

Oxidative degradation during storage of Atlantic salmon by-products: Impacting the salmon bioeconomy



Isabel Cuenca Flores (icuencaflores@mun.ca), Deepika Dave (Deepika.Dave@mi.mun.ca)
School of Fisheries and Marine Institute, Memorial University of Newfoundland, St John's, NL, A1B 5E7



Practical importance and objectives



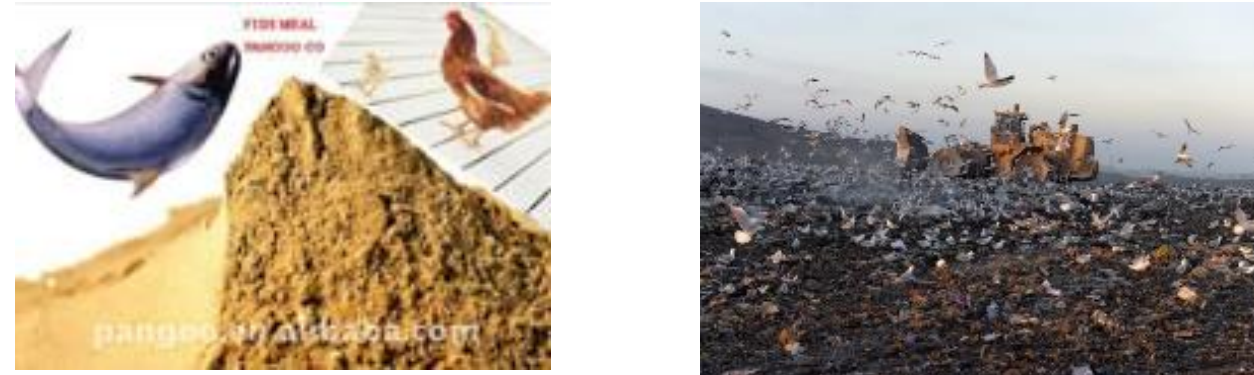
Nearly 50% of fish is lost after processing

- Canada generates up to 70 000 tons of salmon waste material yearly

TONS, yearly	Salmon	By-products
World	2 200 000	1 100 000
Canada	138 000	69 000
NL	14 000	7 000

DFO, 2018

Traditional low value



- Ending up in low-value products and environmental impact

Potential high value



- The high perishability of salmon wastes limits their biorefining potential

This research aimed to reduce the oxidative degradation of salmon heads, frames and viscera during storage towards the salmon bioeconomy

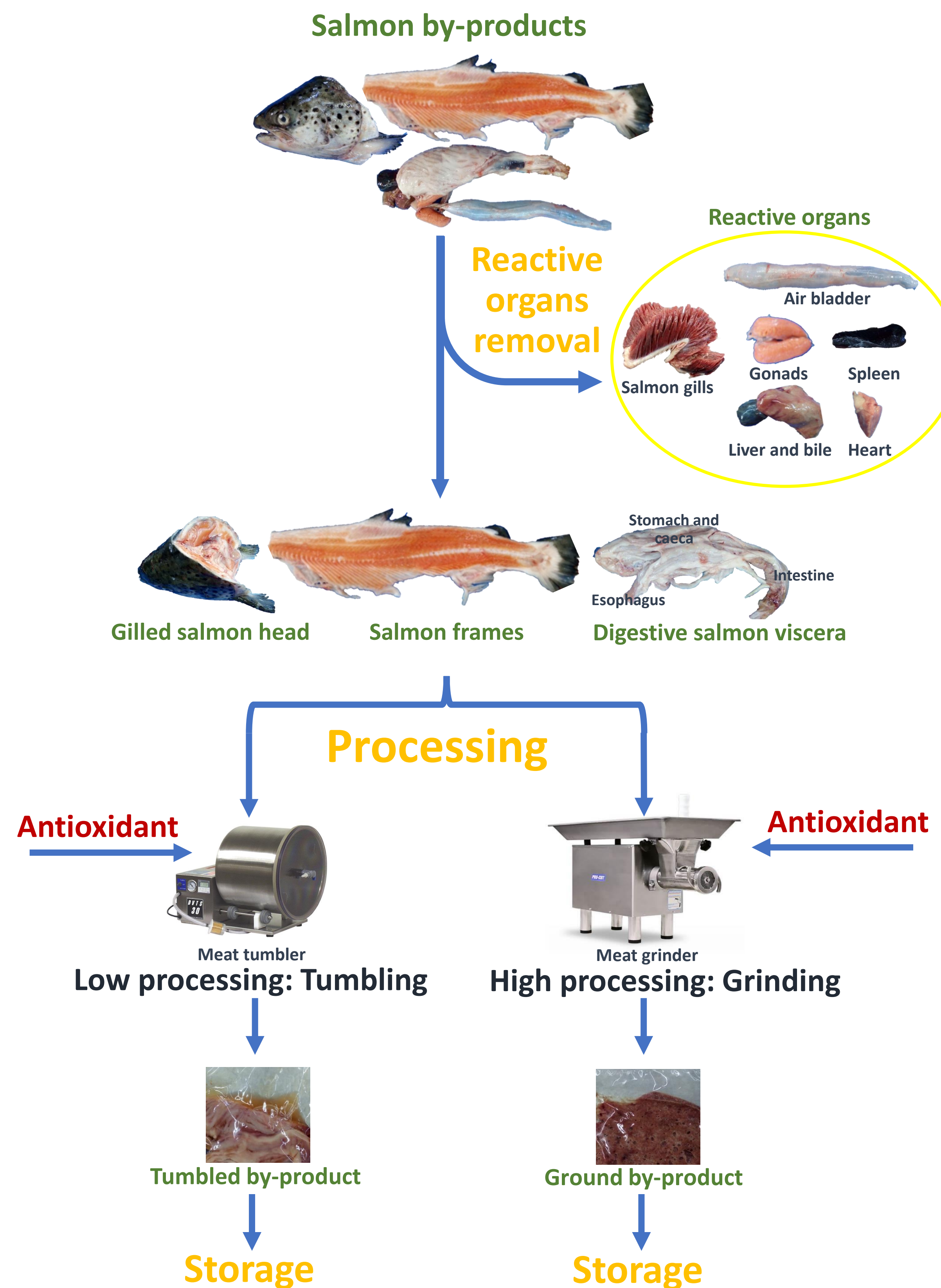
- Evaluating the effect of reactive organs
- Evaluating the effect of processing methods
- Evaluating the effect of an antioxidant

INNOVATION First study on reactive organs for blood removal and stabilization

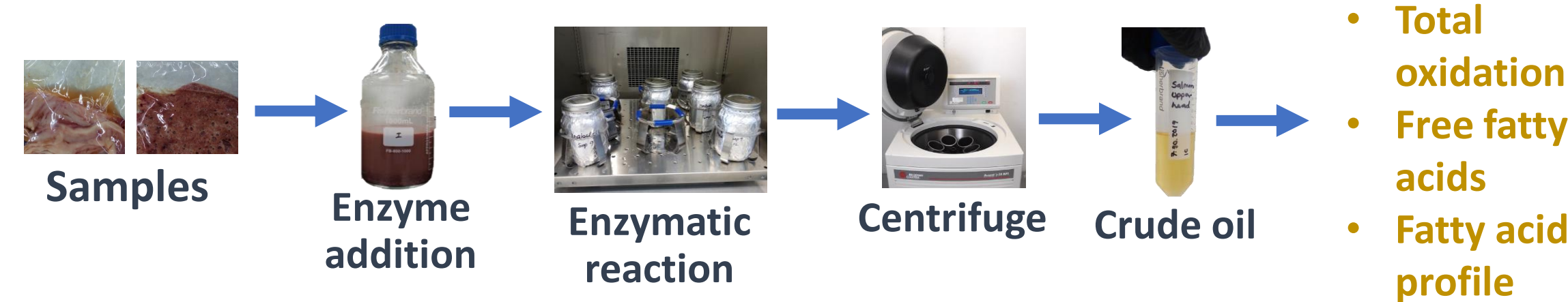
Fe²⁺



Experimental design

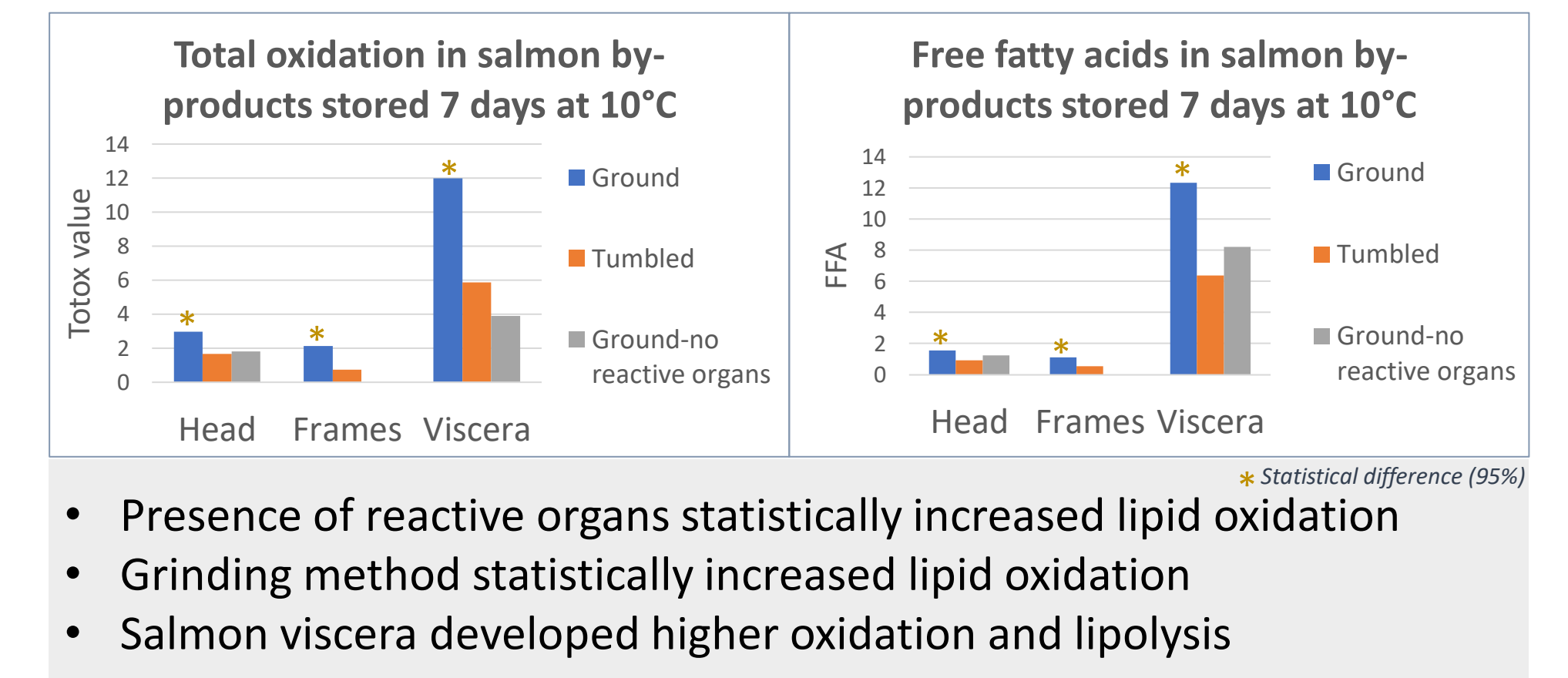


Oil extraction

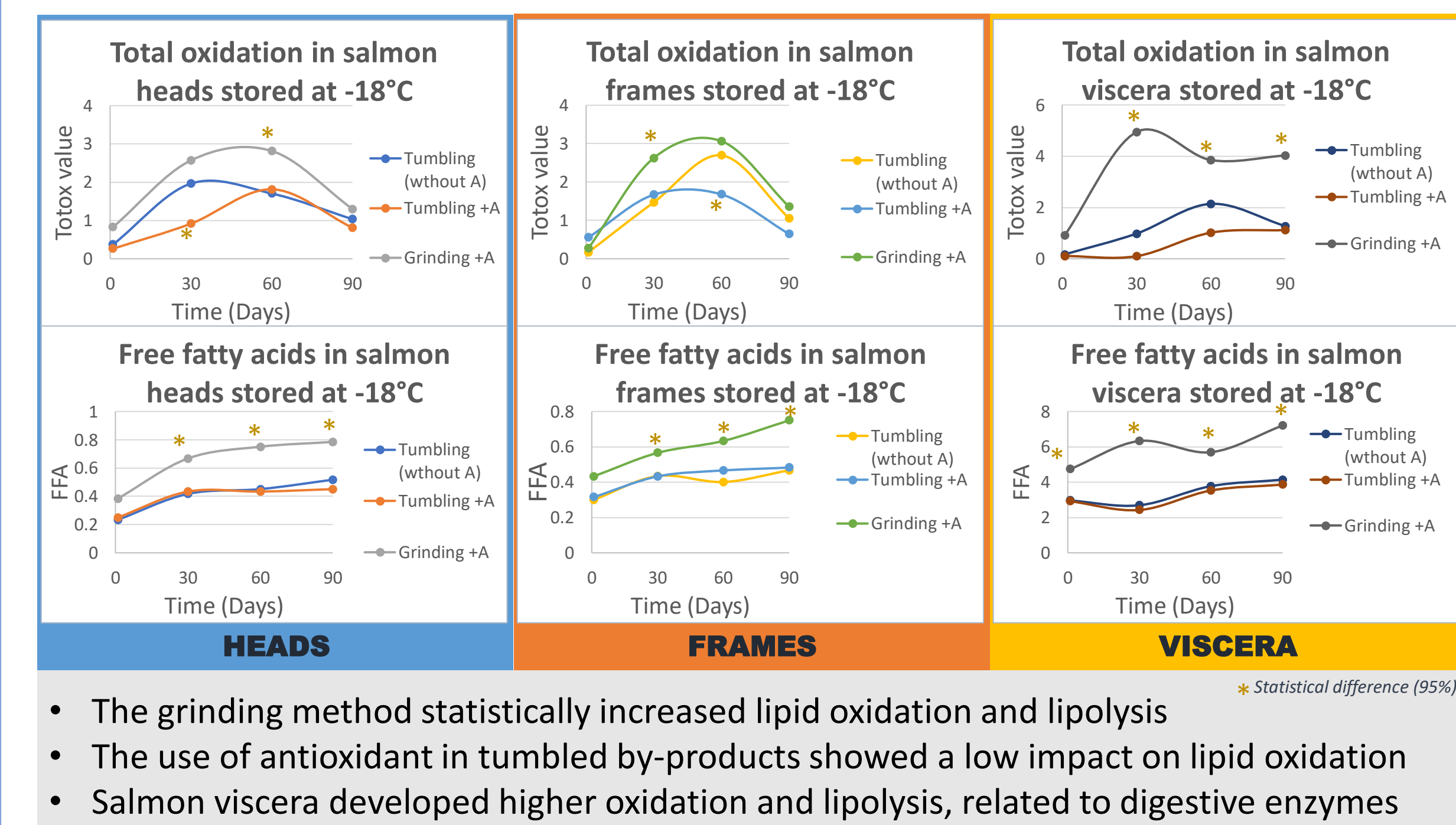


Results

Preliminary study



Frozen storage study



Conclusions

The results present **tumbling method** and **removal of reactive organs** as potential methods to stabilize salmon by-products during frozen storage

These results show a promising impact on the salmon bioeconomy

