

1. Here is the full break down of Black Spot By **Dr Rob Marshall**

The difficulties experienced in the control of Black Spot in canaries may be a result of the many possible causes of an enlarged spleen and liver.

Black Spot is a poorly understood but common finding in canary chicks (1-5 days of age) and juveniles (2-9 months of age). Black Spot refers to the symptom of a black spot on the abdomen of canaries that appears when the spleen, liver or both organs become enlarged because of infection. Black Spot occurs in all varieties of canaries and may spread from one variety to another.

The two main causes of Black Spot are Circovirus and Coccidiosis (Atoxoplasmosis). Oronithosis, bacterial septicaemias and other blood parasites (Avian Malaria (Plasmodium), Haemoproteus and Trypanosoma) may also cause Black Spot. German researchers believe Mycoplasma to be the main cause of Black Spot in Europe. Red mites, biting flies, mosquitos and house sparrows spread these blood parasites. Labored breathing is a symptom seen with these blood parasites.

Black Spot & Circovirus

Circovirus has been incriminated as a cause of the disease that kills nestlings between the ages of one and five days of age. Black Spot caused by Circovirus produces a black spot on the right side of the abdomen in those birds with the disease. Symptoms of Black Spot may appear in nestlings as young as one day of age. Infected nestlings are weak and fail to accept food from their parents, have an empty crop and eventually die by three to four days of age. This form of Black Spot is difficult to cure.

Black Spot & Mycoplasma Infection

European investigators believe there is a relationship between Black Spot and Mycoplasma infection. These researchers believe a Pre-Breeding Cleansing Program using Tylosine cleans the carrier birds of Mycoplasma infection. This treatment is thought to eliminate the Mycoplasma infection from the flock and control Black Spot during the breeding Season.

Black Spot and Coccidiosis (Atoxoplasmosis)

A blood form of Coccidiosis called Atoxoplasmosis may cause Black Spot. Coccidiosis infection caused by *Isospora serini* remains the most likely cause of the Black Spot disease in juveniles under a year of age. This disease is also known as Atoxoplasmosis. It is a coccidiosis parasite that differs from the common form of coccidiosis infection caused by *Isospora canaria*. Coccidiosis is normally restricted to the intestinal epithelium whereas Atoxoplasmosis (a form of coccidiosis caused by *Isospora serine*) multiplies in the intestine, invades blood cells and then spreads by the blood stream to infect the liver, lung and spleen.

Atoxoplasmosis infection produces black spots on both sides of the abdomen, a sign that indicates both spleen and liver enlargement. Atoxoplasmosis is thought to be an intermediate form of part of the life cycle of Coccidiosis (*Isospora* spp).

Symptoms of Black Spot due to Atoxoplasmosis appear in birds under a year old. After this time adult birds may remain infected but show no outward signs of infection. Adult carriers may continue to be contagious for 8 months.

Infected youngsters become listless and huddle, ruffle their feathers into a ball, go light, develop a bloated abdomen, diarrhea and sometimes exhibit neurological signs. Mortality rates may reach as high as 80% of the young bird flock. Infection is more common in outdoor aviaries and crowded flights.

Carrier Birds

“Carrier Birds” are thought to infect their young when feeding. Both cock and hen may be carriers but more commonly the hen is the cause as she commonly rears them by herself. She may be continually re-infected by her own black spot germs (oocysts) while cleaning the nest of droppings. Black spot occurs more commonly in nests with a first time mother, hens older than three years of age and from a family known to be susceptible to Black spot. Conditions that weaken the immune system, namely Ornithosis, inbreeding and molding disease, may predispose the canary flock to black spot disease. In previously healthy flocks, Ornithosis and molding disease are the most likely triggers of the disease.

Diagnosis is difficult in the live bird because coccidial oocysts are rarely found in droppings or intestinal smears and because of the acute nature of the disease. Special impression smears taken from the lung, liver and spleen of dead birds help to diagnose Atoxoplasmosis.

Black Spot Control and Prevention

There is no medical cure of Black Spot. The best avenue is to eliminate those families susceptible to black spot and to control conditions that predispose canaries to this complex disease. Similar measures must be taken irrespective of the cause of black spot. Good hygiene, nutrition and disease prevention help control the Black Spot.

Good hygiene (e.g., F-Vite rather than grit), improved nutrition and disease control (Ornithosis treatments for the resident flock and for new birds in quarantine) play important roles in aviaries where black spot is an intermittent problem. The introduction of new birds that carry the disease, poor nutrition and hygiene, overcrowding or contaminated food are the common causes of black spot in flocks previously free of the disease. Pre-breeding programs aimed at eliminating disease such as Psittacosis and preparing the birds for breeding are an essential part in the control of black spot. The use of water cleansers, such as KD, and attention to strict hygienic in the preparation of soft food and sprouted seed also help to control black spot.

Black Spot Symptoms

Nest Signs

Black spot is more prevalent in the first and third rounds. This finding supports the view that the disease should be able to be controlled naturally in strong individuals when they are housed and looked after properly. Deaths of nestlings between one and five days of age should be assumed to be Black Spot until proven otherwise.

Eggs

Black spot should be considered as a cause of a green/black colored, pungent smelling fully developed embryo found in “dead in shell” eggs. Black Spot appears to have little effect on fertility.

Nestlings (0-5 days of age)

Black spot may be confirmed in nestlings between one and five days of age by the presence of the black spot on the abdomen. Some fanciers believe Black Spot occurs more frequently with poor parents because hand-feeding helps some infected chicks to survive. These chicks, however, remain “carriers” for life and pose a significant health risk when moved from the nest into weaning cages.

Many nests with Black Spot deaths also rear perfectly normal chicks. Some of these apparently healthy nestlings may in fact be “carrier” birds and the cause of Black Spot outbreaks that occur in crowded juvenile flights.

Juveniles (2-9 months of age)

Black spot may also infect juveniles between two and nine months of age. The infected

birds become fluffed up, have watery diarrhea and stop eating. Up to 80% of the flock may die from this incurable disease. A black spot (enlarged liver and spleen) and bloated abdomen (dilated bowel loops) are sign of Black Spot that may be seen through the transparent abdomen wall. Outbreaks occur in aviaries crowded with young birds where Black Spot has occurred during the breeding season. This type of Black Spot is related to Atoxoplasmosis.

Adult Birds

It appears that older birds acquire immunity to black spot with only carrier birds being susceptible to the disease when their health has been compromised.

Black Spot (Circovirus): Methods for Preventing

Identify and eliminate susceptible individuals and families.

Control diseases (Ornithosis, Molding Disease from contaminated sprouted seed, soft food or grit) that damage the immune system and predispose canaries to Black Spot.

Practice good hygiene, nutrition and quarantine measures.

Pay strict attention to the hygienic preparation of soft foods and sprouted seed to help avoid Molding Disease and E.coli infections.

Use Baycox as part of a control plan against Black Spot during the Young Bird, Molt and Pre- Breeding Programs.

Implement a Pre-Breeding Program that eliminates diseases such as Ornithosis and helps prepare birds for breeding.

The use of Baycox at 1ml per litre of water for 3 consecutive days each month will help prevent the outbreak of coccidiosis