



Kiat sukses program vaksinasi budidaya ayam

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Hal penting terkait program vaksinasi

1. Epidemiologi penyakit

2. Program vaksinasi

- Pemilihan vaksin
- Aplikasi vaksin
- Monitoring



Epidemiologi penyakit

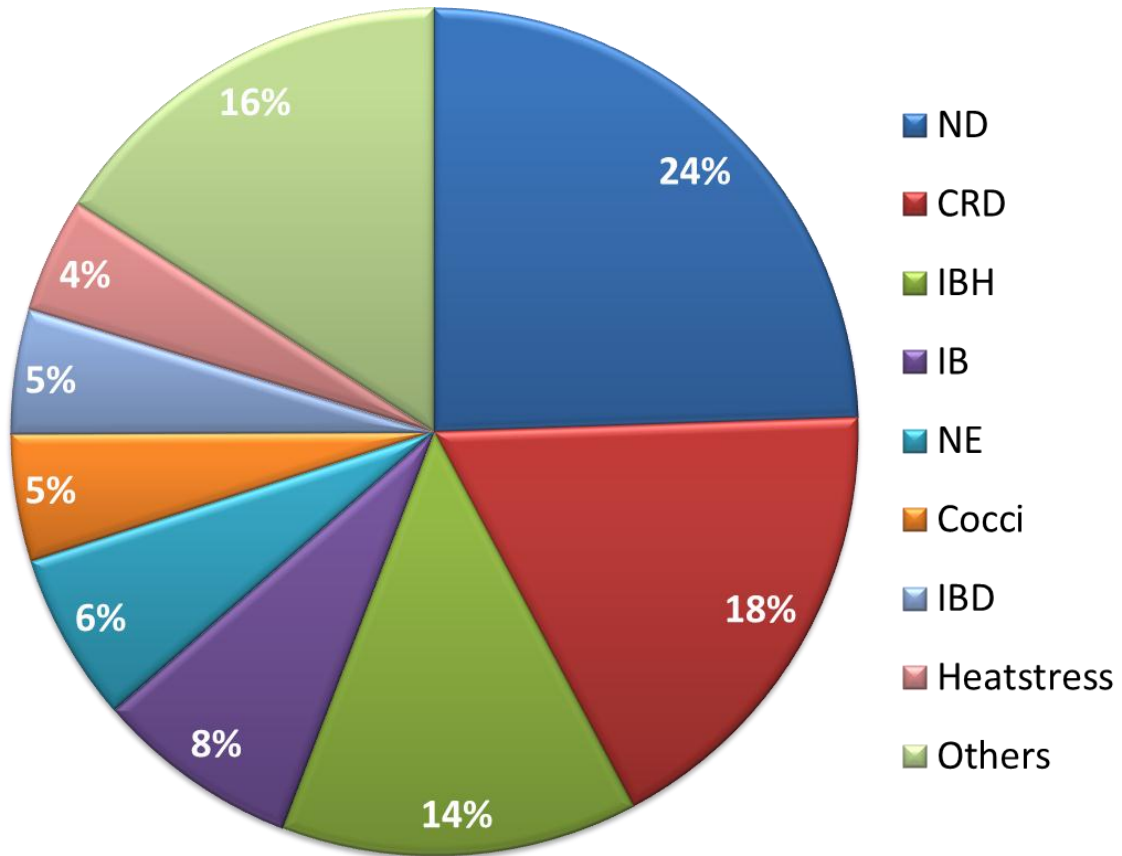
Surveillance penyakit di Indonesia

- Studi dilakukan dari Januari 2018 hingga Mei 2020 di peternakan ayam pedaging dan petelur yang berlokasi di pulau Sumatra dan Jawa, bertujuan untuk menyelidiki penyakit unggas yang paling umum di daerah ini.
- Pengumpulan data dilakukan oleh 31 dokter hewan lapangan dan diagnosis didasarkan pada gejala klinis dan analisis post-mortem dari flock unggas yang terkena dampak. Tes laboratorium untuk konfirmasi dilakukan bila memungkinkan.



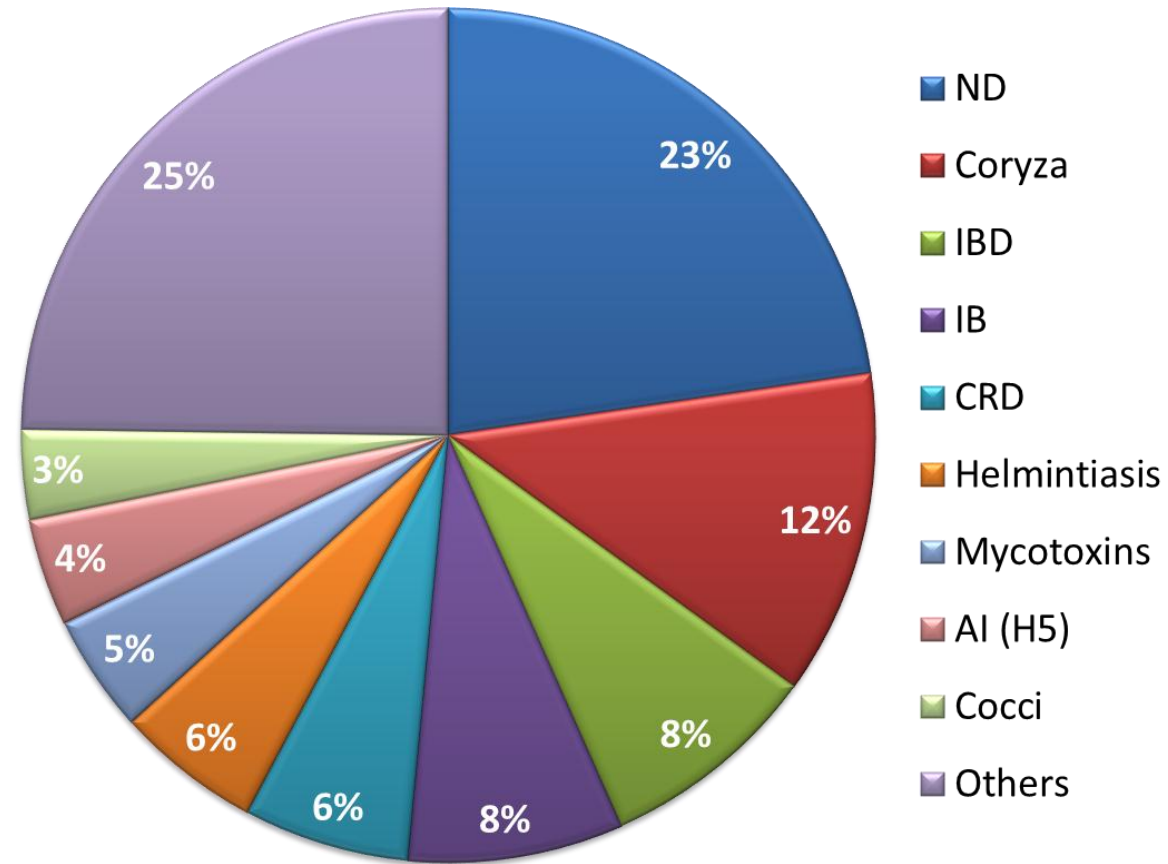
Surveillance penyakit di Indonesia: Broiler vs Layer

Broiler



n= 822 kasus

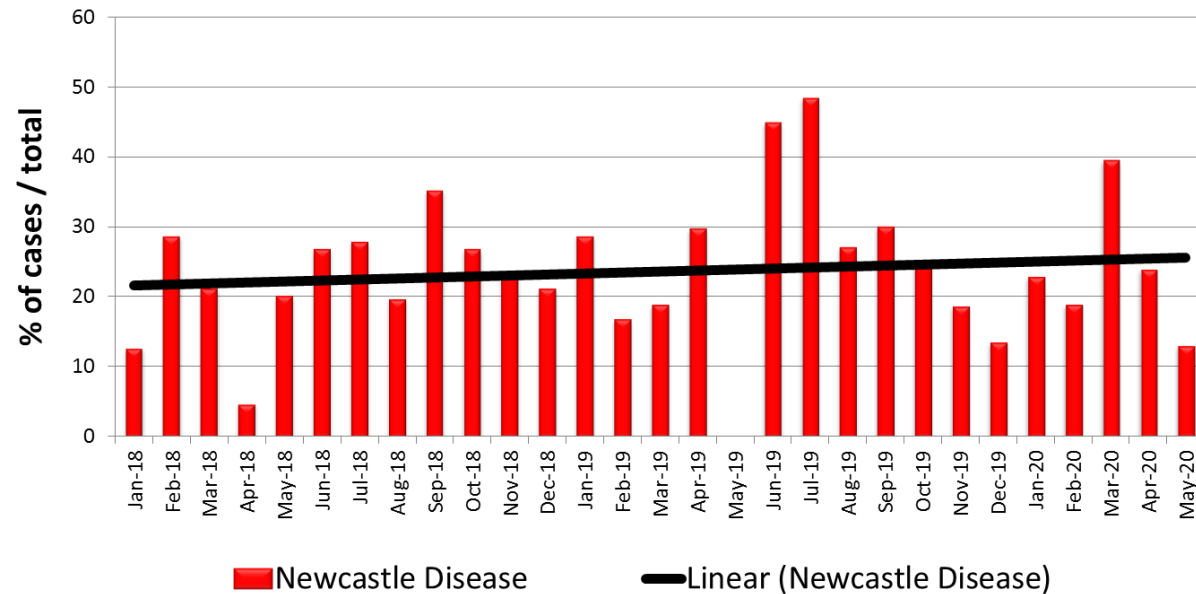
Layer



n= 763 kasus

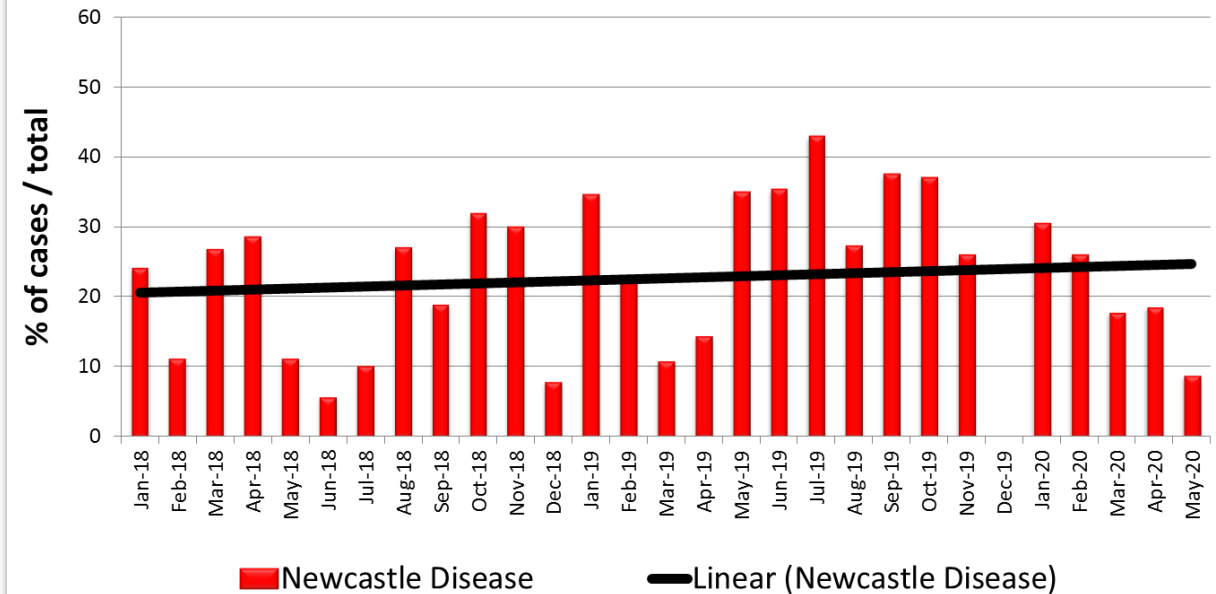
Surveillance penyakit di Indonesia: Broiler vs Layer

Percentage of Newcastle Disease
Broilers



Broilers: Average **24.5%** of the cases

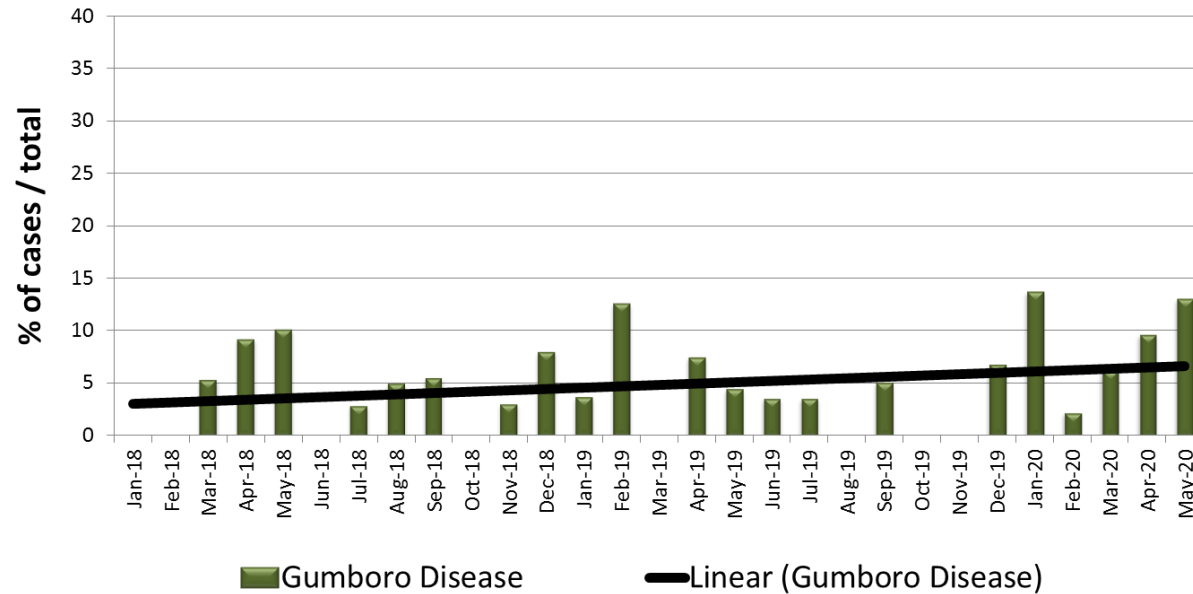
Percentage of Newcastle Disease
Layers



Layers: Average **22.7%** of the cases

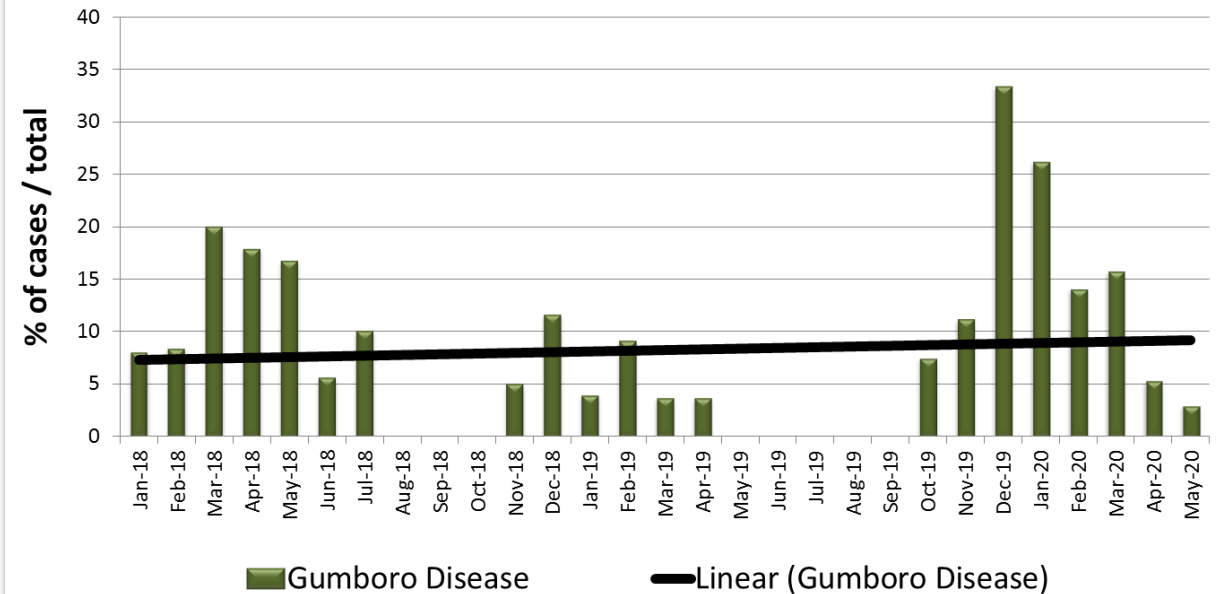
Surveillance penyakit di Indonesia: Broiler vs Layer

Percentage of Gumboro Disease
Broilers



Broilers: Average **4.7%** of the cases

Percentage of Gumboro Disease
Layers



Layers: Average **8.4%** of the cases

Program Vaksinasi

Trend industri perunggasan

- Perkembangan Genetik
- Sistem perkandangan
- Teknologi pakan
- Modernisasi Hatchery
- Teknologi vaksin & vaksinasi

Development of the modern Brown commercial layer

		1970	2000	2008	2017	2020
HH EGGS AT 75 Weeks	(NRS)	239	306	324	350	361
HH EGGS AT 90 Weeks	(NRS)				429	446
HH EGGS AT 100 Weeks	(NRS)					500
AGE AT 50% PRODUCTION	(WKS)	26	20	20	20	20
AGE AT PEAK PRODUCTION	(WKS)	29	26	26	25	25
RATE OF LAY AT PEAK	(%)	86	95	96	97	97
EGG MASS AT 75 Weeks	(KG)	14.9	19.2	20.6	21.9	22.6
EGG MASS AT 90 Weeks	(KG)				27.0	28.0
EGG MASS AT 100 Weeks	(KG)					31.5
FEED/DAY	(G/D)	127	114	114	113	112
FCR resp. 75 to 90 to 100 weeks of age	(KG/K)	3.46	2.41	2.25	2.14	2.07
LIVEABILITY	(%)	90	94	94	95	95
HEN DAY RATE OF LAY AT 75 Weeks	(%)	55	74	76	80	82
BODYWEIGHT AT 18 Weeks	(KGS)	1.72	1.55	1.55	1.50	1.50
ADULT BODYWEIGHT	(KGS)	2.5	2.0	2.0	2.0	1.9

Perkembangan broiler modern



1957 broiler



1977 broiler



Modern broiler

Source: Renema et al, 2006.

Perkembangan genetik vs Program vaksin

Layer modern

- Kecepatan dalam menggertak kekebalan
- **Perlindungan jangka waktu panjang**
- Aplikasi bersifat massal
- **Kombinasi vaksin**

Broiler modern

- **Kecepatan dalam menggertak kekebalan**
- Aplikasi bersifat massal
- Kombinasi vaksin

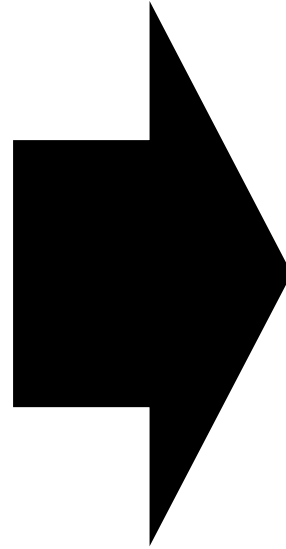
Sistem perkandangan



8-10/m²



20-22/m²



Tipe perkandangan vs Program vaksin

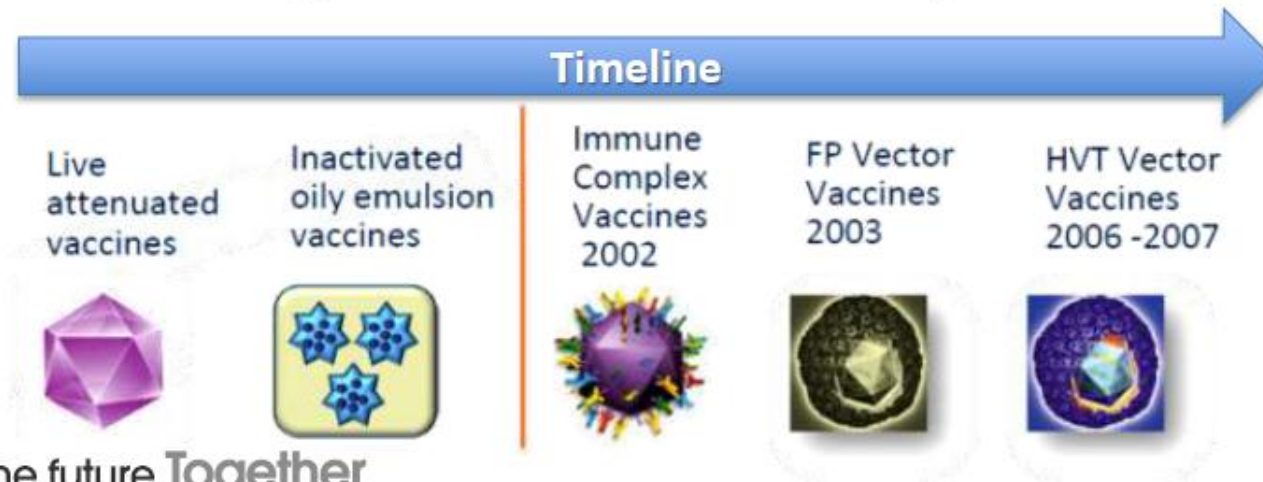
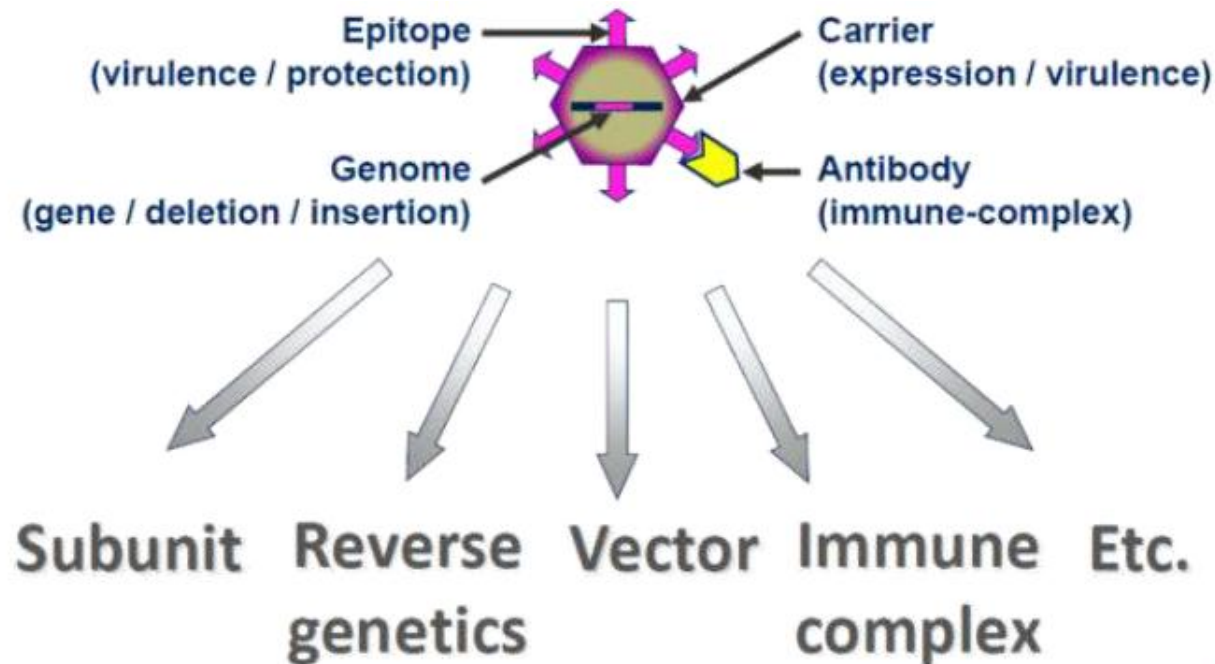
Layer modern

- Kecepatan dalam menggertak kekebalan
- Perlindungan jangka waktu panjang
- **Aplikasi bersifat massal**
- **Kombinasi vaksin**

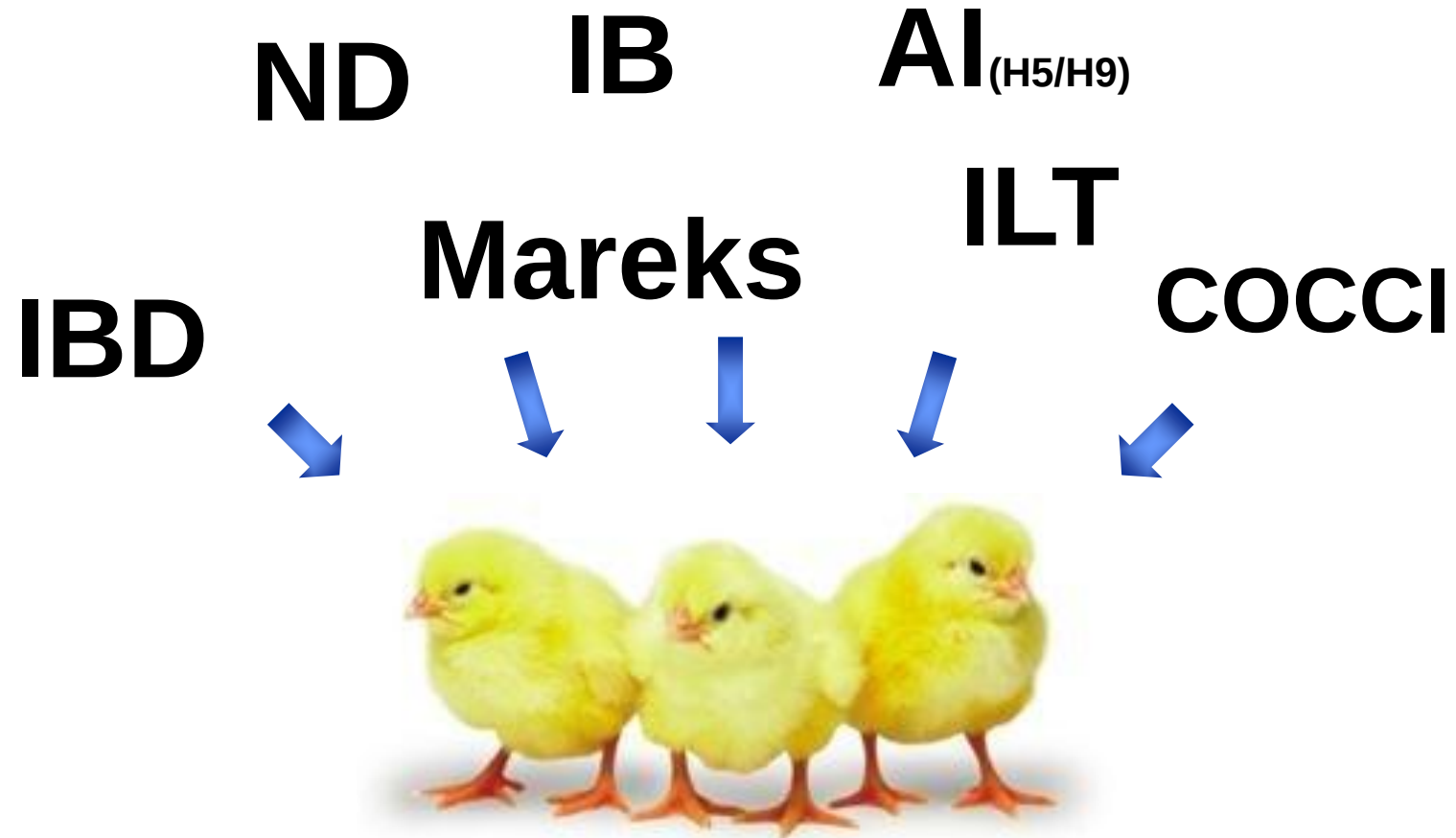
Broiler modern

- Kecepatan dalam menggertak kekebalan
- **Aplikasi bersifat massal**
- **Kombinasi vaksin**

Teknologi vaksin



Hatchery vaksinasi



Hatchery vaksinasi: Keuntungan

- Aplikasi individual bersifat massal
- SOP dan aplikasi terkontrol
- Perlindungan lebih cepat
- Manajemen SDM lebih mudah



Hatchery vaksinasi: Vaksin

Kompatibilitas

Pengaruh kekebalan asal induk

Lama perlindungan

Keamanan terhadap DOC

Hatchery vaksinasi: Vaksin

AVIAN DISEASES 56:282–287, 2012

Advancement in Vaccination Against Newcastle Disease: Recombinant HVT NDV Provides High Clinical Protection and Reduces Challenge Virus Shedding with the Absence of Vaccine Reactions

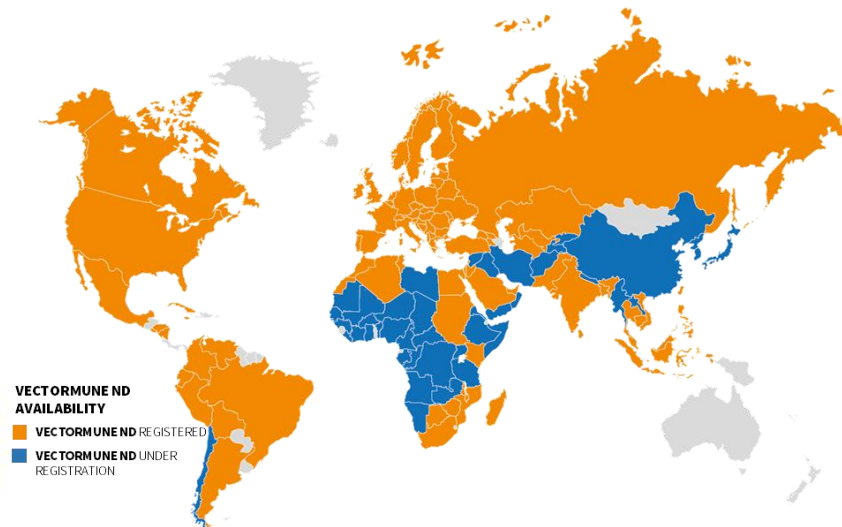
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SUMMARY. Newcastle disease (ND) is a highly contagious disease of chickens causing significant economic losses worldwide. Due to the limitation in their efficacy, current vaccination strategies against ND need improvements. This study aimed to evaluate a new-generation ND vaccine for its efficacy in providing clinical protection and reducing virus shedding after challenge. **Broiler chickens were vaccinated *in ovo* or subcutaneously at hatch with a turkey herpesvirus-based recombinant vaccine (rHVT) expressing a key protective antigen (F glycoprotein) of Newcastle disease virus (NDV).** Groups of birds were challenged at 20, 27, and 40 days of age with a genotype V viscerotropic velogenic NDV strain. Protection was 57% and 81%, 100% and 95%, and 100% and 100% after the subsequent challenges in the *in ovo* and subcutaneously vaccinated chickens, respectively. Humoral immune response to vaccination could be detected from 3–4 wk of age. Challenge virus shedding was lower and gradually decreased over time in the vaccinated birds compared to the unvaccinated control chickens. **In spite of the phylogenetic distance between the NDV F gene inserted into the vector vaccine and the challenge virus (genotype I and V, respectively), the rHVT NDV vaccine provided good clinical protection and significantly reduced challenge virus shedding.**



Hatchery vaksinasi: Vaksin

Research paper

Onset and long-term duration of immunity provided by a single vaccination with a turkey herpesvirus vector ND vaccine in commercial layers



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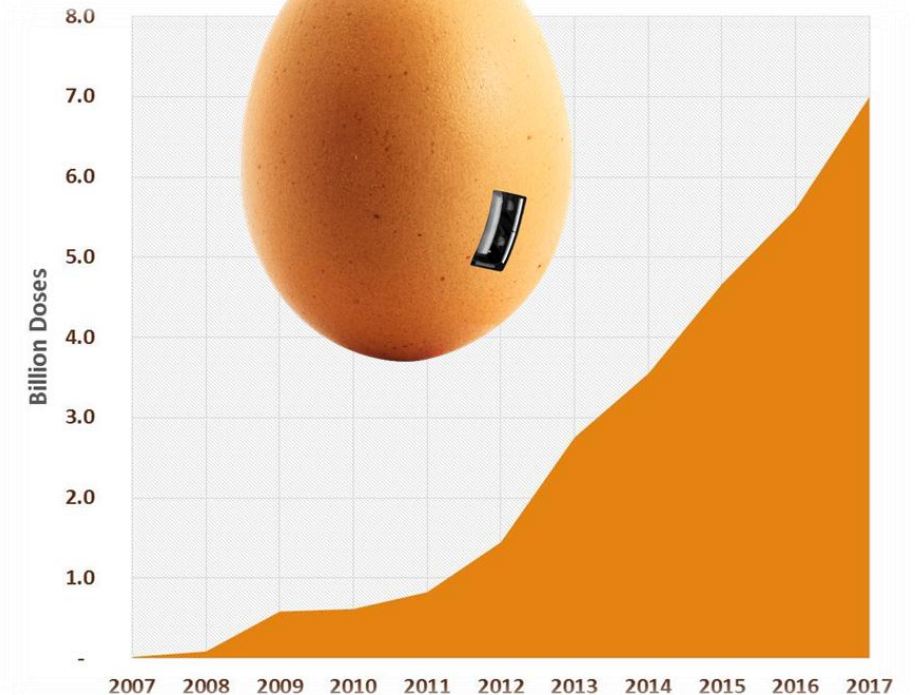
ABSTRACT

The onset and duration of immunity provided by a recombinant ND vaccine using HVT virus as vector (rHVT-ND) was followed up to 72 weeks of age in commercial layer chickens after single application or as part of two different vaccination regimes including conventional live and killed ND vaccines. Efficacy of the different vaccination programmes was checked, from 3 to 72 weeks of age, by serology as well as by challenges with a recent velogenic NDV isolate belonging to genotype VII. Assessment of protection was done based on the prevention of clinical signs and reduction of challenge virus shedding via the oro-nasal and cloacal routes.

Single vaccination with the rHVT-ND vaccine at one day of age provided complete or almost complete (95–100%) clinical protection against NDV challenges from 4 weeks of age up to 72 weeks of age when the latest challenge was done. Shedding of challenge virus both by the oro-nasal and cloacal route was significantly reduced compared to the controls. Booster vaccination of rHVT-ND vaccinated birds with conventional ND vaccines significantly increased the level of anti-NDV serum antibodies and further reduced the oro-nasal excretion of challenge virus.

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INSTALL
THE ULTIMATE
ANTIVIRUS



Vectormune ND is a reference ND vaccine

Hatchery vaksinasi: Aplikasi

Subkutan: setelah menetas



In Ovo: Saat transfer setter - hatcher



Hatchery vaksinasi: Hatchery Modernization

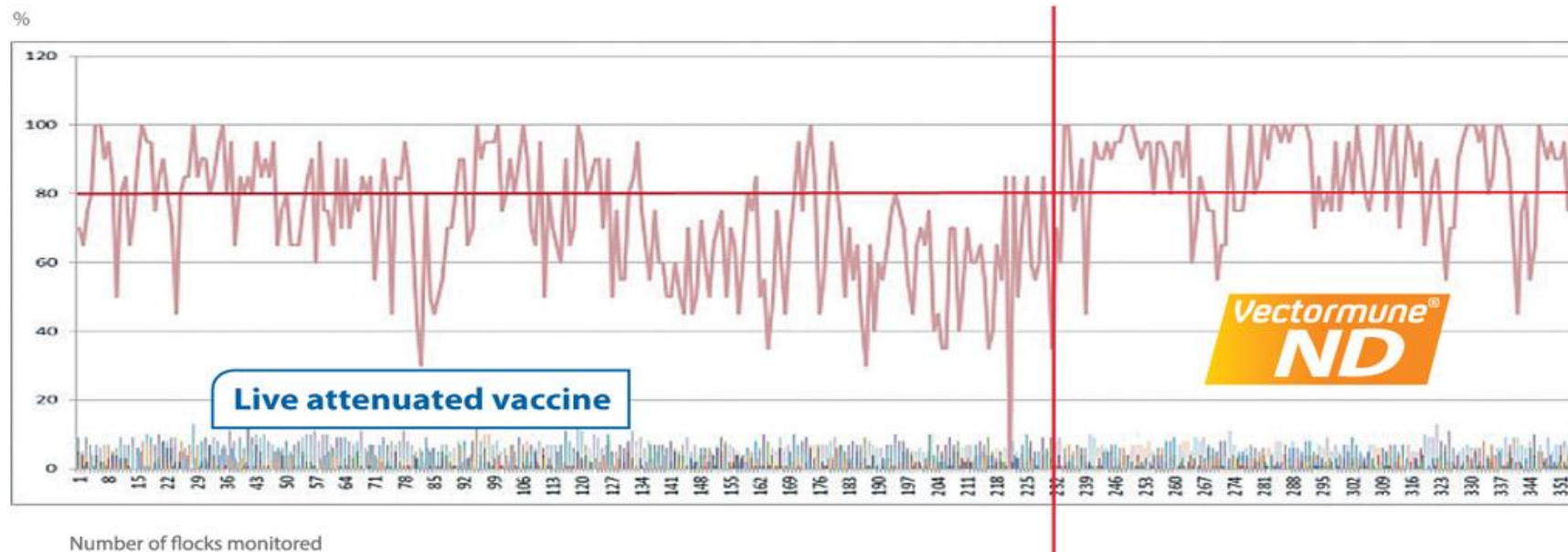


Monitoring farm dan Veterinary Service



Global Protection Services memungkinkan pengambilan keputusan berdasarkan data dan proaktif berkat pemantauan berkala atas status kesehatan dan monitoring kerja vaksin di flock-flock

Data serologis dari pemantauan GPS dilakukan dalam 400 flock. Persentase (%) seropositif pada umur panen dan titer kelompok (uji HI).



Kesimpulan

Program vaksinasi sangat ditentukan

1. Epidemiologi penyakit di farm dan area masing-masing
2. Vaksinasi di hatchery merupakan salah-satu solusi pada budidaya unggas modern
3. Teknologi vaksin yang baik akan memberikan perlindungan maksimal seiring tantangan penyakit dengan tetap mendukung trend industri perunggasan



Thank you

