

MPF 2019 Proceedings Paper

Understanding and Using Serological Results

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Understanding and Using Serological Results

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Purpose Driven Serological Testing Why Test

- Assess disease challenge
 - Individual flocks
 - All flocks on complex
- Evaluate vaccination response
 - Vaccine additions
 - Vaccine changes
 - Vaccine application



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Guidelines ELISA Serological Test Interpretation

- The following serology numbers are to be used as guidelines
- Factors affecting serological response include:
 - Vaccine used
 - Vaccine application
 - Health of bird's immune system
 - Precision of lab testing procedures



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ELISA Active Antibody Titers Levels Defined [GMT]

- Low Titers indicative of:
 - Minimal to no vaccine or field exposure
- Medium Titers indicative of:
 - Live vaccination response (pullets and broilers)
 - Low field exposure
- High Titers indicative of:
 - Inactivated vaccine usage
 - Significant field exposure



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ELISA Active Antibody Titer Levels GMT IDEXX 1:500

Test	Low	Medium	High
IBD	<1,000	2,500	>6,000
IBV	<1,200	2,000	>6,000
NDV	<1,000	2,500	>9,000
REO	<500	1,500	>2,000
AE	<500	1,200	>3,000



Individual Bird ELISA and HI Titers that Indicate Significant Field Exposure No Inactivated Vaccine

- Individual Bird Titers [IDEXX 1:500]
- No inactivated used
 - IBD > 7,000
 - IBV > 5,000
 - NDV > 7,000
 - REO > 3,000
- These titer numbers are useful in detecting early flock exposure
 - MG HI titers of 1:160



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Serological Vaccination Response Guidelines Commercial Layers 5 Weeks Post Injection

	<u>ELISA GMT</u>
• IBV/NDV live only	2500 - 5000
• IBV/NDV Inactivated	8000 - 10000 +
• AE	3000 +
• ST live only	800 – 2500+ (BioChek)
• SE/ST Inactivated	5000 - 9000 + (BioChek)
• MG F-Strain vaccinated	100% positive SPA
• Low % CV's	<20% is good uniformity



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Serological Response Guidelines Commercial Layers 5 Weeks Post Vaccination Injection

- Evaluating vaccine injection accuracy :
 - The incidence of field exposure to strong NDV challenge is low
 - NDV serology titers most likely due to vaccination
 - Individual bird with < 4,000 NDV titer most likely not injected
 - % CV's should be low < 20%



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Serological Response Guidelines Commercial Layers 5 Weeks Post Vaccination

- Evaluating Eye Drop Vaccination
- Live MG (F-Strain) should give 100 % MG SPA + results



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