Session 9 – "Nutrition and Health"

The role of meat in the diet of athletes and active adults presented by **Dr. Brendan Egan**, Ireland

Optimal nutrition is fundamental for maximizing physical performance, facilitating recovery, and maintaining overall health in both athletes and active adults. This presentation will examine the integral role of meat within the diet of athletes and active adults, detailing its nutrient contributions, observed consumption patterns, and potential implications for physical performance and adaptation to training. Observed meat consumption patterns among active individuals are diverse, influenced by activity level, lifestyle, and individual preferences. Dietary guidelines generally recommend moderate intake of lean meat, emphasizing the selection of lean cuts and the limitation of processed meats due to associated health and environmental concerns. Exercise training increases requirements for a number of nutrients including protein and several essential vitamin and minerals. Of relevance, meat serves as a source of high-quality, complete protein, supplying all nine essential amino acids critical for stimulating muscle protein synthesis, facilitating muscle repair, and promoting growth. Beyond its protein content, meat provides highly bioavailable heme iron, indispensable for optimal oxygen transport, robust energy production, and the prevention of fatigue, a common concern among active individuals. B vitamins (B3, B6, B12) found in meat are important for efficient energy metabolism and healthy nervous system function, with vitamin B12 being almost exclusively derived from animal sources. Furthermore, meat naturally contains creatine, a compound that significantly enhances strength, power output, and muscle endurance during high-intensity, short-burst activities by aiding ATP regeneration. Zinc, another essential mineral that is enriched in meat supports immune function and accelerates tissue repair. Ultimately, when integrated into a well-balanced diet, meat offers a nutrient-dense profile that can support physical performance, recovery, and adaptation in both athletes and active adults. (B. Egan, 025, Meat in the diet of athletes and active adults, Meat Science 233, 110005).



Brendan Egan, PhD, *Dublin City University, Ireland*

Brendan Egan, PhD is an Associate Professor of Sport and Exercise Physiology in the School of Health and Human Performance, and Associate Dean for Research in the Faculty of Science and Health at Dublin City University. His research investigates skeletal muscle function and adaptation across the life course, with special interest in the synergy between nutrition and exercise interventions ranging from athletes to older adults. His research group performs human trials involving both acute and chronic interventions for outcomes around performance (physical and cognitive), recovery and adaptation, and have employed a wide range of experimental designs that have been complimented by molecular analysis tools include transcriptomics, proteomics and metabolomics. He is a Principal Investigator with Enterprise Ireland technology centre Meat Technology Ireland, an industry-academic partnership wherein his work package focuses on the potential benefits of red meat to human health.