

# SCHERING-PLOUGH ANIMAL HEALTH TECHNICAL SERVICE BULLETIN

## COCCIVAC®-D VIA SPRAY CABINET: MANAGEMENT OF YOUR BROILER BREEDER VACCINATION PROGRAM



### No. 348

#### Introduction

The keys to the successful use of immunization to control coccidiosis have always been uniform vaccine application and uniform vaccine cycling within the flock post-vaccination. Remember, coccidiosis vaccines are "self-boosting". They will cycle approximately every 7 days until immunity is achieved.

Feed, water and eye-spray application have produced inconsistent results. Individual birds which are missed by the initial vaccine application will be subject to exposure to field strain oocysts or to a heavy shedding dose of oocysts from the vaccinates. The result: clinical coccidiosis, including *E. tenella* mortality.

Historically, amprolium has been used at low level (10 oz per gallon of stock solution) to control the reaction in the birds which receive the heavy dose of oocysts. The amprolium is administered at 10 days post-vaccination, for a full two-day treatment period .

**The purpose of amprolium treatment is to control excessive reaction and subsequent mortality without stopping the reaction altogether. The use of amprolium at a higher dose or for a longer period of time may induce uneven cycling in the birds that were originally vaccinated correctly. Worse still, *E. necatrix* produces low oocyst numbers and builds immunity slowly. Excessive use of amprolium may prevent development of immunity against *E. necatrix* and thus promote breaks in 4 to 6-week-old birds.**

The average number of cycles required to develop immunity:

<i>E. acervulina</i>	2 cycles
<i>E. maxima</i>	2 cycles
<i>E. tenella</i>	3 cycles
<i>E. necatrix</i>	4 cycles

#### Spray Cabinet Application

**The spray cabinet provides a more uniform initial vaccine coverage. This uniformity in broilers has eliminated the need for post-vaccination treatment with amprolium. The same may be true for breeder replacements.**

Broiler breeder replacements, however, are placed at lower density. These birds may also be subject to early feed restriction. Litter conditions may be highly variable, even from house to house. All of these things will impact the subsequent cycling of the vaccine.

#### Initial Vaccine Dosage

It is important to give the birds a full dose via spray cabinet to promote uniform initial coverage. Reduction of the initial dose may cause some individuals to receive insufficient oocysts.

The vaccine is mixed with a red dye to promote preening and ingestion of the vaccine. The amount of dye on individual chicks will vary, but does not indicate how much vaccine each chick has ingested by preening itself or other chicks in the box.

## **Post-vaccination Monitoring and Management**

Some companies may be able to eliminate the use of post-vaccination treatment with amprolium, while others may only treat individual houses as needed. A few companies may continue the low-level treatment at 10 days post-vaccination on all houses. Treatment when it is not needed may induce uneven cycling, so it is important that every company evaluate its reaction profile!

### Initial Monitoring (5 random females + 2 males)

Evaluate flocks at 10 days of age for excessive lesion development. It is normal to see *E. acervulina* lesions of +1 in at least 50% of the birds sampled. There should be no more than 25% with +2 scores. At this early age, there should be no evidence of *E. tenella*.

If several birds with +2 *E. acervulina* are noted, or if *E. tenella* lesions are common, use the low-level amprolium treatment for 2 days.

**Heavy lesion scores at an early age will also have a negative impact on feed absorption, two days of liquid vitamin post treatment could be advantageous.**

*If lesions are frequently heavy at 10 days of age, incorporate regular treatment with low-level amprolium at 10 days post-vaccination. If not, use the subsequent monitoring technique described below.*

### Subsequent Monitoring (Mortality, culls)

If normal lesion development occurs at 10 days, a second monitoring point occurs at 16 days of age. Ask the grower to save the mortality from days 14, 15 and 16.

- a. If the dead have blood-filled ceca, treat with low-level amprolium for two days, day 16 and day 17.
- b. If the dead have traces of blood and cores, treat with low-level amprolium for two days, day 16 and day 17. ALSO: send birds to the lab to rule out histomoniasis (blackhead). Early mortality with cecal lesions may often be due to blackhead, with typical liver lesions developing later.
- c. If the dead have a ballooned middle intestine or evidence of necrotic enteritis, treat with penicillin instead of amprolium. Change or increase the levels of the anti-*Clostridium* growth-promotant antibiotic in the pullet starter feed.

### Final Monitoring

Monitor the mortality and culls plus 5 random females and 2 random males at 21 days. This should be the peak reaction period. This is especially important for companies which start skip-a-day feeding as early as 21 – 25 days.

If lesions are heavy at this time (> 20% +2 *E. acervulina* or +2 *E. tenella*), the birds would benefit from a low-level amprolium treatment for 2 days to help keep reactions under control during the stress of the feeding program change.

*Companies which only spot-treat houses may reduce the monitoring to either the 16-day or the 21-day check, according to the normal response for their flocks.*

## **Conclusions**

Immunization with Coccivac-D induces protection against clinical coccidiosis without adversely affecting flock uniformity, if the vaccination program is managed effectively. Routine visual monitoring of vaccination takes are as critical to this vaccination program as ELISA monitoring and checking takes are to other vaccines in the breeder vaccination program.

Your SPAH sales representatives and technical service veterinarians are available to provide training in lesion recognition and reaction management procedures.