PROVEN ANTICOCCIDIAL WITH UNIQUE PROFILE

INTRODUCTION

Throughout the world coccidiosis is the most significant disease for poultry producers. When considering treatment costs and lost performance, the disease costs the industry an estimated 5 billion dollars worldwide, making it the most expensive disease affecting the poultry industry today. Traditionally, the poultry industry has relied heavily on the use of anticoccidial medications to prevent or to treat the disease.

Amprol® was approved in USA in 1960 as a feed additive and is nowadays still of interest, due to its safety and very good curing and preventing mode of action against coccidiosis in poultry.

Amprol® 25% is a feed additive which is used for the treatment and prevention of coccidiosis in poultry, including broilers, replacements, layers, turkeys and pheasants.

Amprol® 25% Premix
Structure and activity

Amprol® 25% is an anticoccidial feed additive to treat and prevent any outbreak of coccidiosis. It is effective against all *Eimeria* species in chickens such as: *E. acervulina*, *Eimeria maxima*, *Eimeria tenella*, *Eimeria brunetti*, *Eimeria praecox*, *Eimeria mitis* and *Eimeria necatrix*. In turkeys it can be used to treat outbreaks of coccidiosis with *Eimeria meleagrimitis*, *Eimeria adenoeides*, *Eimeria gallopavonis* and *Eimeria meleagridis*. In pheasants it can be used for prevention of *Eimeria colchici*, *Eimeria duodenalis* and *Eimeria phasiani*.

Mode of action

Amprolium, the active substance of Amprol® 25%, is a thiamine antagonist. The anticoccidial effect of Amprolium is achieved by inhibiting the *Eimeria* spp. to uptake thiamine. The thiamine requirement for *Eimeria* spp. is, compared to animals, relatively high and therefore Amprolium will cause starvation of the parasite because of thiamine deficiency. As this way is unique, Amprolium does not show cross-resistance with other anticoccidial preparations.

Indications for use

Amprol® 25% can be used through the lifecycle of birds from day-old chicks to the day of slaughter and is effective to prevent coccidiosis in broilers, replacements, turkeys and pheasants. It can also be used as an infeed treatment in laying hens when coccidiosis outbreaks occur.

Amprol® 25% does not interact with other feed additives and antibiotics and can be administered at any moment in the lifecycle of birds. Whenever an outbreak of coccidiosis in layers occurs, Amprol® 25% can be used without need to worry about withdrawal periods.

Disease

*Coccidiosis* is one of the biggest reasons of economic loss in the poultry industry. It is parasitic disease caused by *Eimeria* spp. which mainly harms the intestinal tract of the young animals and those with suppressed immune system. *Coccidia* spp. are small parasites called protozoas that can multiply in the epidermal cells of the intestines. There is no cross-resistance between different *Eimeria* species, which means that after an outbreak with coccidiosis the flock can develop immunity to the exposed species of coccidia, but remains sensible to other species. The reproduction of *Coccidia* in chickens depends on the species of *Eimeria* and for all species consists of sporulated oocysts, an asexual cycle with different generations followed by a sexual cycle resulting in shedding of non sporulated oocysts in the droppings. In the litter the oocysts will sporulate to an infectious form.
**Efficacy**

The efficacy of Amprol® 25% against coccidiosis has been proven under laboratory and field conditions. Figures 1 to 3 show the results of an anticoccidial sensitivity test performed with recent USA field strains. Chickens were challenged with *Eimeria acervulina* and *Eimeria tenella*. Two treatment groups receiving infeed supplementation of Amprol® 25% at a concentration of 125 ppm and the combination product nicarbazin/narasin at a concentration of 80 ppm were compared with an uninfected untreated control (UUC) and an infected untreated control (IUC).

Average daily gain, Feed conversion ratio and average mean lesion scores were improved by supplementation of Amprol 25% in the feed. In comparison with the nicarbazin/narasin combination product better results were obtained with Amprol 25% for all zootechnical and parasitological parameters.

![Figure 1: Average daily gain after coccidiosis challenge (in gram) Figure 3: Average mean lesion scores](image1.png)

**Adverse reactions**

No adverse reactions are observed.

**Special warnings**

Use as the sole source of amprolium. When using Amprol® 25% in layers for coccidiosis treatment, improvement should be noted within three days. If no improvement is noted within three days, have the diagnosis reconfirmed and follow the instructions of your veterinarian or poultry pathologist. Losses may result from intercurrent disease or other conditions affecting drug intake, which contribute to the virulence of coccidiosis under field conditions.

**Safety**

Amprol® 25% has been proven to be safe in poultry due to its high therapeutic index and it has been used safely in chickens and turkeys of all ages. Experience has also shown effective and safe use of Amprol® 25% in other species such as pheasants, partridges, quails and guinea fowl. A five-fold multiple of the highest approved dose produced no sign of toxicity. There is no known toxicity in non-target species at approved dose levels. Amprol® 25% at approved dose levels does not affect production in layers.
**Withdrawal Period**

The absorption, metabolism, elimination and the low toxicity of Amprol® got the European administration to include it in Annex II, the group of preparations, for which Maximum Residue Levels (MRLs) are not required (Official Journal of European Community, dated July 18, 2001). This allows specifying a withdrawal period of Amprolium of 0 days in regard to meat and eggs. This European decision is in compliance with the US legislation, where Amprol® is registered with withdrawal period of 0 days in regard to meat and eggs.

**Dosages and mixing directions for using Amprol® 25%**

Amprol® 25% can be used as preventive or therapeutic anticoccidial product.

**Dose levels for prevention of coccidiosis:**

In the table below recommended dosages of Amprolium for the different target species are listed.

<table>
<thead>
<tr>
<th>Target species</th>
<th>Recommended dosage of amprolium in complete feedingstuff (ppm)</th>
<th>Quantity of Amprol® 25% incorporated in the feedingstuff (g/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickens for fattening</td>
<td>125</td>
<td>500</td>
</tr>
<tr>
<td>Replacements</td>
<td>125</td>
<td>500</td>
</tr>
<tr>
<td>Turkeys</td>
<td>125</td>
<td>500</td>
</tr>
<tr>
<td>Phaesants</td>
<td>175</td>
<td>700</td>
</tr>
</tbody>
</table>

**Dose levels for treatment of Laying hens:**

For the treatment of coccidiosis in layers use Amprol® 25% for 2 weeks in the following dosages in the feed:
- For severe outbreaks: 250 ppm (1 kg of Amprol® 25% per ton of feed)
- For moderate outbreaks: 125 ppm (500 gram of Amprol® 25% per ton of feed)

**Mixing instructions:** In order to ensure uniform homogenization with feed, it is recommended to mix the prescribed quantity of the product on stages in the following order: up to 10 kg feed; up to 100 kg feed; and up to 1000 kg final feed.

**Storage and Stability**

Amprol® 25 % is a stable premix. No loss or degradation occurs under typical warehouse storage conditions for three years.

**Packaging**

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