

# Pigeon Vaccination

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Vaccination is the key to  
preventing some of the most  
serious diseases of pigeons

# Why vaccinate?

Pigeons are vaccinated to protect against some of the common serious infectious diseases.

Vaccination stimulates the body's defense system to build immunity to a particular disease, by exposing pigeons to either the live organism presented in a safe form (eg Pigeon Pox vaccine) or to a killed organism (eg PMV vaccine), or an inactivated organism (eg Salmonella vaccine) or part of an organism (eg Rota virus vaccine).

# What vaccines are available?

1/ Poulvac ( Zoetis ) or Newcavac (MSD) - killed La Sota PMV virus originally isolated from chickens.

- But it is a chook vaccine, compare with Hendra in Horses and Canary Pox
- Compare with NDV4 live modified PMV also from chickens
- Compare with killed and modified live PMV virus originally isolated from pigeons

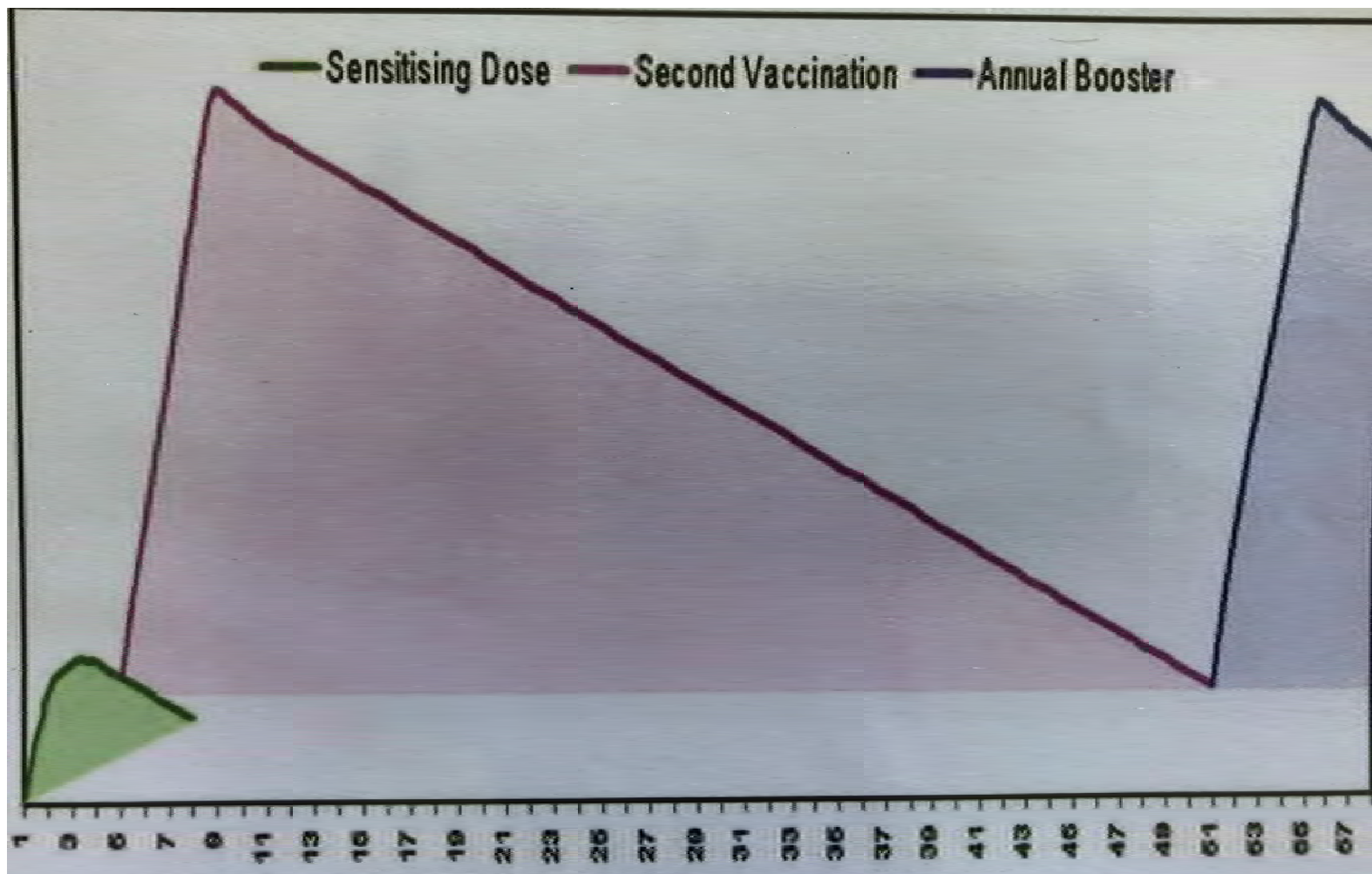
2/ Pigeon Pox vaccine

3/ Paratyphoid ( Salmonella vaccine )

4/ Rota virus vaccine – Rotavax made by Treidlia

# How do vaccines work?

The protection period provided by each dose of vaccine



The first dose sensitizes the immune system and the second dose starts antibody production. Without the second booster dose, the initial vaccination only protects the pigeon for a short period of time, probably just weeks. The booster vaccination prolongs the protection period so that the pigeon is covered for about 12 months. An annual booster is then required to provide cover for a further 12 months.

SENSITIZING DOSE - Sensitizes the immune system

- Initiates antibody production, takes several weeks
- Protection provided is short lived, weeks to months

SECOND VACCINATION - Increases immunity to protective level

- Provides cover for 12 months
- Cover is less protective as time passes since vaccination

ANNUAL BOOSTER - Stimulates the immune system

- Provides cover for a further 12 months

What do the diseases we  
are trying to protect our  
pigeons from actually do ?











# How to use the Vaccines

## 1/ Salmonella

### **Preparing the vaccine:**

The vaccine comes as a freeze dried 1000 dose pellet. This needs to be kept frozen until use. The whole pellet vaccine is dissolved into 100mls of water for injection. Dividing the pellet. 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 3 ways:

0.1ml injection under the skin at the back of the neck

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. Using this method it requires very little effort to protect your birds.

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.

Two doses of vaccine are given 2-4 weeks apart. The vaccine is cheap – about \$110 for 1000 doses

# Preparing the Birds for Salmonella Vaccination

The aim of treating the loft is to eliminate Salmonella from as many birds as possible prior to vaccination. The degree of effort used to treat a loft is tailored to the degree of problem that Salmonella is causing in that loft

- 1/ In a loft of healthy racing pigeons with no history of Salmonella - no pre vaccination treatment necessary, birds are vaccinated to prevent infection in race units which would lead to wet droppings and a loss of form.
- 2/ In race lofts with a history of Salmonella – some birds may be asymptomatic carriers, Sulpha AVS given for 10 days. Loft disinfected twice during this time,
- 3/ In racing lofts with current infection and all fancy pigeon lofts, as above but Sulpha AVS given for 14 days. If individual birds with Salmonella fail to respond they should be removed to a separate area and treatment continued or culled.

## 2/ PMV vaccine

2 doses 4 weeks apart under the skin at the base of the neck after 6 weeks of age. Annual boosters

In high risk situation give first shot at weaning ie 4 weeks but will then need 3 shots

Other issues to consider – cheesy lumps, damage to the immune system, smuggling in European vaccines, passive immunity from parents

## 3/ Pigeon Pox

Prick/ scratch on the outside of the thigh after 6 weeks of age . Single vaccination confers life time immunity.

4/ Rota virus vaccine – still have much to learn, trial in 2020 , current recommendation is 2 vaccinations given under the skin at the back of the neck 4 weeks apart

# Pulling it all together

1/After 6 weeks of age --- injection for PMV and separate injection for Rota; 0.1 ml Salmonella given orally ( Bioproperties vaccine) .

2/ Four weeks later, same again, ie injection for PMV and separate injection for Rota; also 0.1 ml Salmonella given orally (Bioproperties vaccine) but also Pigeon Pox scratch on thigh

## **OLRs and PMV**

Currently managers are advised to :-

- 1/ vaccinate all birds on arrival against PMV, Rota and Salmonella,
- 2/ isolate different batches of young birds as they arrive
- 3/ have basic health management programs in place to control the common health problems such as worms and coccidia
- 4/ employ basic good management practices ie good hygiene, no overcrowding etc
- 5/ have an avian vet on call who is also in a position to visit the loft regularly
- 6/ treat any birds that become unwell as directed by the attending avian vet
- 7/ present birds for diagnostic testing if a number of birds develop similar symptoms so that an accurate diagnosis can be reached.

However despite these measures catastrophic losses have been reported in some OLRs prompting a representative from the Australian Avian Veterinary Association to suggest that OLRs should be suspended due to animal welfare concerns until better ways of controlling disease in these lofts can be developed.



# One Loft Races

## PMV .

Recent catastrophic losses . Measures to decrease death and disease

A potential OLR entrant could be vaccinated at 3 weeks of age and shipped at 5 weeks . Although not perfect this is likely to stimulate the development of sufficient immunity to decrease the severity of any subsequent PMV infection.

2/ Random screening of birds with HI/ HA test to encourage compliance

3/ RAT on arrival

4/ Animal welfare issues - failing to do as much as possible to prevent disease

## **Changing Dynamics of Disease**

The increase in popularity of OLRs and the increasing numbers of birds entered, is altering the whole dynamics of pigeon disease.

# The Future

## Herpes Virus

**A study proposed by the VRPB.**

Study summary : -

1/ Increased incidence of the disease in the EU and USA ( Inclusion Body Hepatitis IBH) Under diagnosed condition in Australia?

2/ IBH has been identified as a significant cause of heavy race losses particularly in One Loft Races overseas and as a cause of high mortality in both private and OLRs in Australia

3/ The University of Melbourne has developed a pan Herpes virus PCR test that detects pigeon Herpes virus well. Young birds vs asymptomatic carriers

4/ Aims to determine prevalence of Herpes.

5/ Chicken vaccines

6/ Deakin University -- mRNA vaccine, PoultryHub Grant, ARC linkage Grant