

Excellent coccidiosis control all seasons

Aviax® Plus

senduramicin + nicarbazin



Achieve consistent coccidiosis control and flexibility



Exclusive Combination:

Aviax[®] Plus is an exclusive combination of semduramicin and nicarbazin.

Aviax Plus integrates both active ingredients together in a granule ensuring good product distribution throughout the feed for increased efficacy in the control of coccidiosis and excellent performance results. Aviax Plus is scientifically proven through clinical trials and manufactured under strict internal quality control procedures and standards. All of which is supported by an experienced, committed and passionate technical field team.

Scientifically Proven:

Aviax Plus has been tested and proven in applied research and field trials to effectively control all important coccidia species in broiler chickens. Research studies have shown that Aviax Plus demonstrates excellent performance to narasin-nicarbazin combination products (see graph)*.

Portfolio of Anticoccidial Solutions:

Aviax Plus is manufactured under strict quality control procedures and standards, and works together with the comprehensive Phibro Anticoccidial Portfolio, that provides consistent and effective intestinal health solutions to help optimize poultry performance around the world. In the field, an experienced, committed and passionate technical team supports the entire anticoccidial portfolio.

*Phibro Study number: BRT-134-127

for designing a seasonal anticoccidial rotation program in both starter and grower feeds



Manufacturing Technology:

Aviax Plus is a differentiated blend of semduramicin sodium, an ionophore, and nicarbazin, a bimodal salt, both of which are known to produce anticoccidial activity on their own. To deliver even distribution in feed as well as inside the chicken's gut, Phibro Animal Health utilizes an innovative manufacturing process to integrate both active molecules into a granule form of Aviax Plus. An inert ingredient is blended with required quantities of the active ingredients, and the resulting mixture is sprayed with a binding agent. Unlike competitive products, Aviax Plus is specially blended to eliminate the potential for segregation of the active components, providing even distribution in the feed which helps to enhance efficacy.

Mode of Action:

Semduramicin sodium is active in the intestinal lumen while nicarbazin acts mainly within the intestinal walls. Combining these two active ingredients together, provides protection on both the outside and the inside of the intestine. Aviax Plus provides improved efficacy over using semduramicin sodium or nicarbazin alone.

**Semduramicin
sodium**

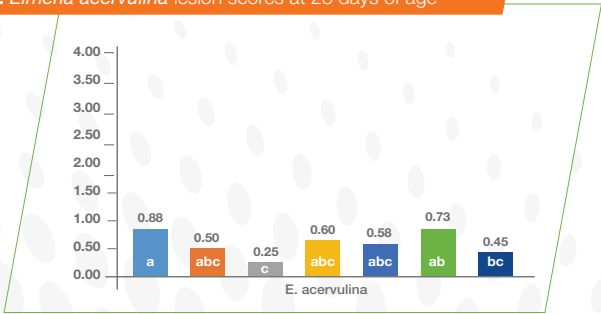
Nicarbazin

Data from applic

The efficacy of Aviax® Plus, a combination of semduramicin and nicarbazin, was compared to other commercial formulations of nicarbazin and ionophores used according to the approved dosage, against mixed *Eimeria* spp. infections in broilers in floor-pen conditions.

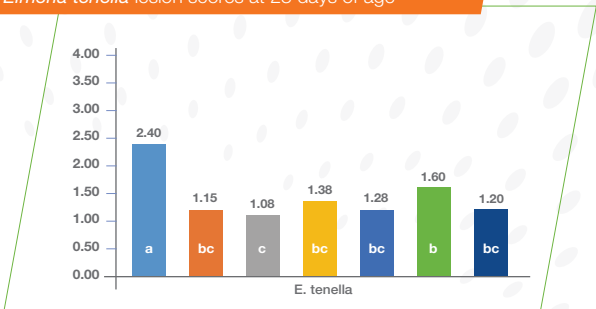
The highest reduction in lesion scores were obtained with Aviax Plus 600 grams per metric ton (grams/MT) when compared to the control treatment group. The 600 g/MT and 550 g/MT doses of Aviax Plus resulted in similar performance to salinomycin.

Graph 1. *Eimeria acervulina* lesion scores at 23 days of age



The highest reduction in lesion scores were obtained with Aviax Plus 600 g/MT when compared to the control and nicarbazin + monensin 625g/MT. The 600g/MT and 550 g/MT doses of Aviax Plus 600 resulted in similar performance to maduramicin.

Graph 2. *Eimeria tenella* lesion scores at 23 days of age

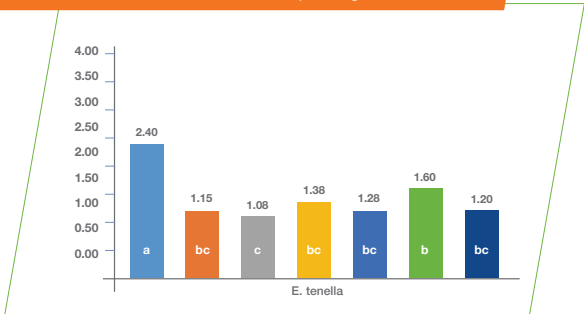


ed research



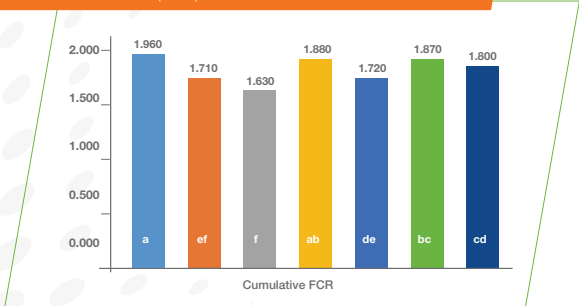
The highest reduction in lesion scores were obtained with Aviax Plus 600 g/MT when compared to the control, nicarbazin + narasin 625g/MT, nicarbazin + monensin 625 g/MT, and nicarbazin + salinomycin 500g/MT. This data confirms that semduramicin is the most effective ionophore against *Eimeria maxima*.

Graph 3. *Eimeria maxima* lesion scores at 23 days of age



Aviax Plus 600 g/MT showed an improvement of 25 points in FCR compared to nicarbazin + narasin. Aviax Plus 550 g/MT was 17 points better in FCR than nicarbazin + narasin.

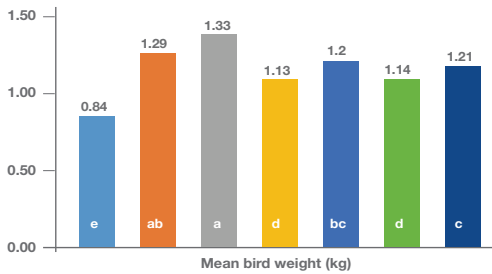
Graph 4. Feed conversion rate (FCR)



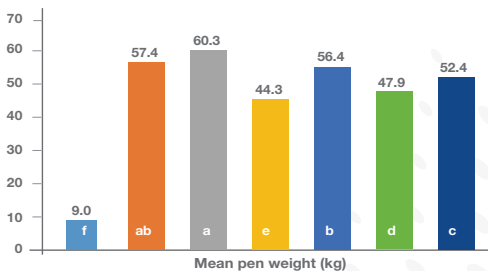


Aviax Plus 600 g/MT resulted in heaviest mean bird weight and mean pen weight.

Graph 5. Mean Bird weight (Kg)



Graph 6. Mean pen weight (Kg)



■ Control
 ■ Aviax Plus 550 g/MT
 ■ Aviax Plus 600 g/MT
 ■ Nicarbazin + narasin 625 g/MT
 ■ Nicarbazin + maduramycin 500 g/MT
 ■ Nicarbazin + monensin 625 g/MT
 ■ Nicarbazin + salinomycin 500 g/MT

Averages with different superscripts are statistically significant according to Tukey's test ($P < 0.05$); ns - non significant

Aviax Plus, at both dosages, was efficient in controlling mortality.

Nicarbazin + narasin and nicarbazin + monensin were less effective treatments in reducing mortality due to the high *E. maxima* lesion score associated with necrotic enteritis (photo 2) and high *E. tenella* lesion score (photo1).

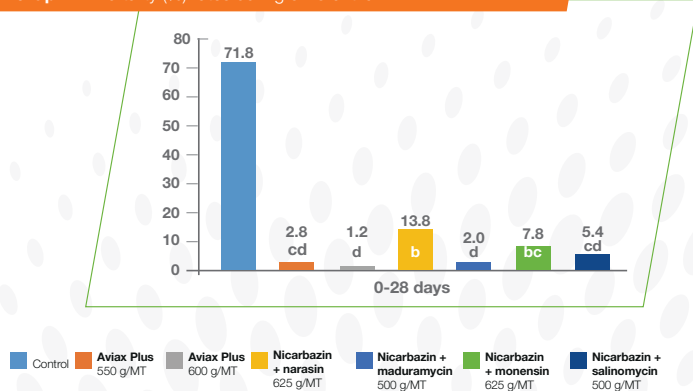


Photo 1:
Necrotic enteritis
("Turkish towel")



Photo 2:
E. maxima + necrotic
enteritis

Graph 7. Mortality (%) rates during 0-28 of trial



Means with different letter are statistically significantly by Tukey test ($P < 0.05$)

Conclusions

- Aviax Plus was excellent when compared to other nicarbazin + ionophore products available — especially nicarbazin + narasin.
- Aviax Plus 600 g/MT (48 ppm nicarbazin + 18 ppm semduramicin):
 - Reduction in lesion scores for the three main broiler Eimeria species
 - Reduced mortality in heavy coccidiosis challenge
 - Demonstrated the best FCR results — 25 points better over nicarbazin + narasin)
 - Resulted in the heaviest mean bird weight and mean pen weight.

Key Benefits:

- **Consistent coccidiosis control and flexibility** for designing a seasonal anticoccidial rotation program in both starter and grower feeds
- **Excellent control** of all important coccidia species in broiler chickens
- **Both active ingredients** integrated into a granular form to ensure even distribution in feed
- **Aviax Plus is scientifically proven** through clinical studies and manufactured with strict quality control standards



Talk with a Phibro expert
phone: 888.475.7355
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