

VECTORMUNE® ND
THE ANTIVIRUS WITH
NO SIDE EFFECTS

Vectormune® ND harnesses a new technology in vaccine manufacturing for Newcastle disease protection.

Vectormune® ND is essentially a HVT (herpes virus of turkey) vaccine, presenting protective antigens against ND to the bird's immune system.

Therefore like any HVT virus, the vaccine does not replicate in the respiratory tract of the bird. For this reason, it is totally safe and does not impair the bird's growth and development.



Large field trials conducted in Brazil have demonstrated that Vectormune® ND has no impact on respiratory tract function and also no impact on the zootechnical results from a safety standpoint. (4-5)

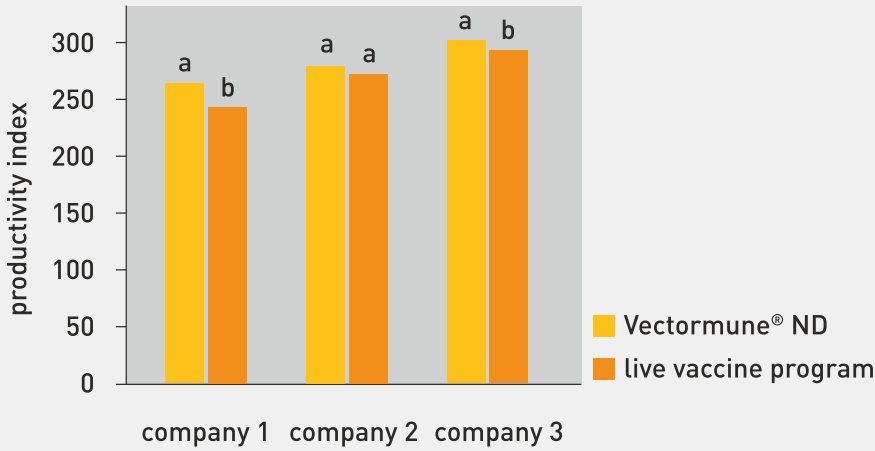
3 integrations have run evaluation of different vaccination programs, including Vectormune® ND only, compared to their conventional vaccination program that consists of live ND vaccines applied once or twice. Vaccination programs were compared by evaluating trachea lesions scores at different ages and zootechnical performances of the different groups of vaccinated broilers.

Trachea histopathological lesions score at 14, 21 and 28 days of age.

	Vectormune® ND	Conventional vaccine	Vectormune® ND	Conventional vaccine	Vectormune® ND	Conventional vaccine
	14 days of age		21 days of age		28 days of age	
Company 1	0.38 ^a	0.43 ^a	0.53 ^a	0.60 ^b	0.69 ^a	0.79 ^b
Company 2	0.45 ^a	0.52 ^b	0.66 ^a	0.86 ^b	0.69 ^a	0.99 ^b
Company 3	0.20 ^a	0.33 ^b	0.35 ^a	0.45 ^b	0.56 ^a	0.60 ^a

Different superscript letter indicate statistically different groups (p<0.05).

In each company an improvement of productivity index has been observed



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VACCINATION SCHEDULE

AGE	ROUTE	LOW NDV RISK COUNTRY	MEDIUM NDV RISK COUNTRY	HIGH NDV RISK COUNTRY
Day 1 or 18-19 days of incubation	SC or in ovo			
	Coarse spray			
Week 2	Coarse spray			

VECTORMUNE® ND

Composition

Vectormune® ND is a cell-associated live recombinant turkey herpes virus (rHVT/ND) expressing the fusion protein of Newcastle diseases virus D-26 lentogenic strain.

Indications

For active immunisation of 18 day-old embryonated chicken eggs or one-day-old chicks to reduce mortality and clinical signs caused by Newcastle disease virus and to reduce mortality, clinical signs and lesions caused by Marek's disease virus. Onset of immunity against Newcastle disease: 3 weeks of age. Duration of immunity against Newcastle disease: 72 weeks of age. Onset of immunity against Marek's disease: 1 week of age. Duration of immunity: a single vaccination is sufficient to provide protection during the risk period of infection with Marek's disease.

Administration:

In-ovo
One single dose of 0.05 ml is injected into each 18-day-old embryonated broiler chicken egg. For in-ovo application an automatic in-ovo egg injector can be used. In-ovo equipment should be calibrated to ensure that a 0.05 ml dose is applied to each egg.
Subcutaneous use
One single injection of 0.2 ml per chick is applied at one day of age. The vaccine may be injected by an automatic syringe.

Special precautions for use:

The vaccine strain was shown to be excreted by chickens and there was a slow spread to turkeys which was not detectable at 35 days but was detectable after 42 days of a contact study. Safety trials show the excreted vaccine strain is not harmful in turkeys; however, special precautions should be taken to avoid spreading of the vaccine strain to turkeys. No spread was demonstrated between chickens.

Storage: Store and transport frozen in liquid nitrogen (-196 °C).

Warning: Liquid nitrogen containers and vaccine ampoules should be handled by properly trained personnel only.

References

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- Merz DC, Scheid A and Choppin PW, Importance of antibodies to the fusion glycoprotein of Paramyxoviruses in the prevention of spread of infection. J. Exp. Med. Feb 1980, 151, 275-288.

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INSTALL
THE ULTIMATE
ANTIVIRUS



Vectormune®
ND

Vectormune® ND reduces Newcastle Disease virus **shedding**,
with maximum **protection** and no **side effects**.



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VECTORMUNE® ND
THE ANTIVIRUS THAT
REDUCES NEWCASTLE
DISEASE VIRUS SHEDDING

The HVT virus is able to stimulate the bird’s immune system at local level (blood, tears, harderian gland, BALT and GALT) and systemic level (3).

This widespread and strong stimulation of the bird’s immune system offers a very high protection against a field challenge.



VECTORMUNE® ND
A STRONG ANTIVIRUS FOR
MAXIMUM PROTECTION

Since 2007 Vectormune® ND has been widely used in many countries all around the world.

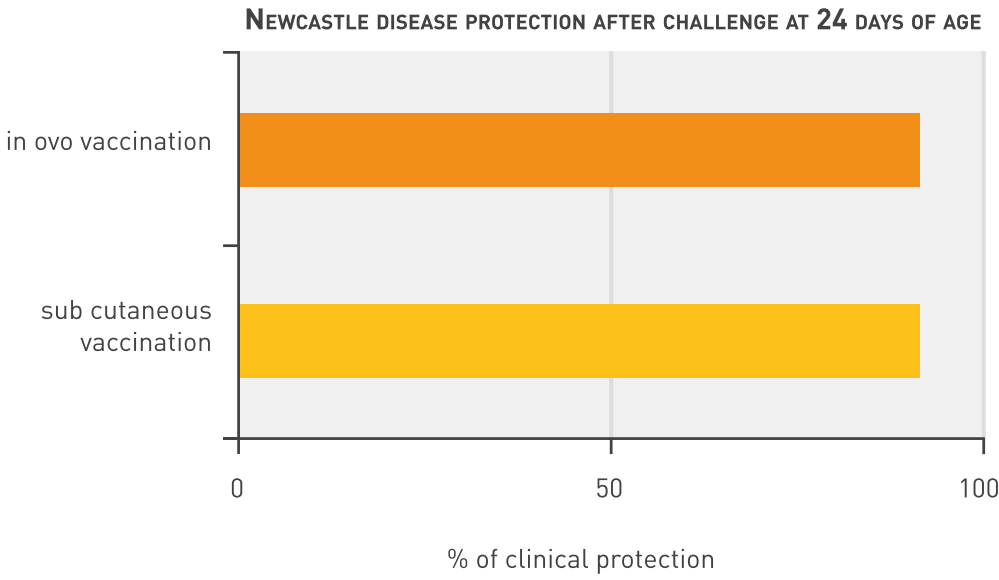
Newcastle disease (ND) viruses belong to one serotype (1) and expression of the key F protein gene (8) by Vectormune® ND has demonstrated the vaccine’s capacity to induce protection from field Newcastle disease virus (6).



Full protection achieved by Vectormune® ND from 3 weeks of age after SC or in ovo route of vaccination

Vectormune® ND induces strong protection from 3 weeks of age.

Commercial broilers were vaccinated either in ovo at 18 days of incubation or sub cutaneously at day-old. Challenge has been performed at 24 days of age with EU Newcastle disease reference strain Herts 33/56 administered by intra muscular route. Internal registration studies (CLI 018 2013, CLI 020 2013)



Commercial broilers were vaccinated with 3 different vaccination programs: Vectormune® ND day 1 SC, or Live vaccines at day 1 and D 18 with 2 enterotropic, apathogenic vaccines or No vaccination. Birds were challenged at 21 days of age with genotype VII Newcastle disease virus by mucosal route.

GROUP	Clinical protection	% of birds shedding		Shedding level	
		Trachea D4	Cloaca D 4	Trachea D4	Cloaca D 4
Vectormune® ND	100 %	10 %	20 %	0.35 ^a	0.34 ^a
Live vaccine at day 1 & d 18	86 %	60 %	40 %	2.45 ^b	1.66 ^a
No vaccination	0 %	100 %	90%	5.03 ^c	4.5 ^b

Different superscript letter indicate statistically different groups (p < 0.05).

Vectormune® ND was able to control mortality better, to reduce the number of birds shedding challenge virus and also lowering the amount of virus shed compared to the vaccination program with only 2 live vaccines.

AND HELP TO BETTER CONTROL
NEWCASTLE IN YOUR FARMS.

Vectormune® ND has been used successfully in a number of challenge studies with different field viruses from all over the world.

Country of origin	Strain reference	Genotype	ICPI
Vaccine strain	Hitchner B1	II	0.20
US reference challenge strain	Texas GB / 48	II	1.70
EU reference challenge strain	Herts 33/56	IV	1.88
Russia	T-53	IV	1.9
Mexico	Chimalhucan	V	1.89
Indonesia	D 16785/11	VIIa	/
Philippines	D 1598 1/11 PH	VIIa	
Peru	D 575/6/05 PE	VIIb	
Thailand	Lopburi	VIIId	1.86
Thailand	D	VIIId	1.98
Middle east	D 1435/3/3/SA/10	VIIId	
Malaysia	D 1524/1/1.2/MY/10	VIIId	
South Africa	Goose PMV (171/06)	VIIId	1.85
China	D1500/2/1/10/CN	VIIId	
South Africa	RB Daagstam (ND/01/ZA)	VIII	

Vectormune® ND is inducing long lasting protection!

Vectormune® ND is a HVT vaccine, it replicates on continuously, boosting the birds’immunity for its entire life.

Protection up to 72 weeks of age, after a single Vectormune® ND vaccination at day 1 has been demonstrated (2)

Commercial pullets have been vaccinated at day 1 with Vectormune® ND and challenged by mucosal route with recent genotype VII isolate from 3 to 72 weeks of age.

CLINICAL PROTECTION RESULTS							
ND vaccination	Clinical protection at different ages (age in weeks)						
	3	4	6	10	15,25,33,40	55	72
Vectormune® ND	74% ^b	95% ^b	100% ^b	100% ^b	100% ^b	100% ^b	100% ^b
No vaccination	20% ^a	0% ^a	0% ^a	0% ^a	0% ^a	0% ^a	0% ^a

Different superscript letter indicate statistically different groups (p<0.005).