Pigeon Salmonella Vaccine

Technical stuff:
A vaccine has been developed that confers immunity against Salmonella typhimurium in pigeons, Salmonella meleagris in turkeys and Salmonella gallisepticum in chickens. The vaccine contains a live Salmonella variety that has been modified (by removing one of its enzyme pathways) so that it quickly dies after inoculation and cannot establish infection in the birds. Before the bacteria in the vaccine dies it produces an endotoxin. It is thought that the high level of immunity formed is due both to exposure to the bacteria and the endotoxin. This endotoxin release does however make a proportion of vaccinated birds a bit quiet and ‘fluffed up’ on the day of vaccination.

Preparing the vaccine:
The vaccine comes in a 1000 dose vial. This needs to be kept frozen until use. The vaccine is dissolved into 100mls of water for injection. This is done by repeatedly rinsing the vial with sterile water (available through your vet) using a needle and syringe until all of the vaccine is dissolved in the 100ml bottle of sterile water. The vaccine mixture must be used within 2 hours of preparation. Each pigeon is given 0.1ml of this mixture.

How to give the vaccine:
The vaccine can be given in 1 of 4 ways:
1. 0.1ml injection under the skin at the back of the neck (in the same manner as the PMV vaccine)
2. The vaccine can be mixed with the La Sota PMV vaccine. Add 2mls of Salmonella vaccine to 10mls of PMV vaccine and give each pigeon 0.6ml under the skin at the back of the neck.
3. 0.1ml of vaccine can be given orally. The vaccine is equally well absorbed from the lining of the bowel as from an injection under the skin.

4. The vaccine can be added to the drinking water at the rate of 10mls in 5 litres of water to vaccinate 100 pigeons. All of this water must be drunk within 2 hours for the vaccine to be effective. Because this is difficult to achieve this is regarded as a less optimal method.

Annual boosters are recommended.

**Fancy pigeons:**

Salmonella is carried within the bowel of many pigeons without causing disease. A trigger factor is often required (eg. overcrowding, low hygiene, concurrent disease, poor diet etc.) to cause disease. These trigger factors compromise the pigeons ability to fight infection which in turn enables the Salmonella to penetrate the bowel wall. Once through the bowel wall, Salmonella is carried in the blood stream to a number of target sites in particular the gonads, liver, joints and membranes around the brain. Damage to the gonads leads to infertility. A number of fancy breeds, notably Australian Show Pen Homers, Modenas, Kings and the performing flying breeds such as tipplers, tumblers and doneks have a genetic susceptibility to Salmonella. Young birds should be vaccinated at 6 weeks of age hopefully before the bacteria has had a chance to enter their system. Before vaccinating adult birds, particularly for the first time, it is a good idea to give a 10-14 days course of an antibiotic that is effective against Salmonella, such as ‘Sulfa AVS’, and vaccinate the birds on the last day of treatment. Although it is not possible to eliminate Salmonella from all carriers this protocol gives us a good chance of clearing the infection from as many birds as possible. The birds can then be vaccinated before they become reinfected. The usual sources of
infection are persistent asymptomatic carrier birds and a contaminated loft environment. Vaccinating young birds each year at 6 weeks of age before these birds become infected means that their gonads are less likely to be damaged by Salmonella during growth thus leading to a lift in fertility in the loft generally. The best time to give annual boosters is after the moult and show season and before breeding ie. July.

Racing pigeons:  
Many racing pigeons carry Salmonella asymptomatically in their bowels. The stresses associated with racing can act as trigger factors enabling the bacteria to penetrate the bowel wall and spread throughout the body causing a range of symptoms that compromise race performance. In racing lofts with a Salmonella problem or in lofts where fanciers simply want to protect their birds, vaccinating once all birds are over 6 weeks of age and at least 6 weeks before racing commences is indicated. If the birds have completed their moult then giving a 10-14 days course of ‘Sulfa AVS’ prior to vaccination (as outlined above) can be beneficial.

Obtaining the vaccine:  
The vaccine needs to be kept frozen and so cannot be posted to fanciers. The vaccine can potentially however be obtained through any veterinary clinic throughout Australia. If your local veterinarian is unfamiliar with the vaccine, details can be obtained by contacting the Melbourne Bird Veterinary Clinic. Regulatory details require that the vaccine can only be supplied following veterinary consultation.

Need more information:  
Please feel free to contact us at the Melbourne Bird Veterinary Clinic – (03) 9764 9000