Pigeon Racing - A Brief Overview

Turning an Egg Into A 700 Mile Winner In Under 12 Months

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What is a racing pigeon?

There are several hundred domestic varieties of pigeon, all of which have been developed from a wild ancestor, the rock dove, *Columbia livia*, originating from the Mediterranean. Only one of these is raced. Through hundreds of years of genetic selection, the birds that could return from the greatest distance and at the fastest speeds were retained for breeding. The result is today's racing bird. This bird can return from up to 700 miles in a day and maintain average speeds of 75 km/hr but up to 150 km/hr. Most races are 350 miles in length and take approximately 7 hours to complete. In Australia, the average racing pigeon is valued at approximately $150 but the best birds are sold for $10,000 or more.

How is the sport organized?

The racing program varies but only slightly from state to state, with weather being the principal factor determining when the main competitive season is held. In most states, racing commences in June and continues until October. One or more races are conducted each weekend during the season. In country areas, groups of fanciers form clubs, while in capital cities, groups of clubs amalgamate to form federations. In this way, fanciers get both a club and federation position. For example, a fancier competing in Knox would belong to the Knox club, which is affiliated with the Victorian Homing Federation. In a race, he may for example, gain third position in his club and fortieth in his federation of 300 members. A position in the top 10% is regarded as a good result.

How is a race conducted?

Races are from 100 to 700 miles with the shorter races being at the start of the season. This means that birds tackle progressively longer and longer races as their experience and fitness builds through the season. On average, individual birds are raced every 3 weeks. Different strains of birds do better in short and long races and different training protocols are used by different fanciers to maximize the performance of these birds. Hens race for up to 4 years and cocks mostly for only 2 years. The majority of prizes, particularly in the longer races, are taken by hens.

Birds are entered for competition by fanciers at their local club either on Friday (short races) or Thursday (long races) where a coded "race rubber' is attached to the bird's leg and the bird's corresponding life ring details recorded. Birds are loaded into purpose-built transport trucks and driven to the race release point. The release of birds on Saturday morning is timed so that the arrival of the birds at the home loft will occur in early afternoon. Each bird races to its own loft. Upon arrival, the bird's race rubber is removed and timed into a racing clock, which accurately records the bird's time of arrival. In a standard race, the first 30 prizes in a Melbourne federation are usually taken in about 3 minutes. It is the fastest bird that wins. As all birds are released together, and the time of arrival is recorded, the time taken for the journey can be calculated. Prior to the season, the distance from each race release point to each competitor's loft is calculated (to

within an accuracy of 2 m). In this way, a velocity in m/min can be calculated. This means that on a day when the birds are flying 1000 m/min, that for two fanciers one of which is 10 km closer to the race point, if the closer one clocks 10 minutes earlier then both fanciers will be equal.

More recently, electronic timing has been introduced where microchips are embedded in the bird's ring and a scanner records the time of arrival as each bird enters the loft. First prize for winning a federation race is usually several thousand dollars. The richest race in the world is conducted each year at Johannesburg, South Africa, and has a prize pool of US$1,000,000.

How do the birds do it?

Even pigeons released at 700 miles, ie in southern Queensland for a race to Melbourne, will usually orientate in less than 1 minute and head for home. Orientation is achieved through both sun position and incredibly through an ability to sense the earth's magnetic field. Pigeons can be predictably disorientated by altering these parameters experimentally. Birds have been genetically selected for this ability. In addition, of course, unlike a horse, pigeons have no jockey, completing the race on their own, and so they must not only return but return quickly in order to win. To achieve this, birds must be both trained and motivated.

Training begins at 7 days of age with the placement of the bird's life ring on its leg. It is important that growing chicks are regularly handled and touched so as to establish a familiarity with people generally and their trainer more specifically. Birds are weaned at 28 days of age from the breeding loft into the racing loft. At this age, they can feed and walk but not fly. Over the next 4 weeks, as the flight feathers increase in length and the birds mature, they begin to fly. It is important that they are placed on the outside of the loft daily through this time so that as they become stronger and stronger on the wing so that they learn what the loft looks like from the sky. Eight-week old youngsters can fly at 80 km/h and can quickly get at a distance from the loft and be lost if this is not familiar to them.

Usually birds are released from the loft at the same time each day and are then called back into the loft, usually after 1 – 2 hours liberty, with a signal that they learn to associate with food. Racing lofts are usually cleaned at least once a day while the birds are exercising. Pigeons gain security from a routine predictable day. As they mature, they learn that they will be released at a particular time, expected to fly and then after a period of time called back into a clean loft and fed. As the weeks and months go by, the birds mature and develop fitness. Starting from about 4 months of age, the birds are taken on their initial training flights or 'tosses". Here they are released at a distance form the loft at their normal time of training. They return expecting to be fed. In this way, returning to the loft from a distance becomes simply an extension of their normal exercise. With experience and fitness, the distance of these training flights gradually increases. With time, the food reward becomes irrelevant becomes the birds simply develop a love of their home. It becomes their safe haven where they are warm, dry, safe from predation, food and water are available and with age their breeding partner is there. During the season, additional motivation techniques such as "widowhood", "roundabout" and the natural method are available to the fancier to increase the bird's natural desire to return.

Loft design

Most fanciers have two lofts, a breeding loft and a racing loft. No single design is best but an ideal loft should keep the occupants at between 20 and 25˚C and at approximately 65% humidity. It should also provide adequate ventilation without exposing the birds to extremes of temperature or

draughts. Flat tin roofs and open wire fronts as seen in aviaries for housing other species of birds make this impossible. Most successful racing lofts have gable roofs and a series of modifications such as adjustable louvers that can alter air flow depending on environmental conditions. Some have heaters to help the birds maintain race form during the colder weather.

Breeding

In Australia, breeding commences in late August and continues until late February. Babies, as they are produced, are weaned into the racing loft, usually in age batches, and commence formal training. The sexes are not dimorphic, however, cocks tend to be a bit larger and "heavier" in the head and chest. which to a trained eye allows sexing to an accuracy greater than 95%. By 4 – 6 months, with the onset of puberty, the behaviour of the young cocks makes their identification obvious.

Feeding

Most pigeon fanciers feed their birds a grain mix, which is usually based on dun peas, maize, safflower, milo (sorghum) and wheat. Pellets, which would provide a more complete diet, have failed to gain acceptance through palatability[and therefore motivation] and price problems. Because of the deficient nature of a dry-seed diet, a variety of vitamin and mineral supplements are commonly used. Many fanciers are looking for that special tonic to "boost" their birds. Pigeons require 11% protein in the diet for maintenance, and up to 17% during breeding and moulting. Unlike parrots, pigeons are obligate grit eaters and normal breeding cannot occur and health cannot be maintained for lengthy periods unless grit is supplied.

Aspects of Behaviour

In experienced hands an egg can become a 700 mile winner in under 12 months. For a racing pigeon to be successful is must have the right genetics and be motivated. Three things have been genetically selected for:

1. The ability to quickly figure out which way is home, even though home may be many, many miles away.
2. The conformation and feather and wing structure for sustained flight or speed or both depending on the type of race the fancier wishes his birds to compete in. Distance birds tend to have 'falcon wings' with long outer flights. Here each beat takes more energy and takes longer but takes the bird further through the air. Sprint birds tend to have 'quail wings' which take less energy to beat but can be beaten quickly leading to an overall faster flight.
3. An almost manic love of home. A young pigeon of 28 days of age that is placed onto a perch at weaning, into the racing loft, will often elect to sleep on that perch every night for its whole racing life. It will also often pair up with the pigeon on the adjacent perch even if that bird is its nest mate. Racing pigeons if locked out of their loft will often throw themselves at the closed door trying to get in and when that door is opened literally tumble over each other enter. It is thought that pigeons are not only able to tell which way home is but also how far they have to go. If nothing else one has got to admire their willingness to strike out for home knowing that it might be 700 miles away and that it may take one and a half days of flying to reach there (they never seem to think 'Perhaps he just doesn't want us anymore!') It is interesting to note that distance birds as a whole tend to be calmer. Many of these birds find themselves alone in the sky many miles from home and must have the

presence of mind to stay on track and keep going despite fatigue, hunger and the risk of falcon attack.

Veterinary matters

ln addition to having the right genetic makeup and being motivated, a racing pigeon must be fit to be successful A bird cannot be fit unless it is healthy. Many conditions that are carried subclinically have the ability to affect race form. In the same way that a dog with heart worm may appear normal, an unrecognized infection such as this in a greyhound would severely compromise performance. The identification of similar underlying problems in racing pigeons is particularly paramount because not only would an unrecognized or untreated health problem result in compromised performance but may also lead to the loss of the bird. The situation is complicated by the fact that through the very nature of racing many birds from many different backgrounds are mixed intimately in race baskets in a stressful situation. To maintain health and race form in a flock in these circumstances is indeed challenging for veterinarians. The situation is analogous to trying to maintain health in a pet shop where birds are sourced from many suppliers, no quarantine is practiced and the only testing done is a clinical examination. During the racing season, on average, one third of the loft's inhabitant are away racing each weekend and return after mixing intimately with many birds from many other lofts. The potential for disease transfer is very high. Because of this, many pigeon fanciers want their birds regularly checked for the common diseases. Also, many are looking for advice on health management programs. Diseases such as worms, trichomoniasis (canker), coccidiosis, hexamitiasis and chlamydophilosis are all common.

As veterinarians, we need to be able to clinically examine birds and recognize abnormalities. We are asked to make recommendations about training and feeding. We also need to be able to recognize and monitor for the common diseases.

Diseases of particular importance include:

1. ***Trichomoniasis***. In birds with the dry form of the disease, diagnosis is obvious because the large caseous nodules can usually be visualized in the throat. Monitoring trichomonad levels in race birds is done through microscopic examination of a wet mount prepared from a throat swab or crop aspirate. Fluid is not usually added first as it is useful to try and quantitate the number of trichomonads present. Trichomonads weaken the birds, compromising performance and creating a vulnerability to other diseases. The problem appears ubiquitous and it is considered routine to regularly treat to control this problem through the competitive season. It is my experience that birds with significant trichomonad counts will be found in 90% of teams if it is more than three weeks since that team has been treated. Ronidazole-based products are considered the safest, eg "Turbosole", Ronivet-S", 10mg/kg for 3 -5 days.

2. ***Coccidiosis***. Subclinical infections are a common cause of poor race performance. Monitored through microscopic examination of faecal wet mounts and faecal flotations. I usually treat with Toltrazuril, "Baycox". 6 mg/kg/day for 2 days. Coccidiosis is a stress triggered disease and only part of the answer to controlling it is medication. Often recent training has to be reviewed and often it is suggested that the birds time on the wing be reduced and that the energy content of the diet be increased particularly if the weather has become cold.

3. ***Worms***. Surprisingly still a common problem. Diagnosed through microscopic examination of a wet mount or faecal flotation. I usually use Moxidectin 2mg/ml, 0.25ml/bird or 5ml/1L for 24 hours.

4. ***Respiratory infection***. Usually self-evident in advanced cases (red watery eyes, discoloured cere, nasal discharge, "croaking" when breathing) but presentation can be subtle, eg increased level of sneezing or decreased exercise tolerance. Usually chlamydophila and mycoplasma combination with secondary gram-negative (often E. coli) bacteria. Diagnosis through Chlamydophila immunocomb (on blood or rostral choanal swab), PCR, cytology or histo. Many heterophils on a sinus flush or throat swab combined with clinical signs is suggestive.

5. ***Hexamita***. Diagnosed by microscopic examination of a wet mount of droppings less than 10 minutes old. Usually treated with Ronidazole. All birds in loft for 7 days.

6. ***Pigeon pox***. Controlled through vaccination. Vaccination confers lifetime immunity. Preferably done after 6 weeks of age and at least 6 weeks before the start of racing.

7. ***Circo/Herpes/Adenovirus***. Diseases of increasing importance over the last 10 years and now common. No effective primary treatment but there are management plans to minimize effect. Normal quarantine procedures should apply. A vaccine for Circovirus is available in Europe but not in Australia as yet.

8. **External parasites**. Compromise feather quality and therefore race performance. Can be controlled with Moxidectin (1 mg/kg) and Permethrin-based sprays.

Usually the approach is to maintain health and with it race form in the race team as a whole. Here, a representative sample of birds is tested and the results extrapolated to the rest of the flock. Pigeons drink well and so water-based medication is regarded as effective. Each bird on average drinks 45 ml of water per day and the average race bird weighs 400 g. Using these figures, effective water-based doses can be calculated.

However, as veterinarians we are also presented with individual birds of value and here normal diagnostic testing involving biochemistry/haematology, radiology, cytology, gram stain, bacterial culture, etc, etc, is done.

At times dealing with pigeon fanciers can be difficult and demanding. As in general aviculture, there are good fanciers who are successful because of their good management practices and general ability. Other fanciers want to emulate these competitors and some times look unrealistically to veterinarians and drugs for the answer. Many of these fanciers only stay in the sport for a short period of time.

However, as a whole, the management of health in racing pigeons has the potential to be very rewarding for vets because the result of our efforts are very directly quantified through an improvement in race performance.