FVax-MG®

Shifting the MG population from Wild to Mild

MSD
Animal Health

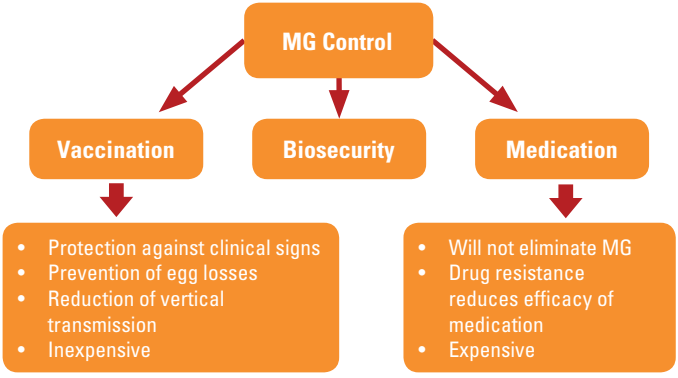
F Vax-MG® Wild to mild

Control of MG

The most important consequence of *Mycoplasma gallisepticum* (MG) infection is economic. Infected layer flocks show reduced egg production and reduced uniformity. Breeder flocks show a marked decrease in hatchability and increased chick mortality.

The implementation of a consistent control program is critical to recover the economic potential of infected farms.

"Mycoplasma infections increase the sensitivity of birds to virus infections (or live vaccines) and *E. coli* and *H. paragallinarum* infections" (Klevin, 1990).



The most critical component of control is the implementation of a vaccination program that shifts the wild MG population to a mild MG population, quickly inducing solid, long lasting protection.

The product

F Vax-MG® is a live vaccine containing the F strain of *Mycoplasma gallisepticum* in a freeze-dried preparation sealed under vacuum. It is recommended for use in healthy chickens by spray administration to aid in the prevention of clinical signs associated with *Mycoplasma gallisepticum* infection.

F Vax-MG® is capable of replacing wild MG in infected farms and prevents the establishment and replication of wild MG in vaccinated birds.

F Vax-MG® is effective in controlling MG infection in field conditions while uniquely balancing necessary potency with safety.

Comparison between live MG vaccines[1]

	F Vax-MG®	Product A	Product B
Presentation	Freeze dried	Frozen	Freeze dried
Route	Spray	Eye drop	Spray, eye drop
Virulence	Moderate	No	No
Persistency	Excellent	Good	Unknown
Serological response	Moderate	Poor	No
Transmission	Moderate	Poor	Poor
Displacement	Excellent	Good	Unknown

F Vax-MG®:

- Provides excellent displacement of wild MG
- High level of vaccine persistency which prevents recontamination of the farm
- Easy to handle
- Safe to use.

Efficacy

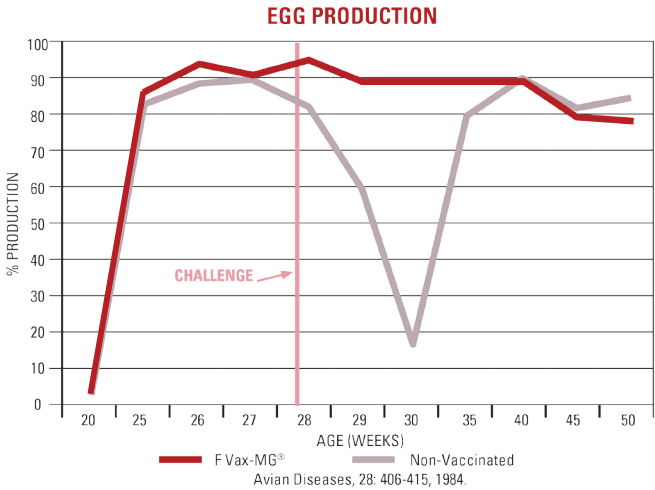
Protection against egg production losses

F Vax-MG® reduces production losses due to MG in laying hens.

A study was conducted to evaluate the ability of **F Vax-MG®** to protect commercial layers against *Mycoplasma gallisepticum* challenge and the impact of the challenge on egg production.

Birds were divided into two treatments:

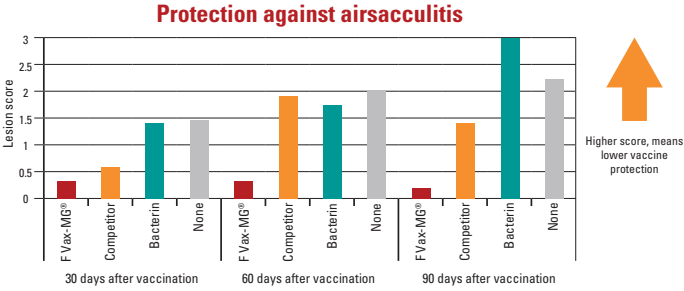
- T1 – non vaccinated and challenged at 28 weeks of age
- T2 – vaccinated with **F Vax-MG®** and challenged at 28 weeks of age.



Avian Diseases, 28: 406-415, 1984.

Protection against airsacculitis

Although **F Vax-MG®** is not approved for use in 10 day old chickens, the vaccine was applied to 10 day old chickens to determine the effect on airsacculitis when challenged with a wild type strain R.



- 10 day old chickens were vaccinated using **F Vax-MG®** or other vaccines, one group was left unvaccinated and served as a control.
- All groups were challenged with wild type R strain at 30, 60 and 90 days after vaccination.
- **F Vax-MG®** vaccinated chickens had the best protection against airsacculitis as compared to other vaccines[1].

Displacement

Replacing field strain

A study was conducted in which groups of 8 week old chickens that had been vaccinated at 4 weeks of age using either **F Vax-MG®** or one of two other commercially available vaccine strains, were challenged by placing them in contact with 20 chickens that had previously been infected with the virulent R strain of MG.

Each month 10 of the vaccinated chickens were removed and replaced with 10 vaccinated chickens to return the total number of birds in the test pen to 30.

Chickens were bled and cultured for MG prior to contact challenge and at the time of removal.

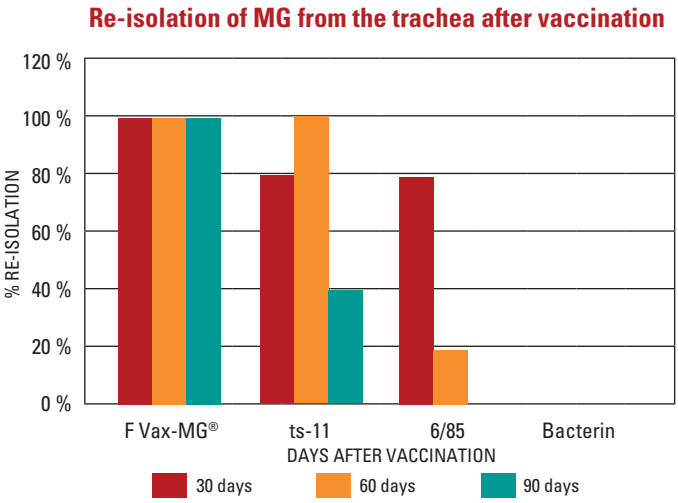
	3 Month	8 Month
T1 F Vax-MG®		
R Strain	F Strain	F Strain
T2		
R Strain	R Strain	R Strain
T3		
R Strain	R Strain	R Strain

Avian Diseases, 42: 300-306, 1998.

Results

- 3 months post-vaccination: 50 % of the isolates from the **F Vax-MG®** test group were vaccine strain, 100 % of the MG isolates from the other test groups were virulent strain.
- 8 months post-vaccination: 100 % of the MG isolates from the **F Vax-MG®** group were vaccine strain, while only the virulent strain was isolated from the other test groups.

Persistence



Abd-El-Motelib And Kleven, 1993.

F Vax-MG® showed significant long-term colonisation of the respiratory tract.

F Vax-MG® provides:

- Optimum balance of potency and safety to control *Mycoplasma gallisepticum*
- Persistence to shift infected complexes from wild MG populations to mild controllable vaccine strain
- Convenience, duration of immunity and efficacy
- Reduced production losses due to MG infections in laying hens, resulting in:
  – 14 more eggs per chicken versus non-vaccinates
  – Lower mortality
  – Lower medication costs.

Bibliography

1. Abd-El-Motelib, T., & Kleven, S. (1993). *A comparative study of Mycoplasma gallisepticum vaccines in young chickens.* Georgia: Department of Avian Medicine, College of Veterinary Medicine, University of Georgia.
2. Intervet Schering-Plough Animal Health. (n.d.). Let us breathe easier Live MG vaccines. Jakarta, Indonesia.
3. Kleven S.H., F. H.-H. (1998). Pen Trial Studies on the Use of Live Vaccines to Displace Virulent Mycoplasma gallisepticum in Chickens. *Avian Diseases*, 42:300-306.
4. Schering-Plough Animal Health. (2004). Unique mycoplasma protection with proven economic benefits, F Vax-MG.

F Vax-MG® Reg. No. G4295 (Act 36/1947)
Each dose contains *Mycoplasma gallisepticum* live strain F titer minimum 6,0 x 10^6 CCU.

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