Integrated waste management and life cycle assessment in the wine industry

Editorial

LIFE HAproWINE project has already gotten halfway through and first results of the work in progress are starting to be available.

The participation of the Stakeholders Advisory Committee has been essential so far. This Committee consists of representatives from the wine sector companies, technological centres, consultancies and experts from this important sector of our economy, not to mention the wineries that have provided information and expertise needed and have helped project technicians on their visit to the wineries’ facilities.

That is the reason why the partners involved in the project have considered this moment, the right one for the launching of a Newsletter that will help to spread these results through the wine sector and society as a whole.

The aim is to pass on to stakeholders lessons learned on the framework of the project, on a regular basis about life cycle analysis in the wine industry, just as new options to get high added value products from wineries wastes, in the hope that these will be useful lessons for everyone, transferable also to other sectors and that can arise new ideas and projects that will improve the environmental performance and competitiveness of companies.

Lessons learned reaching the whole society and not only sector related companies or wine sector technical experts, is a main objective of the project. That is the reason why information about dissemination tasks developed under the project will also be part of the Newsletter.

It is our desire that this Newsletter will be useful for everyone and we can bring together in following issues the contribution and expertise of the readers themselves.
STAKEHOLDERS ADVISORY COMMITTEE

One of the milestones of HAprowINE project is to contact with different stakeholders in the value chain of wine in Castile and Leon, to inform them about concepts such as life cycle, environmental sustainability, eco-labels or green marketing, and to teach them to use tools and methodologies supporting environmental improvement.

For this purpose, a multidisciplinary advisory group has been created. This group includes representatives of the different actors involved in wine production over their entire life, not only producers but also designations of origin, cooperatives and other associations, research centres and institutes, packers, distributors, recyclers, consumers, etc..

The advisory group performs a double function: to advise HAprowINE project partners to achieve the stated objectives and to provide valuable information for study and research stages of the project. The group was formally constituted on July 14th 2010, and it currently consists of 15 wineries, a Regulatory Council and six stakeholders (www.haprowine.eu/socios.html).

The consulting group remains open and at any time, any interested organisation will be able to join it contacting with the partners of the project (info@haprowine.eu).

DEVELOPMENT OF WORKS

TECHNICAL AND ENVIRONMENTAL DIAGNOSIS

In the framework of the LIFE Project HAprowINE, Fundación Centro Tecnológico Miranda de Ebro, together with UNESCO Chair in Life Cycle and Climate Change and PE International and under the coordination of Fundación Patrimonio Natural de Castilla y León, has visited the fourteen wineries taking part in the project. These wineries produce under different Designations of Origin: Arribes, Cigales, Ribera de Duero and Rueda, as well as the Geographical Indication “Vinos de la Tierra de Castilla y León”.

During these visits, a very positive response was received from the participating wineries, and information related to environmental, social and economic aspects was gathered “in situ”. Compiled information includes the agricultural stage (growing systems, grape varieties, soil, farming techniques and grape harvest...) and product elaboration in the wineries, as well as aspects related to R&D, working conditions, wine tourism, certifications, etc. This information has allowed contextualizing the Castilla y León wine sector within the sustainable production framework.

Also, HAprowINE team is currently working on data collected, from a lifecycle perspective and following international standards, in order to evaluate the most significant environmental impacts associated with the selected products, with the ultimate goal of launching more environmentally friendly products on the market and provide consumers with the information they need to make a responsible choice.

Moreover, under the project, a guide of good practices and best available techniques specific for vineyard and wine making processes, is being developed to be presented in the upcoming months.

WASTE – value-added compounds and their possible applications

Agricultural by-products of wine industry have great potential to be recovered in different applications, including the preparation of plastic materials. Fractions rich in sugars, such as grape pomace and lees, can be used to obtain biodegradable polymers by enzymatic processes performed by bacteria.

Other products like the trunk of the vine, stalk or grape skins are rich in cellulose fibers, which can be isolated and incorporated into conventional plastics. In this way, more environmentally friendly materials are obtained. Moreover, these materials have greater mechanical resistance due to the cellulose fibers.
Ecolabel for Wines from Castilla and León

One of HAproWINE’s key activities is the development of an ecocert system. An ecocert provides environmental information related to the wine’s life cycle in order to stimulate the demand of environmental friendly products. The partners collaborating in this activity; PE INTERNATIONAL and The UNESCO Chair in Life Cycle and Climate Change are responsible for the development and validation of the ecocert system, respectively.

The first step in this task has been the evaluation of the different types of eco-labels applied to wine and the collection of case studies from around the world. The evaluated eco-labels include type I and type III eco-labels, and also carbon footprint statements. Type I and certified eco-labels are given to products that have a higher environmental quality than the market average, based on criteria covering the entire life cycle. These eco-labels provide a logo that can be added to product packaging, giving direct information to consumers. Some wines already participate in the European eco-label for ecological production system.

Type III eco-labels or Environmental Product Declarations (EPD) are predominantly in the form of a report which summarises quantitative information about the environmental impact associated with a product's life cycle. Due to the technical nature of the data used in an EPD, this type of eco-label is used for business to business communication. Currently there are a few examples of EPDs applied to wine, but no cases were indentified in Spain. A carbon footprint statement also indicates the CO₂ equivalent emissions associated with the product; and at the moment some wineries in Spain are using this eco-label.

The positive and negative aspects of each eco-label have been analyzed, forming the basis for the development of the HAproWINE eco-label, consisting of a mix between the information provided by eco-labels type I and type III, as well as carbon footprints. The target audience of the eco-label is consumers as well as specialized customers (caterers, distributors, traders, etc.). HAproWINE’s eco-label will provide detailed quantitative information regarding the environmental friendliness of a particular wine, as well as a logo which is easily identified. An external group of interested parties have been consulted to provide their opinions regarding the most relevant topics to be considered in the design of this eco-label such as, what and how the information should be communicated, and how it should be integrated in the wine packaging. The consortium is currently drafting the Product Category Rules (necessary to develop an EPD) which will be reviewed by this group. Another task to be developed in the coming months is the criteria definition for the eco-label type I and its application in several pilot studies before its final validation.

Ecolabel proposals presented in the June 2011 meeting with fifteen wineries of Castilla y León with the aim of raising all different aspects to take into account when designing an ecocert

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Since it was publicly launched on 26th March 2010 at Valladolid, HAproWINE project has participated in several events that are a good platform to show the tasks in progress and expected results to as many stakeholders as possible. A specific webpage (www.haprowine.eu) has been developed and is regularly updated by the team of the project that has also designed several dissemination materials as a complement for the presentations done so far, some of them at international fora. It is worth pointing out our participation in the 2011 Greenweek in Brussels invited by the FENIX project to their stand, as the coordinator of that project is also a partner of HAproWINE project (ESCI-UPF) or the invitation for the “International Professionalization Fair and Seminar – Sustainable Practices and Innovation” in Lisbon, in November 2011. We have also taken part in other events such as the Conference on "Environmental challenges of the food industry" organized by the University of Burgos (Spain) or the celebrations of LIFE Programme 20th anniversary organized by the Regional Government of Castilla y León, as part of the Conference “20 years of Ecoinnovation. Past, present and future of the financial EU instrument for the environment: LIFE – mobility, energy and clean production”.

FUTURE EVENTS

In the coming months, HAproWINE Project will be present in at least the following international events: