

Coccidiosis and Immunity

Vaccination with Immucox®

The development of immunity against coccidiosis depends on the repeated completion of the coccidial life cycle as chickens re-infect themselves from the litter (picture above, right). Vaccine will provide them the first sporulated oocysts to initiate the first cycle. Then, it is up to shed (barn) management to provide the ideal conditions to guarantee good recycling.

For this purpose, we have identified **critical periods for management of sporulation and recycling**. This time is between days 6 and 10. During these days, the flock should not be transferred or allocated extra space. It is important to guarantee that all birds are equally allowed to access sporulated oocysts from litter that has been evenly spread with oocysts.

Litter and Surround Management

It is essential that oocysts sporulate (become infective) in the faeces or on the litter before they are re-ingested for the next cycle in the birds. Oocysts require oxygen, moisture and warmth (25-30°C) to sporulate. Ideal temperatures and air quality are already provided for the young chicks. The next task is to ensure that adequate moisture is available for sporulation.

Bird density has a direct effect on moisture. It is recommended that bird density should be around 30 birds per square metre at day 10. Lower densities may result in dry litter surface, poor sporulation and a reduced availability of oocysts. Higher densities may result in excessive intake of oocysts.

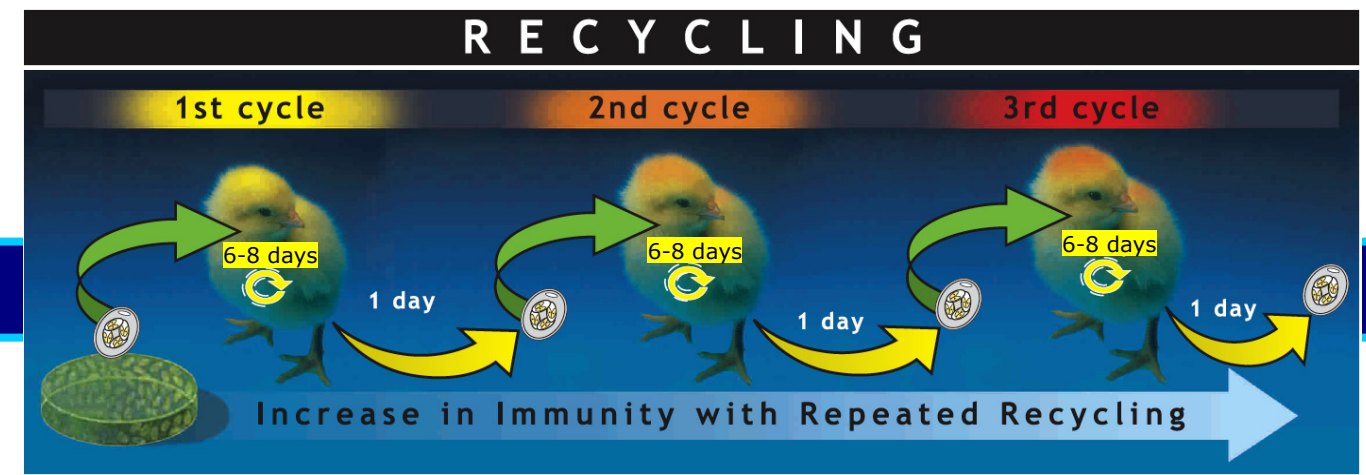
At day 11, allow the birds extra space, down to 15 birds per square metre.

From day 17, birds can be allocated further space (up to entire pen).

If required, increase moisture content in the brooding area surface for the critical period of oocyst recycling (6-10 days), by adding water with a watering can, a knapsack sprayer or a garden hose at day 6.

In case the original brooder area is likely to limit ideal bird density before they reach 10 days, open the surrounds or increase brooder area no later than the 5th day post-vaccination (to limits of 30 birds/m²), to ensure oocysts are uniformly spread into the enlarged brooding area.

No chicks should be transferred to different pens with new litter before 28 days of age.



Post-Vaccination Management

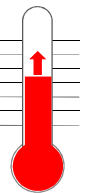
For development of good immunity, all chicks require good quality feed, air and water. Subtle changes on the availability of any of these elements may result in stress, leading to problems.

Managing stress

- Feed changes: (texture, formulation): early feed changes may result in spread-out CV's, due to stunting.
- Equipment change: (from trays to floor, spinner, track feeders, pan feeders).
- Lighting: dimmed lights may impair the birds' ability to respond to feed changes (texture & location). For 4 weeks of age, breeders' manuals recommend light intensities of 10-20 lux (Ross); >20 lux (Cobb); and 30 lux (Hubbard).
- Grading: timing may need to be altered to prevent further stress.
- Beak trimming.
- Chick quality --> Immune response --> disease.

Monitor bird behaviour

- **Increase temperatures (≈ 2°C) if birds appear to be depressed and huddling.**
- If general state of the birds does not improve, contact your advisor/veterinarian (or vaccine supplier)



Summary

| Spraying litter | Bird density | Opening/enlarging brooders |
|---|--|--|
| If required, 6 th day post-vaccination | Up to day 10 : 30 b/m ² (approx.) Up to day 16 : 15 b/m ² (approx.) | Before day 6 (if needed) On day 11 On day 17 |

