

DROPPINGS INTERPRETATION IN RACE SEASON

By Dr [Colin Walker](#) BSc, BVSc, MRCVS, MACVSc (Avian health)

One good way of monitoring the birds' health is by observing their droppings. As most fanciers clean their racing loft each day, simply observing the droppings during the cleaning process is a good way of monitoring the birds' health over the previous 24 hours. Many problems that affect race performance are subclinical. This means that race form is affected before the birds actually start to look sick to the fancier. As changes in the dropping usually occur 1 - 2 days before an unwell bird starts to look sick to us, observing and effectively managing the abnormal changes in droppings does much to head off a downward turn in form.

Essentially, the bowel is a hollow tube into which several organs, in particular the liver, empty via ducts. The bowel terminates in the cloaca (a bag just inside the bird's external opening). Ducts leading from the kidney also terminate here and deposit the bird's urinary waste. Birds, interestingly, produce two sorts of urine, a liquid urine, which looks like clear water, and also a solid urine made up of a white paste of uric acid crystals. Therefore, in the cloaca accumulate the undigested remnants of food from the bowel, liquid and solid urine from the kidney and a number of normal discharges, notably bile from the liver and also mucus from the bowel wall. Once in the cloaca, some fluid is resorbed until, in health, a firm dropping, normally of a brownish colour, is produced. When the cloaca is uncomfortably full, the bird relaxes the cloacal opening and passes a dropping.

Green droppings

The main factor affecting the colour of a pigeon's dropping is what it has eaten. Pigeons digest many of the pigments found in their food rather poorly and so these pass relatively unaltered through the system and colour the dropping. In this way, birds eating, for example, a lot of pink minerals, can be expected to have brownish droppings. Also birds eating greenish grain (eg dun peas) or supplemented with green vegetables (such as silver beet) or free-ranging and pecking at grass will have more green droppings. Green can, however, alert the fancier to the possibility of a problem. This is because green droppings can occur with bowel disease. The green colour comes from bile, which in birds is a brilliant fluorescent green. Bile is a digestive enzyme produced by the liver. After a number of metabolic steps, it passes from the liver down a duct (called the bile duct) into the bowel where it aids the digestive process. After digestion in the bowel, components of the bile are reabsorbed through the bowel wall for reuse. If the bowel is diseased, this process cannot occur normally, with the result that more green bile stays in the bowel and is passed in the dropping, resulting in a green dropping. Green droppings, therefore, can alert the fancier to the possibility of bowel disease. Usually, microscopic examination of a faecal smear will show the cause. There is always some bile left, which when mixed with the rest of the dropping, gives it a greenish hue. Although in the early stages of bowel disease birds can produce a firm dropping that is green, as a general rule such droppings are associated with the ingestion of non-digestible green pigments. It is always safest, however, to have a vet or technician microscopically examine a few green droppings to check that everything is okay. Because inflamed bowels not only absorb bile but also water poorly, green droppings that are also watery do, however, almost invariably point to a problem. The only notable exception here would be the droppings of recently returned race birds. Because these birds have not eaten during the race, their droppings are made up of urine, bile and bowel mucus and appear as a clear fluid ring with a small central amount of green mucousy material and white paste (the solid urine). In healthy birds, once in the loft and having eaten, their droppings should start to become normal within a few hours and unless the race was particularly taxing, should be completely normal by the next morning.

Watery droppings

Watery droppings occur commonly in only one of two situations, either where there is bowel disease interfering with absorption of fluid or alternatively where the urine component of the dropping is visible. A watery dropping

associated with bowel disease occurs because any inflammatory condition of the bowel interferes with its function and compromises its ability to absorb fluid. The result is a watery dropping. Possibilities include infectious problems such as worms, coccidia, 'thrush' or a bacterial infection, while the most likely non-infectious causes are ingestion of either irritant or toxic substances either while free-lofting or associated with a change of diet. Usually an infectious cause can be detected quickly by microscopic examination of a faecal smear.

A watery dropping due to visible urine may or may not be a problem. As discussed above, the bowel and urinary waste accumulate in the cloaca. Here urine is absorbed by the bowel component of the dropping and some fluid is resorbed back into the body until a moist, well-formed dropping is ready to be passed. If the bird is disturbed, the cloaca will be evacuated prematurely before this process is completed. The result is a healthy dropping from a healthy bird that, because it is watery, can concern the fancier. The most common time that this is observed is after the morning exercise. Here the birds have not been fed so there is virtually no digested food in the dropping. Provided the birds are not dehydrated, urine production is constant. The birds often empty their cloaca on landing. The result is a small amount of green-brown material (mainly bile and bowel mucus), surrounded by a ring of clear water. And so a watery dropping in the morning prior to feeding, and particularly after exercise, is usually quite normal. A better time to assess the dropping is after feeding and a period of rest. As digested food starts to appear in the cloaca several hours after feeding, this acts like a sponge, mopping up the urine and cloacal emptying by the birds only occurs when the cloaca is full.

If droppings with urine rings persist through the day, it is probable that the birds are producing excessive urine. This occurs if the birds are drinking excessively. In a race team, this is almost invariably due to one of only two problems, namely wet canker or airsac inflammation. The wet canker organisms produce a toxin, which amongst other things makes the birds thirsty, resulting in an increased water intake, while inflamed airsacs lose their moisture-conserving ability, resulting in excess fluid loss in the expired air. To prevent dehydration, the birds need to counteract this and often overcompensate and drink to excess. A fancier can determine if wet canker is involved by organising for his local bird vet or technician to do a crop flush. If this is not possible, the condition may on occasion be diagnosed by response to treatment, eg giving a 2-day course of Turbosole (ronidazole) and monitoring the response. If there is inflammation in the deeper respiratory structures like the airsacs, there is usually also inflammation in the upper respiratory structures, such as the trachea and sinuses. This almost invariably leads to an increased level of sneezing in the loft. If there is no sneezing in a race loft, it is unlikely that a respiratory infection is active. If uncertain, a sample of mucus from the back of the throat can be examined microscopically (often done at the same time as a crop flush) which will, if a respiratory infection is present, reveal signs of inflammation and secondary infection. If infection is confirmed, usually a 3 - 5-day course of Doxy-T (doxycycline / Tylan) is given. Because approximately 80% of birds with respiratory infection during the race season also have a concurrent wet canker, often the Doxy-T and Turbosole are blended together. One teaspoon (3 g) per 2 litre of each is given in the drinking water. This blend turns the water a pale yellow colour and the birds drink it readily. By simultaneously treating any wet canker present, the response to antibiotics is always much better.

*A more full explanation of changes observed in droppings can be found in my book *The Flying Vet's Pigeon Health & Management*.*