

# The Moul

## A Delicate Process

Moulting of feathers in birds is a normal process. Feathers cannot be repaired once they have grown, so the bird has a system of replacement called the moult. During the moult, old and damaged feathers are progressively replaced by new plumage.

### Moulting Control

The factors controlling moulting are not well understood, but are known to be complicated. Combinations of age, season, day length, hormone levels and breeding activity are involved in regulation of the moulting process. The moulting cycle for most birds is one year. Some birds have a twice yearly moult while some large parrots have a two year moult cycle.

### Moulting Pattern

Moulting takes place in a predetermined fashion so that the bird is not left flightless (except in some waterfowl and seabirds). Generally the wing feathers are replaced first, then the body feathers and then the tail feathers from the centre out. Powder down feathers are replaced continuously. Penguins moult randomly.



Multiple severe stress lines in the tail feathers of a Lutino Grass Parrot.

This virus affects the feather follicle and causes grossly abnormal feathers to be produced. Other viruses including the Polyoma virus will also damage growing feathers. Any disease that is affecting the bird will show as abnormal feathers after the moult. For instance, a fatty liver will often cause head and neck

feathers to retain their shafts giving the bird a "spikey" appearance. Discoloured feathers, eg: yellow or pinkish feathers are also associated with liver disease.

#### STRESS

The body responds to stress by producing hormones (cortisone), altering blood flow (flight and fight response) and reducing nutrition (stressed birds do not eat). If any of these happen then the growing feather will be affected. Often we will see "stresslines" in a feather.

These lines are easiest to see in the larger primary feathers (tail feathers especially). The

stress line tells you that during the growth of that feather the bird was suffering some form of stress severe enough to alter the flow of nutrients to the feather follicle.

#### CHEMICALS

Some chemicals are known to affect feather growth, Mebendasole (a pigeon wormer) is known to alter feather structure.

It is obvious that feathers are a window on the general health of the bird. If you are purchasing a bird always look carefully at the feathers, there is a lot to be learned.

### How do I Maximise Feather Quality?

1. Reduce physical damage to mature feathers. Cage design, type of wire, placement of feeders, waterers and boxes. When handling birds be aware that you may damage the feather easily.
2. Provide extra nutrition during the moult. Soft food and moulting tonics are recommended.
3. Prevent common diseases in the aviary - PBFD, Polyoma, Psittacosis, Worms, Coccidia, Megabacteria etc.
4. Have a good clean water supply (poor water leads to poor health).
5. Avoid extra stress during the moult, eg travel, handling, new introductions.
6. Check that any medications given will not affect the new feathers.

### Abnormal Moults

One of the most obvious problems with a bird is a poor moult. Be that a prolonged moult or the growth of abnormal feathers. Abnormal feathers may be miscoloured, malformed, have retained sheaths or stress lines. These abnormal feathers are a reflection of a problem within the bird. Most feather abnormalities occur deep in the feather follicle during the formation of the feather.

### The Causes of Abnormalities

#### POOR NUTRITION

During the moult the bodies demand for nutrients increases dramatically. Feather growth is a demanding function and so the body requires greater amounts of energy, protein, vitamins, fats and minerals. Unless these are supplied the bird will use up what reserves it has then begin to reduce the quality of the feathers it is growing. It is wise to increase the quality of the diet during the moult. Do this by providing good soft food supplements, extra vegetables and fruit, nuts, and lots of natural green branches. Well formulated moulting tonics like Vetafarm Moulting Aid are also very beneficial.

#### DISEASE

The classic disease that affects feathers is Psittacine Beak And Feather Disease (PBFD or Circovirus).

**Further information on diet, hygiene, worming, vitamins, bird stress, licensing, Avian Vets and much more is available**

# Insect Control

## A.I.L. Out Performs the Rest

Cage and aviary bird keepers no longer need to be concerned about avian insect pests according to veterinarians at the Vetafarm Research Facility in Wagga Wagga, Australia, who have developed a residual insecticide and insect growth regulator for cage and aviary birds. The product, Avian Insect Liquidator (AIL) is promised by company veterinarian and marketing manager, Dr Tony Gestier, to control a wide range of insect pests including flies, lice and cockroaches as well as arachnids such as spiders and mites.

Dr Gestier says "While effectively controlling insects, AIL would not cause harm to the health and fertility of mature birds, fledglings, or eggs. The beauty of this product is that it can be safely and effectively applied to birds and their cages at any stage of their breeding cycle and at any stage of the insect lifecycle. AIL is effective on young insects before and after hatching, as well as on mature insects".

Detailed research has already proven AIL to be effective in controlling insects. A study on the effectiveness of AIL on lice in caged birds demonstrated AIL to eliminate lice from birds at the recommended dose rate of 1:20 dilution, at which, numbers of lice on birds in control cages (no treatment) were shown to increase by up to 90%. Where treated birds were returned to untreated cages in which they were in close contact with infected birds, the treated birds remained free of lice for seven weeks after treatment.

The active ingredients in AIL are combined to produce a treatment which overcomes insect pests through direct toxicity as well as through hormonal intervention. One

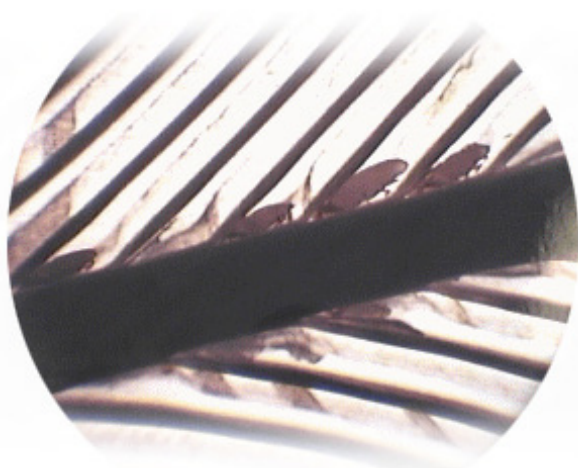
of the active ingredients in AIL, Permethrin, is a broad spectrum insecticide which, when mixed with Piperonyl Butoxide (PBO), achieves a greater effect on insects than the effect of either of the two chemicals alone. Methoprene, the third active ingredient, is a synthetic juvenile insect hormone that gives AIL its residual effect and is potent in preventing the growth of juvenile insects.

The unique wetting agent present in AIL allows rapid penetration into birds feathers so that the active chemicals come into close contact with the undesirable insects.

Available in a 500mL ready-to-use trigger spray container or as a concentrate which can be diluted in a pump pack, it is recommended that the AIL be applied by spraying birds and their environment completely, with particular attention given to cracks and crevices where insects hide and breed.

Developed due to the need for insecticides that would be free of organophosphates and thus that would be non-toxic to avians, AIL promises to treat birds harmlessly and effectively. Trials have shown that AIL is safe when used on birds even at twice the recommended strength. Containing no hydrocarbons, AIL will not cause any damage to birds eyes or lungs and is safe even if sprayed near food and water.

**Further information on diet, hygiene, worming, vitamins, bird stress, licensing, Avian Vets and much more is available from the team at Kellyville Pets.**



Feather lice, between the barbs of primary feathers (x40)



Motile Bird Lice, common around the base of tail (x40)



At Kellyville Pets, we encourage responsible pet ownership.

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