

Update on the 1981 European Meeting of Meat Research Workers

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The 27th European Meeting of Meat Research Workers was convened in Vienna, Austria from August 24-28, 1981. Robert G. Cassens attended as official representative of AMSA and is grateful for the honorarium provided which assisted in his travel to the meeting. The procedure of sending the immediate past-president of AMSA as a representative was founded on the rationale of improving communication between the two groups. The EMMRW is a rather informally organized group which grew out of a need to provide a yearly meeting at which European meat scientists could present their work and conduct discussions with their colleagues from other countries. Each participating country has a permanent contact person, and at the time of the meeting these representatives decide policy and establish meeting sites. Once an invitation for a meeting in a given country is accepted, the organizing committee formed in that country has complete authority regarding when, where and how the meeting will be conducted.

A brief business report has been submitted regarding some statistical facts on the 1981 EMMRW and will be found in the minutes of the AMSA 1982 annual meeting. Following the concept of an update and in the spirit of disseminating scientific information, I have chosen to review here some of the scientific contributions presented at the meeting. One hundred ninety papers were presented as posters and were grouped into seven major subject areas. In each subject area a chairman made general comments about the topic, a rapporteur critiqued the papers, and a discussion was conducted in general session. In addition, all papers were presented at the actual poster session; there was very active participation in the poster presentations which were available for about 2 hours. Because of time limitations I will select only one paper for comment from each of the seven sessions. This is an awkward and dangerous procedure because many many worthy contributions will be omitted, but I have elected this approach with the hope it stimulates your interest so that you review the other contributions. All of the papers are available in printed form in the two volumes of Congress Documentation

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which may be obtained from the organizing committee of the host country. These Proceedings are becoming more generally available from libraries in the U.S.A.

Session A was comprised of 50 papers on the subject of Biology of Meat and Its Influence on Meat Quality. L. Muller and G.P. Robaina from Brazil presented a paper entitled, "Meat Quality of British Steers of Different Chronological Age." Forty-five steers of the Angus, Devon and Hereford breeds and representing age groups of 2.5 and 4.5 years were used. There was no difference in organoleptic properties of the meat between the two age groups. Analysis on the basis of finish, however, showed that meat from carcasses with more finish was tenderer and juicier independent of age group. The authors thought that the younger lighter steers with less finish could have suffered a faster cooling rate that adversely affected eating quality.

Session B on Slaughter Technology and Hygiene contained six papers. E. Lambooy of the Netherlands presented information about "Electrical Stunning and Meat Quality of Veal Calves." Fifty calves were stunned with a captive bolt pistol and 50 were stunned with a commercial stunning apparatus (50 Hz and 600 v for 3 sec.). pH of the longissimus was significantly lower at 1 and 2 hr following stunning in the electrically stunned animals. The authors suggested the effect was similar to the early postmortem electrostimulation procedure. The color of the carcasses from the electrically stunned animals was apparently more desirable. They suggested that electrical stunning of veal calves is a suitable method for use in practice.

Forty-six papers were contributed in Session C on the topic of Technology of Meat Products. V.I. Piulskaia *et al.* from the All-Union Meat Research Institute of Moscow studied "Protein Recovery from Lungs and Spleen and Their Quality". The organs were extracted with a 0.5% solution of sodium tripolyphosphate, and a dried concentrate was made. The concentrate contained about 70% protein and the amino acid distribution was good. It had no undesirable effect when tested toxicologically in animals. The preparation was water soluble, and the hydrolysis rate by gastrointestinal enzymes exceeded that for soy isolate and casein by approximately 50%. The authors found the extract suitable as a meat extender in cooked sausages.

Session D was on the Effects and Technology of Food Additives and Ingredients and contained 36 papers. M. Sirnik of Yugoslavia contributed a paper entitled "The Influence of Ethylene Oxide Sterilization Parameters on Hygienic Quality of Spice Mixtures". The author was concerned with obtaining

adequate fumigation while maintaining health considerations possibly dependent on residues. Spice mixtures were fumigated with varying concentrations of ethylene oxide, at various temperatures and for varying lengths of time. The effect on various microorganisms was studied. The conclusions were that residues of ethylene oxide do not present a problem, and the hygienic improvement in meat products by using spices treated with ethylene oxide is considerable.

The Nutritional Value and Sensory Evaluation of Meat and Meat Products was considered in Session E to which 14 papers were contributed. El-Mausy *et al.* from Egypt examined "Organoleptic Evaluation of Irradiated Mutton Steaks and Sausage". The objective was to consider the feasibility of extending storage of meat at refrigerated temperatures by irradiation treatment. Fresh mutton and sausage made from mutton was irradiated at various dosage levels and then stored at 2° C. Organoleptic analyses were conducted and it was found that the unirradiated controls were unacceptable after 15 days of storage. However, the samples irradiated at 200, 300 and 500 Krad were acceptable until 25, 35 and 45 days, respectively. The authors thought that irradiation preservation would be a useful technique, especially regarding the distribution of packaged food stuffs.

Session F was on "Analytical Techniques for Meat and Meat Products" and contained 17 papers. Martins, Bakker and Hildrum from Norway examined the "Application of Near Infrared Reflectance Spectrometry In the Analysis of Meat Products". Near infrared analysis can be used to determine

relatively rapidly the major chemical constituents of meat. A number of samples from different kinds of meat products were homogenized and analyzed directly. The deviations of the results found from standard analysis were relatively low and the authors concluded that the analysis could be used routinely. One of the major problems was with homogenization of samples which resulted in separation of fat and presence of pieces of sinew or cartilage.

Session G was on Microbiology of Meat and Meat Products and consisted of 21 papers. Olgaard of Denmark reported on "A Comparison of Two Bacteriological Swab Techniques". The traditional method consisted of swabbing and dilution whereas the rapid method consisted of swabbing and then a direct transfer to a pre-poured agar surface. The counts obtained by the traditional method were about 6 times higher than those from the rapid method. The correlation between the two techniques, if based on a series of samples, was 0.92. It took about 14 to 16 minutes per sample to process by the traditional method compared to 1½ to 2 minutes for the rapid method.

A considerable amount of the research conducted in the European Institutes appears in the form of annual reports or in the Proceedings of the EMMRW. In the Proceedings, there is always an abstract of the work in English. I do hope this brief survey of a few selected papers stimulates your curiosity and that you consult the full proceedings for some informative reading.