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# Choosing the Right Delivery Systems for Functional Ingredients in Foods: An Industrial Perspective

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## Abstract

The term delivery systems cover a wide range of structuring, encapsulation or formulation technologies for the delivery of a certain functional ingredient in a product to the end user. From addressing colour and taste to physical stability, delivery systems have been pursued by many. Despite enormous research and development efforts, however, delivery systems beyond the standard spray-dried powders and emulsion systems are not widely used in food and beverages. Delivery systems are often difficult to utilise in practice because of incomplete compatibility with the end product, high costs or consumer acceptance. This article provides some industrial insights in selection, design and application of delivery systems in food production.

## Highlights

- Overview of common delivery systems used in foods.
- Decision trees for choosing the right delivery systems for functional ingredients within ambient food products applied to wet conditions (e.g., cooking or eating).
- Critical views about ongoing developments to improve delivery systems.

## Introduction

The perception of food products is often determined by their ingredients and/or the quality which they provide. Functional ingredients may be added to food products to give them a distinctive functionality (e.g. improved flavour), add a health benefit (e.g., blood cholesterol lowering), or desired textural properties (e.g., creaminess). One may distinguish several

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