

# Mineral supply in animal feeds: challenges and opportunities

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## Scientific chairs

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## Rationale

The economic, environmental and geopolitical pressures on the use of macro and micro minerals in animal feeds have drastically raised. There is an urgent need to gain knowledge on the real contribution from the basal diet to satisfy animal requirements. The native supply in macro/micro elements from raw materials has to be better characterized (quantity and quality) in order to allow better practices in favour of precision mineral feeding in both ruminants and monogastrics species.

## Details

### 1) Sustainable mineral nutrition

- ✓ Nutritional challenges: Recent evolutions in defining & understanding the animal requirements, digestibility/bioavailability of native macro/micro-minerals in feed ingredients.
- ✓ Economical challenge: How to face the roaring prices of macro (P) and micro-minerals (Cu, Zn), which impact on modern animal production systems?
- ✓ Environmental challenges: Impacts of macro/micro elements on global changes, eutrophication & ecotoxicity.

### 2) Mineral composition of feed ingredients

- ✓ Composition in minerals of feed ingredients: macro-minerals (total P, phytate phosphorus, calcium...) and micro-minerals (Zn, Cu, Fe, Mn, Mo, Se, I, S/sulfate, Cl...).
- ✓ Composition of conventional and alternative (food by-products, insects, algae...) feed ingredients.

### 3) Analytical methods for mineral quantification

- ✓ Challenges in analysing & qualifying minerals contents in raw materials
- ✓ State of the art: wet chemistry (ICP, AA) and alternative methods (NIR, XRF)
- ✓ Applicability of the methods on the field