

Vaxxon[®] MG Live

- Safe AND protective
- Prevents field strain colonization
- No vertical transmission
- Long lasting immunity



va:xx:inova[®]



Mycoplasma gallisepticum is a bacterium that primarily affects poultry, including chickens and turkeys, causing chronic respiratory disease (CRD) in chickens. This pathogen is known for its ability to attach to and invade the respiratory epithelial cells, leading to a variety of respiratory issues and oviduct lesions (*see reference*).

The economic impact of **Mycoplasma gallisepticum** is significant in the poultry industry due to:

- **Decreased Productivity:** decline in egg production and poor uniformity.
- **Increased Mortality:** especially in severe outbreaks.
- **Secondary Infections:** increased susceptibility to other infections, leading to further economic losses.
- **Treatment Costs:** expenses related to medication and veterinary care.
- **Export Restrictions:** potential trade limitations due to disease outbreaks.

While treatment options are available, they mainly focus on managing symptoms and reducing the spread rather than eliminating the pathogen.

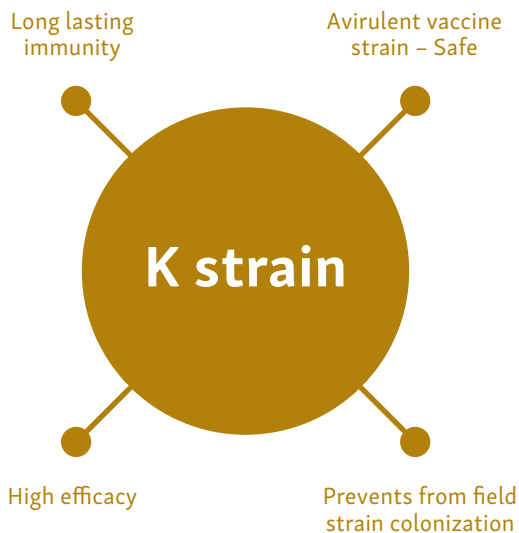
Effective prevention strategies focus on biosecurity, **vaccination**, diagnostics and management practices.



Vaxxon® MG Live is a live attenuated vaccine developed to control **Mycoplasma gallisepticum** infections in poultry. When administered, it stimulates the bird's immune system to develop a protective response without causing disease. The vaccine mimics a natural infection, prompting the immune system to recognize and respond more effectively to actual *Mycoplasma gallisepticum* infections in the future.

An optimal Mg vaccine should be non-reactive in the birds, provide long-lasting (ideally lifelong) protection, not be able to spread vertically, cost-effective, easy to administer, and stable.

Vaxxon® MG Live contains **strain K5831B-19** – As shown in trials (*Ferguson-Noel et al, 2012 and 2015*) the K-strain vaccine demonstrated the ability to colonize and persist in the upper respiratory tract of vaccinated chickens for at least five months. It maintained its avirulent characteristic after five successive passages through chickens, with no evidence of decreased safety or vertical transmission.



EFFICACY

In a comparative laboratory study the colonization ability of Vaxxon MG Live – K-strain - was demonstrated.

Materials & Method

Chickens free of Mg/Ms, from commercial farms, 8 weeks of age, vaccination according to manufacturer's label

- Group 1 – 20 chickens, Mg live K-strain vaccination
- Group 2 – 20 chickens, Mg live Ts/11 strain vaccination
- Group 3 – 20 chickens, Mg live 6/85 strain vaccination
- Group 4 – 20 chickens, Mg live F-strain vaccination
- Group 5 – 15 chickens (controls), non-vaccinated and challenged
- Group 6 – 10 chickens (seeders), challenged with 0.1 ml of Mg R-strain

Six weeks after vaccination seeder chickens were introduced in each group 1-5, 3 days after challenge.

At 0-2-4-8 weeks post introduction of seeders, serum samples were taken. Samples of trachea were tested by real time PCR.

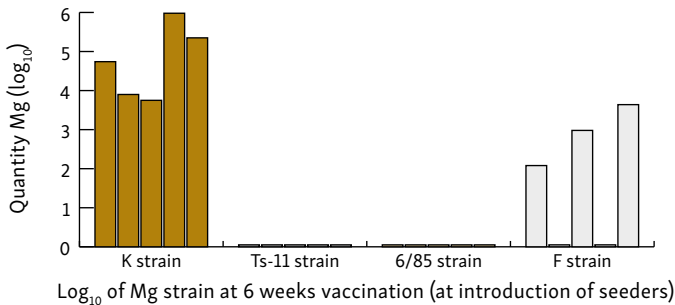


Fig. 1; Log₁₀ of Mg strain at 6 weeks after vaccination



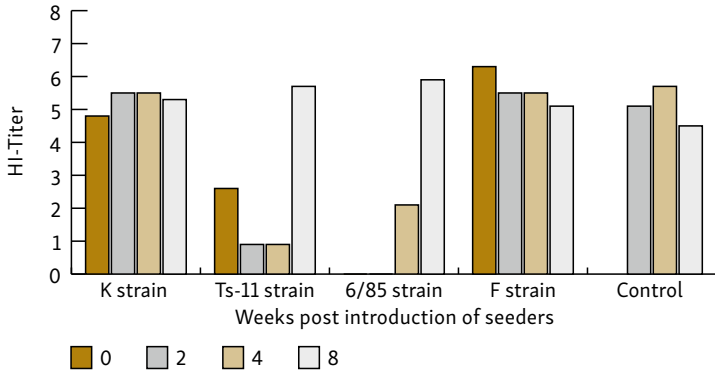


Fig. 2; antibody response in HI test Log₂ 0, 2, 4 and 8 weeks post introduction of seeders

Conclusion: The comparison as demonstrated in fig. 1 shows the high colonization ability of Mg live K-strain. Further, the K-strain induces a strong antibody response in the birds.

COMPARISON

In a comparative field trial it was demonstrated that Vaxxon MG Live provides high protection levels with a very fast onset of immunity.

12.0000 commercial layers divided into three groups:

- Group 1 – 70 days of age, intra-ocular inoculation with Mg live K-strain vaccine
- Group 2 – 70 days old, intra-ocular inoculation with Mg live ts-11 strain vaccine
- Group 3 Control – 180 days old chickens, Mg free

All groups challenged with virulent Mg R-strain (102 CCU/ml/chicken).

Egg production was recorded for each group.

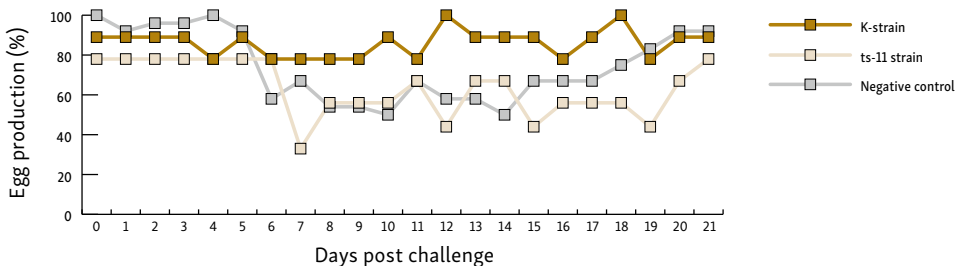


Fig. 3; Egg production until 3 weeks after challenge

Conclusion: The Mg live K-strain protects against drop in egg production after challenge.

The above studies suggest that the K-strain offers comparable or superior efficacy to other commercially available live Mg strains. It has the potential to protect vaccinated birds against respiratory and reproductive lesions and prevent colonization by field strains.

SAFETY

Scientific trials demonstrated K-strain to be non-transmissible to other birds, to not result in clinical signs or lesions and to not spread vertically (Ferguson-Noel *et al*, 2015).

A laboratory study confirmed the safety of Vaxxon® MG Live.

Materials and Method

- Group 1 – 10 SPF chickens 28 days old, 5-fold overdose eye drop vaccination with Vaxxon MG Live, strain K5831B-19
- Group 2 – 10 SPF chickens 28 days old, 5-fold overdose spray vaccination with Vaxxon MG Live, strain K5831B-19
- Group 3 (controls) – 10 SPF chickens 28 days old, untreated

8 weeks post vaccination all chickens were weighed and euthanized. Necropsy and histopathology showed no abnormalities and no respiratory symptoms were observed. There were only small differences in body weight, in favor of the Vaxxon MG Live vaccinated group, between the vaccinated and non-vaccinated chickens.

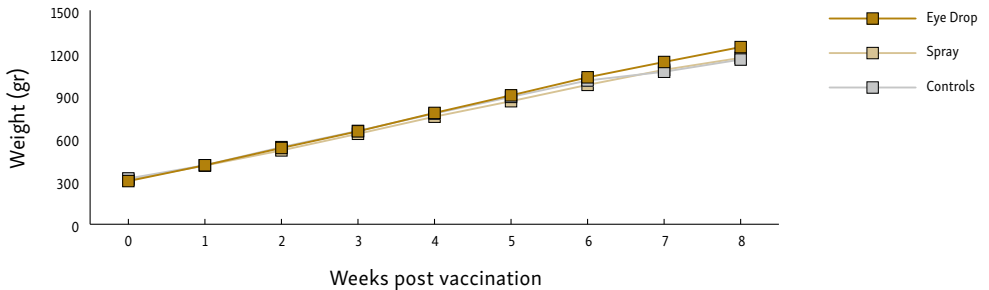


Fig. 4; body weight gain vaccinated vs non-vaccinated chickens

Conclusion: Vaxxon MG live is safe. No adverse reactions have been observed.

References:

- Ferguson-Noel, N.M., V.A. Laibinis, and S.H. Kleven. 2011. Evaluation of *Mycoplasma gallisepticum* K-strain as a live vaccine in chickens. *Avian Dis.* 56:44–50
- Ferguson-Noel, N.M. and S.M. Williams. 2015. The efficacy of *Mycoplasma gallisepticum* K-strain live vaccine in broiler and layer chickens. *Avian Pathol.* 44:75–80



Vaxxon® MG Live



Indications

For active immunisation against loss in egg production due to Mycoplasma gallisepticum infections.



Active Substance

Mycoplasma gallisepticum K5831B-19 strain; $\geq 10^{6.0}$ CFU/dose.



Administration Route

- Eye drop, after dissolving in supplied diluent.
- Spray, after dissolving in supplied diluent and diluted 10-20 times with water.



Poultry Category

Chickens (layers).



Presentation

Lyophilized, 1 x 1000 doses, 1 x 2000 doses. Diluent 1 x 30 ml, 1x 60 ml.



Shelf life

Packaged product: 36 months after production date.
Dissolved product: use immediately.



Storage conditions

Store in a refrigerator $\leq 10^{\circ}\text{C}$. Do not freeze.
Protect from light.

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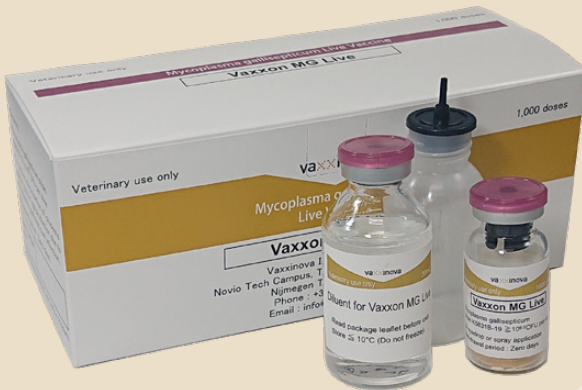
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Version 2

2025.02

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