Sports medicine in racing pigeons

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INTRODUCTION

Keeping pigeons as pets or for exhibition is analogous to keeping parrots or finches, in that the basic requirements to ensure health must be met; however as far as the keeping of pigeons for competitive racing is concerned, this is the base line.

It is assumed that the basics of housing, hygiene and health are met. To race competitively, the birds must also be motivated and fit. In addition, unlike the running of horses guided by jockeys or of greyhounds around a predetermined track, the pigeon races alone in the sky. Training and the bird's genetic potential play a big role.

For a pigeon to win it must:

1. have genetic quality;
2. be psychologically right (motivated);
3. be fit; and
4. healthy.

1. QUALITY

To draw an analogy between the pigeon seen pecking in the parks and a racing pigeon would be like considering entering a Shetland pony in the Melbourne Cup. Today's competitive bird is a thoroughbred animal, each bird carrying its own pedigree and bloodlines, with various strains being better for short or long distance or for fast or slow days. These strains tend to carry various characteristics that enable identification to an experienced eye.

It is difficult to pick a good pigeon by appearance alone. When one looks at them, one sees the colour of their feathers, the colour of their eyes, the shape of their head etc. However, these things have little correlation with the bird's ability to win races. The most important things are the things that one cannot see. These include the bird's determination, intelligence and stamina. Birds on long distance races, where they do not make the loft on the first day, find themselves alone, having had nothing to eat or drink, and still a long way from home. They must have the presence of mind to orientate and the constitution to continue on.

Things that can be seen and may give an indication that the bird has the potential to do well are:

a. *the bird's personality and temperament* - It can be hard to assess this when buying at a sale, it is only when the bird is home in the loft that one can see how quiet and sensible it is, or alternatively how flighty it is.

b. *outward signs of good health* - very often good birds always seem to be well.

c. *"balance"* - most good birds give the impression in the hand of being full in the chest, but at the same time long. They possess a sternum that is deep at the front and tapers to a pair of tight pubic bones. But above all else, the most important thing that one can see is the bird's ...

d. *pedigree* - the bird, at best, can only realise its full genetic potential and if the winning genes are just not there, it cannot win.

However, as with other competitive animals, just having a good pedigree does not make that individual a champion. As in any competition, some birds will appear as the best. It is the job of the pigeon fancier to obtain as good a pigeon as he can in order to thoroughly test the progeny racing, and in turn, only breed from the best. As a general rule, it is the winners that tend to breed the winners. This is particularly so in the longer distance races. If the pigeon does not have the genetic potential to perform, particularly at the distance, it simply cannot do so.

2. **PSYCHOLOGICALLY RIGHT - MOTIVATION**

The pigeon racer must create a suitable environment for his birds. Basically the pigeon must like being there and want to get back to it quickly, in order to do this it must be:

a. a safe place - free from predators etc.;

b. a place to rest - pigeons like to go about their daily activities - feeding, breeding; sleeping without disturbance. Indeed, the rest period following a training session and meal is just as important in attaining fitness. The loft environment must therefore be relatively undisturbed. Children, backyard dogs, washing on the clothesline, incinerators are all potential sources of disturbance;

c. a place to eat and drink; and

d. a place to breed.

Having created an environment in which the birds are happy, the fancier has, at his disposal, several methods to increase the incentive to return. In Australia, the majority of pigeons are only raced during their first year of life. For most of this

time they are pre-pubertal (onset of puberty is variable but usually occurs between seven to eight months of age). These birds home quickly simply because of the bond they have developed with their perch, loft, and possibly their owner. However, as the year progresses and the old bird season commences (in July), the birds start to go through puberty and for several weeks the young cocks and hens flirt with each other and at this time their motivation to return increases dramatically. Astute fanciers can capitalise on this and some good races have been won with birds in such condition.

Following puberty, the hens will start to ovulate and lay. Care must be taken with the hens to ensure they are not sent to races after ovulation, as they can be easily lost. Six days after ovulation the eggs are laid. Two days after ovulation the hen's abdomen will start to increase in size and feel puffy. Her pectoral muscle mass may appear smaller. Any pressure on the abdomen will cause "open beak respiration" due to the volume of the developing egg interfering with distension of the abdominal air sacks during inspiration. By four days post ovulation, the smooth edge of the egg can be felt high on the right hand side of the abdomen just behind the ribs. This becomes progressively more obvious until six days post-ovulation, when laying occurs.

Many Australian fanciers prefer to race their cocks and hens separately. In this situation, the eggs are removed and the hens will then intermittently lay through the rest of the season. This system has the advantage of making management less complicated. For example, the hens may be exercised in the morning and the cocks in the evening, no record needs to be kept of the hens' laying cycle. The hens tend to lay less and so can be raced more frequently. Similarly, some cocks, when with the hens, will be so actively sexually as to run themselves ragged, thus proving very difficult to get into race condition. Sometimes, the sexes are allowed together for short periods, just prior to basketing or upon return from racing.

Other fanciers prefer to leave the cocks and hens together, taking advantage, in particular, of the flirty hens as puberty approaches, but then providing them with nest bowls and nest boxes once laying commences. This is called the natural system. The majority of birds race best when they are sitting on their eggs for eight to 12 days, however, it must be remembered that all pigeons are different and the fancier must observe his birds individually and assess at which stage of the reproductive cycle each bird will perform best.

Birds that are sitting are often reluctant to exercise around the loft, to the point of losing so much pectoral muscle bulk as to become unraceable. The level of tossing therefore has to be increased accordingly, the main advantage of this system is that in certain birds, who race well under this system, a predictable level of motivation can be achieved so that birds can be set for particularly important races. Fanciers employing this method usually work around a 20 day cycle.

The hen will ovulate and lay six days later. She is allowed to sit and bond herself

to her eggs and box for usually four to five days, just being kept in her normal loft exercise routine. Following this period she and the cock are deliberately tossed and often quite hard, e.g. three fifty mile tosses in five days, and then sent racing at approximately ten days post-laying.

If the racing is short and easy, a second race can be obtained with the individual bird with her being sent at 15 to 17 days. Upon return, she is allowed to sit for a further two to three days and then the eggs are removed. Most hens will then, fairly predictably, lay again in ten days and may be sent racing again in approximately 20 days. There are a variety of extensions of this method, with the pairs being allowed to continue sitting, eggs hatching and birds then being raced to one or both youngsters. Indeed some hens will race particularly well to a 12 to 15 day old youngster.

Other more elaborate systems have been evolved, these include:

2.1 WIDOWHOOD SYSTEM

This is more widely practiced on the continent where pigeons tend to be raced for several years, and, in fact, is the most popular method employed there, with many of the big race winners racing under this method. At the completion of their first year of racing, promising young cocks are mated to hens and allowed to raise a pair of youngsters. When the hen lays again, after a period of time, she is removed. This can be shortly after laying or, alternatively the cock can be left to finish raising any youngsters by himself. From this time on, the cock will only see the hen upon return from a race or, sometimes, training tosses. The aim is to bond him to his nest box so that he not only breeds but rests and sometimes feeds there.

When the cocks are away, the hens are placed in the nest boxes, the returning cocks must find their hens waiting and soon correlate quick return with seeing their hens sooner. This method can become quite involved with details varying from fancier to fancier.

Some show the hen for a short time prior to the cock being basketted,

others put a nest bowl in the box, alternatively, leave a nest bowl in the box all the time, but simply turn it the correct way up the day the cocks are sent away. The feeding of widowhood cocks can also become involved. The essential features of this method are, however, the bonding of the cock to this nestbox and the cock's anticipation of the hen waiting in that box on his return.

2.2 DOUBLE WIDOWHOOD

This method is essentially the same as the widowhood system, except that

both the cocks and hens are raced to the same box, each anticipating the other's presence upon return. A strong disadvantage is that one of the pair may be lost and cocks, in particular, hate to return to an empty box. Some fanciers, because of this, keep a number of high libido hens to act as spares.

2.3 ROUNDABOUT SYSTEM

This is a relatively new method that is gaining popularity and allows for both sexes to be raced. The loft used is made of two sections, one containing nest boxes and the other perches. The section with nest boxes has a trap such as a sputnik on the front, while the perch section has a door for the birds to exit. A door joins the two sections. Prior to racing the pairs are allowed to bond to the nest boxes by breeding there, but with the onset of racing the sexes are separated.

Both sexes are exercised independently, with, for example, the hens being released from the perch section for exercise and while flying the cocks are moved through the adjoining door to this section. The hens, following exercise return through the trap to the nest box section which the cocks have just vacated. When the cocks are exercised the process is repeated.

Following exercise, including tossing and racing, the birds, therefore, always return to their nest boxes which, in itself, is an incentive but, of course, when racing both sexes are sent so that returning pairs, in addition, find each other in their nest boxes. This greatly adds to their incentive. Sometimes, towards the end of the racing season, when the longer races are on, the pairs can be left together and must race as a sitting pair.

3 FITNESS

No matter how keen the pigeon is to return home, he will not be able to do so in winning time unless, like any other athlete, he has become fit. Racing fitness is the result of the interplay of a number of factors, including exercise, feeding and the

overall health of the bird.

The important thing for success with pigeon racing is for fanciers to understand what they are doing. Many fanciers have a good season and then, for years afterwards, mimic exactly the feeding and tossing routine etc. for that successful year. But every year is different. Weather can be colder, the racing can be harder.

The skill comes in modifying a basic system so that the birds can, again, be got into winning form. Unfortunately, there are no strict rules and it comes down to

the experience, skill and observation of the individual fancier, and to some extent his ability to be able to think like a pigeon. However, there are some basic guidelines.

3.1 **Feeding**

Seeds can basically be divided into carbohydrate-based and protein-based grains. Peas and beans are protein-based grains, while corn, sorghum, wheat and safflower are examples of carbohydrate-based grains. If the morning is cold and raining, or if something has frightened the pigeons and they have spent several hours on the wing, then when called in their blood sugar levels will be low. It is import that their blood sugar levels be normalised as quickly as possible, otherwise they will start mobilising stored energy reserves and loose pectoral muscle bulk, something which may have taken some time to develop. To achieve this, a higher percentage of carbohydrate-based grains in the seed mix are fed and there may an advantage in feeding those of smaller diameter such as millet because they have a larger surface area compared to their volume for the digestive enzymes to act.

Conversely, on warm days pigeons often do not want to fly and are not using up energy reserves to keep themselves warm. When called in their blood sugar levels may be relatively normal. If fed a high carbohydrate mix, under these circumstances, the excess sugars and energy will be stored mostly as fat and the pigeon, over a period of time, will become overweight. One needs to assess each training session and feed accordingly. Several of the birds can be handled every few days to assess their condition and thus monitor their program, but things are by no means easy.

3.2 **Tossing**

Similarly, the amount of basket training given to the birds must be assessed. In tossing his birds, the fancier should be making a conscientious decision that his birds will benefit from this. After all he is deliberately giving the birds work in excess to the amount that they are taking around the loft. If

the birds are not racing competitively, it may be that they are underweight and tired. Tossing will only worsen their performance. If however, the birds are overweight and reluctant to fly, tossing may be the answer. It seems that when everything is coming together well and the birds are in form, e.g. feeding, health, loft environment and exercise, the birds through their own vigour will want to fly and winning form will come. Tossing under these circumstances is just not necessary. If you can open the loft door and a pigeon will fly voluntarily around the loft for an hour, why put it in a basket; it is unnecessarily being exposed to injury and

predation and is running the risk of becoming basket weary and losing its desire to race.

However, post pubertal hens being raced on the natural system to their eggs may be reluctant to leave them to exercise. Deliberate tossing of such birds has strong advantages. The fancier must therefore decide on what level of tossing to give his birds, this will depend on how many hours they are spending on the wing around the loft and in recent races, their age, the weather, the method they are being raced under and many other factors that will vary from year to year. The skill of the successful fancier is in deciding through handling and observation of the birds, what level of training is appropriate for that season.

3.3 How fo Tell if a Bird is Fit

Once racing has commenced, the fancier must select which birds will go to that weekend's race. The stage of an individual bird's reproductive cycle and moult will to some extent affect this decision, but the main factor would be the bird's level of fitness. Birds tend to steadily come into form and after a race will require a period of recovery.

The fancier must be able to tell which birds are at their peak that particular week and are therefore capable of performing at their best. It must be remembered that races are not won by teams of pigeons but by individuals and that all birds are different. To be consistently successful the fancier therefore needs to know each of his birds as individuals.

When selecting a fit bird, there are no strict rules but there are generalisations. However, factors that generally indicate that a bird is fit are:

3.3.1 **Appearance** - the feathers should be covered in bloom and held close to the body and tight, they should appear shiny and feel silky, the tail should be the width of a single feather. Sometimes the markings and colours will appear just that bit more distinct. The white feathers of a pied may contrast more.

The eyecere and wattle should appear very white and seem to be covered with powder. The bird's eye, itself, should be bright and the blink reflex barely noticeable. Often the pupil will be small.

3.2.2 **Behaviour** - the fit pigeon should appear bright and active and be keen to exercise. Some birds will fly alone when at liberty, others can exhibit a variety of behavioural changes when feeling well, e.g. a cock may parade along the top of a door or take over a second nest box or a hen may be reluctant to come into a loft when called. The fancier must observe his birds and know them as individuals and correlate such behavioural changes with their corresponding

performance.

3.3.3 **Handling** - with the bird in the hand, the fancier can make an assessment of its pectoral muscle bulk and tone. Ideally the muscle should feel rounded and supple without feeling overly soft or hard. Softness usually indicates that the bird has had insufficient work while hardness may indicate myositis (muscle inflammation) due to the muscles exercising beyond their fitness capability.

Myositic muscles are usually a deeper purple colour than normal and the keel will often have a pinkish hue. They are painful and the bird may flinch when handled. The keel should be white and birds that are fit will often have a small pink spot, called a "condition spot" along its length. The muscles should be pink and free of any dry skin flakes; this may indicate a recent increase in size which may indicate developing fitness.

It is not difficult for an experienced fancier to have in his mind's eye an image of what an individual bird usually handles like and using this as a comparison can therefore tell if the bird has changed in condition.

It is the job of the fancier to compare the way the bird usually handles, the way it last handled, whether it is thinner, more rounded, or heavier etc. and by correlating this with other signs the bird is showing, in particular behaviour and activity, he can attempt to ascertain whether it is losing or coming into form.

It must be remembered that all birds are different and will not necessarily handle the same way when fit, however, usually when a pigeon is fit we are seeing an increase in both muscle size and tone while at the same time the bird will appear to be the same weight or, in fact, lighter due to loss of body fat. Such birds are described as being "buoyant".

In the fit bird, when the beak is opened the mucus membranes should be a rosy pink colour, the longitudinal slot in the roof of the bird's mouth should be free of mucus and moderately open. The fringes on the end of the bird's soft palate should be intact and the area of tonsillar tissue above this and also at the entrance of the bird's windpipe should not be inflamed. The throat should be free of mucus and "quiet", i.e. not move with the bird's respiration. The tip of the tongue may be either pink or blue although the majority of birds seem to race better with a pink tip. The heart beat is usually difficult to detect and is slow.

4. HEALTH

Pigeons are naturally a fairly robust animal and there is often little need for medication. To some extent, reaching for the medicine bottle shows some underlying flaw in the bird's care. Many diseases in pigeons are associated with stress and only appear following some agent that acts as a trigger.

These triggers can, in fact, be a primary disease such as parasitism which weakens the bird, increasing its vulnerability to secondary diseases. Or, they may be environmental or managemental. Managemental triggers include overcrowding, underfeeding, poor quality food etc. Environmental triggers include cold, damp or dusty lofts that may be poorly ventilated.

Good loft design, hygiene and a common sense approach to care will therefore do much towards minimising disease problems. However, because of the very nature of pigeon racing where birds from many different lofts are mixing intimately, often in an environment that is conducive to the spread of disease i.e. race baskets, illness can sometimes be a problem.

Detection of disease in returning race birds before it can become established in the loft and start to effect subsequent race performances is therefore important. Measures available include:

4.1 Faecal monitoring

a. flotations for ascarid and capillaria eggs
b. coccidial count - under a 100 times magnification, less than 10 is considered normal, 10-20 must be related to the birds clinical signs, greater than 20 the birds will benefit from treatment.

4.2 **Close observation for respiratory disease** - the mini environment within a race unit is deal for the spread of chlamydia and mycoplasma, the usual causes of disease in racing pigeons. Herpesvirus should also be considered.

4.3 **Observation for paratyphoid** and culture if necessary, Salmonella is carried asymptomatically by pigeons and, in fact, in one study overseas Salmonella was able to be grown from 70% of race units following the release of birds. Bearing in mind that these were the healthy birds that had been selected by their owners to race, this gives an indication of the level of exposure. This coupled with the stress of racing can cause clinical disease.

4.4 **Trichomonad count** - clinical canker is the end result of a complex interplay of a large number of factors, including level of exposure, strain virulence, individual immunity, age, concurrent disease etc. In birds of racing age clinical disease is rare, however this should be considered in birds with inflamed lymphoid tissue in the throat, such birds will often gag during eating and drinking, and lean back on their tail during swallowing.

In conclusion, pigeons by comparison to many other avian species offer some advantages to the avian veterinarian. They are usually tame and used to regular handling and close proximity to people. Most are approximately 400g in weight and this size facilitates the drawing of blood, radiology, anaesthesia and surgery. Their beak is amenable to oral treatment. Individual birds have a value so that owners are prepared to investigate and treat disease. Larger numbers are usually kept so that if necessary birds can be selected for autopsy. Often owners are quite knowledgeable regarding the common diseases and therefore birds are presented earlier when sick thus making treatment more likely to be successful.