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Hepatic expression of thermotolerance related genes and early thermal conditioning in broilers

Presented by

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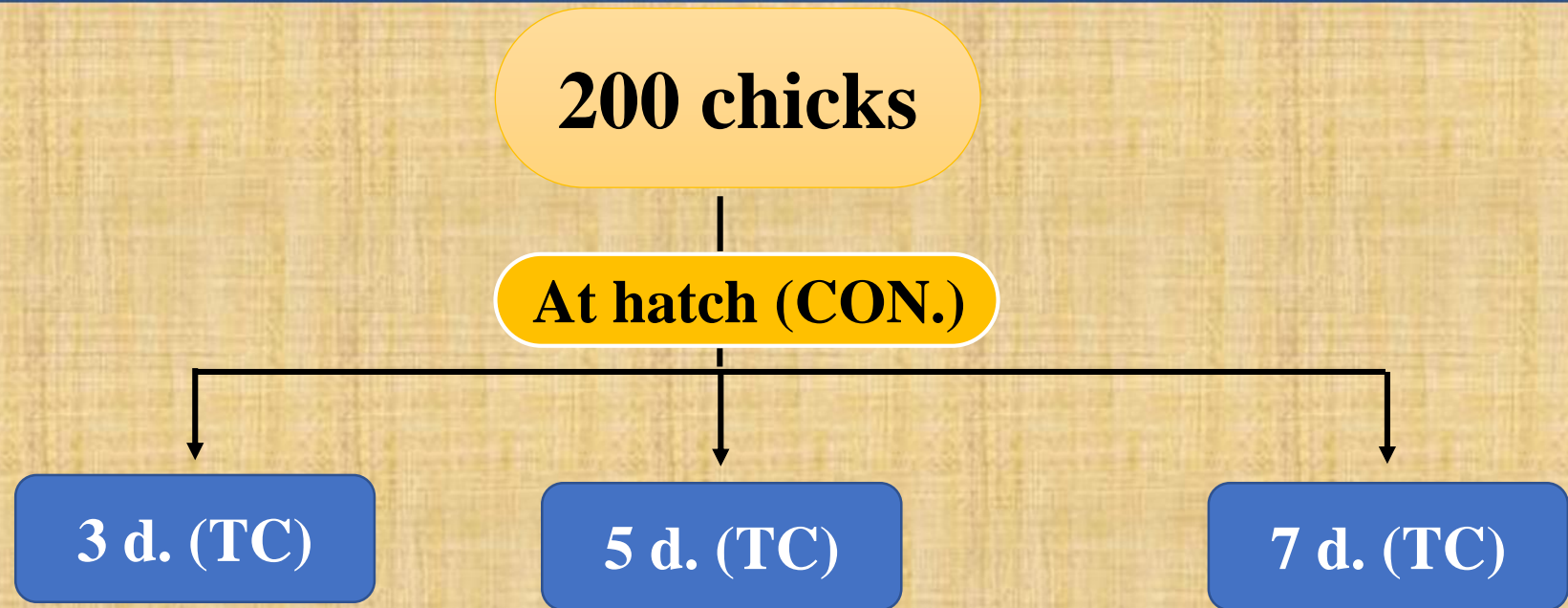


Aim of work

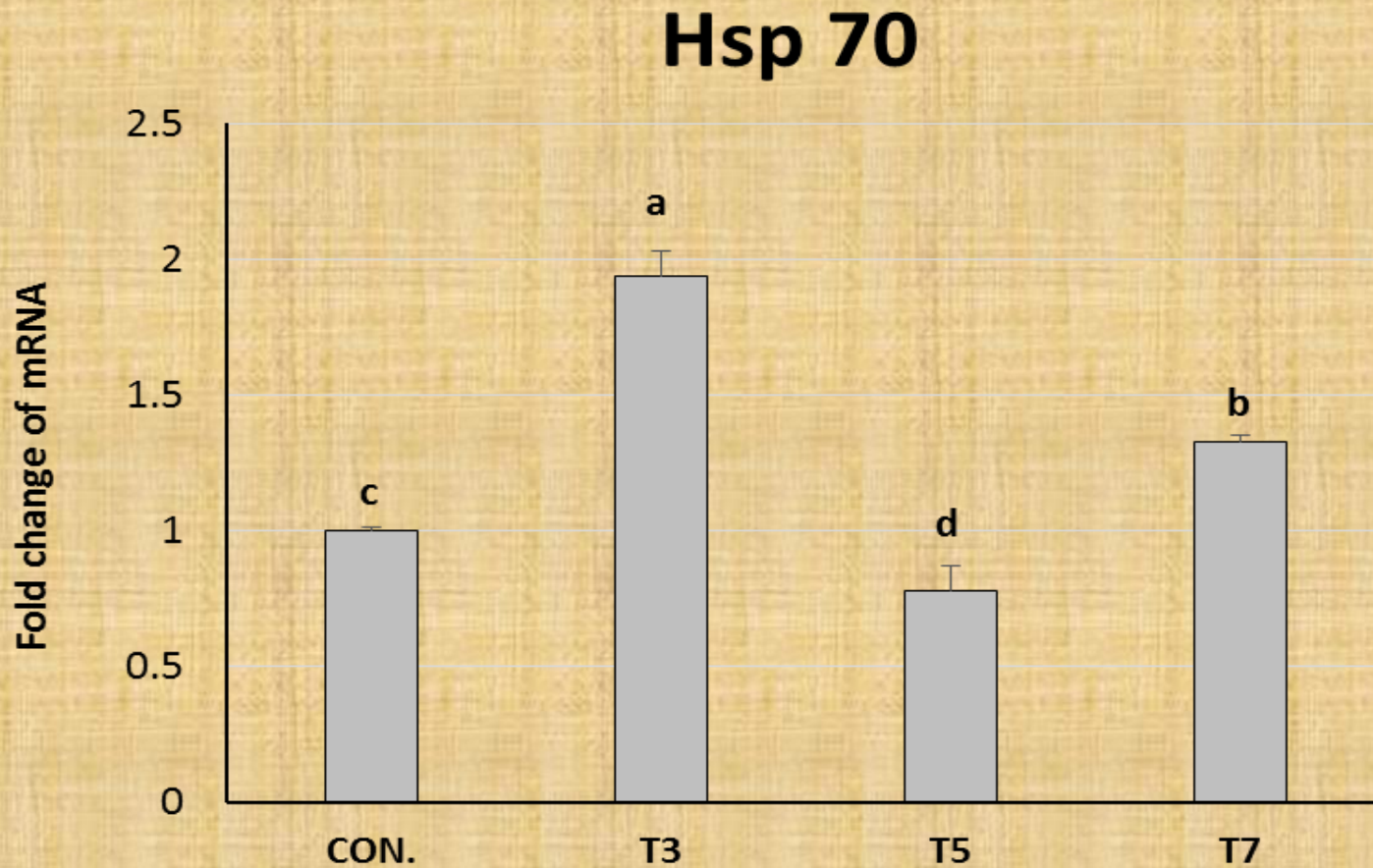


It is known that thermal conditioning at an early age results in improved heat tolerance, and reduces mortality when re-exposed to heat stress in later life in chickens. However, the molecular mechanism of thermal conditioning is not fully understood.

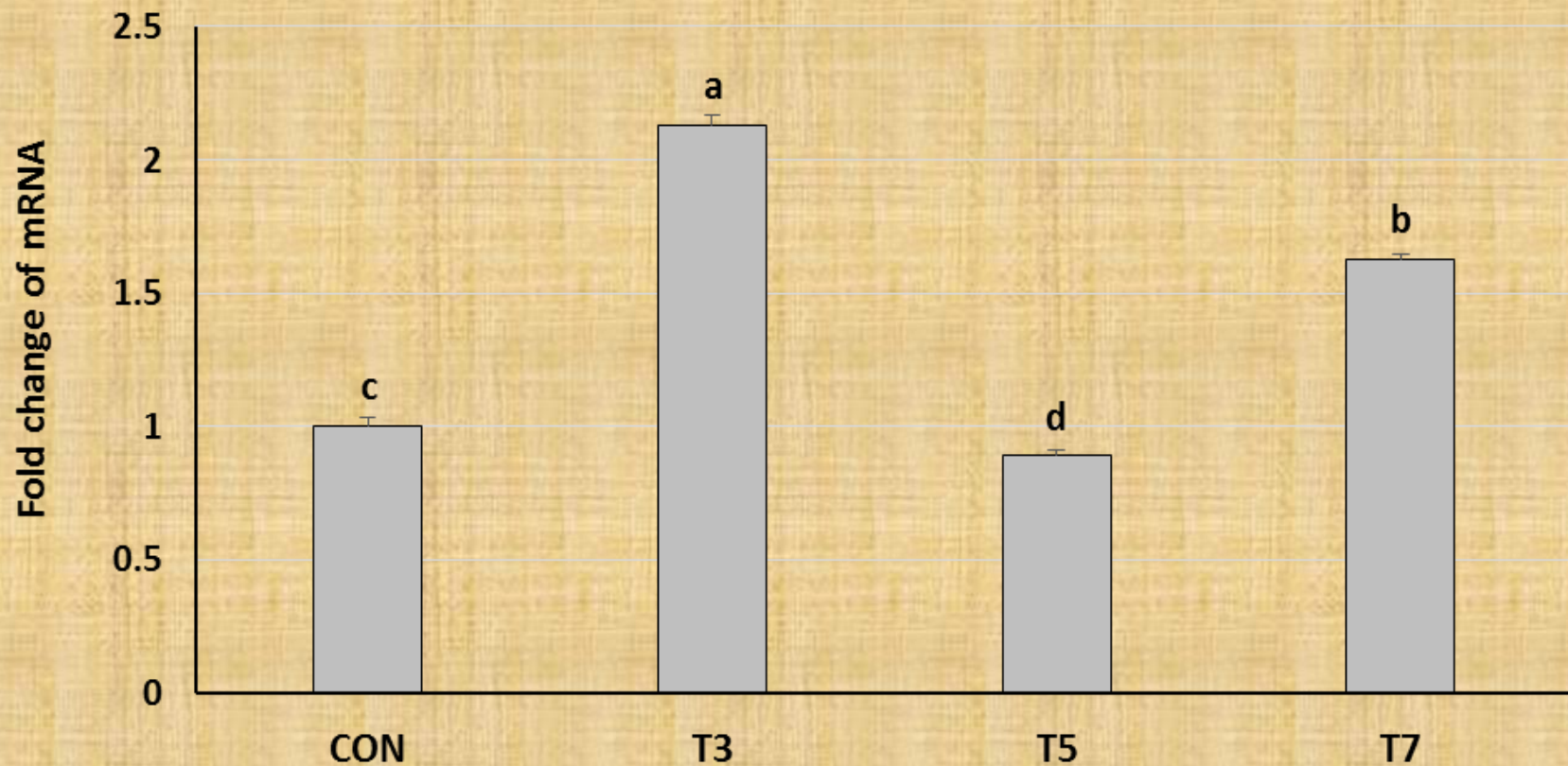
The objective of this study was to investigate the effect of early thermal conditioning on hepatic heat shock proteins , antioxidant enzymes and NADPH oxidase expression.



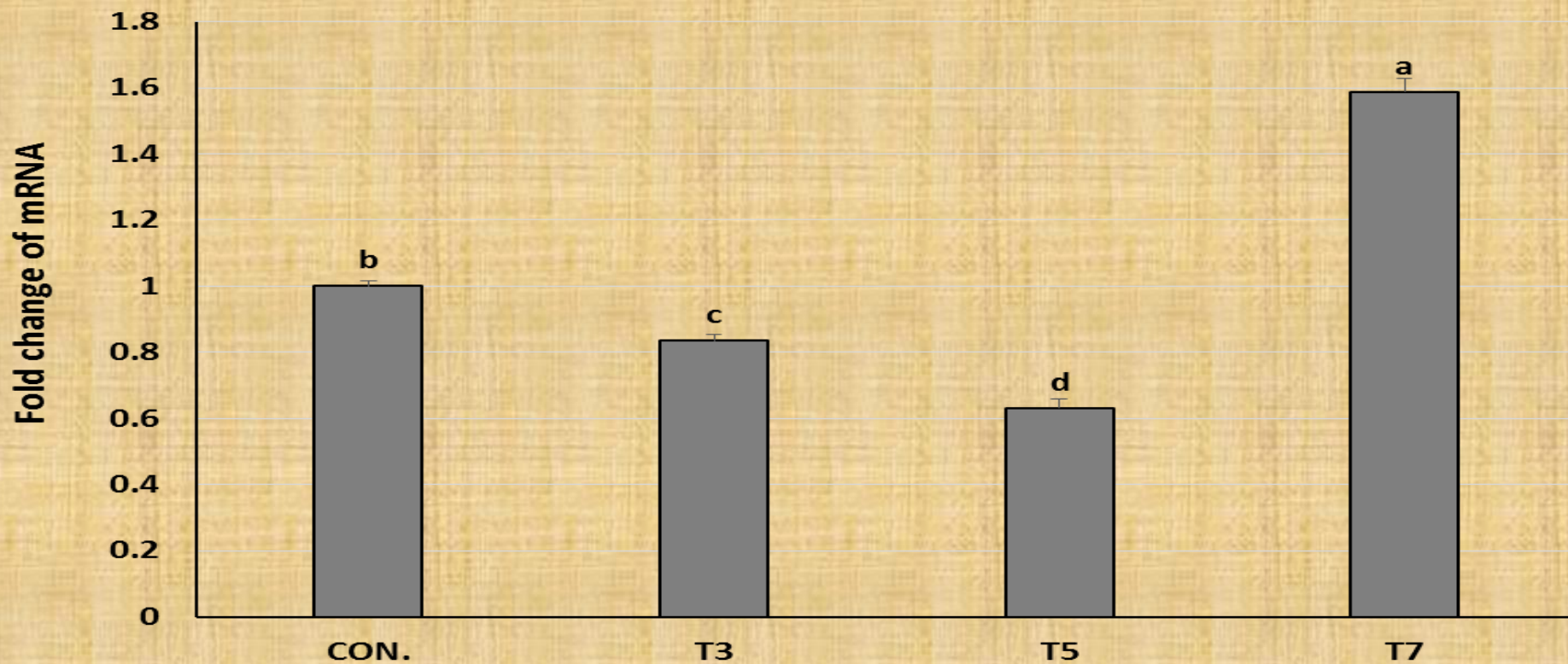
- ✓ Thermal conditioning (TC) = (39 °C for 6 hour)
- ✓ At 42 day of age all groups exposed to AHS (37 °C for 7 hours)
- ✓ Six chicks were killed to take liver sample for gene expression

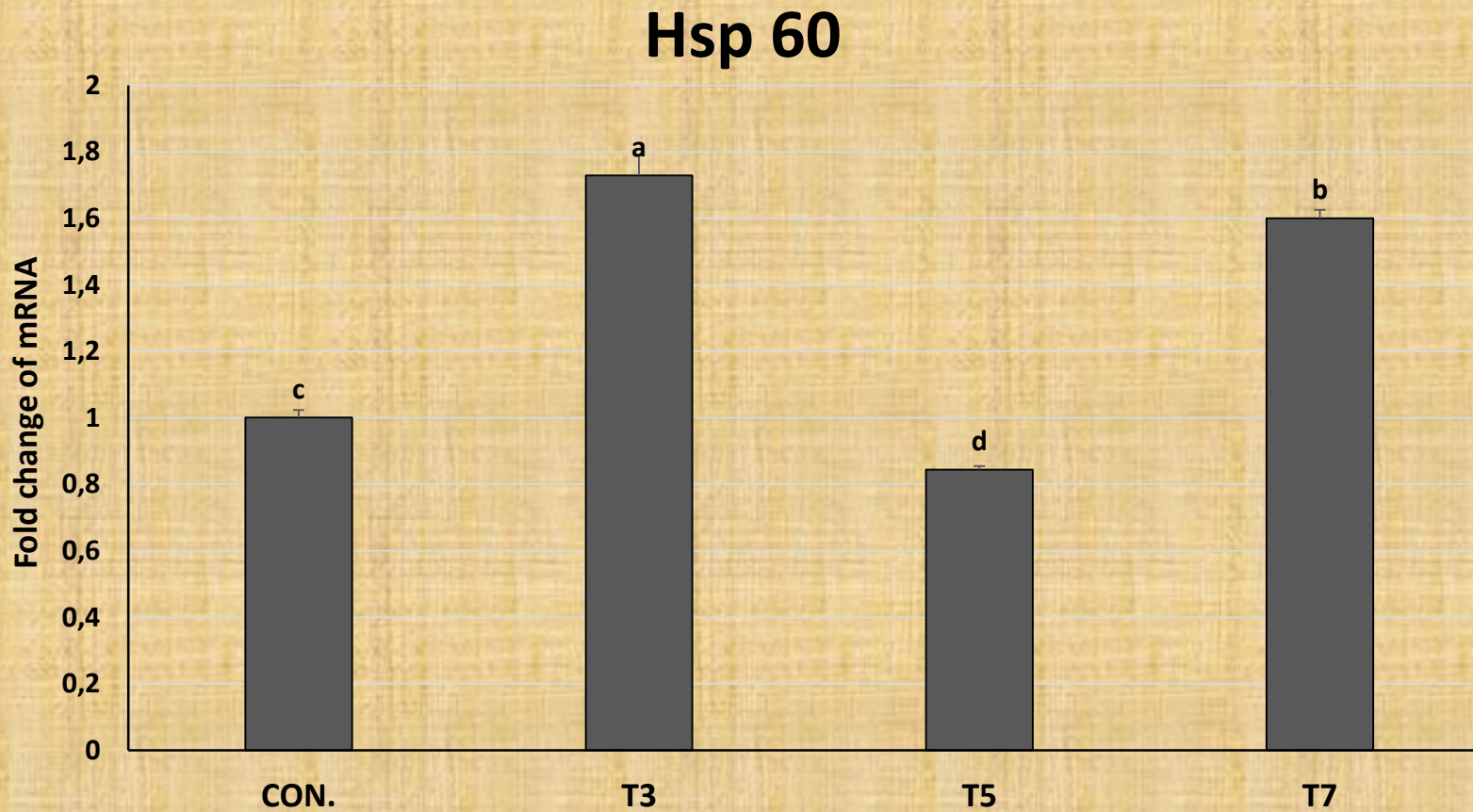


Hsp90 α

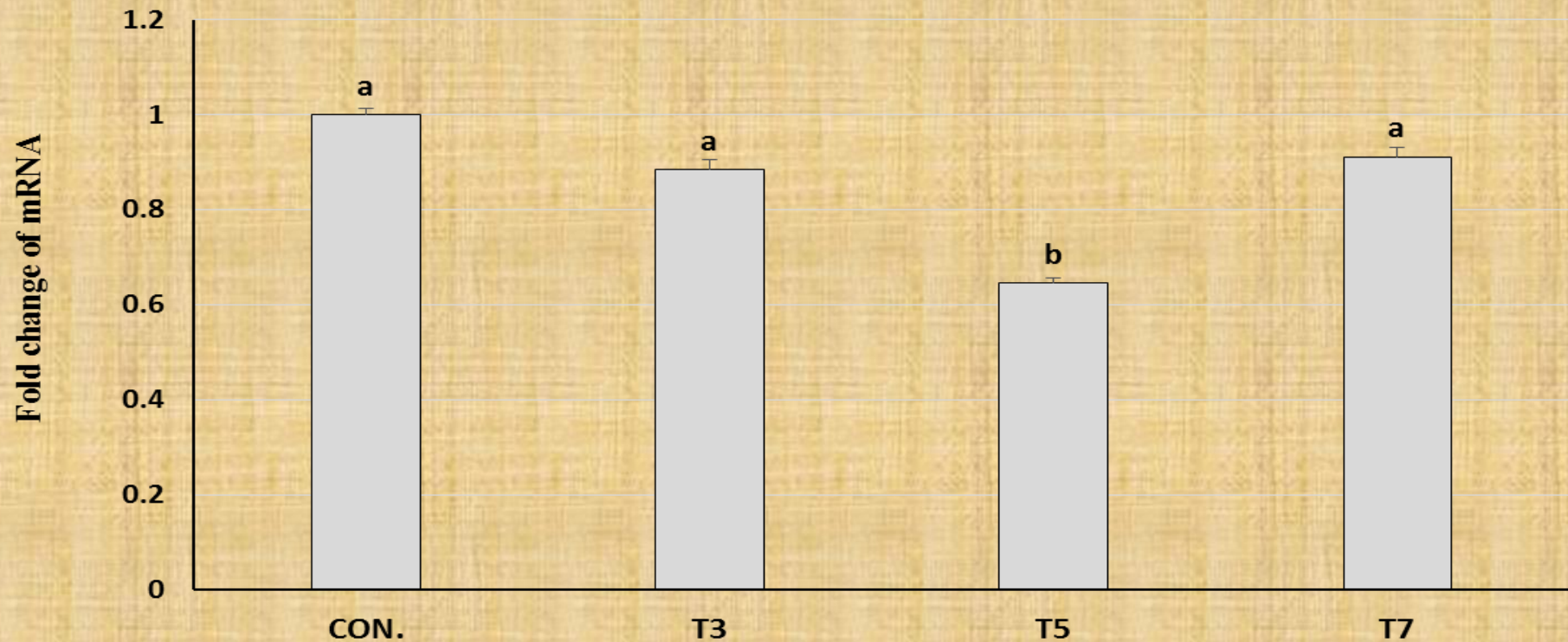


Hsp90 β

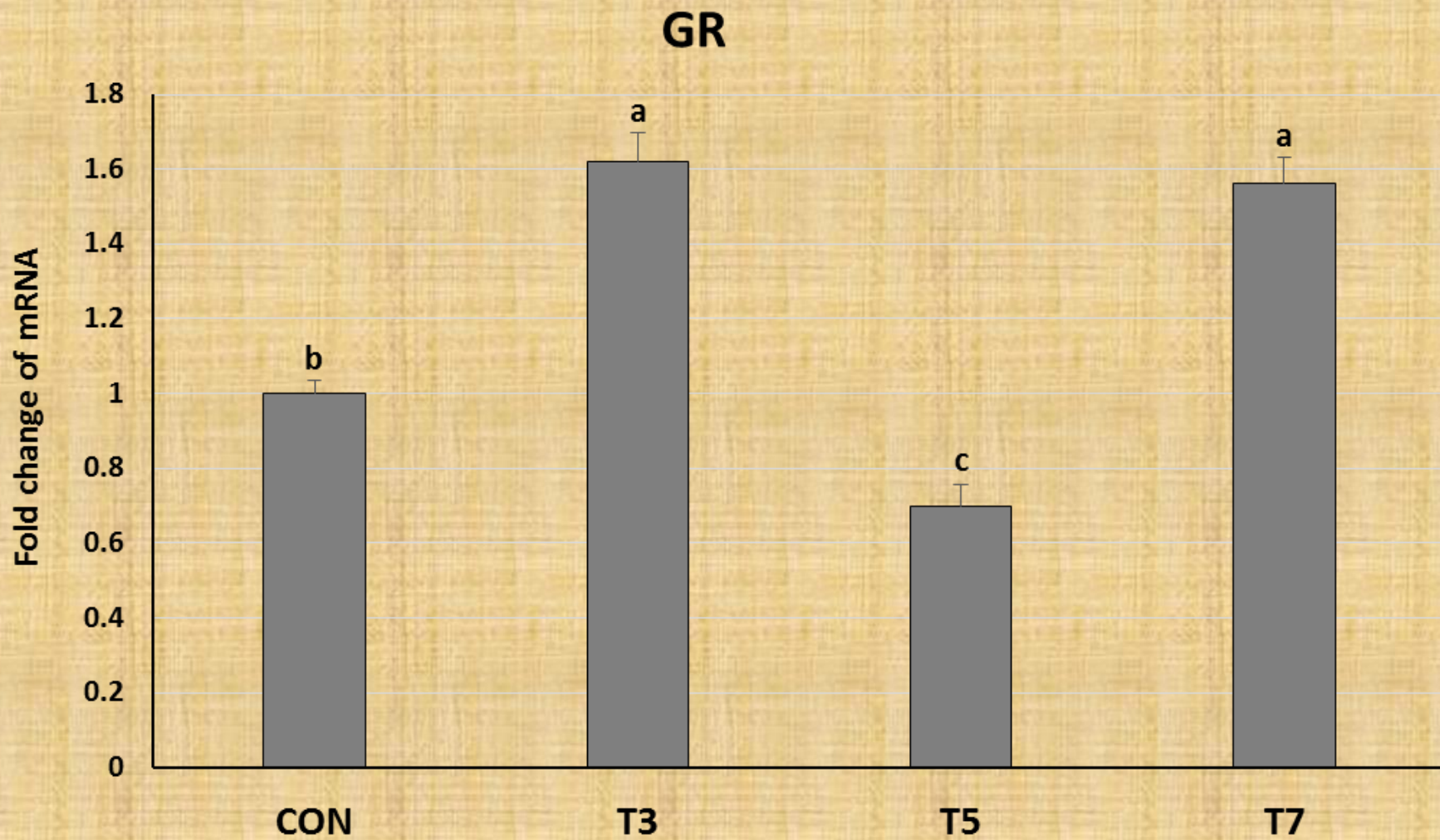




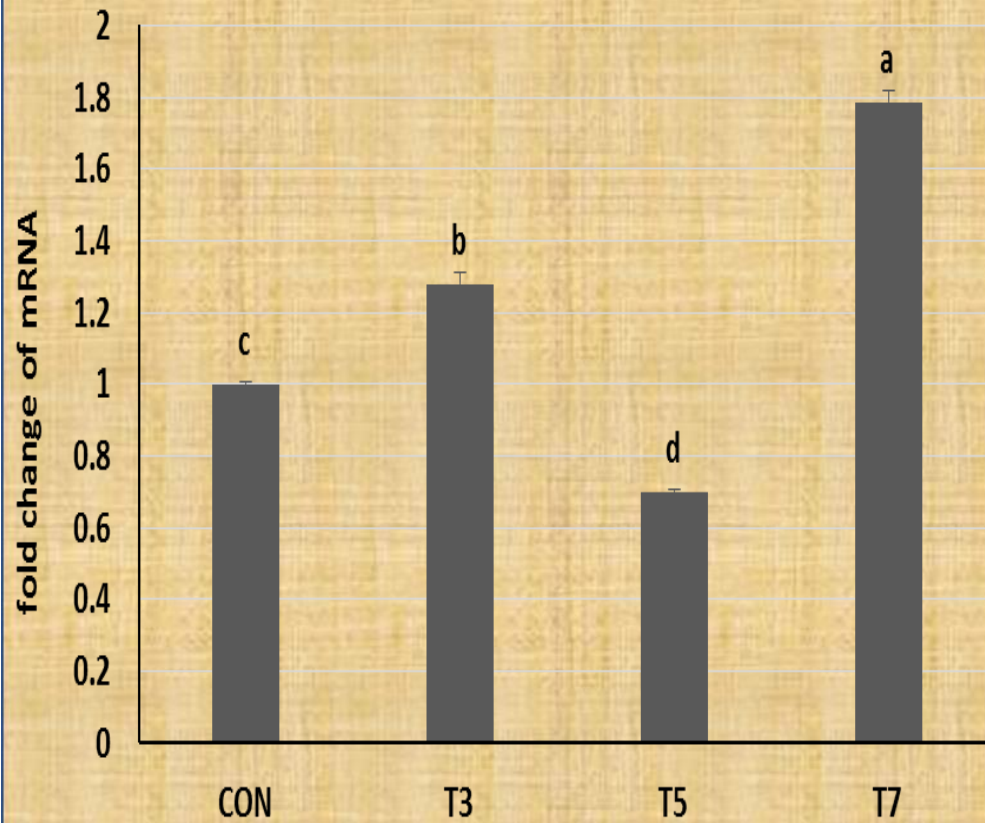
HspA9



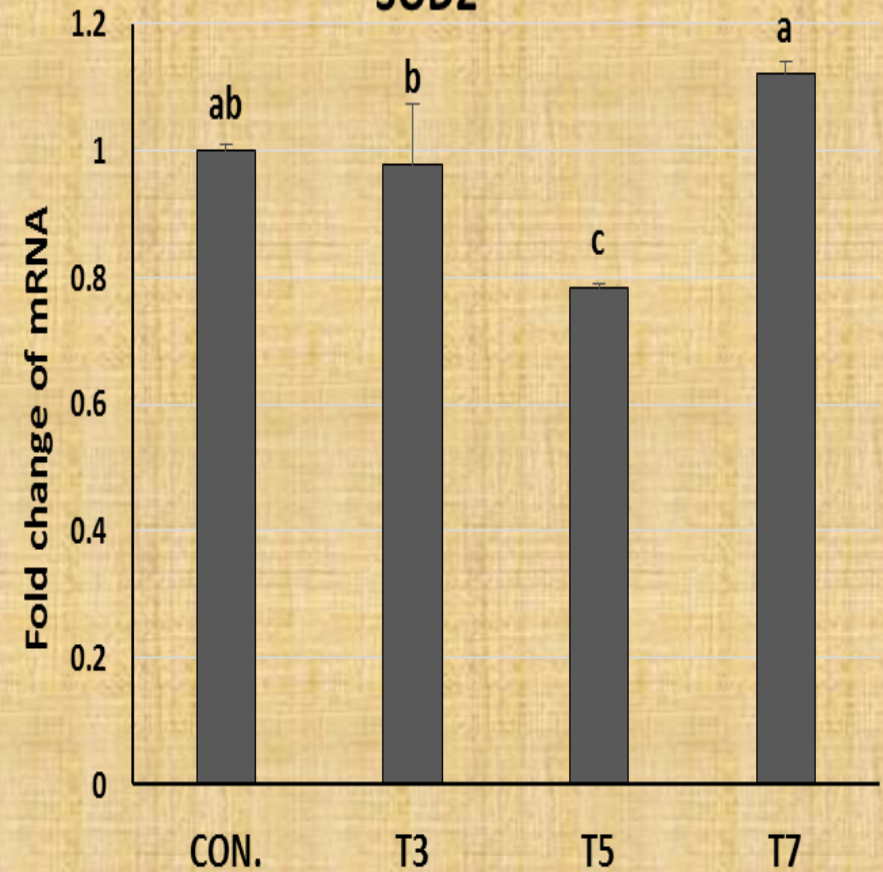
Results

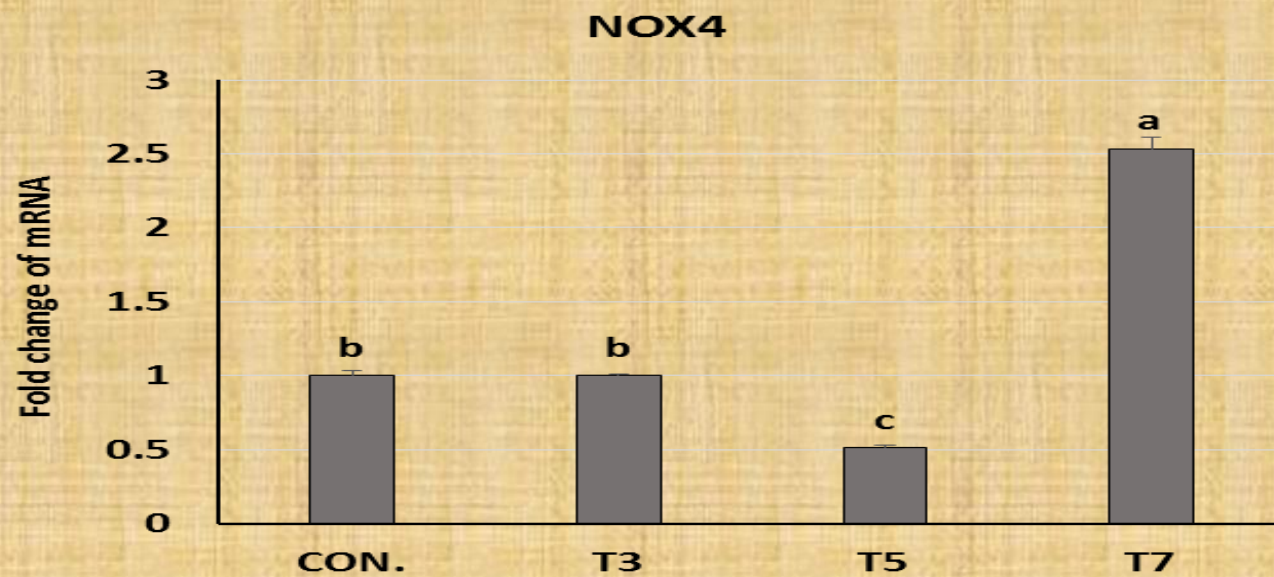
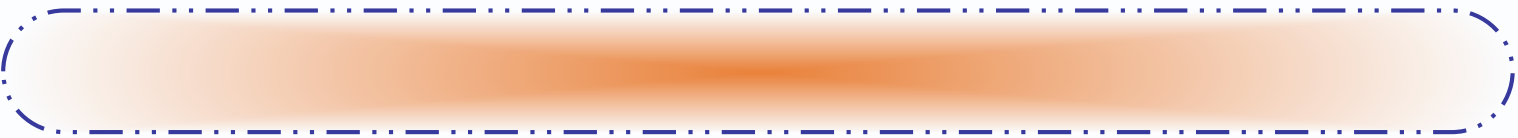


SOD



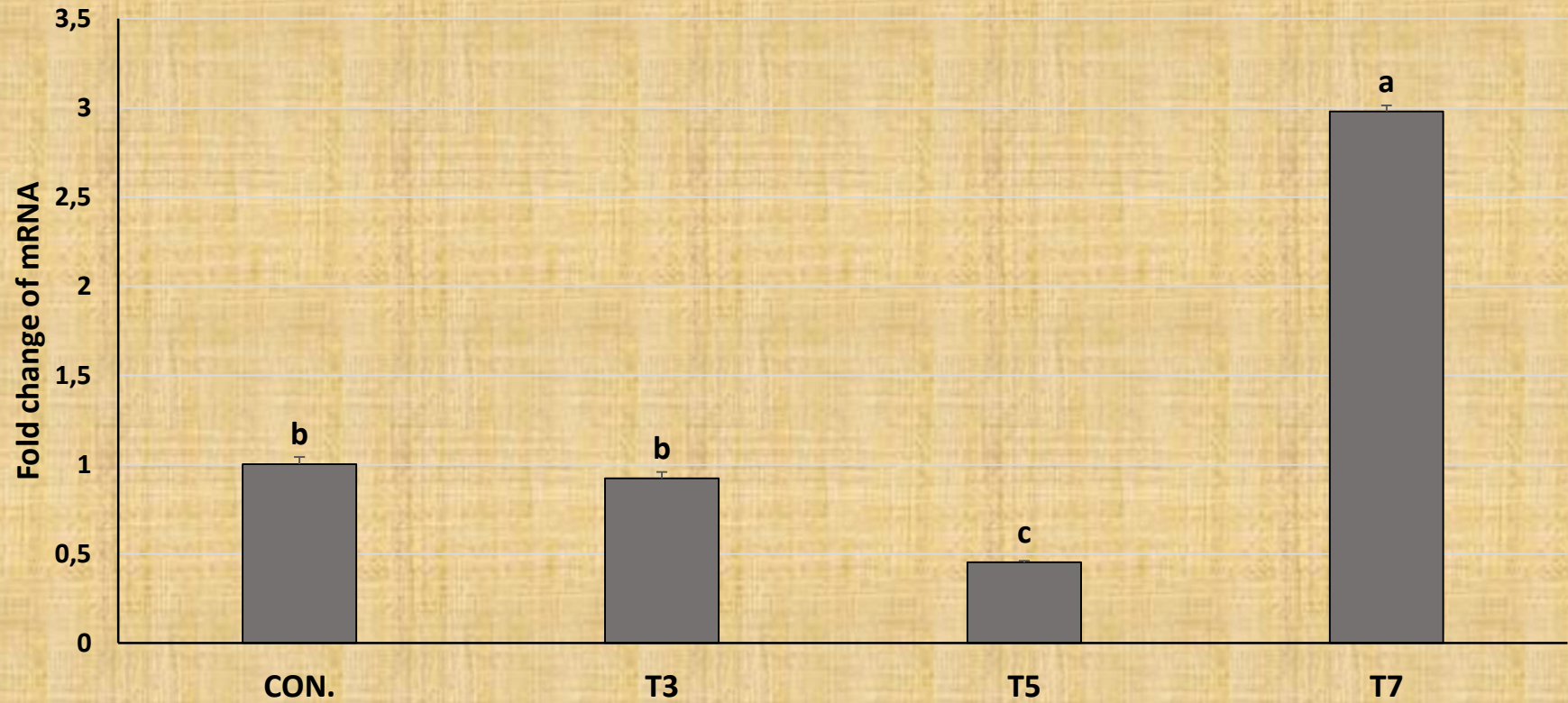
SOD2



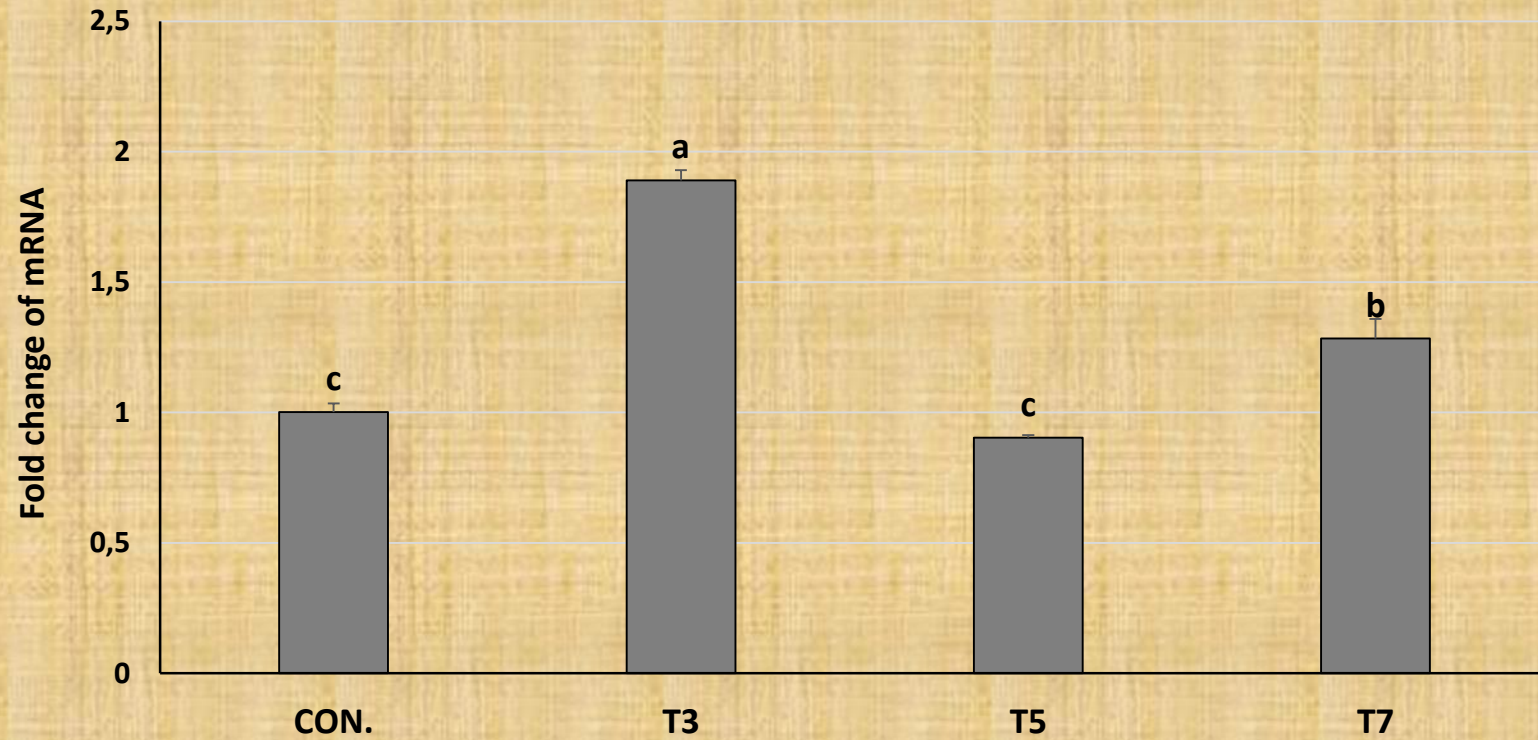


	Mean
CON.	1.001598
T3	1.001835
T5	0.512078
T7	2.534854

IGF-1



CPTA1



Conclusion

- **It can be concluded that thermal conditioning of broiler chicks at day five post hatch is the most effective to induce thermotolerance acquisition at later ages as evidenced by the lowest expression of Hsp genes and stress indicators.**

Hepatic GR may play a critical role in regulating the early-life thermal stress response of birds

Hepatic HspA9 ,Igf-1 and CPTA1 involved in heat stress response in broiler chickens .



Thank you for your attention

