

Extensive Literature Search on the bioavailability of selected trace elements in animal nutrition: Incompatibilities and interactions

Research team: Martí Nadal, German Cano-Sancho, Gemma Perelló, Isabel Martorell, Joaquim Rovira, Neus Roig and Jose L. Domingo

Goals

i) to obtain up-to-date information on qualitative and quantitative information on aspects affecting bioavailability of selected trace elements, and where appropriate of relevant compounds, such as

(a) the speciation of the trace element before/during/after absorption in the gastrointestinal tract

(b) description on the transport in the blood, homeostatic mechanism, faecal and urinary excretion and

(c) the concentration of the element in target organs/tissues and products: Liver, kidney, milk, muscle, skin/fat, eggs

ii) to deliver a proposal for each trace element or, if relevant, compound of trace element, on target organs/tissues/fluids/physiological parameters best indicating bioavailability,

iii) to prepare a comprehensive inventory of factors affecting bioavailability,

iv) to obtain up-to-date information on incompatibilities and interactions, in particular when combined with other additives or components of the animal diet, that would modify the content of the element/specific compound in the feed, its bioavailability and/or safety; the study should consider the effect of particle size (including nanoproducs) and of structure (e.g. surface area).

Expected Results

□ A report collecting, collating, analysing and synthesising the scientific data and information on the bioavailability of trace element additives, and their incompatibilities and interactions, in particular when combined with other feed additives or components of the animal diet.