Layers and breeders

Nobilis® Rhino CV can be used as an effective primer for the following Intervet vaccines

Nobilis® RT inac

When administered to maternal antibody positive day old chicks, Nobilis® Rhino CV provides solid immunity against APV infection for at least 16 weeks. Administration is by course spray or eye-drop.

Suggested vaccination schedule

<table>
<thead>
<tr>
<th>Age</th>
<th>Vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 weeks</td>
<td>Nobilis® Rhino CV</td>
</tr>
<tr>
<td>16-20 weeks</td>
<td>Nobilis® RT inac + combination</td>
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</tbody>
</table>

Layers and breeders

APV infection is associated with:

- Decreased hatchability
- Increased mortality rates
- Increased use of antibiotics
- Poor feed conversion rates
- Increased condemnation rates
- Respiratory signs
- Increased use of antibiotics
- Poor feed conversion rates
- Increased mortality rates

Useful to know...

An Intervet-sponsored web site has been launched in September aimed at providing easy-to-access information specifically related to diseases caused by avian pneumoviruses. www.intervet.co.uk will be updated regularly with the latest information on the diseases, such as turkey rhinotracheitis (TRT) and swollen head syndrome (SHS). It will include advice on control measures, sources of reference and published scientific material – all of which can be accessed quickly by anyone within the poultry industry.

Avian pneumovirus (APV) infection appeared in the UK over 20 years ago and had probably been present in chickens and turkeys in Europe for 10 or more years before that. It is seen as a precursor for a range of other poultry diseases, some of which can be very costly in terms of production losses. Here, Steve Lister gives an account of the virus and the approach producers can adopt to minimise its effect.

What’s in a name? (TRT, SHS, ART or APV!)

by Steve Lister

Steve Lister is a partner in a three-vet specialist poultry practice, Crowshall Veterinary Services, in Attleborough, Norfolk. The practice deals with a wide range of poultry clients throughout the region. These include turkey, broiler and duck integrations, layer breeders, commercial layers (caged and free range), and many independent turkey, broiler, duck, geese and game bird operations. Steve’s special interests include practical approaches to animal welfare and medicines issues.

Picture 1 - Chicken affected by APV Infection

As more scientific investigations took place the virus became better characterised, and this led to the less confusing and more scientifically correct term, avian pneumovirus (APV). This is now used to describe the infection in all avian species.

The virus has subsequently been found to infect a wide range of other bird species, including pheasants, Muscovy ducks and guinea fowl.
The virus

In the UK and mainland Europe, two subtypes of APV (A & B) cause respiratory disease. Although there can be diseases distinguished in the laboratory, no significant differences in disease caused by either or both infections in the field has been observed. Research tends to view the virus as a single entity, and practical experience supports the laboratory work that suggests broad protection is offered by vaccines derived from either A or B subtypes, for challenges from either field subtype.

The effects of APV infection can vary from severe respiratory tract infection through to ‘mild’, i.e. less defined infections in growth rate and performance. The latter often only being identified by a ‘RD’ in performance when both APV vaccines are used. Respiratory disease can be significant, with subsequent secondary coliforms causing antibiotic treatment failure. Infection is more frequently seen in broiler production, and can lead to significant and expensive downgrading at processing due to widespread air-sacculitis.

Disease manifestation is variable depending on the age and type of bird and any other infections that may be present.

The damage

APV infections primarily affect the respiratory tract. The virus attacks the lining of the airways (trachea and bronchi) affecting the cilia, expediting any pathogens or dust particles that may have gained access to the respiratory tract. Infection with APV damages the cilia lining the respiratory tract by an APV infection and the widespread presence in poultry populations means that exposure to infection at some time in a bird’s life is almost inevitable.

The introduction of high quality vaccines such as Rhino CV and the RD19 vaccination range has given producers the tools to help reduce the commercial impact of such infections. Properly applied, they can help control APV infection and secondary diseases commonly associated with this virus.

General control

Maintaining optimal ventilation and good environmental conditions will reduce the impact of any viral challenge. However, the nature of the damage caused to the respiratory tract by an APV infection and the widespread presence in poultry populations means that exposure to infection at some time in a bird’s life is almost inevitable.

Good hygiene and general biosecurity should help to reduce the impact of mycoplasmal and bacterial infections. However, prevention through vaccination is a more probable method for control.

The vaccines

A number of live vaccines are available for chickens and turkeys, based on either the A or B APV subtypes. Nobilis® Rhino CV is the latest live vaccine available for use in broilers, fattens and layers and breeders from one day of age. Live vaccines such as Rhino CV are well suited to protecting breeders or birds in rear, as primers for inactivated APV vaccines.

In breeder flocks, the decision to vaccinate depends on the local risk and a demonstration of APV involvement in respiratory disease. There is also anecdotal evidence of performance benefits in broiler flocks in the absence of respiratory disease. Vaccination can be done from one day of age and the exact timing is usually determined by other live vaccines used.

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The conclusion

Avian pneumovirus infection of a variety of poultry species has been associated with significant respiratory disease. Downdrafting and mortality in broilers and turkeys, as well as coryza lesions, eye signs and quality of laying birds.

The vaccines provide the producer with the option of a single-vaccination approach to long lasting immunity against APV infection. This is the only licensed vaccine in the UK for use in broilers, breeders and layers.

Nobilis® Rhino CV also acts as an effective primer for subsequent inactivated RV vaccination, such as Intervet’s RD19 range (described elsewhere). This vaccine can be given simultaneously with infectious bronchitis (IB) and Newcastle Disease (ND) vaccines with no adverse effect on any of the vaccines.