



The 75th EAAP Annual Meeting

1/5 September 2024 - Florence, Italy

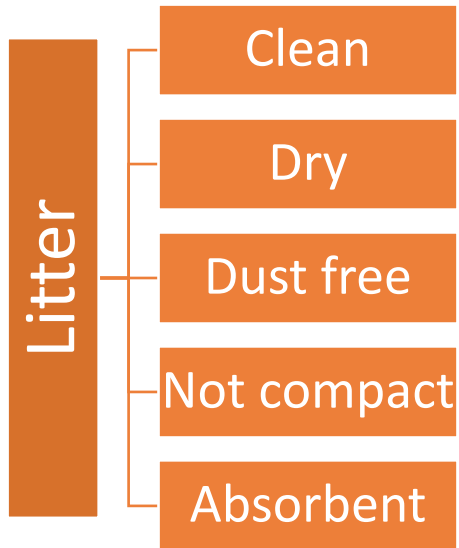
Effect of recycled litter on broiler performance

Teixeira J. ; Mourão J.L. ; Alves A. ; Pinheiro V.



Poultry litter

The quality of the litter influence broiler production



Millions tonnes
of waste



environmental
impact



NH₃



Economic
costs



Some solutions can be taken to mitigate this problem!

Is there any solution?

Reutilisation of the litter

Disadvantages

- ✓ Sanitary problems
- ✓ Legislations

Advantages



Reducing the volume of waste



Reduces the cost of a new litter



Reduces environmental impact



Some studies suggest that litter can be reused for more than one cycle of production



Some studies have found that there is less persistence of Salmonella in reused litter.

Objective

Evaluate the effect of using recycled litter
on broilers growth performances



Material and methods

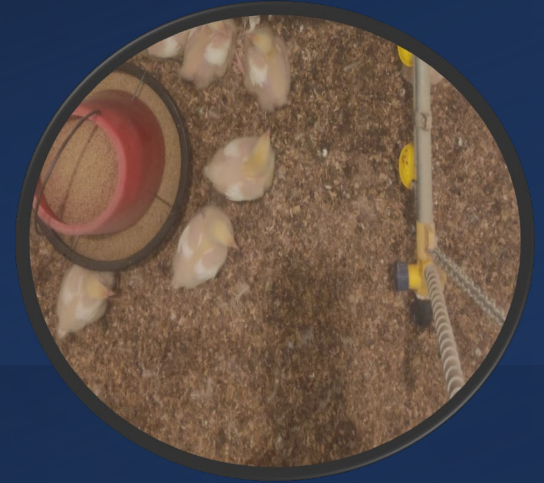
- ✓ Preparation of the litter



Composting



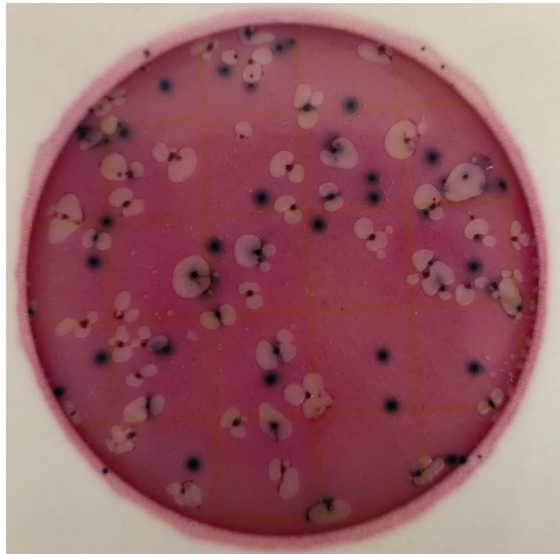
Covered with plastic



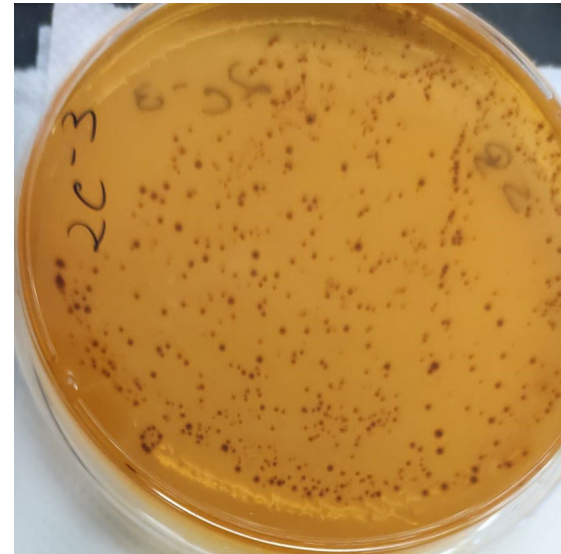
Distributed in the pens

Material and methods

The presence of bacteria *E-coli* and *Enterococcus* was evaluated in both litters.



E-coli



Enterococcus

Material and methods

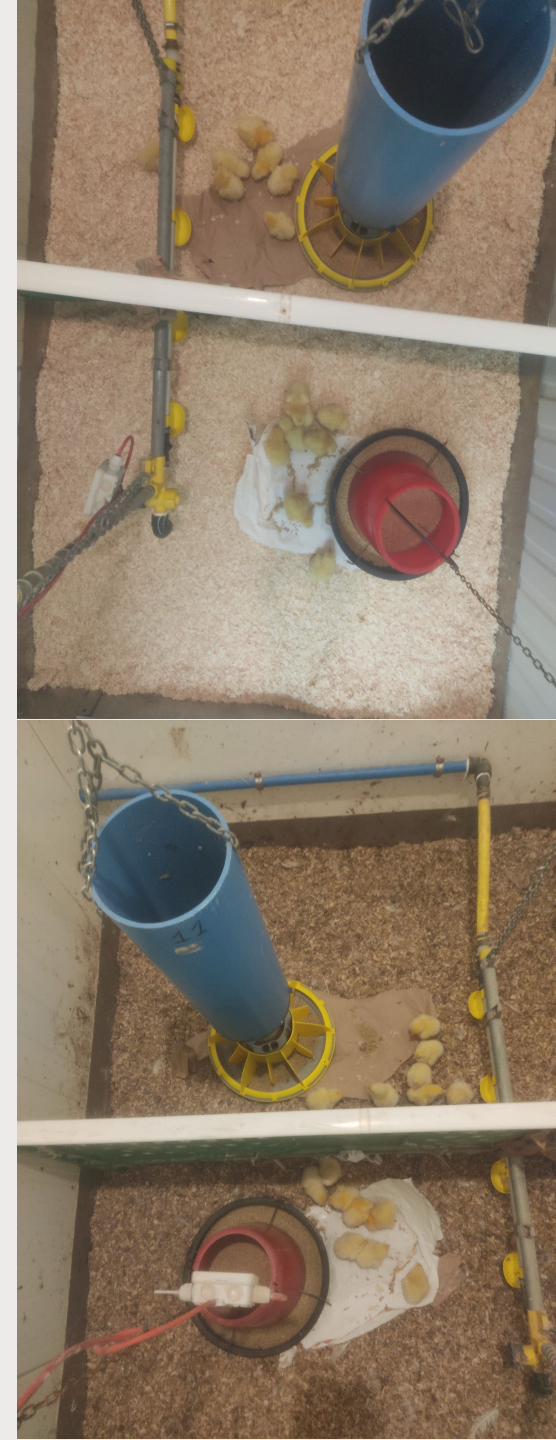
- 240 male chicks of the Ross 308 AP strain;

one day old



24 days

- Housed in 30 pens with 8 birds (replicates).
 - 15 replicates per treatment;
- **2 treatments :**
 - control with clean litter (**CL**)
 - recycled litter (**RL**)



Material and methods

The same volume of clean and recycled litter was distributed (10 cm of height).

LW were evaluated at 1, 12 and 24 days of age.

ADFi, ADG, FCR and Mortality were determined.

Feed and water
ad libitum



Clean litter

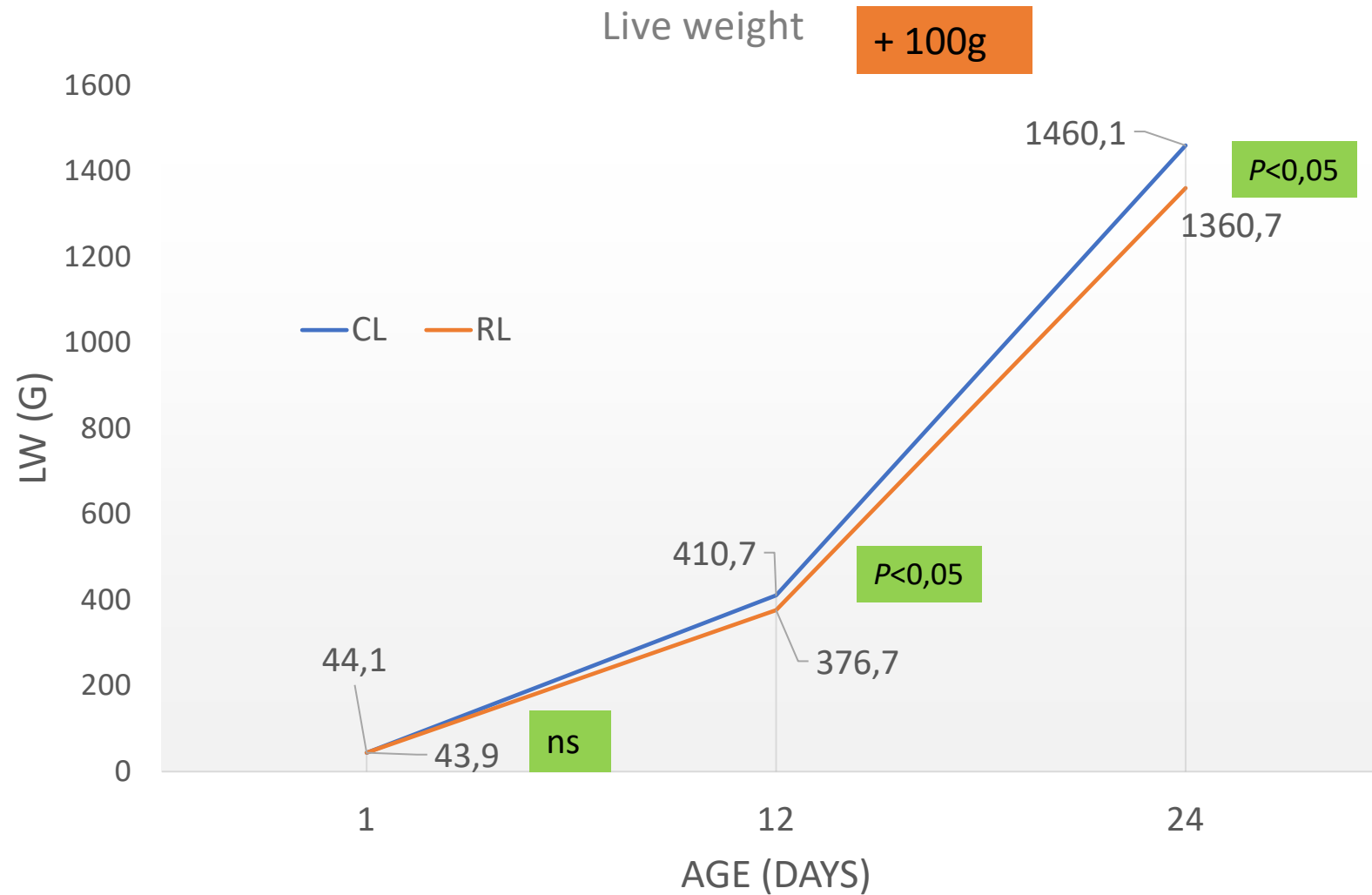


Recycled
litter

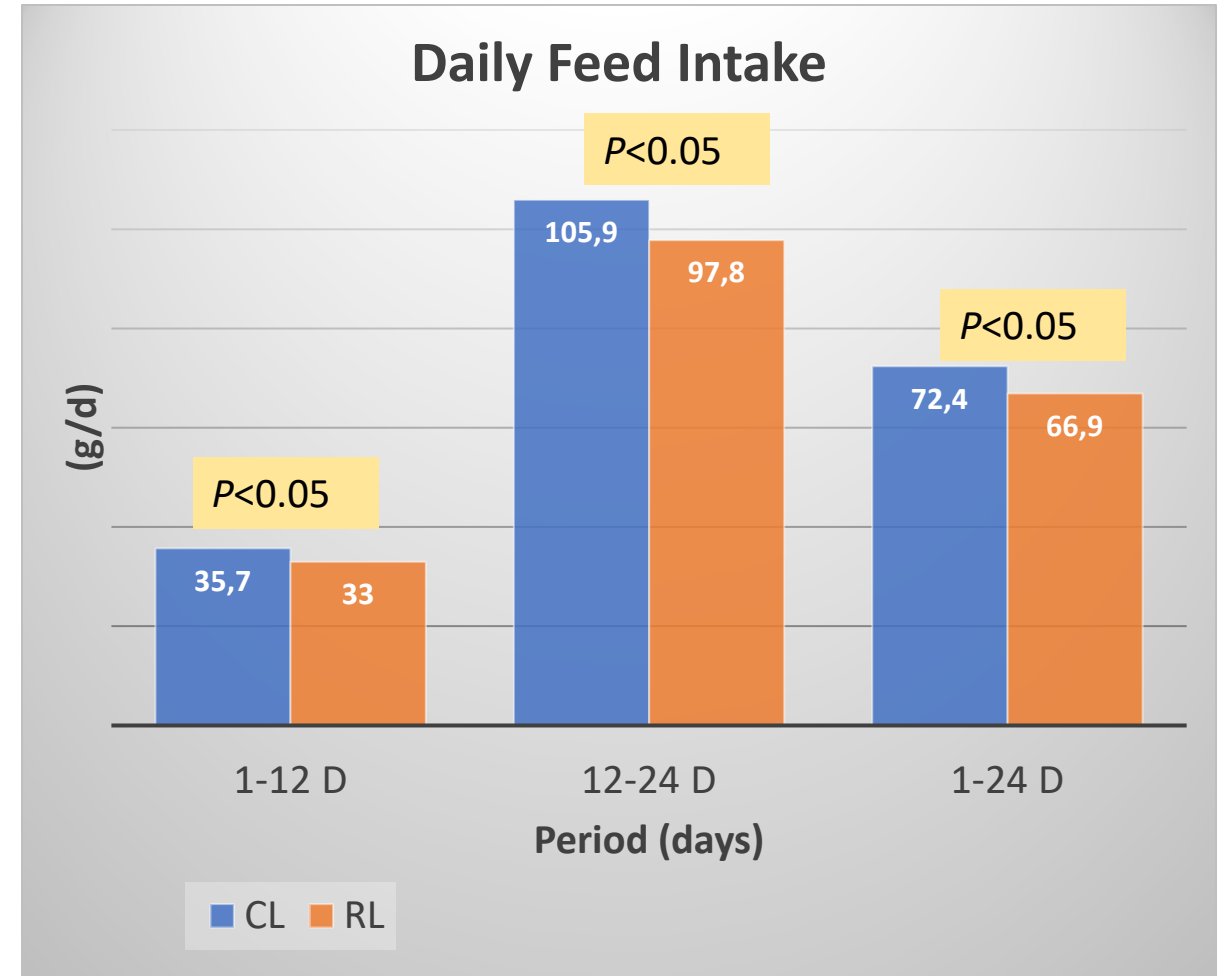
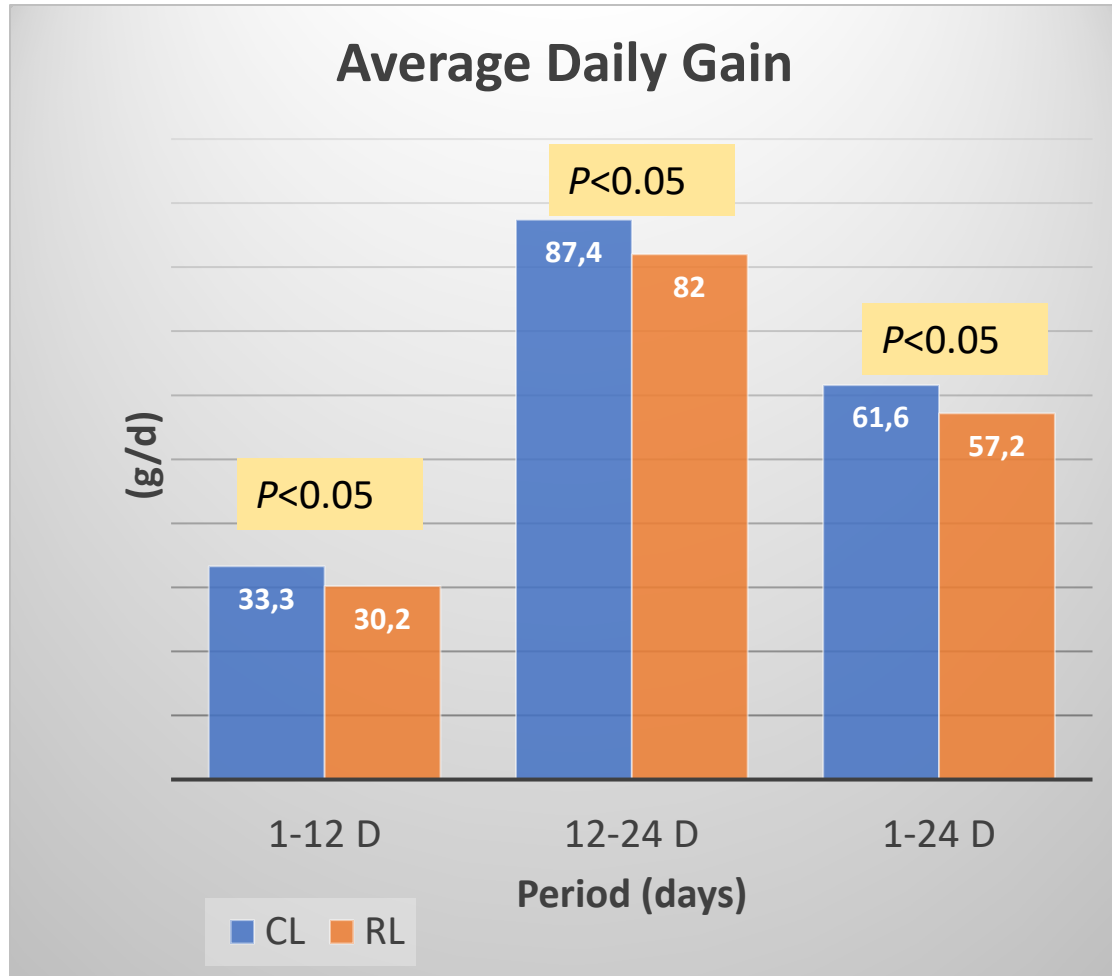
Statistical analyses

- ANOVA
- The litter as a variation factor was considered and the 3 periods of analysis
- JMP 17 Pro software

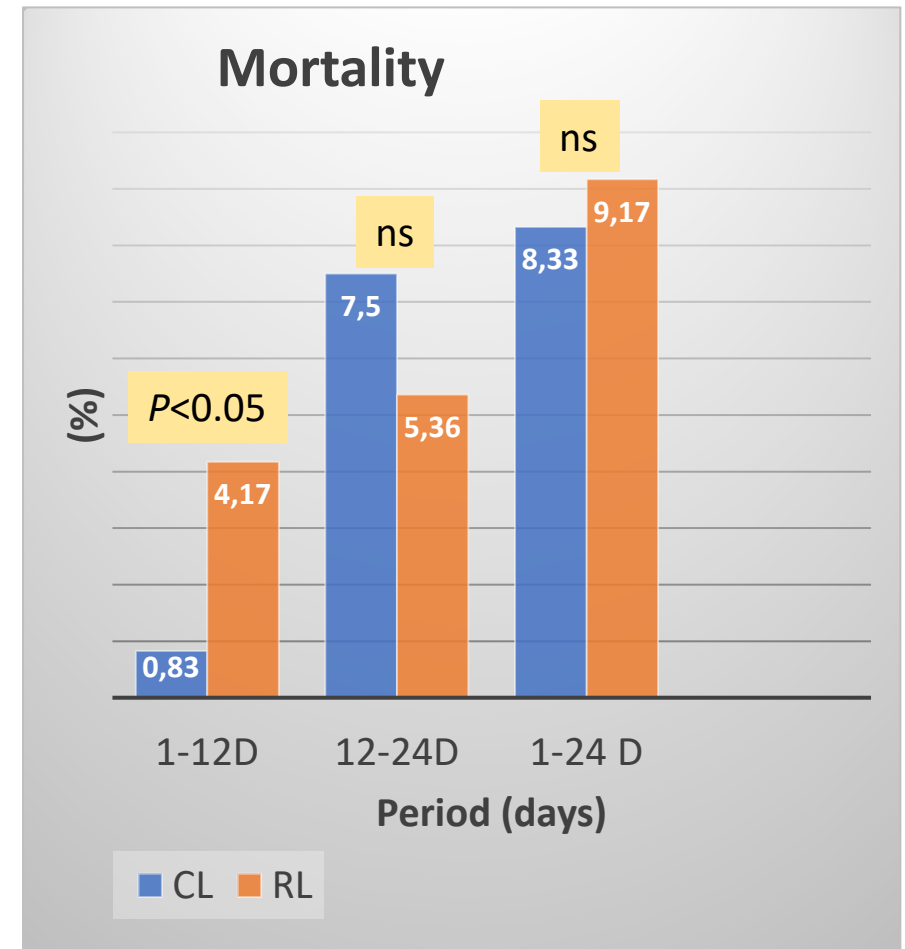
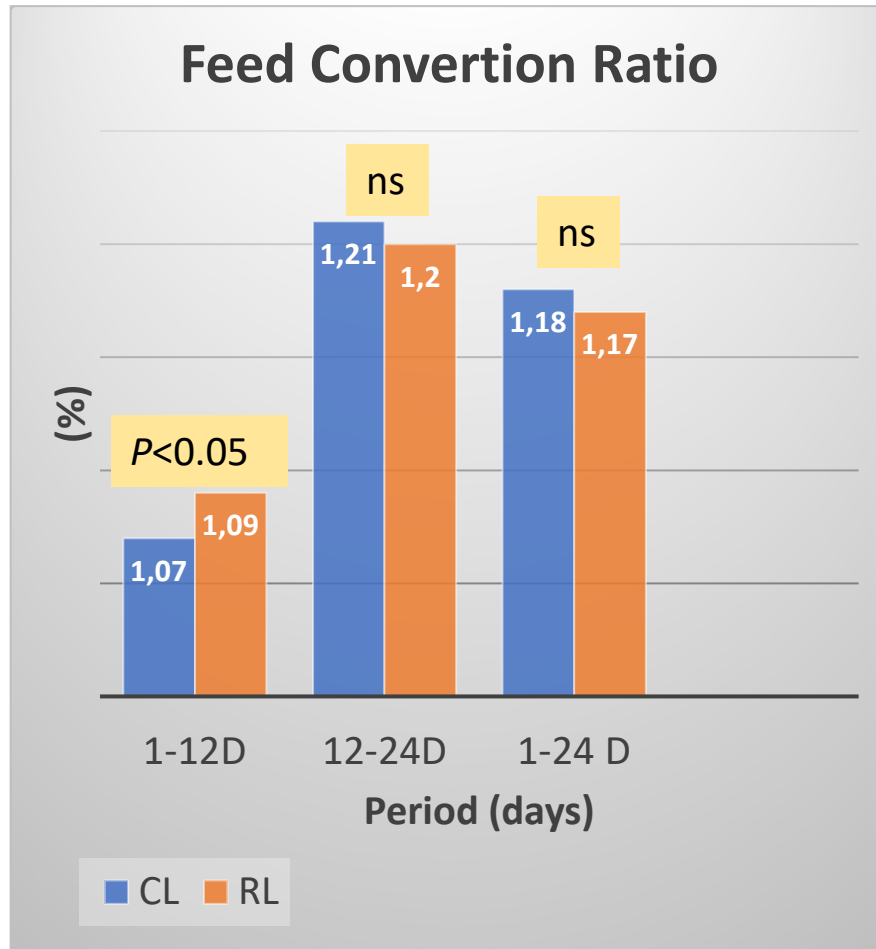
Results



Results



Results



Discussion- *maybe* positive effects ?

Muniz *et al* 2013

Benedet *et al* 2021

Vieira 2011

The effect on
birds was not
evaluated

Occurrence of plantar
injuries in birds.
High concentration of
E. coli was observed.

Discussion

Abougabal 2019

On Recycled Litter:
LW (-73g)
FCR (worst 0.05%)
Mortality worst

According with us

- (Taboosha 2017) at the same period BWG and FCR was significantly worst in Recycled Litter and mortality was 3% higger in RL.

Conclusions

Recycled litter had a negative effect on poultry performances.

Clean litter should continue to be used in broiler production.



Final considerations

Types of litter materials are becoming more difficult to obtain due to the increasing frequency of periodic shortages and escalating costs. When supply and pricing become limiting factors, appropriate solutions need to be considered.

Acknowledgements



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E ALTO DOURO

Thanks for your attention!

