

Design of functional properties in a dry powder

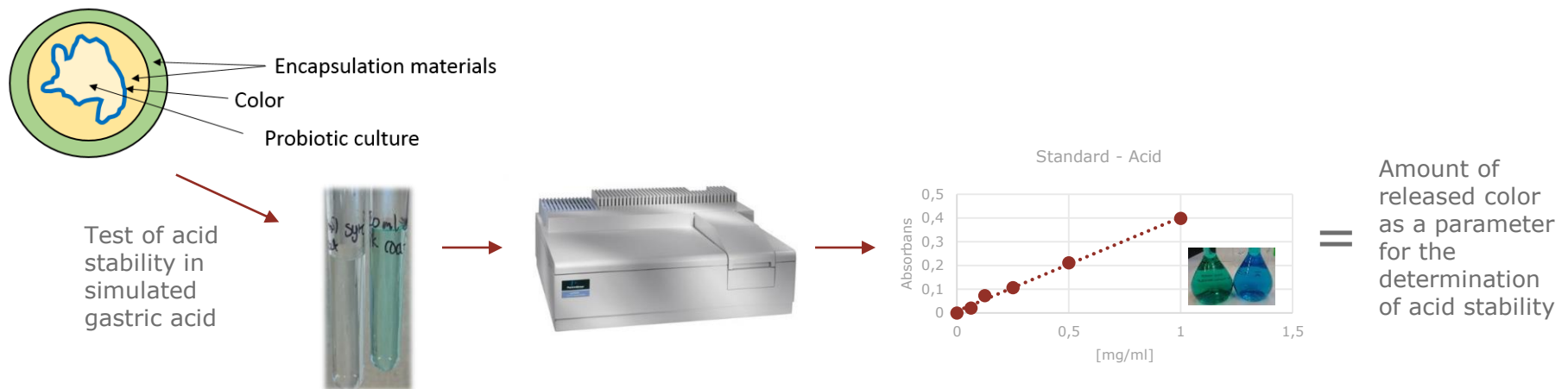
Aim of the InSPIRE demo project:

- Protect a model system of probiotic powder against acid using high-tech microencapsulation
- Develop a method to demonstrate the acid stability

Project perspective & gains for industry:

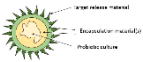
The demonstration of a microencapsulation technique for powders will provide new opportunities especially within the ingredient and nutritional sector, since a great deal of foodstuffs are acidic.

An analytical method (spectrophotometric) to determine the stability of a microencapsulated powder will be an important tool in the further development of a truly effective microencapsulation.

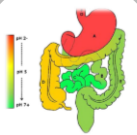




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GOAL:
Protect probiotic powders against gastric acid and develop a method to demonstrate the acid stability effect.



WHY:
No solution exists that protects probiotic powders efficiently. 90-99.99% of the probiotic cultures will die in the gastric fluid and potential health benefits are wasted.



HOW to protect:
By applying a high-tech microencapsulation on the powder.



WHO:
Eva-Marie Lange, TI (Project leader)
Astrid Henriksen and Kasper Wennike, Bifodan
Gunnar Brønstad, Neurozym



Related to inSPIRe projekt:
III-3: Effect of individual proteins and pre-processing on heat inactivation of milk enzymes



OUTCOME:
It was demonstrated how functional properties can be modified by microencapsulation.

Acid stability was improved, and a spectrophotometric method was developed to demonstrate the improved stability.

Because of the InSPIRe demo project the project partners believed in the possibilities and applied for further funding from the Innovation fund Denmark.

Funds (~ 6 mio. DKK) were granted for the project "Stable probiotic powder targeted children and the elderly".

Project duration: 3 years (March 2015 – March 2018).

Project partners are Bifodan A/S, Toft Care Systems, Neurozym, Teknologisk Institut and KU-Farma. 



BUDGET: 115.000 DKK (240.000 DKK inkind)

FUNDING BODY: InSPIRe

PROJECT PERIOD: Sep. 2014 - Feb. 2015