



FOOD EMULSION - PLANT PROTEIN

EMULSIFYING AND STABILIZATION PROPERTIES

Context

Plant-based protein use has been expanding over the past years and offers numerous advantages: sustainable origins, vegan alternatives, cost-effective, and health benefits. Proteins obtained from sustainable sources do not have the same performances compared to conventional emulsifiers and with the increasing offer, selecting the right protein can represent a bottleneck in new product development.

This paper shows TURBISCAN DNS capabilities to study the emulsifying and stabilizing properties of plant-based protein in a single experiment.

Formulating with Plant proteins

Removing or partially replacing traditional emulsifiers with plant-based proteins can be very complex: protein selection (including its origin), possible functionalization, optimum concentration... Three parameters must be considered: protein solubility, protein emulsifying and stabilizing properties.

Several methods are available to characterize* proteins' functional properties but they usually request several instruments, multiple tedious experiments, and sample preparation. TURBISCAN technology offers a complete solution to study all these properties with only one device and for fast decision-making.

In this note, two plant proteins' solubility will be tested online using the TURBISCAN DNS functionalities. Emulsifying and stabilization properties are covered in a separate application note.

** McClements et al, Proposed methods for testing and comparing the emulsifying properties of proteins from animal, plant, and alternative sources.*

