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The effect of a phytogenic on broiler performance and feed costs in normal and reduced energy diets

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Selko®

trouw nutrition
a Nutreco company

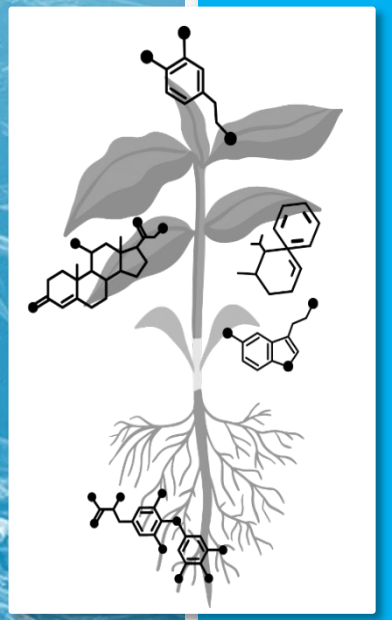
Plant Kingdom

UNLIMITED POSSIBILITIES

Kingdom

of 390’000

terrestrial species



Plant metabolites

Primary compounds:
Directly involved in growth, development and reproduction

Secondary compounds:
Help the plant to survive in its environment; broad functional spectrum.

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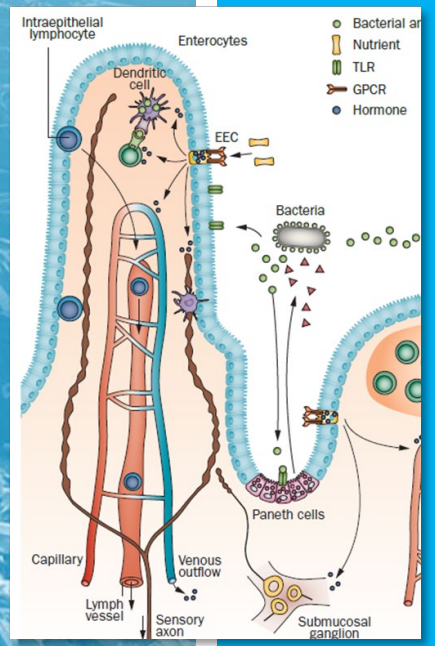

nutreco

The gut is a complex sensory organ, with a broad range of receptors capable of responding to plant secondary metabolites

Using this concept, a formulated blend of essential oils (Fytera® Perform) improved broiler performance in field-like conditions

trouw nutrition
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Science-based, proven mode of action

Oregano blocks inflammation in the gut

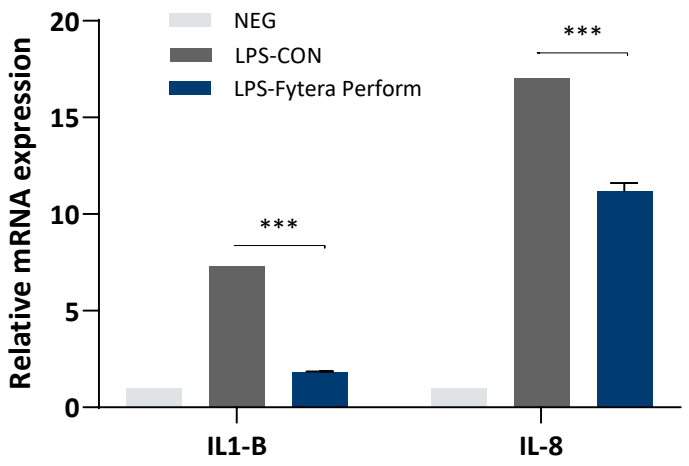
Cinnamon increases nutrient absorption

Clove improves gut barrier function

Fytera Perform reduced expression of proinflammatory genes and increased expression of genes related to gut barrier function

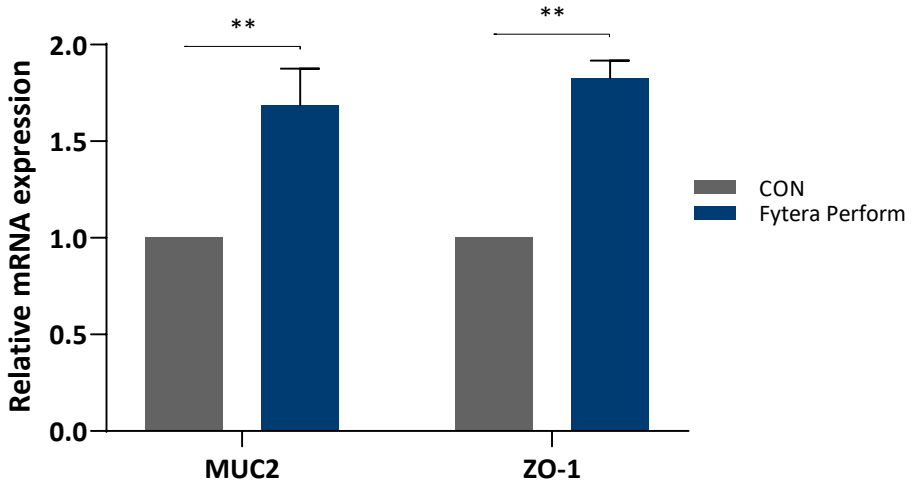
Anti-inflammatory

Chicken macrophage-like cells (HD11)



Gut barrier function

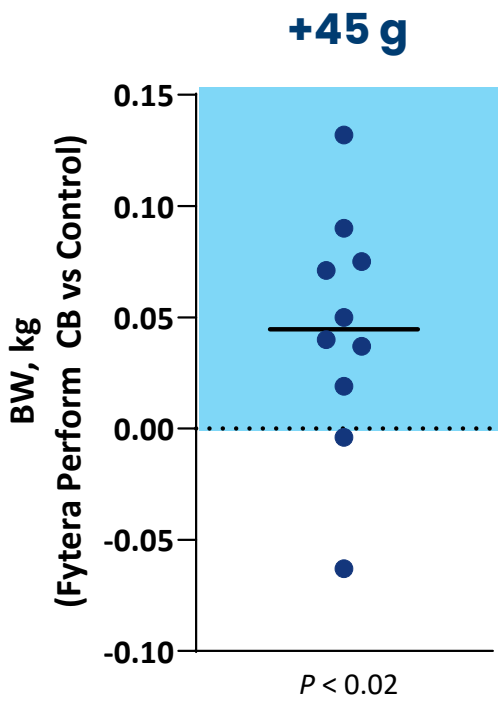
Chicken intestinal epithelium cells (8E11)

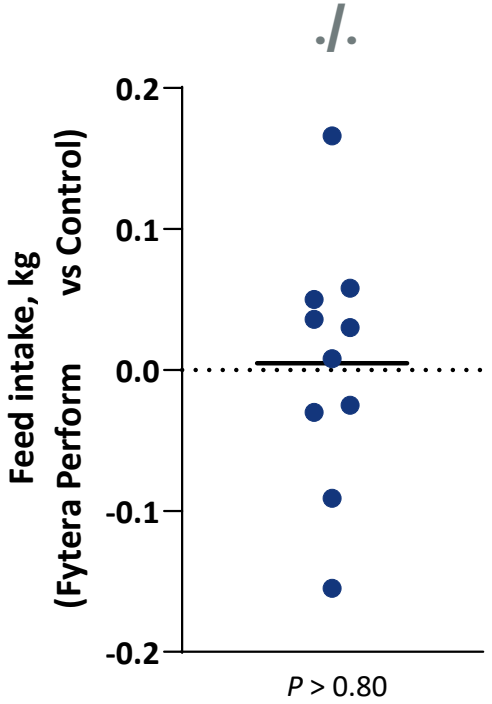


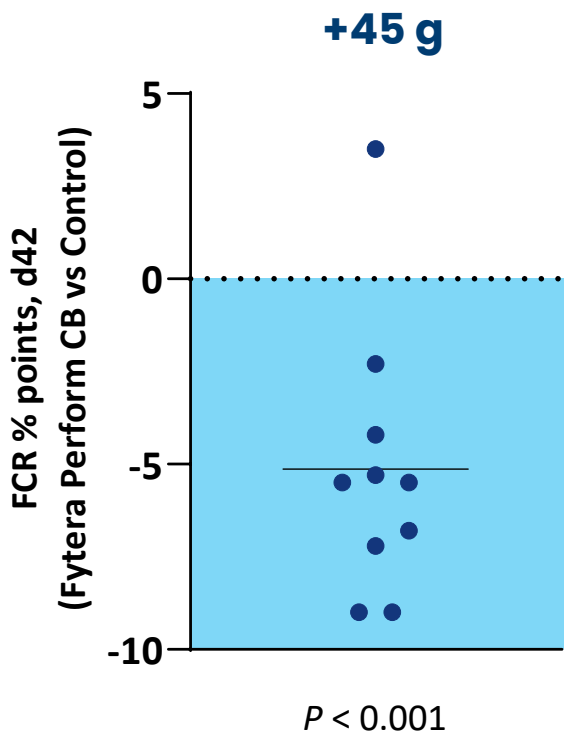
Lillehoj (USDA), Wall *et al.*, unpublished results; Doses used *in vitro* were equivalent to those that would be fed *in vivo*

Meta-analysis of performance data

Fytera Perform improves FCR and Body Weight







Fytera Perform (25 g/t) improved on average

- **FCR** by **-5 points**
- **Live BW** by **+45 g**

Dietary copper levels did not affect product efficacy.

Each dot represents an individual comparison in commercial broilers based on six studies at four independent research institutes; p-values indicate difference from zero using one-sample t-test.

Trial detail

Research Collaboration
Corporación Alimentaria Guissona, S.A. - bonÀrea Agrupa.

Trial Site: Guissona, Spain

Objective: Validate growth performance of Fytera Perform in a commercial or cost-saving diet

KPI: Growth performance, carcass performance and quality, economics

Trial design

3,072 Ross 308

36 days

wheat-soybean-corn based diet

3 treatments - 8 pens/treatment - 128 birds/pen

- T1: Control (basal diet)
- T2: FP (basal diet + 25 g/t Fytera Perform)
- T3: FP-dil (diluted basal diet + 25 g/t Fytera Perform)

Standard feed formulation

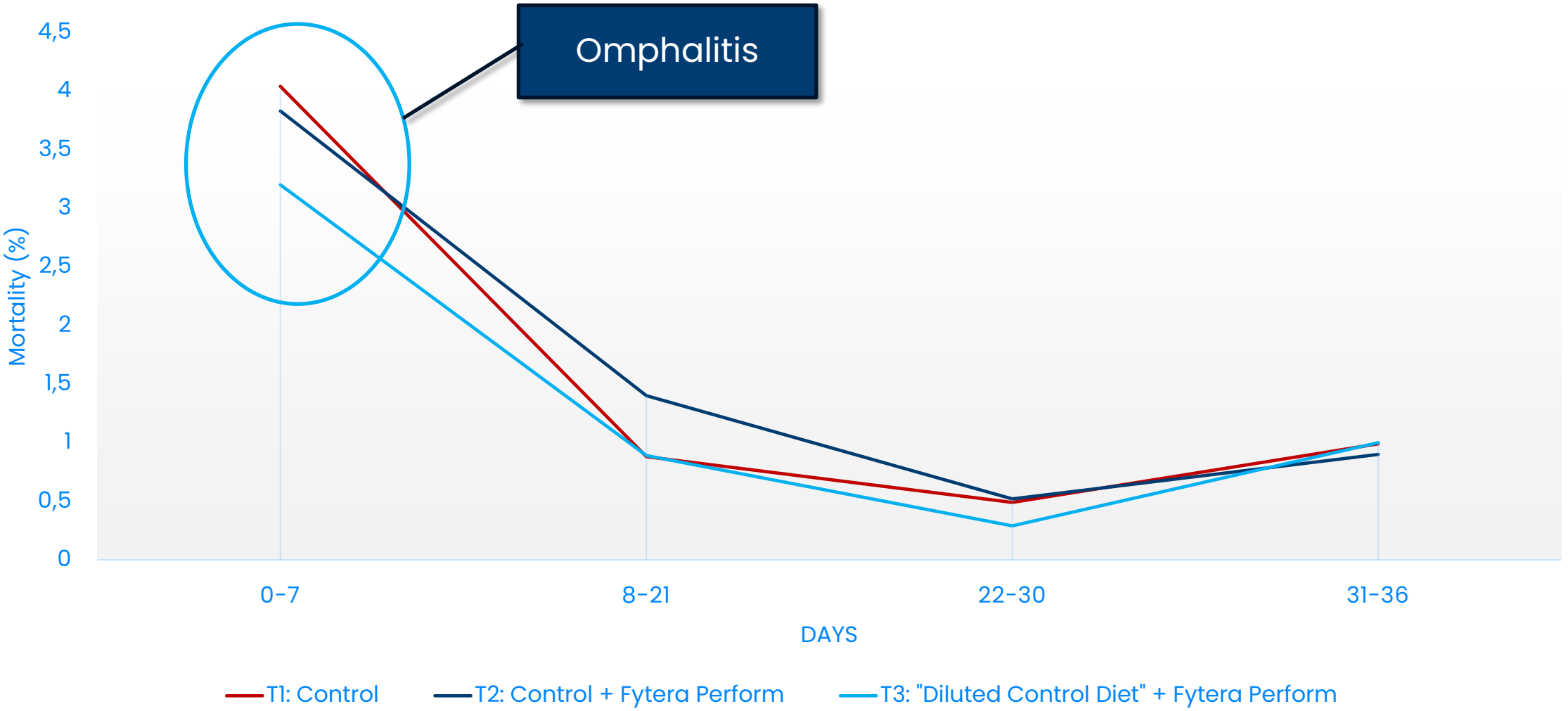
Feed Phase	Energy (kcal/kg)	Protein (%)
Pre-starter	3 001	21.7
Starter	3 030	19.2
Grower	3 048	18.5
Finisher	3 081	17.0

Diluted diets

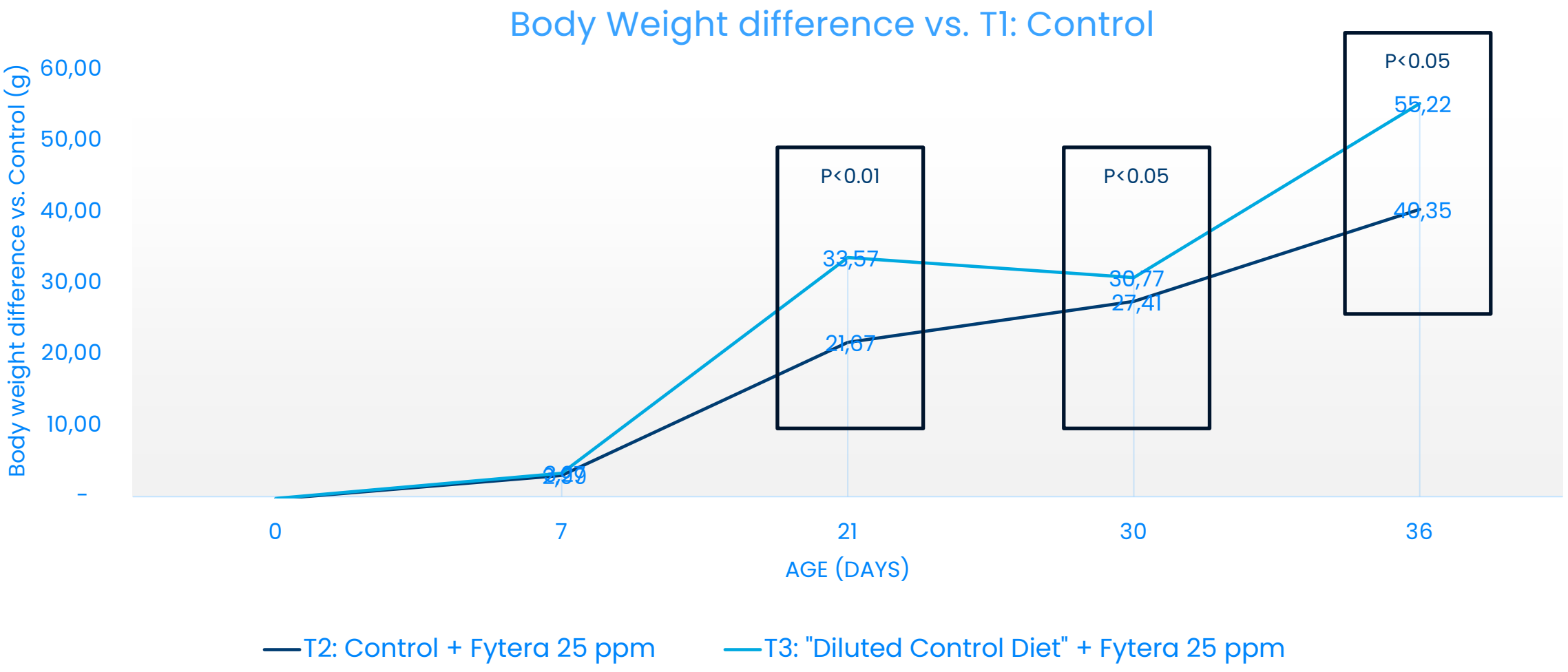
Nutrient	0-7 d	8-21 d	21-30 d	31-36 d
AME, Kcal	-15	-20	-25	-30
dLys*	=	=	-2%	-2%
Ca total	0.95	0.75	0.70	0.65
P dig	0.46	0.40	0.36	0.31

* Rest of AA corrected according to dLys

Mortality

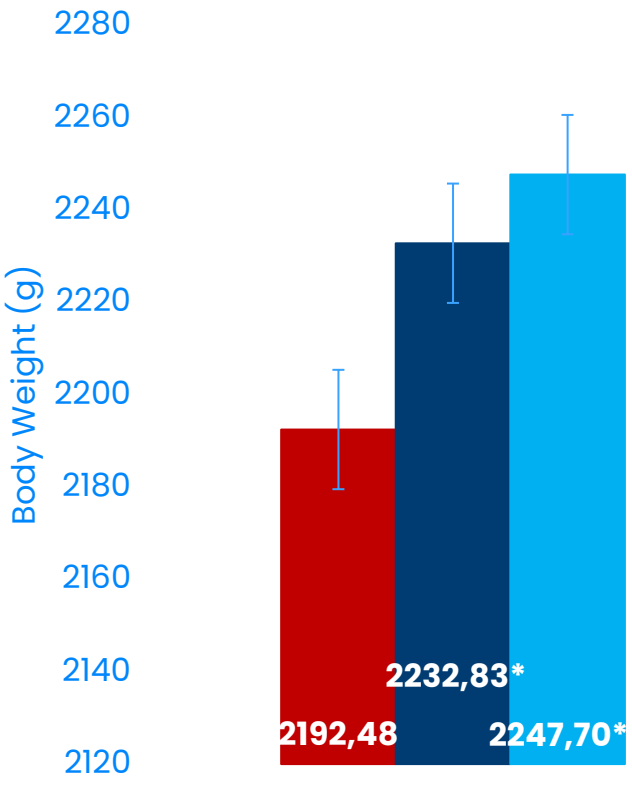

Omphalitis
4,5
4
3,5
3
2,5
2
1,5
1
0,5
0
Mortality (%)
0-7
8-21
22-30
31-36
DAYS
T1: Control
T2: Control + Fytera Perform
T3: "Diluted Control Diet" + Fytera Perform

Performance

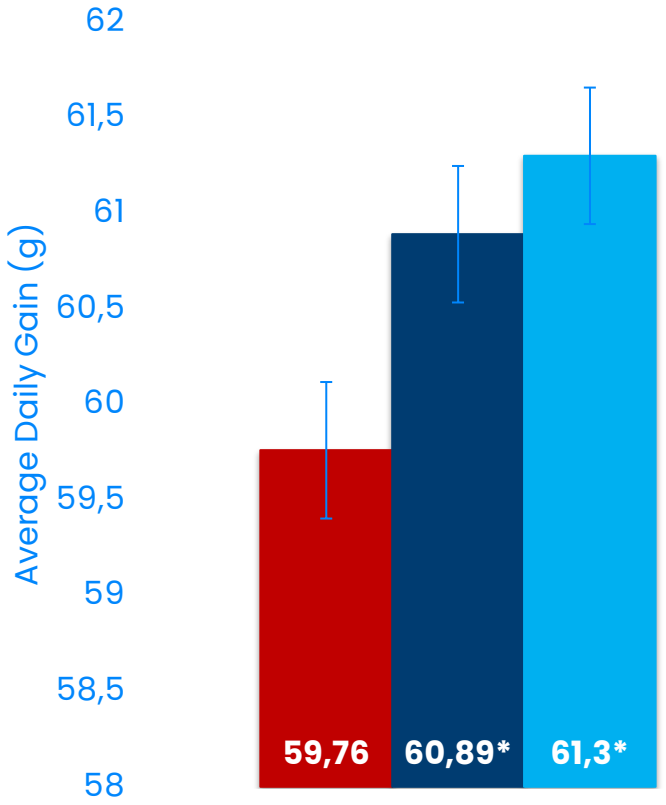


Performance

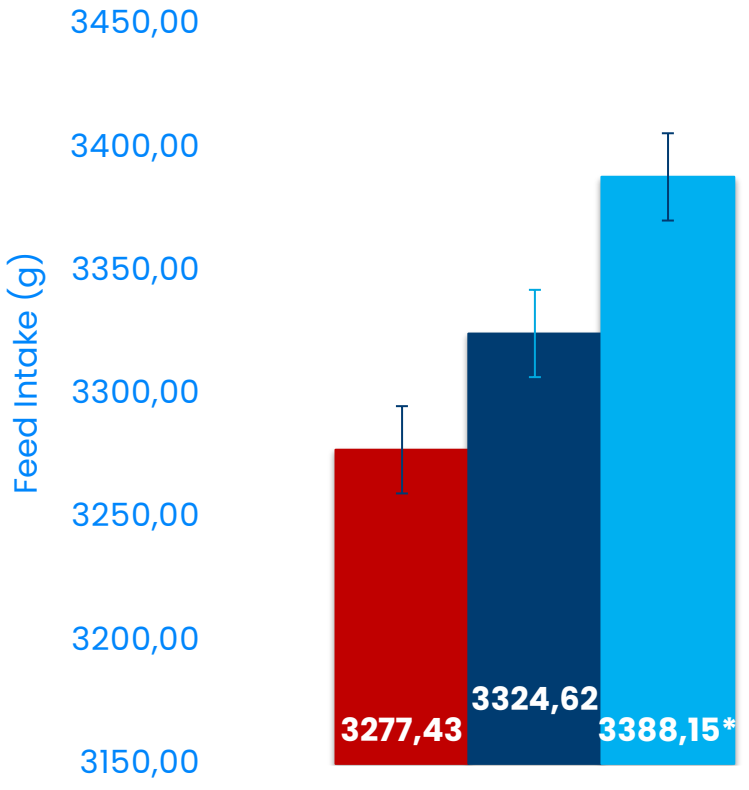
Body weight D36



ADG - Day 0 - 36



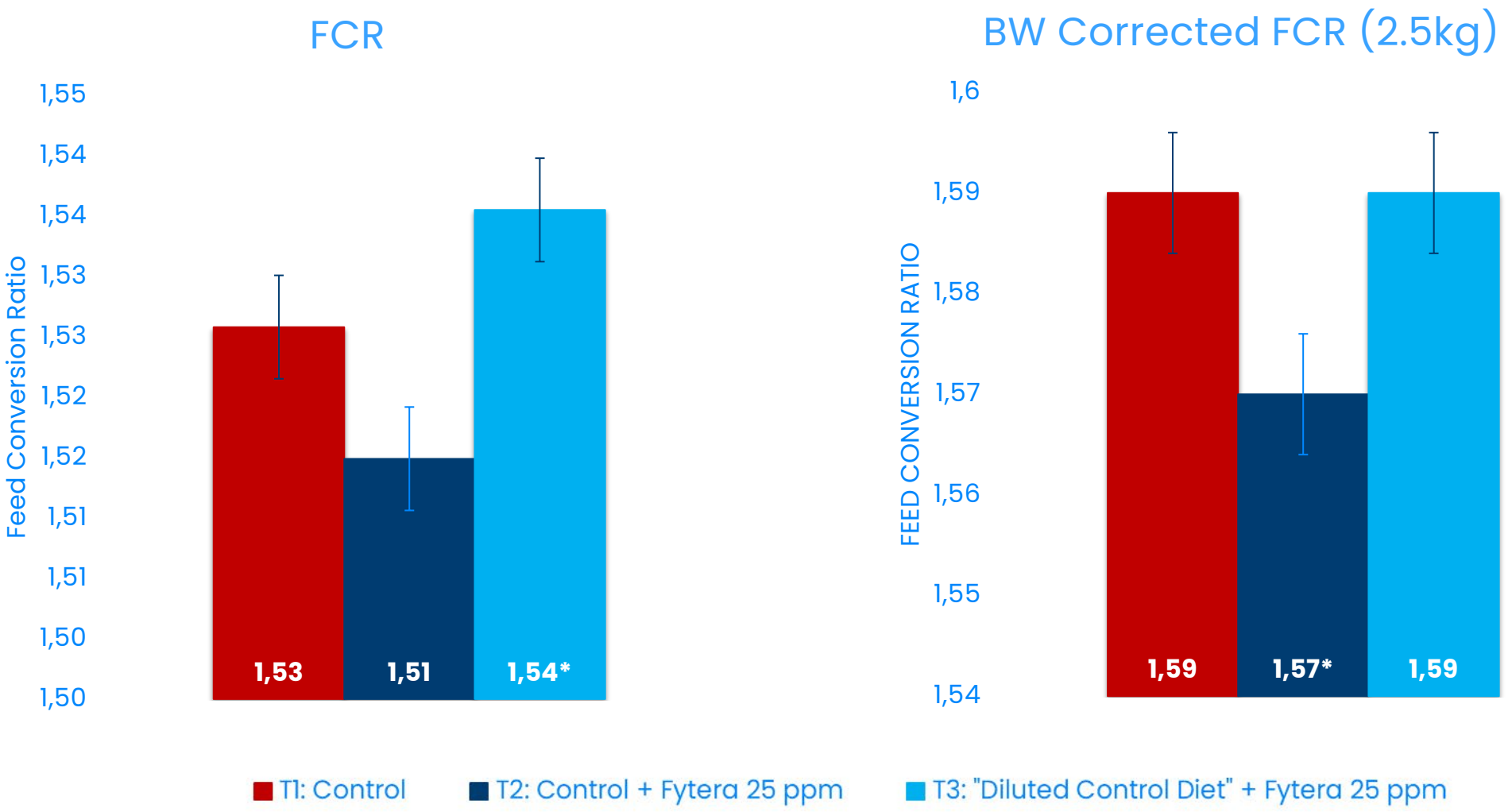
Cumulative Feed Intake



T1: Control T2: Control + Fytera 25 ppm T3: "Diluted Control Diet" + Fytera 25 ppm

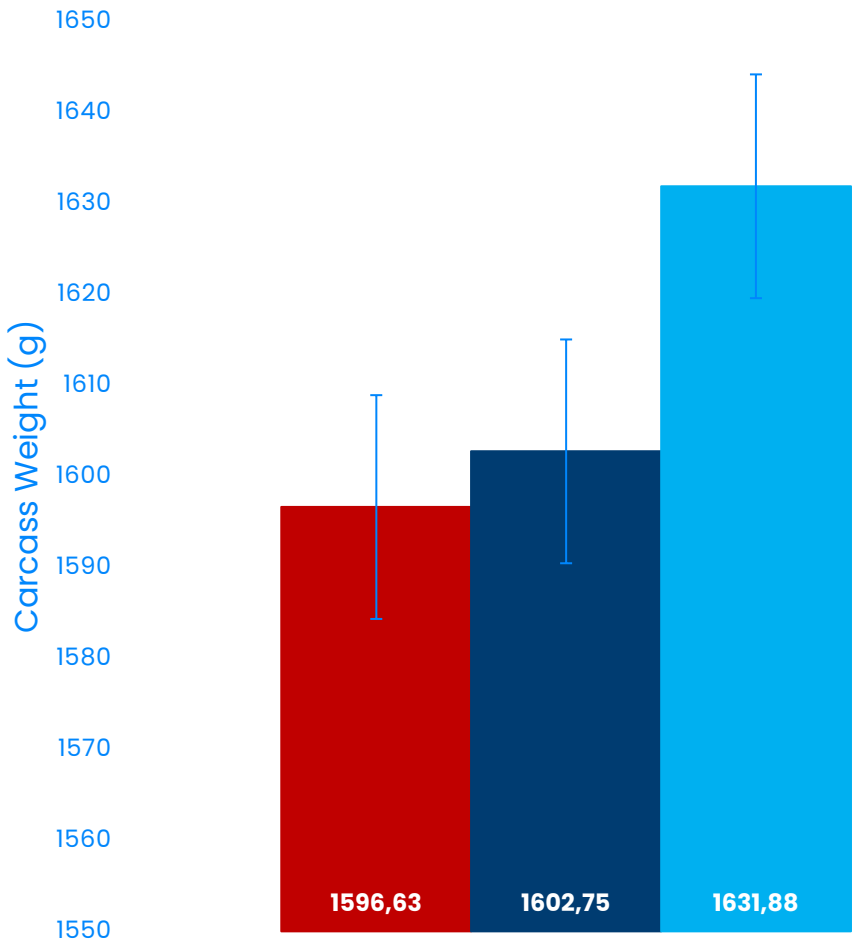
Data points with an asterisk(*) are significantly different from the control, P<0.05

Performance – Feed Conversion Ratio



Data points with an asterisk(*) are significantly different from the control, P<0.05

Carcass weight



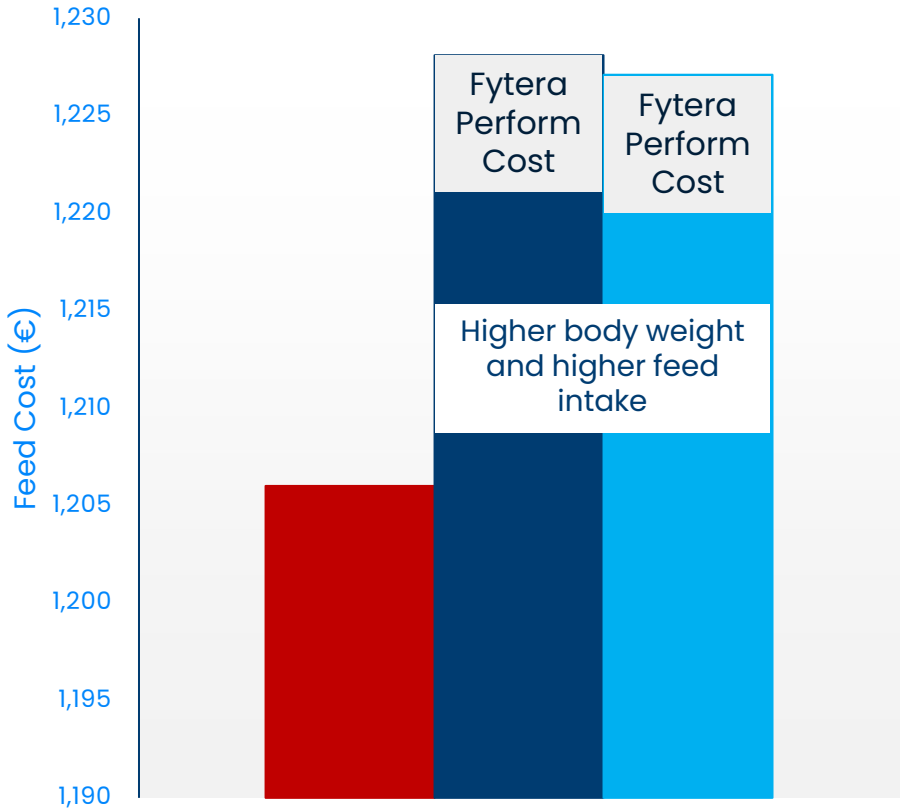
- There were numerical differences in carcass weight, close to tendency (P = 0.12)

T1: Control T2: Control + Fytera 25 ppm T3: "Diluted Control Diet" + Fytera 25 ppm

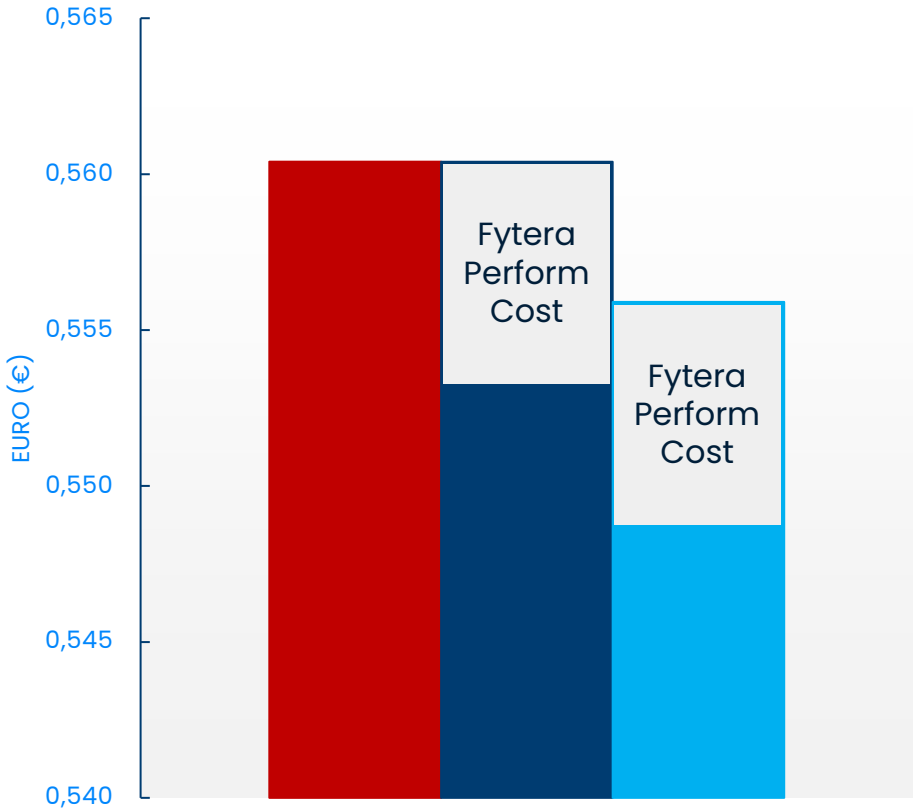
Economics

Fytera Perform Cost = 0,007 Euro

Feed cost per chicken: day 0-36



Feed cost per gram growth: day 0-36



T1: Control T2: Control + Fytera 25 ppm T3: "Diluted Control Diet" + Fytera 25 ppm

Conclusion

- Both T2 and T3 improved growth performance compared to the control diet (T1)
- T3 was the best treatment concerning cost-effectiveness when compared to the control diet (T1) and T2

Hypothesis.

"Phytogenics can improve gut health in such a way as to improve nutrient uptake and reduce nutrient requirements in feed to enable producers to grow chickens more economically"

Thank you