

## MAINTAINING GUT HEALTH THE NATURAL WAY & KEEPING DIARRHOEA AT BAY by Dr Justin Tan

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A budgerigar's gut health is one of the most important aspects that contribute to its overall well-being. This is considered an important responsibility of its owner and one that is well within the owner's charge and control.

Diarrhoea is usually the first sign of poor gut health and the presence of an underlying gastrointestinal tract disease. It is easily detected and noticed by budgie owners, and may affect either an individual bird or a group of birds. However, it is important to note that diarrhoea is a very general clinical sign and may point to many different possibilities with regards to gut health and disease occurrence.

A great variation exists in the types and scoring of diarrhoea. Bird droppings may vary widely in appearance, texture and consistency. This ranges from being of a normal colour but soft or watery, to odd colours that are mostly grey or greyish-green. If the droppings are soft and dark green in colour, this may indicate that the bird is not eating, as seen from the accumulation of bile in the droppings. If the darker part of the droppings is normal but the white part is soft or watery, this may be an indication of an underlying kidney disease. There are various causes of diarrhoea but often, most of these causes may easily be treated or controlled.



Normal droppings



Diarrhoea



A poorly bird with a ruffled appearance and matting around beak and vent

Once a bird with diarrhoea is identified, it is important to immediately isolate it from all other birds. It should be gently picked up and its condition thoroughly assessed, as to whether it is still bright and alert, or dull, listless and with the appearance of ruffled feathers. Its gait and positioning should be observed, as to whether it is still active or remaining in a crouched position. It should be examined closely for other clinical

signs that may or may not necessarily correspond to the diarrhoea. There may be matting of feathers around its beak, which may indicate that the bird may also be vomiting. Its beak and eyes should also be checked for signs of watery discharge, mucous or cheesy material, which may indicate a respiratory disease that is either primary or secondary to the diarrhoea. The bird should be palpated gently behind the keel bone for any signs of swelling or obstruction, which may be a cancerous growth. If unsure, it is always best to consult your veterinary surgeon for proper diagnosis and treatment.

Upon completion of a general physical examination, it should not be returned to its place with the other birds, where it might spread any form of disease it may be harbouring to the other birds. Instead, it should be isolated in a cage on its own or with other similarly affected birds for further observation.

There is also a possibility that environmental stress or a change in management may have upset its digestion process, resulting in diarrhoea. This is especially true if it had only recently been purchased, been to a show, mixed with other strange birds or had a change of feed. Owners need to be aware of even the slightest change in feed and water consumption, be it an increase or a decrease. With proper focus and attention on such factors, and their appropriate removal, the diarrhoea will most probably clear up in a day or two.



An isolated bird on a heated platform

If the bird is obviously ill, urgent treatment and proper care is usually required to save its life. It is important to make sure it is kept warm at an ambient temperature of about 26°C and that there are no draughts blowing directly at it. If the diarrhoea is consistent and continuous, it will also need rehydration fluid therapy. Such may be prepared by dissolving 10 grams of glucose and 5 ml of Orego-Stim® Avian Complete into 1.5 litres of warm water and 1 ml of this solution given to the bird 5 to 6

times a day, via a dosing tube directly inserted into the crop. Orego-Stim® Avian Complete contains the goodness of oregano oil that is well known and recognised for its anti-diarrhoeal and antioxidant properties that also helps the bird to combat stress while boosting its immune system.

The budgie owner should remember that antibiotics should always remain as a last resort. This is because the overuse of antibiotics may lead to bacterial resistance, which will cause them to lose their efficacy in the long run. Antibiotics do have an important role to play in budgerigar medicine but they are not the first drug of choice for the treatment of most cases of diarrhoea in budgies. Very often, diarrhoea in budgies may be prevented before it occurs. Orego-Stim® Avian Complete was formulated for this very purpose – to maintain a healthy gut. It has antibacterial and anticoccidial properties that eliminate diarrhoea-causing pathogens that may further aggravate the condition.

A normal and healthy intestine usually consists mainly of anaerobic bacteria. Anaerobic bacteria survive without the need for oxygen. Any alterations to the indigenous intestinal bacteria caused by diet or environmental stress can be harmful to the host. Although anaerobes are mostly part of the normal commensal gut flora, some exist as opportunistic bad bacteria. Such microorganisms may potentially become disease causing agents that bring about the clinical signs of diarrhoea and serious, sometimes fatal infections, if they escape from the environment of the large intestine. These unfortunate circumstances usually begin with only a slight decline in the population numbers of commensal or beneficial microorganisms, causing a gap or void that is quickly filled by opportunistic pathogens through the process of competitive exclusion (CE). Competitive exclusion is the principle that, out of different types of bacteria, the one that is more efficient in taking advantage of available resources will exclude the other, and increase in number. Such diarrhoea-causing pathogenic bacteria usually consist of *Clostridia*, *Campylobacter*, *Salmonella* and *E. coli*.

It is known that beneficial and pathogenic bacteria co-exist in the gut in an inverse and intricate relationship that is ruled by CE. Once an animal undergoes a period of stress or disease challenge, there is a high chance that it will cause a decline in the intestinal population of beneficial and commensal bacteria. This contingency allows specific opportunistic pathogens to multiply to a certain threshold which then causes the clinical signs of intestinal disease, usually preceded by diarrhoea.

University studies have suggested that quite a number of cases of diarrhoea are due to a disturbance in the types and numbers of bacteria in the gastrointestinal tract, without a specific disease-causing bacteria being present. It is therefore necessary in these cases to re-establish the population and normal balance of intestinal good bacteria. This can be achieved by the use of Orego-Stim<sup>®</sup> Avian Complete.

The oregano essential oil within Orego-Stim<sup>®</sup> Avian Complete consists predominantly of a unique ratio and concentration of the natural phenolic compounds *carvacrol* and *thymol*, which are known to be powerful antimicrobial agents. Phenols kill bacteria through their toxic effect on the cell wall, by breaking down the proteins that hold together the cell wall structure. The increase in permeability causes leakage of cell contents, resulting in water imbalance and cell death.

Besides its direct antibacterial mode of action, Orego-Stim<sup>®</sup> Avian Complete has also been proven to act indirectly upon the gut lining by increasing the rate of cell turnover, which results in cellular exfoliation. The accelerated shedding and replenishment of these cells effectively removes intestinal epithelial cells that are infected by bad bacteria such as *E. coli*, which attach to the intestinal cells.

The combination of these direct and indirect modes of action against bacteria is what effectively prevents diarrhoea and gastrointestinal tract diseases in budgies.

Based upon the results of antimicrobial sensitivity testing, Orego-Stim<sup>®</sup> Avian Complete has a higher killing affinity towards first the *Campylobacter*, *Clostridium* and *Salmonella* group, followed by the *E. coli* group, then the *Streptococcus*,

*Staphylococcus* and *Enterococcus* group, and lastly other bacteria, including beneficial bacteria such as *Bifidus* and *Lactobacillus*.

This simply means that even if Orego-Stim<sup>®</sup> Avian Complete selectively kills just a small percentage of pathogens, it actually represents a large percentage of overall reduction of pathogens in the gut flora. This reflects upon the intestinal microbiota by ensuring that the amounts of pathogens are kept to a check, while repopulation of the intestines by beneficial bacteria takes place naturally via CE. The selective inhibition of pathogenic bacteria in the gastrointestinal tract by Orego-Stim<sup>®</sup> Avian Complete therefore has a pharmacological role in balancing the intestinal microbiota, by keeping and flourishing the beneficial bacteria while killing or expelling pathogenic ones.

The administration of Orego-Stim<sup>®</sup> Avian Complete in the drinking water of budgies at the recommended inclusion rates was designed to kill and remove a certain percentage of bacteria constituting the intestinal microbiota. However, due to its more selective killing characteristics, it is relatively easier to eliminate the pathogens, which in turn promotes multiplication of beneficial intestinal microbiota to fill that void. A continuous and uninterrupted supply of Orego-Stim<sup>®</sup> Avian Complete in the drinking water of budgies will also ensure that the numbers of pathogenic bacteria are kept at the lowest possible levels, while maintaining and preserving healthy levels of the beneficial bacteria in the intestines.

Orego-Stim<sup>®</sup> Avian Complete is a natural supplement that is able to prevent diarrhoea while helping to combat stress and boost the immune system of your birds. Unlike antibiotics, Orego-Stim<sup>®</sup> Avian Complete is completely natural and can safely be used to ensure the superior gut health and function of your budgerigars.

Special thanks to Mick Freakley for kindly supplying the photographs that accompany this article.