

# Efficacy of nicarbazin/monensin, a novel coccidiostat combination product in the control of coccidiosis in broilers

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## Summary

The efficacy of nicarbazin/monensin (Monimax<sup>®</sup> supplied by Huvepharma<sup>®</sup>, Belgium) at a concentration of 40mg/kg (40ppm) nicarbazin and 40mg/kg (40ppm) monensin, administered in feed was assessed in broilers after an experimental coccidiosis challenge under battery cage conditions. The efficacy of nicarbazin/monensin for the prevention of coccidiosis in broilers was demonstrated based on significantly improved growth rates and feed efficiency in the nicarbazin/monensin treated birds compared to the untreated control group.

## Introduction

Coccidiostats remain an essential tool in the prevention and control of coccidiosis, still one of the most important diseases contributing to gut health disorders. Many coccidiostats have been available for use for considerable periods of time. Monimax<sup>®</sup> (nicarbazin/monensin) is a novel coccidiostat for coccidiosis control in broilers.

## Method

The efficacy of nicarbazin/monensin at a concentration of 40mg/kg (40ppm) nicarbazin and 40mg/kg (40ppm) monensin, administered in feed was assessed in broilers after an experimental coccidiosis challenge under battery cage conditions.

Birds were reared without coccidiostats until 14 days of age after which they were allocated to the different groups. Nicarbazin/monensin treated birds were compared to i) infected untreated control (IUC) and ii) uninfected untreated control (UUC) groups. Each group consisted of 7 replicate cages each containing 5 Ross 308 males.

At 17 days of age all birds in the IUC and nicarbazin/monensin groups were inoculated with a mixture of *Eimeria acervulina*, *E. maxima* and *E. tenella* (all of European origin). The UUC birds were sham inoculated.

Daily weight gain (DWG), feed conversion ratio (FCR) and intestinal lesion scores (ILS) were compared. Statistical analysis was performed in accordance with those outlined in the WAAVP guidelines for evaluating anticoccidial drugs in chickens and turkeys (Holdsworth et al., 2004). All tests were 2-sided and the level of significance was set at 5%.

## Results

The challenge was successful as shown by the significantly lower DWG, increased FCR and significantly higher average ILS (total ILS and *E. tenella* ILS) in the IUC compared to the UUC.

Although not statistically significant, the total ILS at D23 tended to be lower in the nicarbazin/monensin supplemented group in comparison to the IUC.

Administration of nicarbazin/monensin was able to significantly improve performance (DWG and FCR) in the acute infection phase (D17-D23).

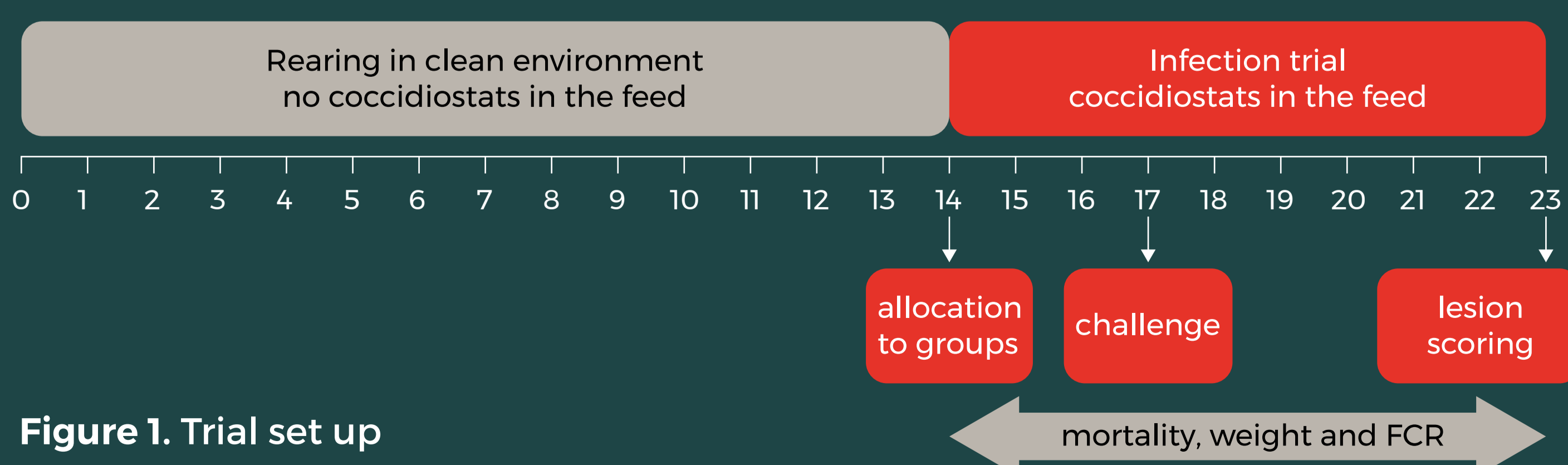
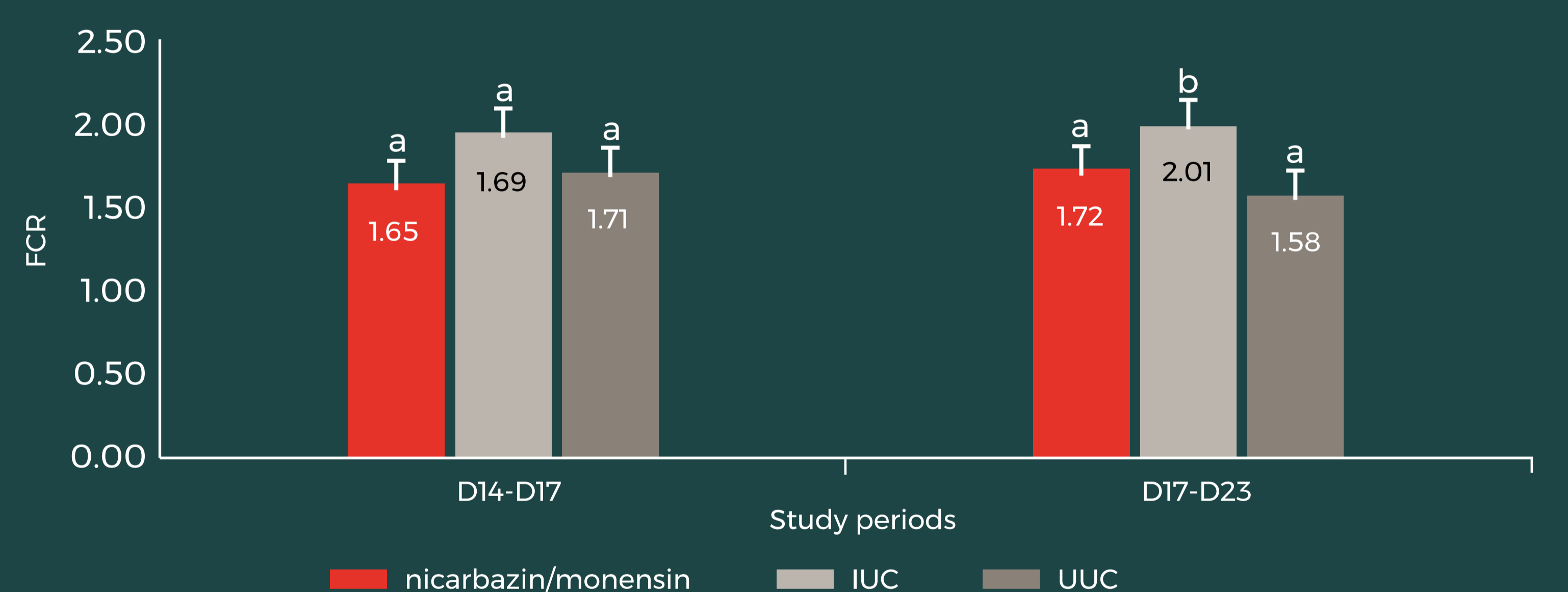


Figure 1. Trial set up



Within the two time periods, bars with different superscripts differ significantly in body weight ( $P < 0.05$ ).

Figure 2. Daily Weight Gain (DWG) in g per day per animal for the different study periods



Within the two time periods, bars with different superscripts differ significantly in FCR ( $P < 0.05$ ).

Figure 3. Feed conversion ratio (FCR) for the different study periods

## Discussion

The results from this trial demonstrate the efficacy of nicarbazin/monensin in reducing the impact of coccidiosis in broilers. Under the present study conditions, we can conclude, based on significantly better growth rate and feed efficiency performance, that the administration of nicarbazin/monensin is efficacious in reducing the impact of coccidiosis infection in broilers.

## References

Holdsworth PA, Conway DP, McKenzie ME, Dayton AD, Chapman HD, Mathis GF, Skinner JT, Mundt HC & Williams RB (2004) *Veterinary Parasitology* 121: 189-212.

