

Special Issue Reprint

Recent Advances in OMICs Technologies and Application for Ensuring Meat Quality, Safety and Authenticity

www.mdpi.com/books/reprint/6576

Edited by
Mohammed Gagaoua
Brigitte Picard

ISBN 978-3-0365-5665-9 (Hardback)
ISBN 978-3-0365-5666-6 (PDF)



Consumers and stakeholders are increasingly demanding that the meat industry guarantees high-quality meat products with stable and acceptable sensory and safety properties. To do this, it is necessary to understand the mechanisms that underlie the conversion of muscle into meat, as well as the impact of pre- and post-harvest procedures on the final quality and safety of meat products. Over the last two decades, sophisticated OMICs technologies—genomics, transcriptomics, proteomics, peptidomics, metabolomics and lipidomics, also known as foodomics—have been powerful approaches that extended the scope of traditional methods and have established impressive possibilities of addressing meat quality issues. Foodomics were further used to elucidate the biological basis/mechanisms of phenotypic variation in the technological and sensory quality traits of meat from different species. Overall, these techniques aimed to comprehensively study the dynamic link(s) between the genome and the quality traits of the meat that we eat compared to traditional methods, hence improving both the accuracy and sensitivity thanks to the large quantities of data that can be generated. This Special Issue focused on the cutting-edge research applications of OMICs tools to characterize or manage the quality of muscle foods. The research papers applied transcriptomics, targeted and untargeted proteomics, metabolomics, and genomics, among others, to evaluate meat quality, determine the molecular profiles of meat and meat products, discover and/or evaluate biomarkers of meat and to characterize the safety, adulteration, and authenticity of meat and meat products.

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.