



SUPPLEMENTATION WITH METAL-AA COMPLEXES CONTRIBUTE FOR RAS MORE EFFICIENT AND SUSTAINABLE DIETS

Aquaculture Europe 2025

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 871108 (AQUAEXCEL3.0). This output reflects only the author's view and the European Commission cannot be held responsible for any use that may be made of the information contained therein.



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KNOWLEDGE NEED:

How to reduce trace mineral environmental losses while maintaining compliance with EU legislation limits and preserving optimal fish performance and health outcomes



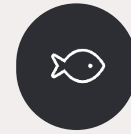
Regulatory Pressure

EFSA strictly limits Zn in fish feed to 150-180 mg/kg, targeting reduced environmental emissions.



Environmental Impact

Excess Zn and Fe in conventional feeds lead to accumulation in RAS sludge, creating significant risk of soil and water contamination.



Fish Health Risks

Trace mineral buildup in RAS water impairs gill function, reduces O₂ uptake, and causes oxidative stress.



SOLUTION

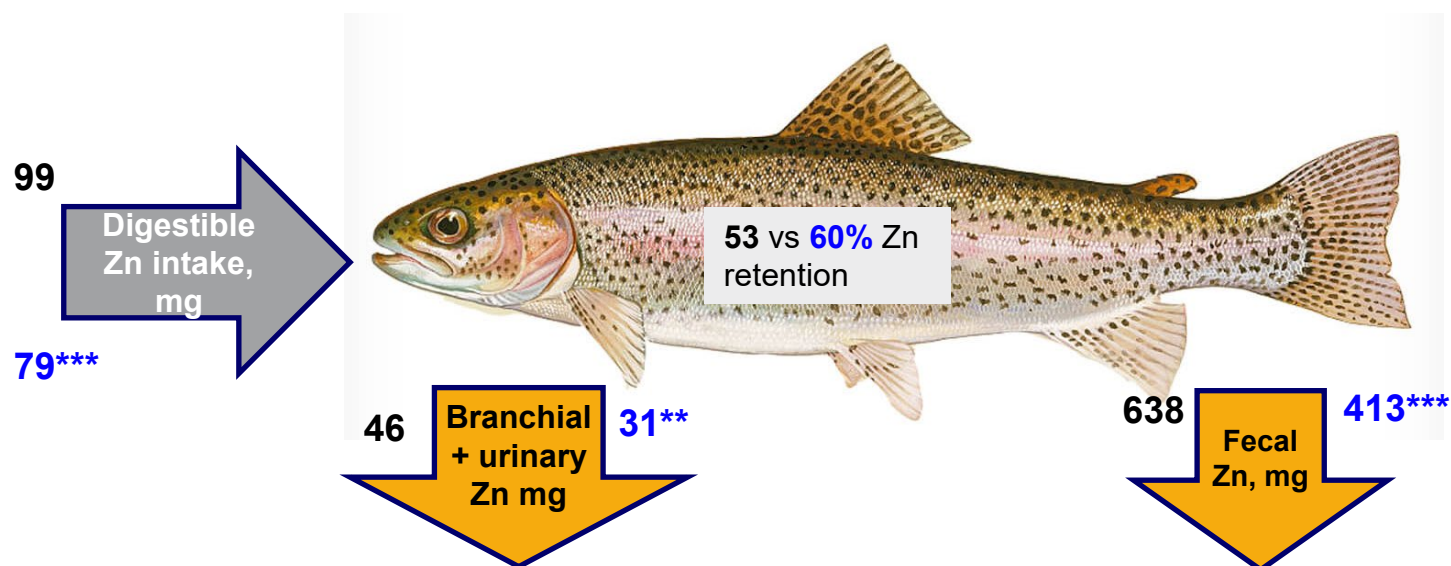


Reduce trace mineral environmental losses while maintaining compliance with EU legislation limits and preserving optimal fish performance and health outcomes.

Mineral	Inorganic Source	TM-I (ppm)	TM-AA Complex (ppm)
Iron (Fe)	FeSO ₄ ·7H ₂ O vs ProPath®Fe 150	100	50
Zinc (Zn)	ZnSO ₄ ·7H ₂ O vs Availa®Zn 120	120	60
Copper (Cu)	CuSO ₄ ·5H ₂ O vs Availa®Cu 100	10	5
Selenium (Se)	Na ₂ SeO ₃ vs Availa®Se 2000	0.3	0.15
Manganese (Mn)	MnSO ₄ ·4H ₂ O vs Availa®Mn 80	30	15



Metal-AA Complexes reduce mineral excretion and accumulation in RAS Without Impacting Performance or health



* P<0.05; ** P<0.01; *** P<0.001.

Reduction of TM in Water

↓ 22.21% Fe
↓ 20.40% Cu
↓ 37.40% Mn
↓ 45.50% Se
↓ 26.00% Zn

TARGET MARKET

European RAS Farm Operations (Trout, Other Fish)

➤ RAS-specific feed formulations, enabling 50% TM reduction while maintaining nutritional efficacy and regulatory compliance



- ✔ More environmentally-friendly European trout (& other fish species) production, supporting industry sustainability goals and regulatory compliance while maintaining economic viability.



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