

GM Vine

How to design a participatory process for a research institute on a controversial issue?

Section A: General introduction No. 2: GM Vine Working Material

Materials for the Exercise on GM Vine

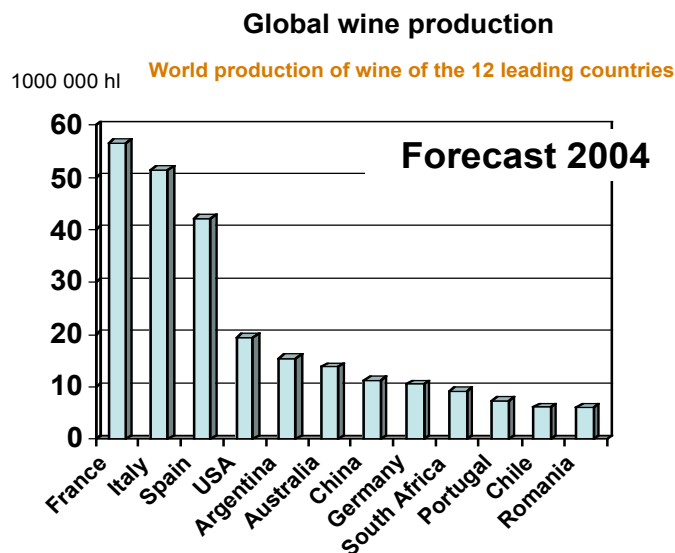
The Vine and Wine Universe in the current French Context

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1. Relevance of Vine and Wine in France

The wine sector is nowadays a pillar of French life providing 75000 jobs. France accounts for around one fifth of world wine production but has been recently hit hard by competition from "New World" rivals such as Australia and Chile.¹



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Source: Presentation for the 3rd General Assembly of the International Organisation of Vine and Wine²

But not only has the occurrence of a global market threatened French wine industry. Nature is causing problems as well. The Grapevine Fanleaf Virus is transmitted by a nematode (a worm) that attacks the vine roots. This virus turns leaves yellow and kills the flowers before they can form fruit, reducing vineyard yields. The virus is present in as many as a third of French vineyards. So far, winemakers have had to battle the virus with very toxic pesticides (namely the dichloropropene, which is forbidden in other EU countries) or by letting the soil rest for years (15 to 20 years).

Almost all French winegrowers use separate rootstocks since the phylloxera pest nearly wiped out the European wine industry in the late 1800s. This tiny louse, which attacks the root system of vines, was accidentally brought to Europe from America in 1860. European winemakers imported resistant American rootstocks and grafted their vines onto them. This, however, is a transgenic fanleaf-resistant plant.

The social cartography that can be made for this case study reveals the following relevant aspects:

The wine profession

¹ see some other statistics in http://en.wikipedia.org/wiki/French_wine, http://news.reseau-concept.net/images/oiv/client/DIAPORAMA_STATISTIQUE_Paris%20_2005_V2_ENG.ppt, <http://www.oiv.int/uk/accueil/index.php> and updated information in <http://www.oiv.int/uk/accueil/index.php>

² http://news.reseau-concept.net/images/oiv/client/DIAPORAMA_STATISTIQUE_Paris%20_2005_V2_ENG.ppt

- Prior to the Vine cultivation, the plant reproduction is an important activity. The significance of the role of garden shops (nursery *pepinieristes*) in the creation and selection of new varieties (thus in genetic improvement) should be explored.
- Viticulture mobilises many actors, directly (owners, farmers, workers) and indirectly (machines builders and sellers, phytosanitary firms, public administration and other regulators, technical institutes, researchers).
- The production of wine.
- The conditioning and conservation of wine.
- The wine qualification, in particular the label AOC (Appellation d'Origine Contrôlée).³ The inscription in this category is supposed to be associated with a quest for quality (as distinct from a quest for productivity). Important differences correspond also to the different wine regions.
- Commercialisation and consumption of wine.

The main institutions

- International Organisations, like OIV.⁴
- National Organisations, like the INAO, the Institut National des Appellations d'Origine, which is in charge of the AOC regulation.

The principal stakes

- The wine world is at the present in an economical crisis. The limitation of wine production (quantitatively) is one of the important issues at stake and is perceived differently by AOC or not-AOC producers.
- International competitiveness is nowadays very hard. Transgenic research is often linked to this and thereby opposes the Old (Europe) and the New World of Wine (the new comers to wine production like the USA, Australia, Chile, or China). A wide concern is that France, country of wine “for excellence”, risks of being over passed by this new world.
- The question of vine diseases introduces frequently an opposition between the use of chemical products (widely used and very contaminant of land and phreatic water) versus transgenics. Others will range both in the category of dangerous methods, as opposed to a biological or integral struggle (it relates thus to the whole environmental debate, in fact).
- The *terroir* territory is a dimension to take also into account, since omnipresent in most discourses. It is defined as “a system in which there are complex interactions between a set of human factors (techniques, collective usage, etc.), agricultural production and a physical environment. The *terroir* is valorised by a product to which it confers an original, typical nature.”⁵

³ See for more information the description of all actors in paragraph 2.

⁴ <http://www.oiv.int/uk/accueil/index.php>

⁵ See <http://www.inao.gouv.fr/public/home.php>, p. 3.

2. Main actors

Besides the main institutions pointed out before, there are other important actors that deserve consideration. The following organisations are relevant actors in the French Vine and Wine universe, in particular as far as the GM Vines are concerned:

- National Organisations, like the INAO, the Institut National des Appellations d'Origine, which is in charge of the AOC regulation.⁶
- The French National Research Institute for Agronomic Research (INRA).⁷ INRA, the French National Research Institute for Agronomic Research, was created in 1946. It has 8500 employees (of which 3000 scientists) and 1500 PhD Students. It performs strategic basic research for agriculture, environment and food. As an institution, INRA has interacted since its creation with organized bodies of “professionals” in the agricultural sector (such as industry federations and farmers’ trade unions). Until recently, this relationship was relatively uncomplicated. The role of INRA in agricultural “progress” was mostly uncontroversial: INRA was widely perceived as a public sector institution working, by definition, for the “public good”. In recent years, as the potential negative environmental and health impacts of evolutions in agricultural systems have become debated, the positive public image of INRA has been challenged, and the relationship with the professionals has become more complex. This situation has been exacerbated by the national controversy about the use of genetically modified organisms (GMOs) in agriculture and food and the conduct of field trials of GM crops; INRA was one of the leading actors in research utilizing or creating GMOs for the agricultural sector in France and abroad.

In 1999, a field test conducted by INRA was destroyed by activists protesting against GMOs for the first time. This can be seen as an important turning point for the institute. The way in which INRA collaborates with private sector bodies was criticized, and the assumption that the institute necessarily works to promote the “public good” was challenged. Thus, the debate on GMOs, is intricately linked with the controversy about its research orientations and the way in which it fails to interact with ordinary citizens and farming organizations that promotes alternative models of agriculture, such as the Confédération Paysanne.

INRA is the commissioner of the GM Vine case, which took place in France in 2002.

- Governmental Institutions like those of the EU⁸ and its French equivalent⁹.
- Trade union *Confédération Paysanne*, led by José Bové and promoting alternative models of agriculture.¹⁰
- Inf^oOGM, created in 1999, is an organisation of Citizen watch on GMOs.¹¹

⁶ See <http://www.inao.gouv.fr/public/home.php> (general information), http://www.inao.gouv.fr/public/textesPages/History_and_Concepts (history of the AOC system) and http://www.inao.gouv.fr/public/textesPages/INAO_and_its_assignment (structure of INAO). For other wines, see the website of ONIVINS (in French): <http://www.onivins.fr/>

⁷ see <http://www.international.inra.fr/>

⁸ See <http://gmoinfo.jrc.it/>

⁹ See <http://www.ogm.gouv.fr/>

¹⁰ <http://www.confederationpaysanne.fr/>. See also the non-electronic file Brochure *Confédération Paysanne* (in French) for their vision of Viticulture (produced in 2006). SH: how can we give this information?

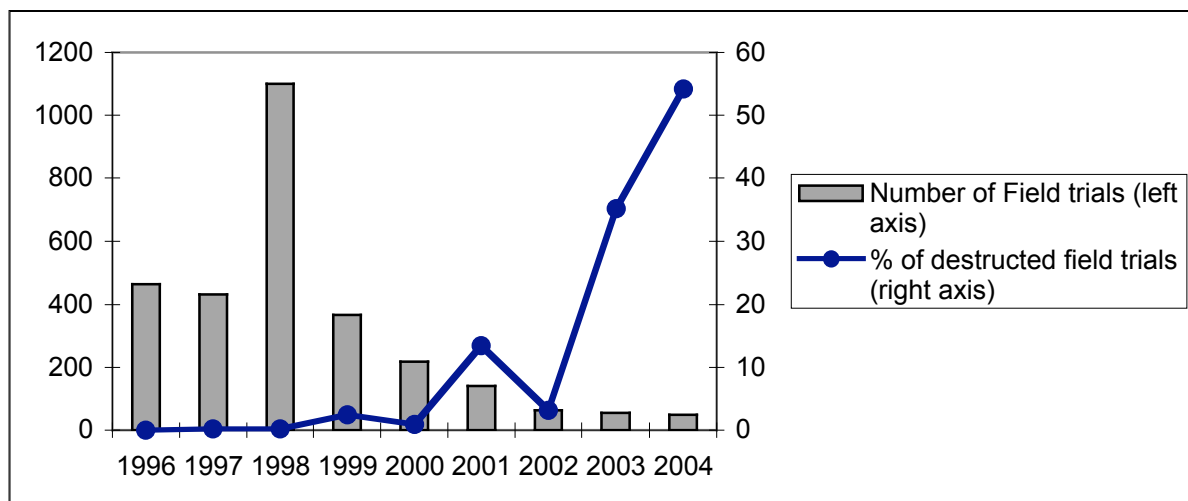
- “*Terre et Vin de Bourgogne*”, at the origin of the federation of wine growers “*Terre et Vin du Monde*”, well-known producers of wine with a leaning towards organic or biodynamic systems and virulently against the use of GMOs in wine production. They were constituted in the Summer of 2000 by launching “The Beaune Appeal”.¹²

3. GM Plants research (and INRA) confronts civil disobedience

INRA, the commissioner of GM Vines, is fully involved in the French GMOs Controversy, namely in the changing relationships between GM plants research and society at large. These relationships will evolve towards a confrontation, and a growing movement of civil disobedience will take place. Bonneuil, Joly and Marris distinguish three phases in this evolution (see an abridged version of the text in the GM Vine case study material):

- mid-1980s-mid-1990s: GM plants research is accepted due to its cognitive function. Experimental releases are discriminated from commercial operations
- 1993-1996: Calls to caution appear within the research world itself. Researchers request for a moratorium and the concept of bio-watching emerges
- 1994-2004: a civil disobedience movement has room besides the demands of other forms of participation. Field-tests are destroyed and therefore push the divorce between (some) researchers and NGOs. The orientation of public research is questioned. Some participative experiences like GM Vines are settled.

The virulence of the movement is made evident in this table:



Source: Bonneuil, C., P.-B. Joly, and C. Marris: *Democratising experiment? The construction of GM-crop field trials as a social problem in France* (forthcoming in Science, Technology and Human Values)

¹¹ http://www.infogm.org/mot.php3?id_mot=295, and <http://www.infogm.org/spip.php?article1886>. In 2003 they will prepare an abridged English version of a full report presenting their position on GMOs and arguing for a public debate (a citizens conference) that you can consult on the website.

¹² <http://tvbvm.online.fr/> is the (old) website of “*Terre et Vin de Bourgogne*”

It is in this context that the command at the origin of the GM Vine Experience takes place. In 2000, Marion Guillou was appointed as the new Director of INRA. Former Director of the Food Directorate at the Ministry of Agriculture, she had become acquainted with issues related to science and society, and interested in ways to improve citizen input in policy making, through having to deal with a series of risk-related food crises (BSE, listeria, dioxins...). She had supported the first citizen conference in France (on GMOs, in 1998), and initiated a big national debate on food policy (États Généraux de l'Alimentation). Fabrice Marty was also recruited later that year as secretary to the board of Directors, reinforcing thus this orientation. Marty had been responsible for the coordination of a series of 70 local debates on GMOs organized by consumer NGOs throughout France, under the auspices of the Secretary of State for Consumer Affairs, in 1999-2000.

4. The INRA's command of the GM Vine Experience

Since 1994, INRA participated in a joint research with CNRS and Moët & Chandon, one of the leading Champagne producers, aiming to develop a transgenic fanleaf-resistant plant. The transgenic fanleaf-resistant plant was a rootstock onto which grapevines could be grafted, an hybrid of the *Vitis vinifera* and *Vitis berlandieri* vines known as 41B. The company Moët & Chandon won approval for a field test from the Ministry of Agriculture and planted dozens of the gene-altered grapevines in 1996 at Epernay, in the heart of the zone of production. However, three years later, in December 1999 (the very same year that the field test of INRA was destroyed for the first time) a French satiric newspaper, *Le Canard Enchaîné* published an article entitled "Des bulles transgéniques dans le champagne" (transgenic bubbles in the champagne. Moët & Chandon reacted immediately and asked for these field experiments to be pulled up. Worried about tarnishing its image, the company turned over the genetic material to INRA, who kept some copies of these GM vines in its greenhouses and cold-rooms, and hesitated about whether to pursue the field trials, or to abandon the research project because of the risk of public protest.

Early 2001, INRA's Directorate agreed that an experiment in opening up INRA's decision making was in order, possibly in the area of GMOs. When thinking about possible cases, the issue of GM-vines surfaced and was selected for a participative experiment: "If we can handle GM vine, the most difficult case, we can handle everything," was said. Therefore, the command requested advice about whether or not INRA should pursue field trials of genetically modified (GM) vines potentially resistant to the Grapevine Fanleaf Virus, the virus of "court-noué".

5. About this case study: the exercise.

In this context, you have to decide as an employee of INRA which participative methodology can be used best. Is it necessary to organise field trials?