



poultry focus

business news for the poultry industry

intervet

In this issue of the Poultry Focus, we introduce the first 5 in 1 layer vaccine and the benefits this vaccine can offer for the challenges faced by both traditional and free range layer units. We have also included some useful information on the do's and don'ts of vaccination by injection in order for you to get optimum use of Intervet's vaccines. This is followed by a legislative background on Salmonella to assure you that vaccination with Nobilis® Salenvac T helps to achieve standards established in the directive.

First 5 in 1 layer vaccine launched



You may have seen reports in the poultry press on the launch of Intervet's first inactivated 5 in 1 layer vaccine for immunity against some of the most common disease challenges encountered in layer and

layer breeder units. **Nobilis® RT + IBmulti + ND + EDS** offers immunity against Avian Rhinotracheitis, Infectious Bronchitis (classical plus variant), Newcastle Disease and Egg Drop Syndrome.

Tibor Cserep, Intervet's poultry business unit technical manager, explains why the combination of a classical plus variant IB serotype is so useful for producers: "Because the vaccine contains Massachusetts (M41) and variant D274 Infectious Bronchitis serotypes, just like its predecessor **Nobilis® IBmulti + ND + EDS**, it provides a broader range of immunity against classical plus existing and emerging variant IB serotypes than a single serotype IB vaccine."

Nobilis® RT + IBmulti + ND + EDS also contains Avian Rhinotracheitis (RT) strain But1#8544, Clone 30 strain of Newcastle Disease (ND) and Egg Drop

Syndrome (EDS) '76 virus. The effectiveness of the RT component has been proven in the field resulting in this component being the antigen of choice for RT control.

Vaccinating birds at 14-20 weeks of age, but not less than 4 weeks before the onset of lay, will provide immunity for one laying period. Birds being vaccinated with the new vaccine should first be primed with live vaccine RT, ND and IB. For the broadest possible immunity against IB we recommend priming with **Nobilis® IB Ma5** or **Nobilis IB 4/91**.

- Reduces the impact of field challenges of some key poultry diseases
- Immunises against classical and variant IB serotypes
- Five-in-one means fewer injections and less bird stress
- Immunity lasts for at least one laying period

The new vaccine is supplied in 1,000-dose, 500ml bottles. For additional information please contact your poultry veterinarian or Intervet's poultry department on 01908 685249, or email poultry.uk@intervet.com.



Getting the most out of injectable vaccines

Vaccination by injection – the do's and don'ts

The appearance of inactivated injectable vaccines in the early 1980's was a significant development for the poultry industry. It reduced the reliance on the use of live vaccines during lay as they induce immunity for the entire laying period. Here we discuss briefly the ways of getting the most out of your injectable vaccines.

Inactivated vaccines work by acting as boosters, after an initial priming with live vaccines. They induce a high and long lasting immunity against a wide variety of infectious diseases. What makes them even more useful, particularly for broilers or free-range units where disease challenge is high, is the fact that they can confer maternal antibodies to progeny, thus providing chicks with passive immunity against early challenges from IBD, CIA or reo viruses.

Inactivated vaccines are usually given during the rearing period and, assuming the birds have been properly primed with live vaccines, the immunity can last for at least one laying cycle. Inactivated vaccines have to be injected so mass application techniques like spraying or adding to drinking water cannot be used. Rather than being seen as a hindrance or excuse not to use them, injecting ensures each bird is individually handled and given a uniform dose. This results in generally less variability in the immune response than, for example, with the drinking water administration method.

Time pressures

It is important to be aware that problems with injecting birds can occur if the teams performing the task are under any kind of time pressure. This has the effect of increasing the potential for missing birds, which in itself can cause subsequent problems. For example, if we take Egg Drop



Bird escaping from injection

Syndrome, against which a layer flock is vaccinated only once in its entire lifetime (for example with Nobilis® RT+IBmulti+ND+EDS), a 'miss rate' of just five percent can have a significant and potentially devastating effect on flock performance following an EDS field challenge.

Similarly, pullets will receive live IB, ND and TRT vaccine during the rearing period. If, as a result of administrator error, they do not receive a 'booster' dose the ensuing immunity will not be sufficient to cope with a field challenge from any of these viruses. **The pressure for speedy vaccination should always be weighed against the potential loss resulting from careless work.**

Penning-up and presenting birds

Injecting birds can be a stressful exercise. Penning-up, catching and handling must be done very carefully to avoid smothering injuries and to minimise lameness problems in the early laying period. Stressful penning-up jeopardizes the birds' welfare and can lead to smothering. To ensure proper flock welfare, farm managers should be present at vaccination or at least when penning-up, and at the start of vaccination. They should then return periodically. Administration of inactivated vaccines needs good teamwork, with catchers helping the vaccinators by presenting the birds gently, safely and in a good position for vaccination.



Careful penning up

There are several methods for presenting birds for vaccination. Any method is acceptable as long as the birds' welfare is not at risk and a full protective dose of vaccine is injected into the correct area of the bird. Holding too many birds in one hand is stressful for the birds (and for the catcher) and increases the risk of missing some of them or incorrectly vaccinating.

Injection sites and methods

The most frequently used sites for injection are the back of the neck underneath the skin (subcutaneous or SC), and the breast or leg muscles (intramuscular or IM). The back of the neck is thought to be a quicker site than the breast or leg but requires more care to avoid accidental self-injection. The injection should be made about mid-way down the neck under the skin and not into bones or neck muscles.



Five birds in one hand

Intramuscular injection presents fewer potential problems than the subcutaneous method, although problems can still occur. The breast muscle is preferable to leg muscle for several reasons. Leg muscles are small compared to breast muscles and there are important blood vessels, nerves and tendons above the hock area, which can be easily damaged by a needle, resulting in transient or permanent lameness. If the needle is inserted into this part of the leg it can easily hit the bone, leading to local inflammation and lameness. It is thought that tenosynovitis/lameness problems of the early laying period are at least partly due to rough handling and poor leg injection technique.

The size and the thickness of breast muscles offer a relatively safe area for IM vaccination. When injecting into breast muscle, the needle should be placed so as to deposit the vaccine in the thickest part of the muscle. If the needle is inserted too close to the end of the keel or too far to the side it may penetrate the abdominal wall

and the vaccine will be deposited in the abdominal cavity. This can result in mortality, in the case of a liver puncture, or peritonitis. Conversely, if the needle is inserted into the breast muscles too near the collar bone or the crop then relatively big blood vessels can be damaged resulting in haemorrhages.

Do it gently!

Injecting inactivated vaccines into poultry or other birds does not require strength. A common problem is to use excessive force when inserting the needle into the leg or breast of a bird. This can be dangerous in the case of leg vaccination as the needle can easily hit the bone causing pain for the bird and damage the bone and the periosteum (tissue surrounding and nurturing the bones.) In this context, it is perhaps not surprising that many layers vaccinated into the leg sit and show general malaise after vaccination. Excessive pressure on the ribcage by pushing the gun too hard into the breast muscles should also be avoided as the needle can reach the heart or the liver causing fatal injuries.

Inactivated vaccines definitely have a significant role to play in the health management of today's poultry flocks. They are extremely useful tools for use in the fight against infectious diseases. However, it is important to realise that their effect does not spread from bird to bird like it can do with live vaccines. A missed bird is missed forever! If 20% of a breeder flock is missed then 20% of the potential hatching eggs are also missed.



Lameness & inflammation after careless leg injection

Summary of steps for correct vaccination with inactivated vaccines

Preparation	Vaccination
<ul style="list-style-type: none"> Remove vaccines from cold store and keep vaccines at room temperature overnight. Shake them well before start of vaccination and every 10-15 minutes during vaccination. 	<p>Neck Insert needle underneath the skin at the back or the side of the neck towards the base of the neck. Avoid muscles or bones of the neck.</p>
<ul style="list-style-type: none"> Calibrate vaccinator guns and put new sterile needles on them. 	
<ul style="list-style-type: none"> If the birds are on litter, pen them up very carefully to avoid smothering. 	<p>Breast Insert needle into the breast muscles approx. one inch (2.5 cm)* sideways from the tip of the keel bone.</p>
<ul style="list-style-type: none"> Dim lighting in the shed but ensure adequate light in area where vaccination takes place. 	
<ul style="list-style-type: none"> Catchers should present birds to vaccinators so that they can see the site of vaccination clearly and can carry out vaccination precisely into the ideal area. 	<p>Leg Insert needle into the upper third of drumstick approx. one inch (2.5 cm) downwards from the knee joint. Avoid lower parts where bone, tendons, nerves and blood vessels can be damaged.</p>

* This distance is a guideline only and can vary according to species and type of birds

Legislative background – Salmonella



The Zoonoses Regulation 2160/2003 requires that Member States of the European Union put into place control plans for the monitoring and reduction of zoonoses at farm level once the target to reduce the pathogen or infectious agent has been agreed. The Regulation requires that a

target to reduce the prevalence of Salmonella in layer flocks should be established by the end of 2005. Member states of the EU have been tasked with conducting a survey of flocks of laying hens for Salmonella commencing 1st October 2004. This survey started in the UK and in a year's time results will be published.

According to the new Zoonosis Directive eggs will not be allowed to be marketed for direct human consumption unless they originate from a flock found to be free of SE and ST. For poultry meat a criterion of "absence of salmonella in 25 grammes" will apply.

UK producers have already done a lot to achieve those targets and the ACMSF's second Report on Salmonella in Eggs clearly indicated that widespread use of **Nobilis® Salenvac** in layer flocks played an important part in reduction of human salmonella cases since 1997. **Nobilis® Salenvac T** with its broadened spectrum of protection continues to play an important role in reducing salmonella at farm level both in breeder and layer flocks hence protecting the consumer from salmonella related food poisoning.

Ideally, the consumer would like to buy eggs or broiler meat which had no salmonella in them at all. Vaccines that provide efficacy through the entire life of the flock can play a role in achieving that. Duration of efficacy studies have proven that **Nobilis® Salenvac T** provides immunity against *S. enteritidis* and *typhimurium* at least up to 56 weeks.

Similarly to live vaccines, **Nobilis® Salenvac T** acts locally in the gut and reduces shedding through the faeces. In addition to that it induces antibodies that appear in the eggs of breeder or layer hens. This means that the newly hatched broilers have a cleaner start and have passive immunity against field challenge up to three weeks of age. Trial results supporting these claims are in the process of publication.



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