THE USE OF PELLETTED RATIONS IN PIGEONS

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Around the world, knowledge regarding avian nutrition has undergone quantum leaps in the last two decades. We now have a very clear understanding of the optimal nutritional requirements of pigeons.

Taking a quick look at the level of various nutrients in grain and the average level of these grains used in the various feed blends, it doesn't take very long to realize that no grain blend can provide a complete and balanced diet. This is why over time a whole range of supplements has been developed and used successfully because they do complement the deficiencies of a diet based solely on dry grain. Further complicating the picture is that pigeons preferentially select certain grains within a mix. This means that even if a grain-blend did provide a balanced diet, it is likely that the balanced diet would be distorted by individual birds selecting the grains they liked. It has been shown, contrary to the opinion of many fanciers, that pigeons do not have nutritional wisdom. They do not necessarily know what is best for them but rather they are like children. They just eat the grain that tastes nice, and these for most pigeons are the grains that are higher in fat.

Throughout the avian world, one of the ways of combating these problems is through the provision of pellet rations. Pellet rations can be formulated to contain all the nutrients in just the right proportions and every pellet is the same. In this way, pellet rations combat the two problems associated with a dry-grain diet, namely that grain diets alone intrinsically fail to provide an optimal diet and the preferential selection of certain grains. In a well formulated pellet ration the nutritional intake and the provision of a complete and balanced diet is guaranteed.

Despite these advantages the use of pellet diets has only slowly been embraced by pigeon fanciers. In all poultry species such as chickens and ducks, and in particular in the last few years in pet and companion birds such as parrots, the use of pellet rations has steadily increased. Such rations are almost invariably recommended by avian vets around the world. The progressive veterinary-based pigeon companies around the world have in line with advances in knowledge started to manufacture and produce pellets.

I think part of the reason pigeon fanciers have been slow to use pellets is a lack of understanding of the product. Some companies produce several types of pellet, designed to be fed at different stages of the pigeon's life. This is because the nutritional requirements at different life stages vary. In a recent article, a prominent fancier was quoted as saying that when using pellets in the stock loft the raised youngsters were beautiful but when the same birds were raced on the same pellets they seemed to have no power. This is a totally anticipated outcome. To say that one pellet formulation can supply the requirements of a pigeon throughout its whole life is like saying that the dietary requirements of a pregnant woman, a footballer and a growing child are all the same. In the chicken industry, different pellet blends are produced for laying hens, young chicks, growing chicks, etc. In pigeons, we don't need such a variety and the provision of too many different pellet blends would make the use of pellets unnecessarily complex. Most companies produce two blends for pigeons, one designed for the maintenance of adult birds and a second designed to be added as a proportion of the diet to a grain blend for actively racing pigeons.

Maintenance Pellets

To formulate maintenance pellets, it is simply a matter of going to the literature on the nutritional requirements of pigeons, which these days is very comprehensive and accurate. Extensive work over many years has been conducted so that not only is the ideal level in the diet of each vitamin, mineral and amino acid (amino acids combine to make proteins) known but also the ideal levels relative to each other. These nutrients can then be blended together in the form of a pellet to provide a complete and balanced diet. Many fanciers will say, "I have kept pigeons for many years. I have always fed them grain. They seem fine. Why bother?" What I feel is that many such fanciers accept certain problems that have a nutritional base as a normal part of pigeon management. Examples here include:

1. Hens past 7 years of age no longer breeding winners – associated with decreased yolk and albumen quality, resulting in poor embryo development and the chick getting off to a poorer start.
2. Cocks and hens developing arthritic changes and gout by 8 - 9 years of age – associated with high levels of protein, too low calcium and incorrect levels of vitamin A and D3 in the diet.
3. Obesity in non-breeding hens – associated with fat contents of over 6% in the diet.
4. Infertility in middle-aged cocks – associated with an incorrect vitamin A and vitamin E ratio in the diet. These are both fat-soluble vitamins and are absorbed into the body via the same pathways. Vitamin E is needed for normal sperm function (it affects lipid metabolism in the sperm head). Giving too much vitamin A in the diet means there are no pathways available to absorb vitamin E, leading to vitamin E deficiency even if there is plenty in the diet.
5. Recurrent canker in nestlings, despite medical management – low protein levels in the diet and poor balance of nutrients predisposes to disease generally.

The list goes on and on. Recently, a fancy-pigeon owner rang me. He kept a breed of fancy pigeon that was notorious for poor fertility. Traditional wisdom was that this breed was of poor fertility and that a likely cause was Salmonella. Each year, for the previous 5 years, the fancier had paired 30 pairs together, producing only 6 – 8 youngsters per round. He was becoming totally exasperated and ended up driving 100 miles to our clinic to investigate the cause. The birds appeared normal in the hand and were fed grain, grit and water. Six birds were anaesthetized and the gonads were examined with an endoscope through a keyhole incision in their left side. There were no visible abnormalities (such as cysts, adhesions, or tumors) in any of the birds' gonads. Blood was drawn from each bird for a Chlamydia test (Chlamydia is the organism that causes eye-colds in young pigeons and can damage the gonads of older birds leading to irregular laying in hens and premature infertility in cocks). The best way to diagnose Salmonella (the organism that causes the disease Paratyphoid) is to culture the site of an infection. Endoscope-guided swabs were collected for testing, taken directly from the gonads. All test results for disease were negative. The birds were changed to a pellet ration. The next year the first round from 30 pairs contained 57 youngsters.

Fanciers asking if the pellets contain medication to control canker is common. On pellet rations, they found they no longer needed to treat for canker. In Australia, it is illegal to add medication to pellets (except with a prescription). This effect is simply due to the pellets providing a complete diet and the resultant increased ability of the healthier bird to resist disease.

In another instance, a fancier added turkey grower pellets to his grain blend during breeding. The high level of protein and calcium in this blend resulted in beautiful youngsters being produced. Because of this, he kept feeding the pellets as a proportion of the diet to his stock birds while they were not breeding. Several months later, some of these started to get sick. One was euthanized and autopsied. The

persistently high protein, high calcium, high vitamin D3 levels in this diet for non-growing or breeding birds had damaged their kidneys and they were developing kidney failure. Correction of the diet resulted in all remaining birds recovering within 2 weeks.

Fanciers often add iron to the diet or copper sulphate to the drinker (to combat canker). These are both heavy metals that are quickly absorbed into the system but only slowly excreted. With repeated low doses, these birds look fine but as the minerals accumulate in their bodies they have a variety of effects. The most common of these in the stock loft is reduced fertility. It can be hard for the fancier to relate the dead-in-shell youngsters, clear eggs and non-laying hens experienced during breeding to these treatments, which may have been given months earlier.

With the nutritional knowledge available and the expertise used in making maintenance pellets, to me it makes no sense not to use them. Often they are also cheaper than grain.

Racing Pellets

The other type of pellet made is what is termed a racing pellet. These are designed to be added to a grain blend. They are a more concentrated blend of vitamins, minerals and amino acids and designed to complement the deficiencies of the grain. The term racing pellet can be misleading because when added to a grain mix at between 10-20% they can be used as an alternative to maintenance pellets. They are however principally used in birds that are actively racing.

Racing pellets are made for two main reasons. 1. A maintenance pellet cannot provide the fluctuating nutritional requirements of competing race birds. Fat and energy requirements for a race bird fluctuate depending on how much work it is having, the distance of the race for which it is being prepared, and the weather. Grain blends need to be modified to cater for this fluctuating need. The fat and energy content of the diet is usually increased with cold weather and increased work load through the provision of high fat (e.g. safflower, hemp, linseed) and high carbohydrate (e.g. maize, wheat) grains and lowered during warm weather and times of less work. The experienced and astute fancier can determine the exact level through watching his birds' behavior and monitoring weight changes through handling. If the birds appear a bit tired or light, the fat and energy content should be increased provided the protein level stays above 12% of the total diet. Total protein levels of less than 12% can lead to loss of muscle bulk. 2. Food is a principal reward for a pigeon on return from a race. As pellets are not as palatable as grain, providing only pellets on return may compromise the reward principle unless the bird is very hungry. Racing pellets allow the provision of a grain-based diet but still allow the fancier to provide a complete diet.

To produce racing pellets, the level of each vitamin, mineral and amino acid can be calculated for the average grain blend. Where deficiencies or imbalances are identified, a pellet can be produced to correct these and create a balanced and complete diet when added to the grain mix at a particular proportion. Most racing pellets are designed to be added to a grain blend at around 10%. With the use of pellets (be they racing or maintenance pellets) there is no need to provide any other supplement – in fact, their use just distorts the correct diet. The only additional food items the birds need are grit and water.

Disadvantages of Pellets

So what are the disadvantages:

1. Palatability – Pigeons that are not accustomed to pellets initially do not like them and will select grain every time. Usually racing pellets are accepted more readily than maintenance pellets. It takes most birds 2 – 3 days to become used to them.
2. Watery droppings – Birds fed pellets initially drink more. This makes their droppings wet. Usually within 2 – 3 weeks water intake becomes normal and the droppings improve. Usually however birds on the maintenance pellets, but not racing pellets, have droppings that are not quite as tight as those fed grain.
3. Wastage in the bag – Because the pellets rub against each other in the bag, some powder is produced. This leads to a small amount of wastage.

These disadvantages have got to be offset against the enormous advantage of providing a complete nutritious diet. Advantages such as healthier more fertile longer-lived stock birds, increased disease resistance, and improved race performance. I would strongly encourage fanciers to consider the use of pellet rations.