



Flavo Combi®

Effect of Flavo Combi® on microflora of broilers

Trial description

1 Set-up

- **Location:** Institute for Agriculture and Fisheries Research, Belgium
- **Animals:**
 - Ross 308 broilers, male
 - 300 birds per treatment divided over 10 replicates
- **Feed:** Starter: 0-13 days, Grower: 14-26 day, Finisher: 27-39 days. Feed was mainly based on wheat and soybean meal.

2 Treatments

- Control feed
- Control feed + 0.1 kg Flavo Combi®/mton of feed
(5 ppm of Flavomycin®/mton of feed + 1.6×10^{12} cfu *Bacillus licheniformis*/mton of feed)

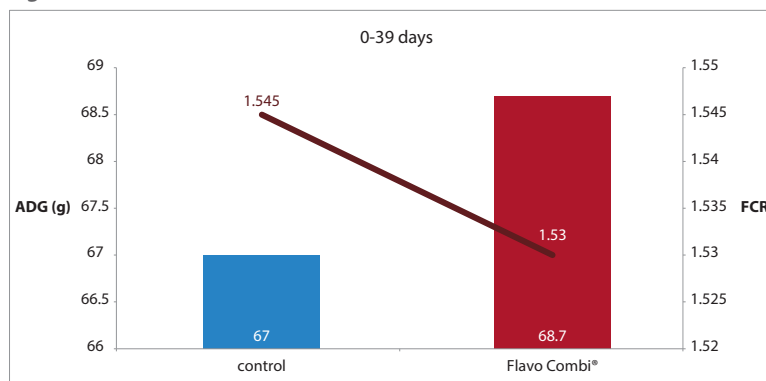
3 Measured parameters

- **Technical performance**
Average daily gain and feed conversion were calculated at day 39.
- **Microflora**
Gastro-intestinal microbiota composition of 10 birds per treatment was determined in ileum and caecum by Fluorescent In Situ Hybridization with the use of oligonucleotide probes. The analyses were performed by Poznan University of Life Science (Poland).

Results

Technical performance

Fig. 1

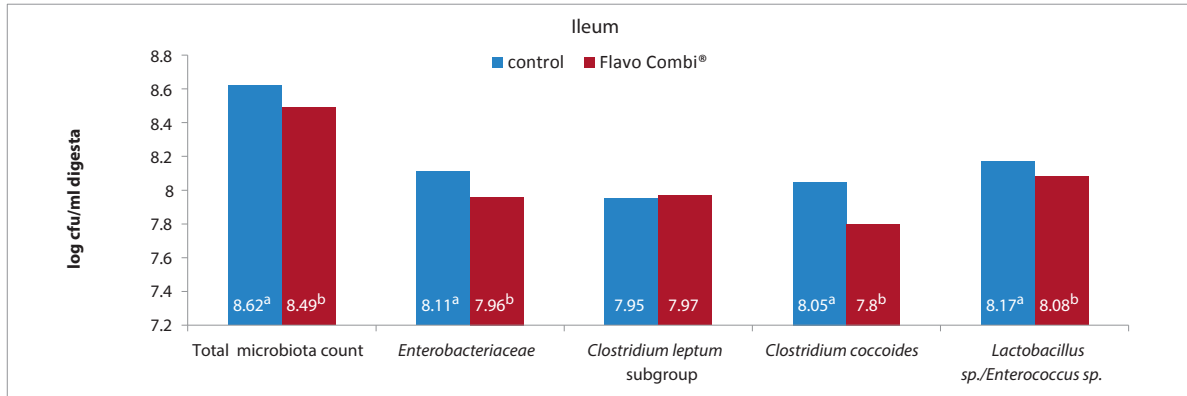


Flavo Combi® supplemented birds showed a tendency to higher growth and better feed utilization (Fig 1).

Microflora

Figures 2 and 3 show the selected microbiota counts in resectively ileal and caecal digesta.

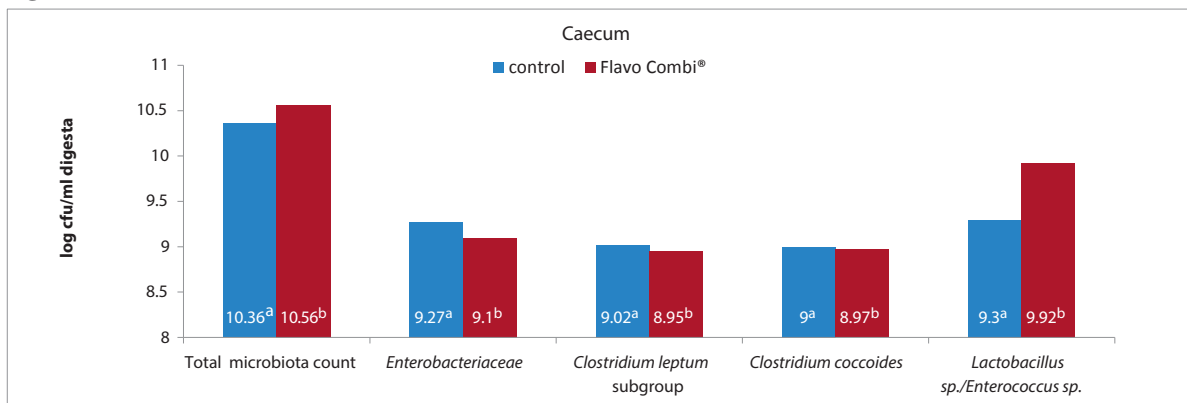
Fig. 2



Different letters mean significantly different at $p < 0.05$.

- In the ileum, microbiota are very active in terms of competition for nutrients with the host.
- The Flavo Combi® group showed lowest counts of total microbiota, *Enterobacteriaceae*, *Clostridia coccoides* and *Lactobacillus sp./Enterococcus sp.*
- Lowest counts of microbiota in the ileum leads to better nutrient availability for the birds. This is reflected in numerically higher growth for the Flavo Combi® group.

Fig. 3



Different letters mean significantly different at $p < 0.05$.

- Caeca are the main fermentative chambers in the gastro-intestinal tract of broilers, inhabited by diverse microbiota populations.
- Flavo Combi® supplemented broilers have the highest counts of total microbiota in the caeca and the highest number of *Lactobacillus sp./Enterococcus sp.*
- In addition, lowest number of *Enterobacteriaceae* and *Clostridia* were measured in the Flavo Combi® group.
- Flavo Combi® has beneficial effect in the caecum by increasing beneficial microbiota and decreasing unfavourable bacteria.

Conclusion

Supplementing Flavo Combi® increases nutrient availability for birds by:

- reducing the bacterial load in the ileum.
- stimulating the beneficial and reducing the unfavourable microflora in the caeca.