



FOOD AID QUALITY REVIEW

Phase III Food Matrices Work Stream

BRIEF BACKGROUND

With a broad objective of generating a deeper understanding of food matrices as it relates to effective delivery of nutritious food, Tufts will examine evidence on how the processing, composition and structure of food products influence the bioavailability, absorption, and physiological utilization of nutrients. The aim is to determine the role of these parameters and their interactions on nutrient release to the gut, which has implications for satiety, rate of nutrient release, and absorption.

Exploring the role thermal and non-thermal processing. The focus will be to consider thermo-mechanical extrusion and other thermal processes from i) a food functionality (quality control) perspective, ii) a nutrient content and bioavailability, palatability, and digestibility standpoint, and iii) from a food safety management angle. The work will be carried out collaboratively with industry, and partners at Kansas State University (KSU), the World Food Programme (WFP), and UNICEF.

In addition to research on thermal processing, the team will pursue a parallel study on innovative uses of **non-thermal** processes. In this context, the potential for enzyme treatments to improve product digestibility and palatability will also be explored. The potential of amylase or other antioxidant additives will also be explored in FAQR III.

Product evaluation

Bostwick Flow Rate Analysis –The study would encompass developing a protocol for cooking of porridges based on actual feedback received from participating sites. The new ‘real life’ porridge cooking protocol would be a tool to capture the viscosity difference between laboratory and field practice of making porridge.