## **Moulting Programs**

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Principal aim: To have a good moult, resulting in the production of a lustrous set of feathers, and to allow on-going development of a strong natural immunity. This is achieved through the maintenance of a stress-free environment, drug avoidance, parasite elimination and a complete diet.

Approximately 3 weeks after weaning, the youngsters will start to moult. The process is accelerated in all birds, irrespective of age, in February in Australia with the shortening daylength. As this total replacement of feathers only occurs once a year, a new set of feathers must last the bird for its entire first year of competition. Poor feather quality compromises performance and so it is vital that everything is done to ensure that the new feathers are good.

Healthy stress-free youngsters moult quickly and the feathers they grow are of good quality. Conversely, birds that are sick for any reason take longer to complete their moult and the feathers they produce are not as lustrous. It is therefore important that the basic principles of on-going good care already established in the postweaning time and discussed in the chapter Weaning continue. During this time, medications are still best avoided if possible, the aim being to further strengthen the birds' developing natural immunity through low-grade on-going exposure to various organisms. The parasites, however, must be eliminated now.

## **Parasites**

Internal parasites rob the birds of nutrition that would otherwise be available to them and compromise the moult. It is therefore vital that the birds are free of roundworm, hairworm and tapeworms and either have a low level of Coccidia or none. A low level of Coccidia is still permissible at this time because the youngsters' natural immunity is still developing. Hairworm, roundworm and Coccidia are all detected in a microscopic dropping analysis and this is often the best time for the fancier to send in his first dropping sample for examination for the season. Tapeworms are not a microscopic diagnosis because they can be seen with the naked eye. The different types of tapeworm vary in size. The small ones look like white pieces of cotton trailing through the dropping, larger ones look like pieces of rice stuck on the surface of the dropping, while the largest ones appear as whitish squares up to 0.5 x 0.5 cm either singly or stuck together as ribbons in or on the droppings. What we are actually seeing here are the tapeworm egg packets and, though not continually, they are regularly intermittently passed by infected birds.

Many prefer to routinely treat preventatively for worms and Coccidia at this time of year and unless testing is done to confirm that the birds are free of these parasites, this is a good idea. As some wormers can affect feather quality (e.g. Panacur, Synanthic), it is vital that the correct wormers are

used. I recommend for roundworm and hair worm Moxidectin 2 mg/ml (5 ml to 1 litre of water for 24 hours) and for tapeworms Prazivet Liquid (5 ml to 1 litre of water for 24 hours). If Coccidia levels are too high (i.e. more than one every second x100 microscope field), then they are best treated. I recommend Toltrazuril Coccidiocide Solution(1 ml to 2 litres of water for 48 hours). Remember after worming for hairworm and roundworm that the loft must be thoroughly cleaned as any droppings passed before treatment may contain worm eggs and therefore have the potential to reinfect the birds. Hygiene is not as vital for tapeworm infection because they do not transfer directly from pigeon to pigeon through the droppings but are instead carried by insects, particularly slaters. (I think this is because slaters, when disturbed, roll themselves into balls, which the birds then mistake for peas.) To prevent reinfection it is therefore best to spray out the loft with Permethrin Solution (see section on parasitic diseases in The Common Diseases for correct use) the following day.

External parasites must be eliminated before the commencement of the moult, otherwise irreparable damage to the feathers is done. Moxidectin, as well as eliminating roundworm and hairworm, also eliminates all external parasites that suck blood. It therefore clears all mites (including airsac mites) but has only limited action against lice. To eliminate lice totally, the birds need to be dipped. The preferred product here is Permethrin Solution. As all lice live on the bird, a single treatment will eliminate all lice from the loft until they are reintroduced with strays, deliberately introduced birds and late returning race birds. However, only a percentage of mites infecting the birds are actually found on the bird at any one time. Many live in the cracks and crevices within the loft. To prevent reinfection, it is therefore important that the loft is sprayed with Permethrin.

## Medication

Many of the common drugs used during this time, including, as mentioned earlier, some of the wormers, affect feather quality. Antibiotics (particularly Baytril and Sulpha AVS, and to a lesser extent doxycycline, Resfite and Doxy-T) if used during this time not only interfere with the development of natural immunity by interrupting the on-going exposure to organisms but also compromise feather quality and so their use is best avoided. They compromise feather quality by killing many of the beneficial bacteria in the bowel. These are necessary for digestion and the assimilation of nutrients. Their disruption by antibiotics interrupts the on-going delivery of nutrients to the growing feather within the feather follicle. Turbosole and other anticanker drugs do not disrupt the bowel bacteria and so can be safely used.

## Supplementation

Any nutritional deficiency during this time also results in poor-quality feathers and so suggestions made under Supplement Recommendation in the Postweaning Program hold true here. In particular, the birds need to have good levels of iodine (found in some pink minerals, e.g. PVM Powder, and some vitamin/mineral supplements, e.g. Multivite Plus) in their diet for the moult to proceed quickly.

Supplementation with unsaturated fatty acids (found in seed oils) aid in the production of lustrous silky feathers in birds (and interestingly also a glossy coat in mammals) and so their use is particularly recommended during this time.

If disease appears during this time, the same basic principles are followed as in the Postweaning Program. Flock treatments are avoided unless at least 5% of birds become affected. Unwell birds are treated individually. Those that do not respond within 4 days are usually best eliminated.