

# Potential of In Ovo-Fed Amino Acids to Improve Broiler Thermotolerance

Agriculture, Pêcheries et Alimentation

Québec

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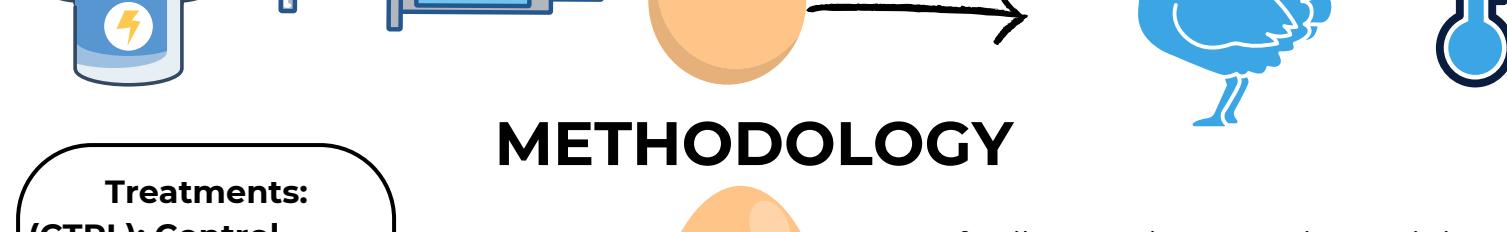


## INTRODUCTION



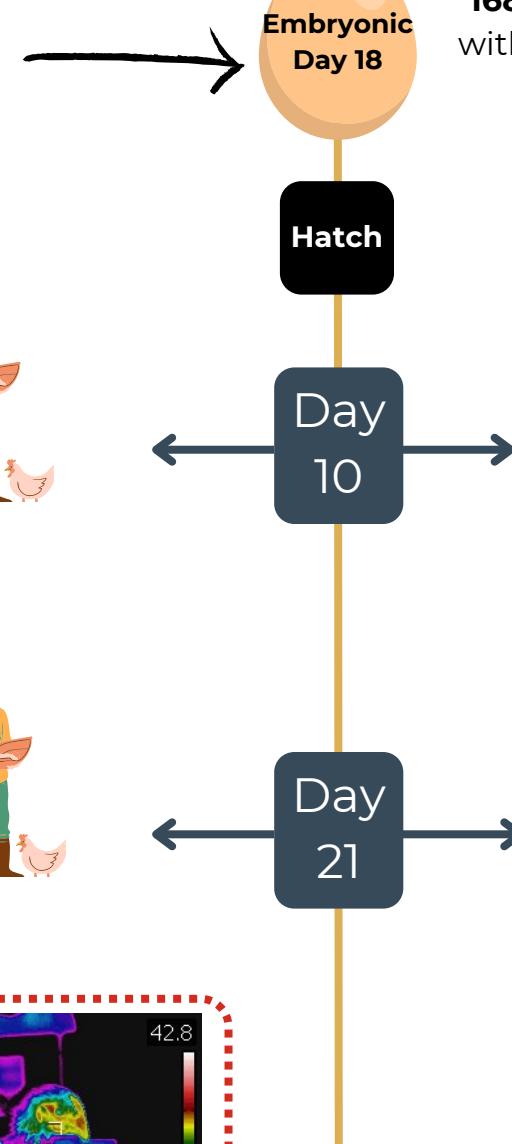
Global poultry meat consumption is on the rise, but the poultry industry faces economic losses due to heat stress caused by global warming. *In ovo* feeding is a technology used in poultry production that can be leveraged to alleviate the harmful effects of heat stress on broiler chickens.

Can *in ovo*-fed amino acids (leucine, methionine, and cysteine) mitigate the impact of heat stress on broiler chickens?



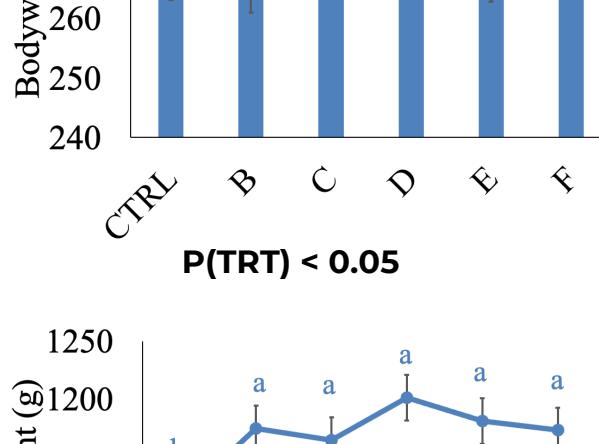
## METHODOLOGY

Treatments:  
(CTRL): Control  
(B) Leu  
(C) Leu + Met  
(D): Meth + Cys  
(F): Leu + Met + Cys



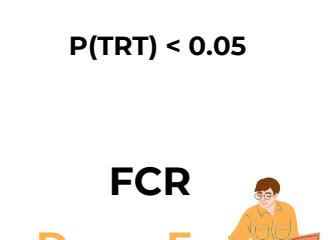
1680 fertile eggs (**Ross 308**) were injected with one of **five** treatments and placed in a complete-randomized block design

$P(TRT) < 0.05$



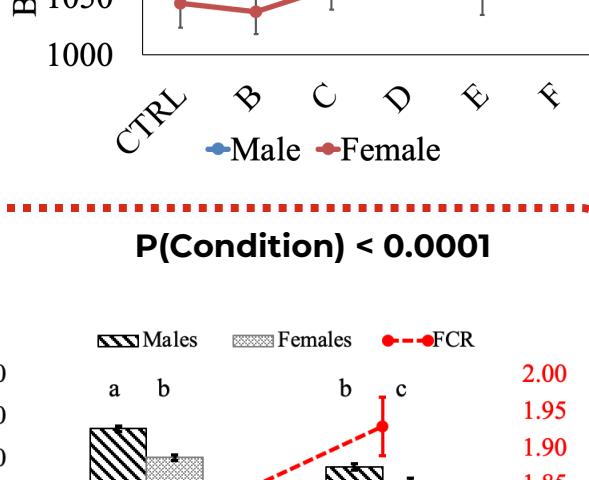
$P(TRT) < 0.05$

FCR

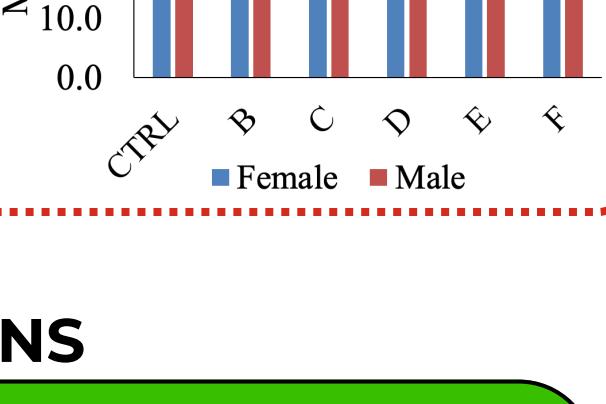
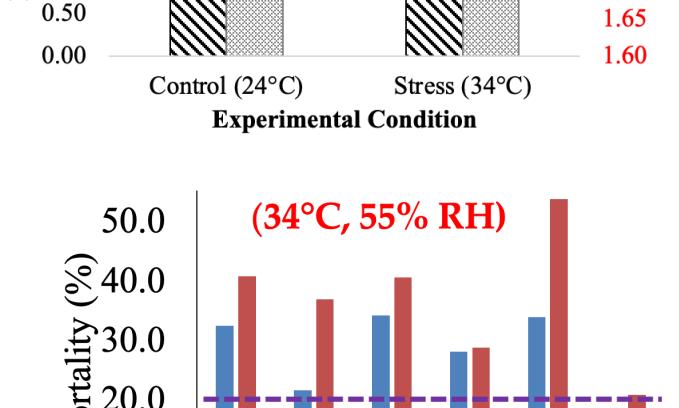


FCR  
D F

$P(TRT) > 0.05$



$P(Condition) < 0.0001$



Treatment D & F:  
↓ Facial Temperatures  
Lower avg. temp. (Days 29-34)  
Days 31, 32, and 34  
 $P(TRT \times Age) \leq 0.05$

## CONCLUSIONS

- Combination of AAs can improve performance (starter and grower)
- AAs reduce body temperature and lower mortality rates under heat stress

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