

Foreword and Highlights

Mediterranean Aspects of Meat Quality as Related to Muscle Biochemistry

Production and consumption of meat is of tremendous economical, social, ecological and even political importance. In fact, meat production represents by far the major part of the financial value of agricultural production in most industrialised countries. Average meat consumption values up to a 100 kg of carcass weight per person per year are typical for rich countries and the rich parts of poor countries. However, there are recent questions regarding the low efficiency of intensive meat production systems, the incidence of cardiovascular and cancerous civilisation diseases and the sustained conditions of surplus production which have intensified these problems. The BSE scare has even imposed upon the meat industry, as well as on the Governments in all industrialised countries, the need to face and solve these problems in order to maintain the quality of life as well as the functioning of an important industry. A shift in emphasis to quality, rather than quantity, of meat production has been recognised as a possible solution for some years now.

The Mediterranean area may well be a special case, because of the numerous meat products present in the area. Some of the most popular and typical are dry-cured hams, such as Spanish Serrano and Iberian, Italian Parma and Sant Daniele and French Bayonne and Corcican, and raw fermented sausages such as Spanish Chorizo, the Italian Salami and the French Saucisson sec. In most cases, the production processes used for this kind of products are very empirical, giving rise to products with a certain variability and, thus, with a lower product quality and a relatively high amount of quality costs due to rework and faulty productions.

As a further initiative of the Organisation for Economic Co-operation and Development (OECD) Research Programme on Biological Resource Management for Sustainable Agricultural Systems, a two-day workshop on the above topic was held in Segovia, Spain on 9–10 May 1996. The idea of the workshop was based on the need to stress the paramount importance of unifying quality concepts in Mediterranean and Northern meat processing. It was also important to present methods for sensory quality assessment previously developed in specialist gatherings sponsored by OECD at Kulmbach, Germany to a Mediterranean audience. During a general discussion at the end of the meeting, the following main conclusions were formulated:

- Important societal aspects are associated with the entire meat production system and form part of a meat desirability concept. This is linked with education and information to provide an objective meat image.
- Animal production technology affects muscle biochemistry and thus meat quality.
- Tools for accurate and fast specification of raw materials are becoming available.
- Both proteolytic and lipolytic changes during curing and fermentation are determined to a large extent by muscle enzymes.
- Further degradation of hydrolysis products, mainly by both chemical reactions and bacterial action, determines flavour (smell and taste).
- Sample preparation is critical for representative identification and quantification of aroma compounds.
- Polyunsaturated fatty acids are preferentially released from phospholipids in muscle.
- The final flavour profile is different with long-term dry nitrate curing (Mediterranean) and short-term wet nitrite curing (Northern).
- Long term dry-curing inactivates most of the porcine viruses.
- The use of lactic acid starter cultures is appropriate for safety and technological purposes.
- Processing technologies are exchanged between North and South depending on the markets. A new generation of processing technologies and meat products is emerging and will present new challenges for research.
- The use of internationally standardised methods is essential to compare sensory parameters and technological processes in order to assess the quality of meat and meat products.
- There is a need for general implementation of integrated quality schemes.

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charge of the technical arrangements of the workshop and the staff, especially Ms Angeles García, of the Department of Food Science (Laboratory of Meat Science) at the Instituto de Agroquímica y Tecnología de Alimentos, Valencia were also of valuable help in executing the workshop. The organisers would like to thank all those who have contributed to this workshop, especially chairpersons, lecturers, referees and participants because they were responsible of the scientific quality of the meeting. There were fourteen invited lectures given and twelve reproduced in this issue thanks to the Editor of *Food Chemistry*, Dr Jacques P. Roozen who has been so kind to arrange all of them together with the final conclusions of the workshop. This single issue is thus presenting the current knowledge on the (sensory) quality of meat with special emphasis on those meat products of special relevance to the Mediterranean area such as dry-cured ham, dry-cured sausages and cooked ham, and the relationship with muscle biochemistry. So, readers of this issue of *Food Chemistry* will find the latest developments on a relatively new area in the meat field.

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