

P AVI NOVA™



AVI MAXA

Anticoccidial Feed Additives

Ensure Complete Protection from Coccidiosis

Provet

Excellence through Innovation

FAMI[®] QS Certified

COCCIDIOSIS AND ECONOMIC IMPACT IN POULTRY

Coccidiosis is a major parasitic disease of poultry causing extensive damage to the intestinal lining of the bird. Many infections are subclinical with no obvious visible signs, but birds are still impacted through reduced weight gain and feed conversion, and the shedding of infectious oocysts into the surrounding environment inflicting devastating economic losses to poultry operations.

Not only does coccidiosis cause mortality and impaired growth, but it also reduces meat and protein yield, and affects the sensory characteristics of the meat.

Coccidiosis is caused by the development and reproduction of multiple protozoan species of the genus *Eimeria*, and is estimated to cost the industry about US \$3 billion annually worldwide.

In India, commercial broiler industry is the major sufferer due to coccidiosis and estimates have revealed that 95.61% of the total economic loss occurs due to the disease.

The commercial layer industry shares 3.53% economic loss, mainly due to cost of chemoprophylaxis and reduced egg production.

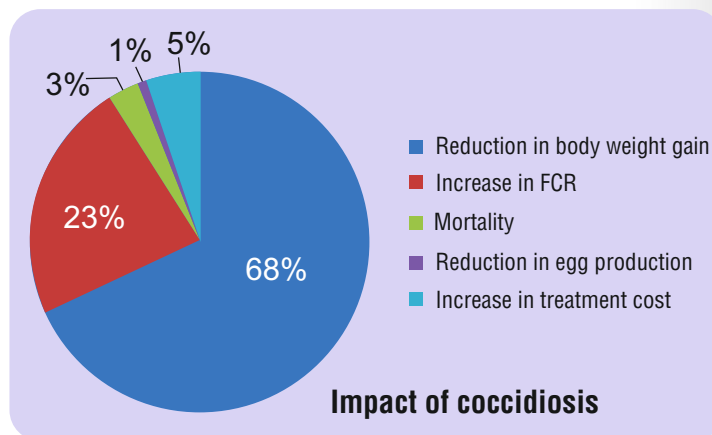
Eimeria species are unlike other protozoan parasites where the primary target tissue is the intestinal epithelium, which results in considerable impairment of growth and feed utilization in poultry. The disruption of the intestinal epithelial layer naturally leads to the diminished ability of the intestine to absorb nutrients, resulting in reduced performance and higher susceptibility to other diseases, most notably necrotic enteritis caused by the bacterium *Clostridium perfringens*.

SUBCLINICAL COCCIDIOSIS - LIKE AN ICEBERG



The symptoms of coccidiosis are like the tip of an iceberg wherein subclinical coccidiosis has already caused severe loss of performance due to impaired gut function.

Subclinical coccidiosis leads to intestinal imbalances causing leakage of plasma proteins in the gut and remnants of poorly digested feed available for bacterial overgrowth, leading to wet litter.



Clostridium perfringens, the causative agent of NE thrives under anaerobic conditions, and is a natural inhabitant of the caeca. NE is most often established after an outbreak of coccidiosis.

Clostridia need to be exposed to higher concentration of nitrogen in order to be virulent. Normally, when nitrogen is well digested, little enters the caeca and NE is uncommon.

Viscous diets or coccidiosis increases small intestinal damage, excessive quantities of nitrogen escape digestion and enter caeca resulting in more frequent occurrence of NE.

Sloughed cells from damaged villi will provide nitrogen to the caeca in addition to the undigested feed.

Provet has a comprehensive basket of anticoccidial products and offers customized technical services which help in keeping the scourge of coccidiosis at bay, thus plays a major role in ensuring profitable poultry production.

Provet continuously strives to develop better gut health solutions that improve growth, efficiency, animal health & welfare, food safety, feed quality and also safeguard the environment.

MADURACOX[®] 10

COMPOSITION:

Maduramycin Ammonium : 1 %

MODE OF ACTION:

- Has affinity to both monovalent, divalent cations and shows good activity at very low dose levels against all pathogenic *Eimeria spp.*
- Affects cation transport across the coccidial cell wall rendering the cell membrane permeable and thus, leads to disruption of the cell due to osmotic imbalance which finally results in cell death.

WITHDRAWAL PERIOD:

Meat: 5 days

Eggs: Do not use in birds which are producing or may in the future produce eggs or egg products for human consumption

Monovalent Glycoside Ionophore

FEATURES:

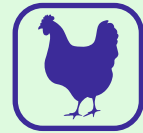
- Monovalent glycoside polyether ionophore
- Excellent coccidiosis control
- Granularity ensures homogenous mixing
- Helps in natural development of immunity
- Well tolerated when fed with Tiamulin
- Other not approved species like adult turkeys, guinea fowl tolerate it at recommended dose levels

RECOMMENDED USAGE:

500 g per tonne of finished feed

PACK:

25 kg bag



MONENCOX[™]

COMPOSITION:

Monensin Sodium : 20 %

MODE OF ACTION:

- Forms lipophilic complexes with physiologically important alkali metal cations (Na^+ , K^+ , Ca^{2+} , etc.) causing alterations in membrane integrity & internal osmolality, obstructs energy transport & glycolysis and thus acts against extracellular sporozoites, merozoites.

WITHDRAWAL PERIOD:

• **Meat:** 1 day

• **Eggs:** Not to be used in birds which are producing eggs or egg products for human consumption

CONTRAINDICATIONS:

Tiamulin, Chloramphenicol, Erythromycin, and Sulphonamides.

Potent Ionophore

FEATURES:

- Monovalent polyether ionophore
- Broad spectrum activity
- Allows birds to develop natural immunity to coccidial infections
- Prevents clinical effects of coccidiosis
- Granulated & hence ensures a homogeneous mixture
- Not absorbed in the GIT and not deposited in muscles & organs

RECOMMENDED USAGE:

• 450 g to 550 g per tonne of finished feed for broilers and chickens reared for laying up to 16 weeks

PACK:

25 kg bag



SALCOMAX™ 120

COMPOSITION:

Salinomycin Sodium : 12 %

MODE OF ACTION:

- Disrupts ion transport across membranes resulting in damage to cell structure causing coccidial cell death
- Affects particularly developmental stages in the early and late phase of coccidial lifecycle as sporozoites and late asexual stages (2nd / 3rd generation schizonts)

WITHDRAWAL PERIOD:

Meat & Eggs: Zero days

CONTRAINDICATIONS:

Tiamulin

Reliable Control, Assured Protection

FEATURES:

- Most potent monovalent polyether ionophore
- Pronounced effect against *E. tenella* and *E. acervulina* (including against drug resistant *Eimeria spp.*)
- Granular product ensures homogeneous mixing and reduces wastage
- Uniform particle size & better flowability
- Helps in customization of coccidiosis control programmes as per specific need

RECOMMENDED USAGE:

500 g per tonne of finished feed

PACK:

25 kg bag



CLOPICOX™

COMPOSITION:

Clopidol : 25 %

MODE OF ACTION:

- Inhibits development of sporozoites and trophozoites of *Eimeria spp.*

WITHDRAWAL PERIOD:

Meat: 5 days

Eggs: Do not use in birds which are producing or may in the future produce eggs or egg products for human consumption

Pyridinol Anticoccidial

FEATURES:

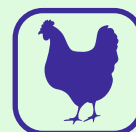
- Synthetic anticoccidial - Pyridinol
- Excellent coccidiosis control and broader protection
- Highly curative
- Less rapid development of resistance
- No cross resistance as it is the only pyridinol to be used as an anticoccidial

RECOMMENDED USAGE:

500 g per tonne of finished feed. In case of higher infection, the dosage can be increased up to 1 kg.

PACK:

25 kg bag



DIZUCOX™ FP5

Potent, Flexible & Safe

COMPOSITION:

Diclazuril : 0.50 %

MODE OF ACTION:

- Strong anticoccidial activity against developing 1st & 2nd generation schizonts, gamonts of *E. tenella* and other pathogenic *Eimeria spp.* of chickens

WITHDRAWAL PERIOD:

Meat & Eggs: Zero days

FEATURES:

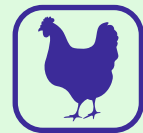
- High anticoccidial activity even at low levels
- Highly effective against all stages of *E. tenella*
- Reduces lesion scores, improves health and performance
- No anti-bacterial activity and does not interfere with normal gut microflora
- No cross resistance & compatible with other feed additives
- Highly safe, non toxic to other animals & environment
- Highly flexible and fits in to all types of anti-coccidial programs

RECOMMENDED USAGE:

200 g per tonne of finished feed

PACK:

25 kg bag



ROBECOX® 100

Thorough Clean Up

COMPOSITION:

Robenidine Hydrochloride : 10 %

MODE OF ACTION:

- Affects late developing stages of first and second generation schizonts by preventing formation of merozoites
- May have some activity against gamonts (sexual stages)
- Action is both, first coccidiostatic and then coccidiocidal

WITHDRAWAL PERIOD:

Meat: 5 days

Eggs: Do not use in birds which are producing or may in the future produce eggs or egg products for human consumption

FEATURES:

- Synthetic anticoccidial derivative of guanidine
- Highly potent and broad anticoccidial spectrum of activity
- Superior reduction of lesion score
- Less risk of Necrotic Enteritis
- Ideal for use as clean-up in Full & Shuttle programs
- Reliable and safe to use
- Re-sensitises coccidia and renews effectiveness of ionophores

RECOMMENDED USAGE:

330 - 500 g per tonne of finished feed

PACK:

25 kg bag



MONENCOX™ NCB

Combined Protection

COMPOSITION:

Monensin Sodium : 8.00 %
Nicarbazin : 8.00 %

MODE OF ACTION:

- Ionophore & synthetic compound combination combines capabilities, is synergistic and offers flexibility with minimal adverse effects.
- Monensin acts in the early stages of the life cycle, whereas Nicarbazin primarily affects second generation stages and impairs oocyst formation in late life cycle stages.

WITHDRAWAL PERIOD:

- **Meat:** Zero days
- **Eggs:** Not to be used in birds which are producing eggs or egg products for human consumption

CONTRAINDICATIONS:

Tiamulin, Chloramphenicol, Erythromycin, and Sulphonamides.

FEATURES:

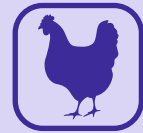
- Broad spectrum activity and excellent control
- Unique and synergistic combination
- Granular product ensures homogeneous mixing and reduces wastage
- Flexible use throughout the year
- Allows birds to develop natural immunity to coccidial infections

RECOMMENDED USAGE:

- 500 g per tonne of finished feed

PACK:

25 kg bag



SYNERCOX® 550

Combined Protection

COMPOSITION:

Maduramycin : 0.682 %
Nicarbazin : 7.727 %

MODE OF ACTION:

- Ionophore & synthetic compound combination combines capabilities, is synergistic and offers flexibility with minimal adverse effects.
- Maduramycin, affects cation transport across the coccidial cell wall leading to osmotic imbalance, whereas Nicarbazin, primarily impairs oocyst formation in late life cycle stages causing cell death

WITHDRAWAL PERIOD:

- **Meat:** Zero days
- **Eggs:** Do not use in birds which are producing or may in the future produce eggs or egg products for human consumption

FEATURES:

- Excellent coccidiosis control and broader protection
- Flexible use through out the year
- Allows subtle immunity development

RECOMMENDED USAGE:

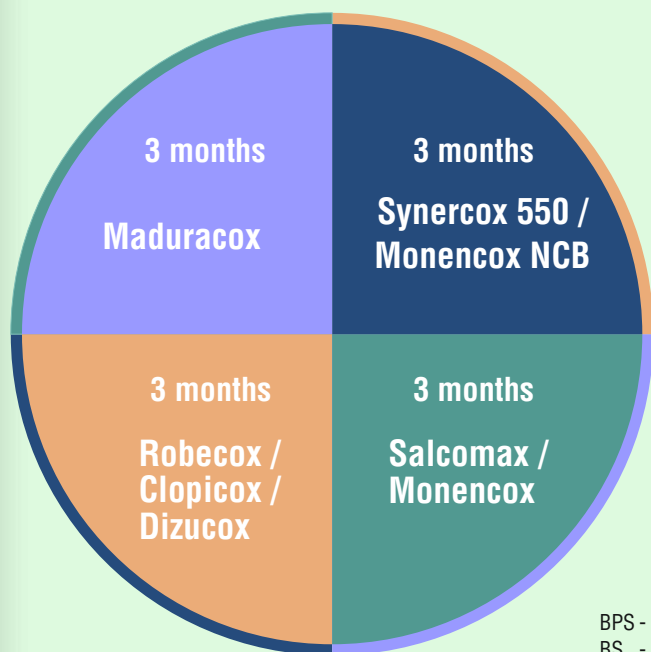
550 g per tonne of finished feed

PACK:

25 kg bag

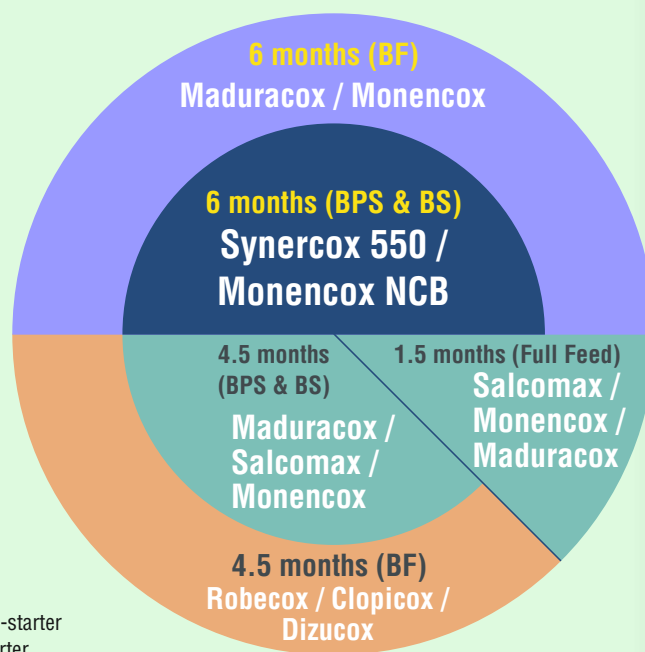


Rotation Program* (Full Feed)



BPS - Broiler Pre-starter
 BS - Broiler Starter
 BF - Broiler Finisher

Rotation Program* (Shuttle)



* Programs suggested above are only illustrations and may be modified / customized based on history, previous anticoccidial usage, season, etc.



Different Anticoccidial Molecules

MONOVALENT IONOPHORES

Monensin | Narasin | Salinomycin

MONOVALENT GLYCOSIDE IONOPHORES

Maduramycin | Semduramycin

DIVALENT IONOPHORE

Lasalocid

SYNTHETIC (CHEMICALS)

Robenidine | Clopidol | Nicarbazin | Diclazuril

Amprolium | Halofuginone | Dinitolmide | Decoquinatate

Golden Rules for Anticoccidial Rotation

Do not use the same anticoccidial drug for a too long period (not more than 6 months)

Provide a sufficiently long rest period for every anticoccidial drug after each period of use (at least 6 months)

Rotate anticoccidial products of different classes to prevent development of cross resistance

Use a chemical clean-up once a year





Excellence through Innovation



Serving Mankind Through Animal Welfare

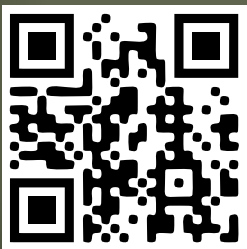
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