BEEF RESEARCH

Human Nutrition Research
In Progress, Funded Projects

Original Scientific Research

The effects of dietary beta-alanine and carnosine from beef intake on muscle fatigue in older adults (Cydne Perry, Indiana University, School of Public Health)

To compare the effect of a beef-based healthy dietary pattern to a lacto-ovo vegetarian diet on muscle fatigue in adults 65 years of age and older.
(ClinicalTrials.gov Identifier: NCT05860088)

Understanding the Cognitive and Brain Health Benefits of Increasing Beef Consumption in Young Adults (Aron Barbey, University of Nebraska, Lincoln)

To evaluate the effects of beef consumption on cognitive and brain health in healthy young adults, specifically measures of executive function, memory, psychological well-being, and sleep quality and measures of brain health derived from structural and functional brain imaging.
(ClinicalTrials.gov Identifier: NCT06690892)
Co-funded with Nebraska Beef Council, Texas Beef Council

Beef as a key component of a diet that stimulates muscle protein synthesis (Tim Snijders, Maastricht University Medical Centre)

To evaluate the impact of consuming a diet, with beef being the main protein source, on daily muscle protein synthesis rates, with and without resistance exercise training, under free living conditions in healthy older adults, in comparison to a diet with an isonitrogenous diet containing no animal-based protein sources over a 10-day period.
(ClinicalTrials.gov Identifier: NCT07049224)
Co-funded with Kansas Beef Council

Assessing the role of daily beef consumption as part of a higher protein diet for 16 weeks on markers of successful aging in physically active postmenopausal women (Jamie Baum, University of Arkansas)

To investigate the effects of daily beef consumption as part of a higher protein diet with or without regular physical activity on wellbeing in physically active postmenopausal women.
(ClinicalTrials.gov Identifier: NCT06849817)
Co-funded with Missouri Beef Industry Council

Anabolic Response to Beef vs Plant Protein in (Pre)Frail Older Adults Using a Novel Stable Isotope Pulse Method (Marielle Engelen, Texas A&M University)

To compare the effect of the non-essential amino acids (NEAA) in beef on vs. soy (tofu) on intracellular anabolic response in older adults, across the frailty spectrum (pre-frailty, frailty, non-frailty).
(ClinicalTrials.gov Identifier: NCT07254403)
Co-funded with Missouri Beef Industry Council

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A randomized study to compare the effect of a healthy beef-centric diet to a healthy u.s. style dietary pattern on inflammation and other metabolic health outcomes in a metabolic syndrome and/or pre-diabetic population (Anthony Bier, SGS Nutrasource)

To compare the effect of a healthy beef-centric diet vs. a healthy U.S.-style (HUSS) dietary pattern for 5 weeks on inflammation and other metabolic health outcomes in a metabolic syndrome and/or pre-diabetic population.

(ClinicalTrials.gov Identifier: NCT07269847)

Co-funded with Texas Beef Council and Nebraska Beef Council

Exploring the benefits of increased dietary protein after GLP-1 medication use in adults with prior obesity (Heather Leidy, University of Texas, Austin)

To compare the effect of dietary patterns of varying protein quantity (Normal Protein (0.8 g pro·kg-1d-1) vs Higher Protein (1.6 g pro·kg-1d-1)) on daily food intake and food choice, appetite control, satiety, food cravings, food noise, and body weight re-gain in adults who recently discontinued use of GLP-1 medication.

Co-funded with Kansas Beef Council

Lifestyle Behaviors in Individuals taking GLP-1 medications for obesity and/or Type 2 diabetes (James Hill, University of Alabama, Birmingham)

To obtain information about lifestyle behaviors in individuals taking the GLP-1 medications including what these individuals are eating (e.g., what they seek out and what they avoid) and whether they are more or less inclined to exercise.

Co-funded with Texas Beef Council

Fueling the Gap: Intake and Perceptions of Beef in Relation to Resilience in Youth Athletes at Risk for Relative Energy Deficiency in Sport (RED-S) (Marni Shoemaker, South Dakota State University)

To survey adolescents and collegiate athletes and examine their beef intake, knowledge, and perceptions, and assess markers of stress, recovery, disordered eating, and resilience and their risk for RED-S.

Co-funded by South Dakota Beef Industry Council

Effects of beef-forward ready-to-eat meals before and after simulated fire suppressive activities on markers of cardiometabolic health, catabolism, and recovery: A Pilot Feasibility Study (Drew Gonzalez, Sam Houston State University)

To assess impact of beef-forward ready-to-eat meals on performance of fire-suppressive activities and markers of cardiometabolic health, catabolism, and recovery of career firefighters.

Co-funded with Texas Beef Council

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Existing Research Assessment

Data pooling project for investigation of beef, red meat, omnivorous dietary patterns, and human health via metabolomics and machine learning methods (David Baer, USDA, ARS, BHNRC)

To investigate metabolomic biomarkers predictive of habitual consumption of beef in the context of various dietary patterns.

Co-funded with Kansas Beef Council

Associations of unprocessed beef consumption and brain health (Andrew Mente, McMaster University)

To determine the effects of unprocessed beef intake on MRI assessed brain imaging and related changes in cognitive function and brain health.

Co-funded with Kansas Beef Council

Molecular markers of beef intake: A personalized nutrition approach to understanding the relationship of red meat to health (Alexis Wood, Baylor College of Medicine)

To better understand the association of beef intake in the long-term health of adults by analyzing prospective cohort data from the Multi-Ethnic Study of Atherosclerosis (MESA) across a 15-year period and multi-omics data (transcriptomic data; metabolomics data; proteomics data).

Co-funded with Nebraska Beef Council

Contribution of beef to diet intake and quality in U.S. school children via school meals (Kristina Petersen, Pennsylvania State University)

To assess the contribution beef makes when consumed in school meals to total calories and select nutrients (from school meals and total day intakes), diet quality, and nutrient adequacy (i.e., ability to meet nutrient recommendations) in school-age school meal consumers.

Co-funded with Texas Beef Council

Linkages among dietary protein amount and source, dietary nutrient sufficiency, land-use feasibility, and estimated environmental impacts (Robin White, Virginia Tech)

To simulate diets of different protein content (10 to 35% of energy intake from protein) and protein source to compare dietary adequacy, land-use feasibility, and estimated environmental impacts (e.g. water footprint).

Red meats, poultry, and fish in the newly modified DASH index (mDASH) and prediction of cardiometabolic outcome (Lynn Moore, Boston University)

To develop and apply a modified Dietary Approaches to Stop Hypertension (mDASH) index that modifies the meat component of mDASH (red meats and poultry) to have a neutral score on cardiometabolic disease risk prediction.

Co-funded with Texas Beef Council

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Beef Consumption Patterns and Nutrition Status Among Puerto Rican Adults (Kelsey Mangano, University of Massachusetts, Lowell)

To analyze dietary data of Puerto Rican adults residing on the island of Puerto Rico and in the continental United States, using data collected from two large observational cohorts and characterize beef consumption patterns, leveling of processing (i.e., minimally processed versus ultra-processed), and accompanying foods commonly consumed with beef.

Co-funded with Texas Beef Council