



Current status and perspectives of the official sensory control methods in protected designation of origin food products and wines

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ABSTRACT

Protected Designation of Origin (PDO) is part of the regulated quality schemes in the European Union (EU). Producers of PDO food products and wines have to present EU authorities a technical specification of their product, which includes its sensory description. European regulation 1151/12 establishes that sensory characteristics included in PDO certification must be guaranteed. Nevertheless, there is no standardized approach for the development of sensory control methods for PDO food products, so each entity in charge of controlling the characteristics of the PDO products decides the best way to follow this legal requirement. This paper presents the current situation in Spain, Italy and France in relation to the official sensory control of PDO food products and wines and the accreditation of the laboratories for this control (these three countries represent 68.9% of the total PDO products registered in the EU). This manuscript also shows the main methodologies applied in the official sensory control of PDO food products and wines. The wide diversity of methods used for the sensory control and associated panel management among PDOs manifests the need to harmonize technical criteria and references at European level. This is also urgent, because broad differences in the approaches and requirements for sensory control could bring about unfair competition among PDOs. In this sense, European Sensory Science Society (E3S) has become an EA recognized stakeholder collaborating in a framework in order to prepare a document for the harmonization of methodological approaches and technical criteria for the sensory control of PDO food products and wines.

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1. Introduction

The origin of regulated quality schemes in European Union (OJEU, 2012), such as Protected Designation of Origin (PDO), has been in response to demand from producers and consumers. PDO food products are wines (as listed in E-Bacchus EU database) and other food products (as listed in EU Database DOOR). PDOs have an important social role because they constitute a relevant element of culture, identity and heritage, preserving the landscape and contributing to the development and sustainability of rural areas, protecting them from depopulation. The proliferation of this EU policy instrument across Europe is likely to increase in the future (Grunert & Aachmann, 2016). In general, consumers show a favorable attitude towards such products, generally find them especially attractive and evaluate them positively, although today the role of quality labels in European consumer decision-making is relatively small (Grunert & Aachmann, 2016). In this sense, PDO organizations, such as *Regulatory Council* in Spain, *Consortium* in Italy and *Defense and Management Organization* in France, have to help consumers by giving them information concerning the specific characteristics (typicality, not only sensory) of the products.

Sensory characteristics are quoted by the EU regulation 1151/12, which deals with PDO. The producers of PDO products have to present to the EU authorities a technical specification of their product including the sensory description (OJEU, 2012) to be sold with this denomination. This European regulation also establishes that sensory characteristics included in PDO technical specification must be guaranteed. “Official sensory control” is used to verify the compliance of the product with these defined sensory characteristics. In each European country, independent control bodies verify that a product complies with the corresponding product specification. Currently, there is no common agreement on how to perform the external control of PDO products; while in some countries it is carried out by government officials, in other countries it is done by private certification firms. Regarding the control of sensory features, currently there is no standardized approach or European guide for the development of sensory control methods for PDO products, so each entity in charge of controlling the characteristics of the PDO products decides the best way to meet this legal requirement. The bodies in charge of controlling PDOs should be accredited in accordance with ISO norm 17065 (ISO, 2012a). Accreditation means the demonstration of technical competence and, in the case of the laboratories, it is based on ISO norm 17025 (ISO, 2005), which is the current frame used for comparable evaluation of testing activities.

Typicality (not only sensory) is given by a specific origin

including the raw material, the traditional practices and the know-how of the producers that confer specific characteristics onto the final product (Letablier & Nicolas, 1994; Casabianca, Sylvander, Béranger, Coulon, & Roncin, 2008). To address the sensory typicality of the products it is necessary to perform sensory analysis. Although specifications of physical-chemical characteristics are useful to classify products in specific categories, they are not enough to define their perceptible typical characteristics. If sensory specificity of the product is recognized as one of the basic assumptions of the success of a PDO product on the market (Barjolle & Sylvander, 2003), then it is logical to consider sensory analysis as an essential tool in evaluating and differentiating the PDO product from other products in the same food category. Sensory evaluation has proved to be a useful tool to describe the sensory characteristics of PDO products and evaluate their typicality (Maître, Symoneaux, Jourjon, & Mehinagic, 2010). However, how should producers establish the sensory description? There are very few contributions about this topic in the scientific literature. According to the approach of some authors, sensory characteristics must be defined by a consensus among the producers (Casabianca et al., 2008, pp. 199–213), with the important participation of experts with great knowledge of the product and sensory professionals (Pérez Elortondo et al., 2007).

The basic document for the application of the ISO 17025 criteria on PDO food products (and, in general, in food and non-food products) regarding sensory laboratories is the European guideline EA 4/09 (EA, 2017). However, this guideline is not an official document, but only informative/illustrative. The content of this document is very general and specific sensory information (for example, vocabulary, reference standards, criteria for training and performance of the panel) is not included. One limitation identified by the accreditation bodies in the sensory control of PDO food products is that the scorecards frequently do not include the attributes cited in the EU regulation 1151/12. The regulations are poorly specified for the sensory aspects; thus, the selection of descriptors to include in the scorecards is a critical point. Furthermore, it is not clear who should determine the suitability of a specific product according to the results from sensory analysis. Very often, the inspection body has no criterion to evaluate the results of sensory analysis.

The aim of this paper is to present the current situation in relation to the accreditation of sensory laboratories and the official sensory control of PDO food products and wines in the three European countries where such controls are commonest (Spain, Italy and France). This manuscript also shows some examples of methodological approaches applied in the official sensory control of PDO

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