's non-normative posture and thus a more consistent conduct of semi-structured interviews.

The conditions under which the transcription and analysis of the interviews took place are another interesting point of improvement. First, the telephone network and the limited internet coverage of the territory studied made the face-to-face nature of the interview imperative, and most of the interviews therefore took place on wine farms. Background noise or external interruptions to some recordings made their transcription and analysis laborious. Secondly, third-party proofreading of the extracts isolated by the analysis method would have been relevant, in order to minimise potential interpretation bias. With a larger sample and a more consistent methodology, other content analysis techniques could also have been used, especially quantitative methodologies that would have enabled a more detailed reading of the perceptions studied.

CONCLUSION

The conducted interviews allowed to describe how winegrowers have perceived the evolution of environmental concerns over the last decades. The comparison of these perceptions with the bibliography revealed that the winegrowers interviewed had a good grasp of environmental issues. By relating this context, as described, to the winegrowers' preferences with regard to the environmental approaches proposed by the cooperative, it appeared relevant to group the latter into two distinct yet non-incompatible categories.

In fact, two dominant profiles emerged with regard to the types of environmental approaches: The first aimed at consolidating and enhancing the transition to integrated agriculture, and the second focused more on questioning the current production paradigm, involving small groups of farmers on pioneering issues. These two categories of environmental trajectories are carried out simultaneously by the cooperative winery, with the aim of addressing two major communication and development issues. The need to provide the consumer with proof of responsible vineyard management and the importance of mitigating one's own impact on the immediate environment are the challenges taken up by the Cave de Lugny co-operators.

Although limited, this study has attempted to illustrate the complexity of the obstacles and levers to commitment to an environmental approach in viticulture. Despite some misunderstandings and opinions expressed against some of the proposed initiatives, it appeared that the overall strategy of the cooperative was welcomed by its members. In the same way, the constitution of economic and environmental interest groups ("GIEE") was praised by the members regardless of their convictions and seems designed to prepare the next step of the transition towards a more sustainable viticulture.

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APPENDIXES:

I. Appendix 1: Interview grid.

Pouvez-vous présenter rapidement l'historique de votre exploitation ? Celui de vos activités professionnelles électives ?

Can you briefly present the history of your business? What are your elective professional activities?

Vous avez compris que mes travaux portent le fait qu'on entend de plus en plus parler d'environnement dans le monde agricole, est-ce qu'à votre échelle vous avez l'impression que la viticulture s'inscrit dans le même mouvement ?

You will have understood that my work focuses on the increasing importance of environmental issues in the agricultural world. Do you feel that viticulture is part of the same trend?

Est-ce qu'au long de vos années d'exercice vous avez l'impression que le métier de vigneron a évolué ? qu'il est en train d'évoluer ? Comment ?

Do you feel that the winegrowing profession has evolved over the years? Or is it evolving? How is it changing?

Dans le secteur du mâconnais quel est l'impact de l'opinion public sur la thématique de l'environnement ?

In the Mâcon area, what is the impact of public opinion on the issue of the environment?

Est-ce que vous pensez que c'est important de montrer que votre métier est respectueux de l'environnement ? Pourquoi ?

Do you think it is important to show that your business is environmentally friendly? Why or why not?

A la cave, il y a quatre stratégies mises en place pour garantir une conduite du vignoble responsable : VDD, Bio, HVE, et un GIEE sur la biodiversité. Vous êtes engagés dans **X**, pourquoi ce choix ? qu'est-ce que cela a changé pour vous ?

At the cooperative, four strategies have been introduced to ensure responsible vineyard management: VDD, Organic, HVE, and a GIEE on biodiversity. You are involved in X of them, why this choice? What has it changed for you?

Qu'est ce que vous pensez des autres stratégies ? Qu'est ce qui vous a retenu (vous retiendrais) des adopter ? Est-ce que vous trouvez qu'elles ont des faiblesses ?

What do you think of the other strategies? What has (will) keep you from adopting them? Do you find them to have any weaknesses?

Est-ce que le fait d'être dans une cave coopérative joue un rôle sur ces aspects ?

Does being in a cooperative winery play a role in these aspects?

Qu'est-ce qu'il faudrait pour que plus de vignerons rejoignent ce genre de démarche ?

What would it take for more winemakers to join this kind of approach?

Au-delà des différentes certifications, pour vous qu'est ce qu'un vignoble respectueux de l'environnement ? Quels en sont les points importants ?

Beyond the different certifications, what do you think an environmentally friendly vineyard is? What are the important points?

Est-ce que vous voyez d'autres façons de garantir et de le montrer aux gens qu'un vignoble est géré comme vous venez de le décrire ?

Can you think of any other way to ensure and show people that a vineyard is managed as you have just described ?

A votre échelle, ou celle de vos voisins est-ce que vous pensez faire des choses pour l'environnement par votre travail ? Qu'est-ce qui vous motive à le faire ?

On your own scale, or that of your neighbours, do you think you are doing something for the environment through your work? What motivates you to do so?

Est-ce que vous avez des projets futurs qui vont dans ce sens ? Lesquels ?

Do you have any future projects along these lines? What are they?

Pour vous, est-ce que mener des actions en faveur de l'environnement, c'est une activité supplémentaire qui mérite une rémunération, ou bien est-ce que ça fait partie du métier de vigneron ?

For you, is carrying out actions in favour of the environment an additional activity that deserves remuneration, or is it part of the winemaker's job?

D'après vous est-ce que le mâconnais est un vignoble qui doit beaucoup progresser dans la préservation de l'environnement ? Pourquoi ? est-ce que vous voyez une évolution en conséquence ?

In your opinion, is the Mâconnais a vineyard that has to make a lot of progress in preserving the environment? Why? Do you see an evolution as a result?

Est-ce que vous pensez que la plupart des vignerons sont suffisamment informés sur les différentes actions qui peuvent être faites pour l'environnement ?

Do you think that most winegrowers are sufficiently informed about the different actions that can be taken for the environment?

Comment est-ce que vous voyez l'intérêt des plus jeunes générations qui s'installent, sur ces thématiques ?

How do you see the interest of the younger generations who are settling down, on these themes?

Comment est-ce que vous voyez votre métier évoluer dans les années à venir ?

How do you see your profession evolving in the years to come?

I. Appendix 2: Verbatim analysis table.

TITLE:	<u>Analysis of verbatim record from Interview number 1.</u>			
WHO TALKS?	Man - 51 years old - 25ha of vineyards – involved in +2 procedures – holding elective responsibilities.			
THEME	PRACTICES / EXPERIENCES	PERCEPTION / REPRESENTATION	KEY SENTENCE(S)	COMMENTS (LEXICAL + NON-VERBAL) & INTERPRETATION
Evolution(s) of the mindsets towards more sustainability	<p>« Depuis 1990, voilà la chose que j'ai fait : j'me suis inscrit à la formation "<i>lutte raisonnée</i>" de la chambre d'agriculture, dès que j'me suis installé »</p> <p>« C'est, c'est les premiers groupes qui existaient dans... sur la cave... C'est la cave qui nous avait proposé ça... et c'est un peu là l'début où on a compté les insectes euh... observer quoi, avant d'aller traiter systématiquement »</p> <p>« Là, c'est, c'est vraiment l'début du, de la lutte raisonnée euh... donc on allait traiter quand il fallait, et euh, et puis l'enherbement aussi. Là j'ai eu des collègues qui enherbaient et moi j'labourais plutôt... »</p>	<p>« Déjà à cette époque de toute façon. C'était déjà ça même si on voyait pas ça sous... forcément sous cet angle, mais c'était ça quand même. »</p> <p>« Depuis l'début des années 2010 on va dire, là y a, y a commencé un peu à avoir un mouvement sur le bio, sur euh la réduction d'doses, toutes ces choses-là quoi »</p>	<p>« Les réductions de doses bon, ça remonte quand même à un peu plus hein... ça fait un moment qu'ils essayent. Mais j'veux dire, la tendance est vraiment arrivée au début des années 2000/2010... »</p>	
Causes of this global evolution	<p>« Même si du départ avec la lutte raisonnée, euh... Il y a, ... Y a 30 ans... on n'avait pas cette pression... On y a été nous-mêmes »</p> <p>« Bah oui... euh... bah c'est quand même cette volonté de, de moins, moins traiter quoi. ...parce que bon on avait déjà conscience qu'c'était quand même nocif pour, pour beaucoup de choses, pour nous-mêmes... Déjà y avait un coût économique aussi... donc, euh, voilà l'idée c'était de réduire tout ça... euh... et puis oui une efficacité... euh... limiter le gaspillage, euh... voilà... une meilleure efficacité, parce que même des fois en traitant systématiquement, on, on tombait pas en face forcément »</p>	<p>« J'dirai quand même qu'c'est, c'est, c'est la société par, par l'biais des médias. Euh, euh, la vision qu'ils ont d'nous... et, euh... (tousse)... et donc du coup, euh, ça nous alerte, sur, sur nos, nos erreurs entre guillemets, nos travers et ça nous pousse quand même à, même si du départ avec la lutte raisonnée, euh... Il y a, ... Y a 30 ans, on n'avait pas cette pression... Les médias, la pression des médias tout ça... Et ça, et ça nous a un peu piqués quoi... même si on l'reconnait pas mais... ça, ça fait pas plaisir quoi de, de, pis d's'apercevoir que, quelque part on pollue, parce qu'ils ont pas tort. Et puis voilà quoi. Donc ça nous a poussé à faire des efforts ouais. »</p>	<p>« On y a été nous-mêmes et j'pense que ça nous a accéléré quoi... les médias, la pression des médias tout ça... Et ça, et ça nous a un peu piqués quoi... même si on l'reconnait pas mais... ça, ça fait pas plaisir quoi de, de, pis d's'apercevoir que, quelque part on pollue, parce qu'ils ont pas tort. »</p>	
Outcome of this evolution	<p>« ...y avait un intérêt curiosité aussi, d'apprendre des choses. La preuve qu'à c't'époque l'éducation nous sortait d'l'école... J'sais pas c'qu'on avait appris... Fin,</p>	<p>« Des actions qu'on pourrait mener à ... par rapport au sol par exemple... à la vie du sol ou les haies, les choses comme ça quoi. Donc oui,</p>	<p>« Ouais, plutôt négative quand même (note la pression des médias). Mais qu'est</p>	

	<p>moi... j'avais un prof de viti qui m'a... m'avait appris à désherber hein, 2 fois par an j'passais pis terminé quoi... J'avais marqué que moi je labourais entre les rangs. Je m'étais ramassé une mauvaise note ! »</p>	<p>oui, chaque action a ... et en conventionnel on a des actions euh ... voilà, forcément positives par rapport à l'environnement et heureusement. »</p>	<p>transformé côté positive voilà par les collectivités, les régions justement, c'qui, c'qui est logique... Et nous, nous on s'met... on met ça d'côté po... bien sûr en positive euh... là-dessus et on met l'côté commercial derrière... »</p>	
<p>Factors influencing adoption / rejection of environmental procedure.</p>	<p>« Et en plus, (NDLR : à plusieurs) on a les outils, les personnes... pour nous accompagner quoi. Ouais, c'est important. »</p> <p>« Pour moi c'est, c'est une évidence et pis les 4 m'intéressent, donc euh... après, si y aurait pas un p'tit peu parce que j'suis président... (Rire) »</p>	<p>« Oui... ah oui, oui tout à fait. Bah déjà ils (NDLR : la jeune génération) sont sensibilisés euh... dans... dans les écoles ...et pis depuis tout p'tit et sur l'environnement général : les déchets, etc. et puis dans les écoles bien sûr. Plus sensibilisés oui. »</p> <p>« Le fait d'être à plusieurs ben... ça rassure, ça a ce côté fédérateur, euh... ambiance, de se rencontrer, de se parler... je pense que c'est oui, on... on arrive plus facilement à monter des groupes comme ça, que... dans son coin quoi »</p> <p>« La bonne image et la bonne rémunération et qui apportent une certaine fierté aux adhérents quoi. Donc du coup de l'implication et ... un déblocage quoi... »</p>	<p>« La bonne image et la bonne rémunération et qui apportent une certaine fierté aux adhérents quoi. Donc du coup de l'implication et ... un déblocage quoi... »</p>	
<p>Purpose of an environmental certification & global opinion.</p>	<p>« Ah oui, oui, niveau bah organisation hein, dans l'environnement bien sûr ...ça, ça m'a apporté de... d'aller voir le bio hein, puis la biodiversité... ; y a quelque part le VDD c'est p't'être le départ de tout ça... »</p> <p>« HVE, le bio, VDD euh... Terra Vitis, enfin, les... les marques, les choses... Oui, nan mais c'est pour tout le monde avec ça... mais le consommateur en premier. C'est quand même lui le consommateur qu'on... qu'on veut éclairer... pas l'inverse, donc forcément déjà si nous on est embrouillés ... »</p>	<p>«ça permet bah... ça permet d'avoir des réponses, d'opter des réponses à, à ces, ces agressions, ces, ces attaques... sur des articles à charge. Donc là, tac, on apporte des réponses. »</p> <p>« Ça doit être un moyen de... oui de s'démarquer bah pareil de... de pouvoir, d'avoir un outil pour expliquer ce qu'on a fait. Parce que ça, on a toujours eu c'défaut là de faire les choses mais pas d'les dire »</p> <p>« Bah oui, l'observation c'est... c'est dommage qu'y a ... y a trop grand nombre de... de certifications . Y aurait une euh... une Européen même, une nationale, un peu de... de... de tri et</p>	<p>« Non, ça doit être un moyen de... oui de s'démarquer bah pareil de... de pouvoir, d'avoir un outil pour expliquer ce qu'on a fait. Parce que ça, on a toujours eu c'défaut là de faire les choses mais pas d'les dire... donc oui, euh... un moyen d'se démarquer au départ mais ensuite ça doit être un moyen aussi de se... s'étendre... sinon y'a pas de sens et quelque part c'est voué à disparaître, parce qu'un jour... on va... »</p>	

		de... qu'y ait moins de certifications et plus de lisibilité. Ce serait quand même beaucoup mieux. »			
Opinions on the 4 studied environmental procedures	Organic	<p>« Le bio euh... voilà, c'est plus partagé même si j'étais assez surpris par le nombre qui partageait quand même cette... cette envie, même s'ils y ont pas été ... donc qui partageaient, qui ont donné leur accord quelque part... leur validation donc c'était une agréable surprise mais je sais que ce n'est pas la majorité »</p> <p>« Bah comme le GIEE bio, parce que c'est vraiment que c'est quelque chose qui me... m'intéressait. J'me voyais pas ne pas être dedans. »</p>	<p>« C'est quand même un cahier des charges qui a quand même été fait par les... les vigneronns contrairement à HVE. [...] Ouais enfin l'entretien du sol c'est sans herbicides, donc, y a, y a une vraie avancée pour l'environnement, une vraie protection de l'environnement, qu'on a pas dans celui de HVE »</p> <p>« Mais ouais, le bio ce serait très simple si on schématise... euh voilà, on sait c'est à faire, parce que la biodynamie, y a quand même une partie de... de... de comment... d'observation de la nature, de voilà... j'veux... j'veux dire si on est dans un secteur, on va pas faire forcément la même chose dans l'autre quoi. [...] Donc c'est... l'exposition, 'fin tout, toutes les plants, le sol, ouais ça prend ouais, ça prend beaucoup plus d'éléments en... en considération que le bio quoi... c'est beaucoup plus difficile. Mais à mon avis, c'est plus réel par contre.»</p>	« Ouais enfin l'entretien du sol c'est sans herbicides, donc, y a, y a une vraie avancée pour l'environnement, une vraie protection de l'environnement »	
	Sustainable winegrowing	<p>« Alors, bah, VDD bah j'étais dans l'groupe évidemment pour choisir cette démarche »</p> <p>« Mais moi au point de départ c'est quand même euh... VDD. Donc y a ces... ce côté environnemental mais ça m'a apporté aussi des calculs vision économique de mon exploitation... D'aller voir un petit peu même si j'ai toujours eu envie d'y aller mais là ça va pas porter un outil pour y aller voir... pour euh... avoir des constats, et puis un niveau organisation ou social gestion du personnel. Ça m'a apporté aussi par rapport au... j'avais pas de document unique et bah, voilà... bon même si j'savais qu'y en fallait un... Mais par rapport à cette démarche, ce... ça nous a poussés à ça »</p>	<p>« VDD c'est plus une démarche volontaire... qui venait plutôt du vignoble... »</p> <p>« Non, c'était vraiment la démarche qui me... me convenait le plus, qui était progressive et voilà... donc qui permettait de ... que tout le monde puisse évoluer à son rythme, ça c'était vachement important, pis qui me paraissait la plus complète »</p> <p>« C'est... la majorité évidemment partage VDD et heureusement... ensuite c'est plus partagé... »</p>	<p>« Mais moi au point de départ c'est quand même euh... VDD. Donc y a ces... ce côté environnemental mais ça m'a apporté aussi des calculs vision économique de mon exploitation... D'aller voir un petit peu même si j'ai toujours eu envie d'y aller mais là ça va pas porter un outil pour y aller voir... pour euh... avoir des constats, et puis un niveau organisation ou social gestion du personnel. Ça m'a apporté aussi par rapport au... j'avais pas</p>	Seems thoughtful

				de document unique et bah, voilà... bon même si j'savais qu'y en fallait un... Mais par rapport à cette démarche, ce... ça nous a poussés à ça »	
	HVE	<p>« Puis le HVE bon, voilà... j'pense que oui... c'est pareil, c'est pas partagé par tout le monde non plus... mais peut-être un peu plus partagé [...] »</p> <p>« Pour en revenir à HVE, c'est... c'est plus une démarche commerciale quand même que... voilà... pour répondre à des ... d'ailleurs nous on l'a fait parce que c'est plus pour ça »</p>	<p>« Mais peut-être un peu plus partagé parce que c'est aussi plus simple à aborder... »</p> <p>« Après, dans la démarche c'qui me plait le moins c'est HVE. ... Parce que pour moi ce... ça reste une démarche très réglementaire... euh... quasi une évidence quoi ...on met juste un nom sur quelque chose que... qui est évident et qui va pas, à mon avis pas assez loin, donc c'est plus un truc un peu... imposé... par l'état et quelque chose qui n'est pas forcément si... si vertueux que ça, qui va pas assez loin pour moi. »</p>	<p>« Après, dans la démarche c'qui me plait le moins c'est HVE. ... Parce que pour moi ce... ça reste une démarche très réglementaire... euh... quasi une évidence quoi ...on met juste un nom sur quelque chose que... qui est évident et qui va pas, à mon avis pas assez loin, donc c'est plus un truc un peu... imposé... par l'état et quelque chose qui n'est pas forcément si... si vertueux que ça, qui va pas assez loin pour moi. »</p>	hesitant
	GIEE on biodiversity	« Le GIEE biodiversité ça m'intéresse... ça m'a beaucoup intéressé, mais j'aurais presque pas été... bah... pas parce que ça m'intéressait pas mais par manque de temps un peu, voilà... C'est en m'disant : bon, bah j'suis pas obligé d'y aller euh... j'y ai été quand même hein... j'en suis très... très content et pis j'regrette pas. C'est intéressant »	<p>« Elle sera plus vertueuse et on obtiendra forcément plus de résultats. »</p> <p>« Biodiversité, c'est pareil, on est... peut-être un peu plus que bio j'pense que c'est plus... plus acceptable mais voilà, à quel niveau quoi »</p>	« ... chaque action, chaque euh... ouais qui peut être bénéfique, tout l'environnement qui est dans le cahier des charges bio ou pas. C'est là que ça rejoint peut-être la biodiversité... à ... des actions qu'on pourrait mener à ... par rapport au sol par exemple... à la vie du sol ou les haies, les choses comme ça quoi »	Assertive body language
Future stakes of the profession		“ou les crises... (silence)... les crises sanitaires qui nous amènent une crise économique. Ah oui. Pas trop de changement de ce côté-là mais... par contre ça doit nous permettre de... d'avoir... Plus d'adaptabilité »	<p>“ il va évoluer oui, côté environnemental, forcément il y a une pression tellement forte aussi »</p> <p>« Et puis l'adaptation au changement climatique aussi, qui va nous pousser du coup à... à respecter un peu... un peu plus de choses ou à plus observer et... et apporter plus d'adaptation par rapport à nos pratiques, pour lutter contre le changement climatique... »</p>	« Et puis l'adaptation au changement climatique aussi, qui va nous pousser du coup à... à respecter un peu... un peu plus de choses ou à plus observer et... et apporter plus d'adaptation par rapport à nos pratiques, pour lutter contre le changement climatique... »	Evasive opinion, does not concretely name the expected challenges.

