Quality assessment of bovine dry-aged beef in support of the development of a Brazilian Technical Identity and Quality Regulation (RTIQ)

Luiza Tiemi Morikawa[1], Antonio Araujo[1], Marilia Miotto[1], Juliano De Dea lindner[1]

[1.] Federal University of Santa Catarina, Food Science and Technology Department, Florianópolis/SC, Brazil

Dry aging of meat was widely used before the popularization of wet aging. Wet ripening is the most used in the industry because it is more economical regarding weight yield and requires less time and process control. However, in the United States and some Asia and Europe countries, the demand for dry-aged meat has become attractive for the meat products market since this product has a different structure, flavor, and aroma when compared to wet-aged. In Brazil, more and more consumers are searching for and valuing this product. However, Brazil has no specific legislation for producing dry-aged meat, and the technological and microbiological parameters used to obtain these products are very variable, representing a risk for the consumer. The present study aimed to quantify and establish production parameters for dry-aged beef, aiming at its efficiency and safety, as well as to contribute to developing microbiological, physicochemical, and texture criteria that assist in the control and identification of the quality of dry-aged meat. A selected loin from European breed cattle, approximately 36 months old, was ripened for 49 days under controlled humidity and temperature. An increase in mesophilic aerobic microorganisms and psychrotrophic lactic acid bacteria (LAB) was observed, along with a reduction in potentially pathogenic bacteria. There was also observed improvement in tenderness without showing oxidative rancidity until the 49th day of ripening. Cultivable microorganisms (yeast and LAB) were isolated, and their technological aptitudes will be evaluated in future work for potential use as starter cultures. The results contribute to the development of microbiological, physical-chemical, and texture criteria that assist in the control and identification of the quality of dry-aged meat.

Agradecimentos: We thank the CNPq PIBIC scientific initiation scholarship program and Mr. Carlos Serafim from Entre Cortes company for the meat samples and the use of the ripening chamber for scientific purposes.