Vaccination against Pigeon Paramyxovirus (PPMV1)

George Arzey

Can pigeons be vaccinated against Avian Paramyxovirus?

Several Newcastle Disease (ND) vaccines are registered for use in chickens and are available in Australia.

Recent data on the use of NDV vaccines registered in Australia for use in chickens showed that they are safe to use in pigeons and if pigeons are vaccinated properly twice, they are likely to produce antibody levels that should protect them against PPMV1.

You should discuss vaccination of pigeons with your veterinarian and understand the issues before you vaccinate.

Can I vaccinate if my birds are sick?

The vaccine should only be used in flocks that are healthy.

If you think your birds may have Avian Paramyxovirus contact your veterinarian immediately.

Can vaccinated birds spread infection?

Yes, optimal protection may take 4-6 weeks to develop from the time of the second application of the vaccine. During this time vaccinated birds may be only partially protected.

Also vaccines may protect against clinical signs but would not entirely prevent the virus from entering the body, multiplying, being excreted and infecting other in-contact birds.

Since vaccines have the capacity to mask the disease, vaccinated birds that may appear normal can still carry the virus and infect other birds.

Therefore it is vital to vaccinate all pigeon in as loft in order to optimise loft protection.

Can I use vaccine if I want to export my birds overseas?

Some countries will only accept birds that have not been vaccinated. Check import requirements carefully before you vaccinate if you may export birds.

Vaccine use

The available poultry vaccines are either live or inactivated (killed) vaccines.

In chickens, in order to get the best immune response both live and killed are administered. The live vaccine is administered first and following with a killed vaccine 4-6 weeks later.

As the Australian vaccines are only registered for use in chickens your veterinarian will provide you with written instructions for the off label use of the vaccine. This will include the dose, route of administration, number of vaccinations, the time interval and details of birds to be vaccinated.

Inactivated vaccines should be available as a 250 or 1000 chicken dose bottle.

Live vaccines

A live vaccine contains a live virus with a reduced or no ability to cause disease but still generates immunity although usually of short duration. The live ND chicken vaccines available in Australia contain a very mild virus that is known as V4.

Live vaccines are easy to administer via mass application by drinking water or individually by eye drop.

It usually comes in a freeze dried tablet form and must be kept frozen until used. It must be mixed with a diluent and well shaken to completely dissolve the tablet before administration.
If given in drinking water, it must be properly mixed in the water and consumed within 2-3 hours.

Live V4 vaccines should be available in 1000, 2000, 300, 4000 and 5000 and 10,000 dose vials.

**Inactivated or ‘killed’ vaccines**

A ‘killed’ vaccine is a vaccine contains a virus that has been killed. Chemicals mixed with the dead virus strengthen and prolong the ability of the virus to produce immunity.

In poultry the immunity is stronger and last longer than immunity from live vaccine alone.

This vaccine has to be injected into the bird. In chickens it is injected into the breast muscle but this may not be a suitable site in pigeons. Other injection sites in pigeons are the neck and the loose skin between the leg and the body.

The killed vaccine **must not be frozen** it should be kept at the manufacture’s recommended temperature (usually between 4°C-8°C).

**Will vaccinated birds need a booster?**

Yes. Recent trials with the poultry vaccines in pigeons showed an advantage when inactivated vaccine was given twice 4 weeks apart.

Good antibody levels were also achieved with the administration of a live V4 vaccine followed 4 weeks later with inactivated vaccine. However, the results were not as good as the results with inactivated vaccine twice.

At this stage it is not known how long vaccinated birds will be protected against infection.

**How do I obtain a vaccine directly**

Once you obtained written instructions from your veterinarian you can obtain the permit directly from George Arzey, Technical Specialist Poultry on 02 46406402 or by fax to 0246406300 or electronically at george.arzey@dpi.nsw.gov.au.

The permit will enable you to purchase the vaccine directly from the manufacturer or their agents.

To obtain the permit you will need to supply the following information

- Written instructions from your veterinarian
- owners name and address,
- number and type of birds to be vaccinated
- Type of vaccine you require (V4 or inactivated)
- number of vaccine doses required and
- anticipated vaccination dates.

**Summary data on vaccines available in Australia**

<table>
<thead>
<tr>
<th>Manufacturer</th>
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<td>Intervet Nobilis live Newcastle vaccine V4</td>
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<td>Poulvac Newcastle v4</td>
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**How does my veterinarian obtain a vaccine permit?**

Your veterinarian should contact George Arzey, Technical Specialist Poultry on 02 46406402 or by fax to 0246406300 or electronically at george.arzey@dpi.nsw.gov.au.

They must provide relevant flock details including the:

- owners name and address,
- number and type of birds to be vaccinated
- Type of vaccine (V4 or inactivated)
- number of vaccine doses ordered and
- anticipated vaccination dates.

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