

Coccidiosis-The lurking danger!

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The causing organism

Eimeria species is a group of organisms classified as protozoa. These organisms cause the acute or chronic infectious disease known as Coccidiosis in pigeons and poultry. There are many different species and strains of this organisms and each resides in its own particular part of the intestine of pigeons and poultry. Some of these will cause only mild intestinal disease whilst others will be much more virulent and pathogenic. However each avian species has its own particular target species and they do not interchange amongst each others. In other words pigeons cannot be infected with Poultry Coccidiosis and visa versa.

Prevalence of the disease

Coccidiosis is a world wide disease amongst pigeons. The disease has a higher prevalence in countries with a high humidity, heat and rainfall as this shortens the incubation process and increases the chances of infection.

Understanding the disease

The infective sporulated oocytes “eggs” of the Eimeria organisms are ingested by pigeons. Only sporulated oocytes can infect the intestinal cell via the freely swimming sporozoites that are released into the intestine after the sporulated oocyte breaks up in the intestine. Once these sporozoites enter the intestine they complete their life cycle to again become non infectious non sporulated oocytes. These non sporulated oocytes are released into the intestine and passed out in the stool. Once they reach the outside environment it will take 4-7 days for these non sporulated oocytes to mature into infectious sporulated oocytes. For this to happen heat and humidity is needed. If it is very cold or dry these oocytes will not mature and cannot re-infect other pigeons.

Symptoms of the disease

The highly pathogenic (severe disease causing) strains of Coccidia will cause full blown Coccidiosis but only if a large enough number of the oocytes are ingested. Clinical Coccidiosis will rarely develop in adult birds and is normally only seen in youngsters. Immune suppression by viruses such as Young Bird Disease is often the reason for a clinical outbreak of Coccidiosis. In most cases adult birds will loose their competitive edge and will perform poorly in races or as breeding birds. Coccidiosis is a major cause of poor growth and weight gain in the production of squabs for slaughter. The organism will always enter the pigeon via ingestion of contaminated water or food or by foraging in damp areas heavily infested with the Coccidia oocysts. If enough of these infective oocytes are ingested it may initially cause mild enteritis that may or may not progress to severe enteritis with some cases even showing blood in the stool. Mostly birds will however show only a slight loss of appetite unthriftiness and loss of body condition. Heavy infection by Coccidiosis in babies in the nest may cause early death after two weeks or very poor growth. Coccidiosis affects the absorption of Calcium and these babies often present with bent keels or a soft bending bone structure giving rise to malformed legs.

Racing pigeons infected with mild to moderate infections of Coccidiosis will show poor racing performance and will not be able to compete effectively with pigeons that are free from this infection. It is the author’s opinion that highly competitive pigeons such as top racers should be kept clean from Coccidiosis and should be treated or monitored regularly to reduce infection to

the bare minimum. During the off season and molting period pigeons should not be treated but left to develop a natural immunity.

Source of the infections

Coccidia is a true carrier disease with many pigeons carrying this disease and not showing any symptoms what so ever. The oocytes contaminate the environment and pigeons ingest these. Contaminated water or food and wet areas around the water bowls are the main source of infection. Wild pigeons and strays may be another source of infection.

Diagnosis of the disease

The diagnosis of Coccidiosis is easy and is done by examining the stool of pigeons for the typical oocytes shed via the stool. The stool is prepared by mixing with a flotation fluid that causes the oocytes to rise to the top of the fluid and this top layer of fluid can then be examined under the microscope. Veterinarians or laboratories will report the infection as mild, moderate or severe according to the amount of oocytes seen per field of examination. As the diagnosis is so easy and inexpensive to make pigeon fanciers can make sure that their pigeons are not infected and treatment can be done extremely effectively.

Prevention

If the organism is prevented from attaching to the intestinal cells it will not gain access to the cells and infection may be prevented. Over the last few years the concept of intestinal health by way of Pre and Pro-biotics has been advocated by many vets in the poultry and pig industry. When combined with systemic immune stimulants we have a powerful aid in the prevention of clinical Coccidiosis. The Pro-biotics are the good bacteria that excrete an acid as they grow. If enough of these good bacteria are supplied to pigeons they tend to colonize the intestines in such a way that the Emerica organisms causing Coccidiosis cannot adhere to the cells of the intestine and establish themselves in the gut. "The good guys stay behind and the bad guys are passed out." Lately it has become popular to also supply Pre-biotics in an intestinal health product. These Pre-biotics are specific sugars and fibers that the good bacteria need to live on and multiply. By supplying these Pre-biotics we are ensuring that the good bacteria thrive and multiply in the intestine. The addition of well proven immune stimulants Such as Beta-Glucan and other antioxidants to such an intestinal health product will improve the efficacy as it will stimulate the systemic immunity so that Coccidia do gain entry to the intestinal cells and is better neutralized by the immune system.

It is well known that pigeon grain and especially peanuts is often contaminated with Mycotoxins such as Aflatoxin and DON. These Mycotoxins cannot be seen with the naked eye and are extremely potent and cumulative. Amongst others Mycotoxins are potent immune suppressants and will predispose pigeons to carrier diseases such as Paratyphoid. It has also been proven that mycotoxins will dramatically reduce effective vaccination.

Avio-Entromune the unique new product from Aviomed is an excellent product to aid in the preventative programs against Coccidiosis and should be used routinely in the health programs of all pigeons. This amazing first of its kind product contains a combination of Pre-biotics, Pro-biotics, Beta-Glucan, Grape seed extract and stabilized Garlic powder. The synergistic effective of the above ingredients combine to ensure maximal intestinal health and immunity.

Avio-Entromune has the added advantage that it contains an extremely effective combination of Mycotoxin binding agents that binds Mycotoxins and prevents their absorption thereby ensuring that the pigeons' immune system stays healthy. Another exciting new development by Aviomed is the availability of **AvioGel** that is a specially developed product that may be used to adhere other powders to food. **AvioGel** also contains dry Apple cider vinegar and Grape fruit

seed extract that further helps to prevent Salmonella, E coli, Candida and Coccidia in establishing themselves in the intestine. Regular use of **AvioGel and Avio-Entromune** will go a long way to aid in the prevention of Coccidiosis and other intestinal diseases.

It is recommended to add **Aviogel and Avio-Entromune** to the food at least three times per week during the racing, showing and breeding season. In any squab breeding program the addition of **Avio-Gel and Avio-Entromune** three times per week is mandatory.

Treatment

It is very important to realize that when treating for Coccidiosis we may either employ products that just suppress the Coccidia organism known as coccidiostats. Or that we may use products that actually kill the organism known as coccidiocidal. The disadvantage of coccidiostats such as the Amprolium containing products is that they need to be incorporated into the food on a daily basis and that they just suppress the infection. The author does not support this method and instead prefers to use coccidiocidal products that will actually eliminate the infection completely.

Even more important is to vary the types of treatments as to prevent the development of resistance. By using three different active ingredients in three different products on an alternative basis this is achieved. The use of Toltrazuril, Diclazuril and potentiated Sulphonamides is advocated.

Toltrazuril the active ingredient in **Baycox** is an exceptionally safe and effective product to use in the prevention and treatment of Coccidiosis. Toltrazuril has the incredible advantage that it is incorporated into the intestinal cells and as such will prevent re-infection with Coccidia for three weeks. The Aviomed tablet **Coxiworm** is an incredible world breakthrough product that contains not only Toltrazuril but also the amazingly effective and safe products Pyrantel Pamoate and Praziquantel that are the safest and most effective treatments for worm infestation in pigeons. By dosing babies on the day of weaning with a single **Coxiworm** tablet pigeon fanciers will ensure that their babies are rid of worms as well as Coccidiosis and that they are protected against re-infection by Coccidiosis for three more weeks. **Coxiworm** is also the perfect product to use at the beginning of the racing season.

It is advised to use **Aviocox** the highly effective and affordable Sulphonamide/Trimethoprim combination alternatively with the double strength **Avertex** (Diclazuril same as **Appertex**) once every 4-6 weeks during the racing and breeding season. By alternating these differing actives the resistance is decreased and maximal efficacy is ensured.

Summary

Coccidiosis may be effectively prevented and treated once the pigeon fancier understands the diseases and employs effective prevention and treatment techniques. The misconception that a low grade infection with this organism is beneficial should be dispelled and during breeding and racing season a zero infection status should be strived for. During the molt and off season treatment should be withheld to allow immunity to develop. For full programs on the prevention and treatment of pigeon diseases and other interesting articles please visit the web site

www.aviomed.co.za.