



Mycoplasma Synoviae Sensitivity Study

A Comparison of BioChek's MS/MG ELISA and the Rapid Plate Agglutination Assay

IPPE

January 30, 2013

Introduction

➤ Objective of study

- To compare the sensitivity of BioChek's Mg/Ms ELISA with RPA in detecting 2 distinct Ms strains
 - WVU1853 – MS type strain
 - K5664 - MS strain found in broiler breeders that were found serologically negative



Acknowledgements

- Dr. David Ley, NCSU
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- Dr. Naola Ferguson-Noel, University of Georgia Poultry Disease and Research Center



Mycoplasma Proficiency Results

MS Field Isolate in 4 Wk Old SPF Chickens, 7 DPI*

Assay	% positives	
	2010	2011
RPA Ms**	33%	17%
BioChek MgMs	100%	100%
Other Mg/Ms ELISAs**	17%	44%

*From the International PTS for Mg and Ms Report; GD B.V. Animal Health Services Ltd.

** various manufacturers

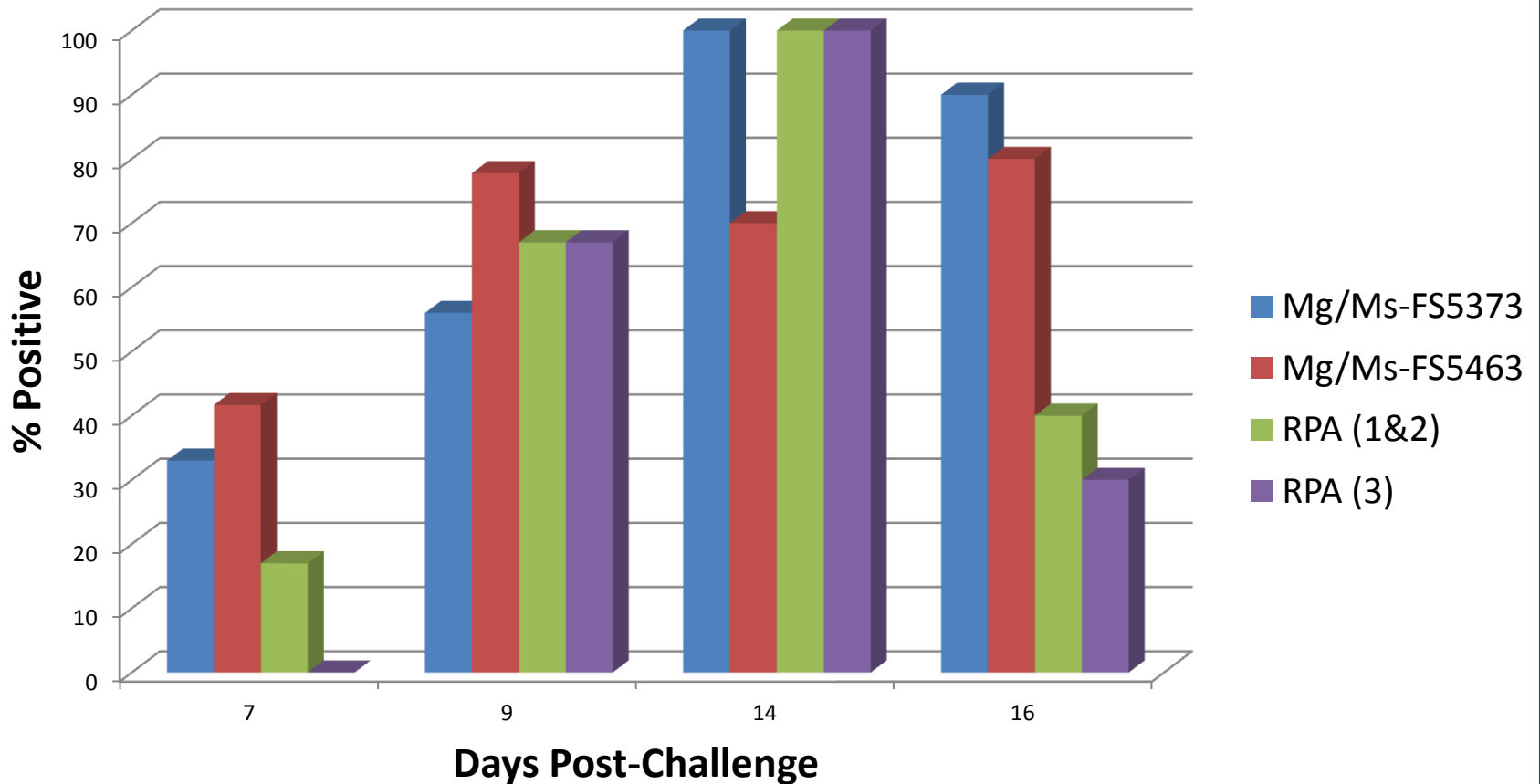


Study Design:

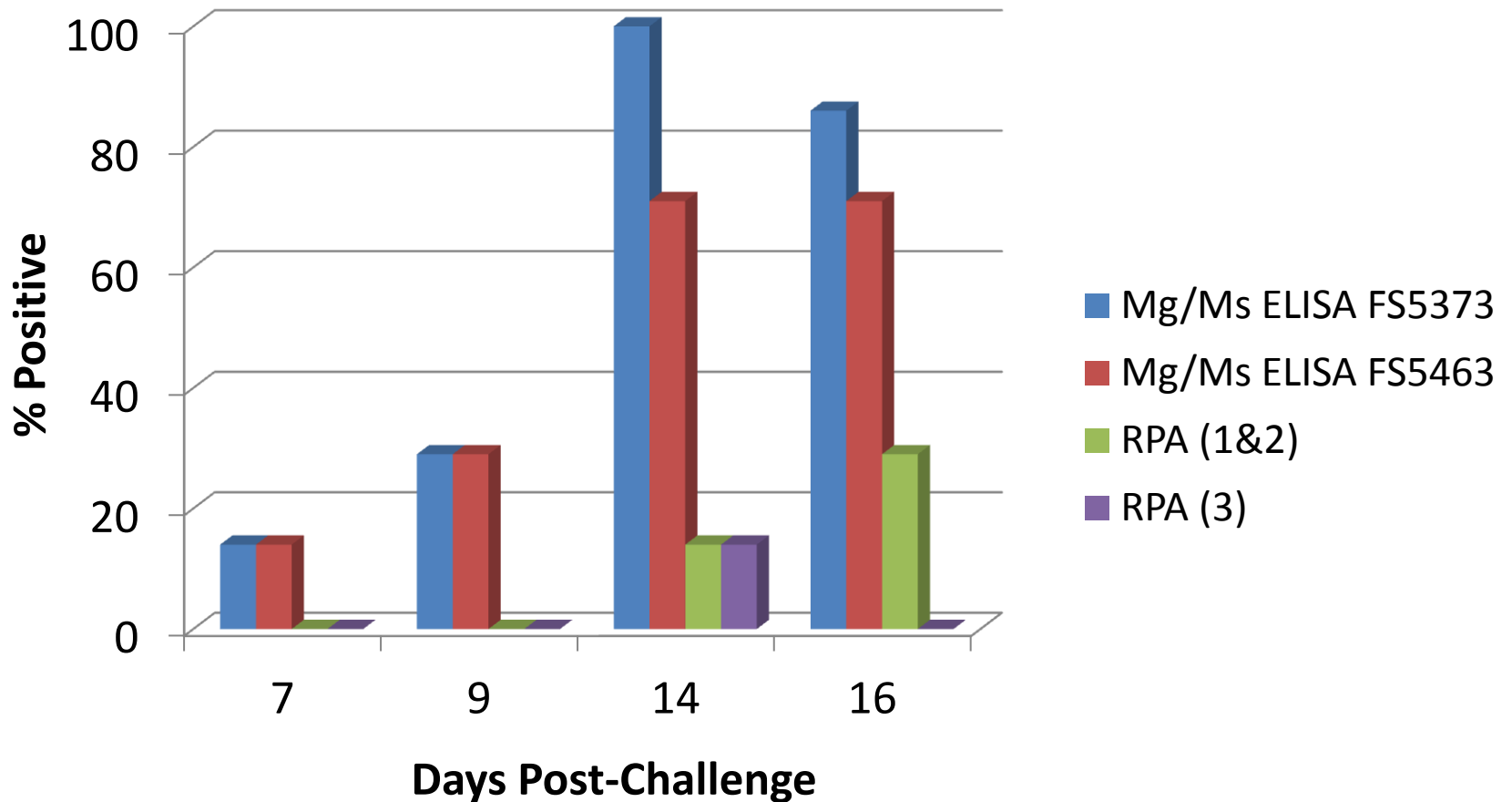
- 1 day-old broiler breeders housed initially in 1 BSL-2 room, on litter in a floor pen; separated into 2 rooms at 4 weeks
- Challenged at 4 weeks by intra-tracheal installation
- 2 *Mycoplasma synoviae* strains used as challenge
 - WVU1853 – $10^{6.6}$ CCU/ml
 - K5664 – $10^{5.2}$ CCU/ml
- Part of each group remained unchallenged to serve as contacts
- Sera collected from birds at 7, 9, 14, and 16 days post-challenge
- Samples tested using:
 - BioChek's mycoplasma ELISA
 - Rapid plate agglutination assay (Charles River Antigen)



ELISA and RPA Comparison (MS WVU1853 Inoculated)

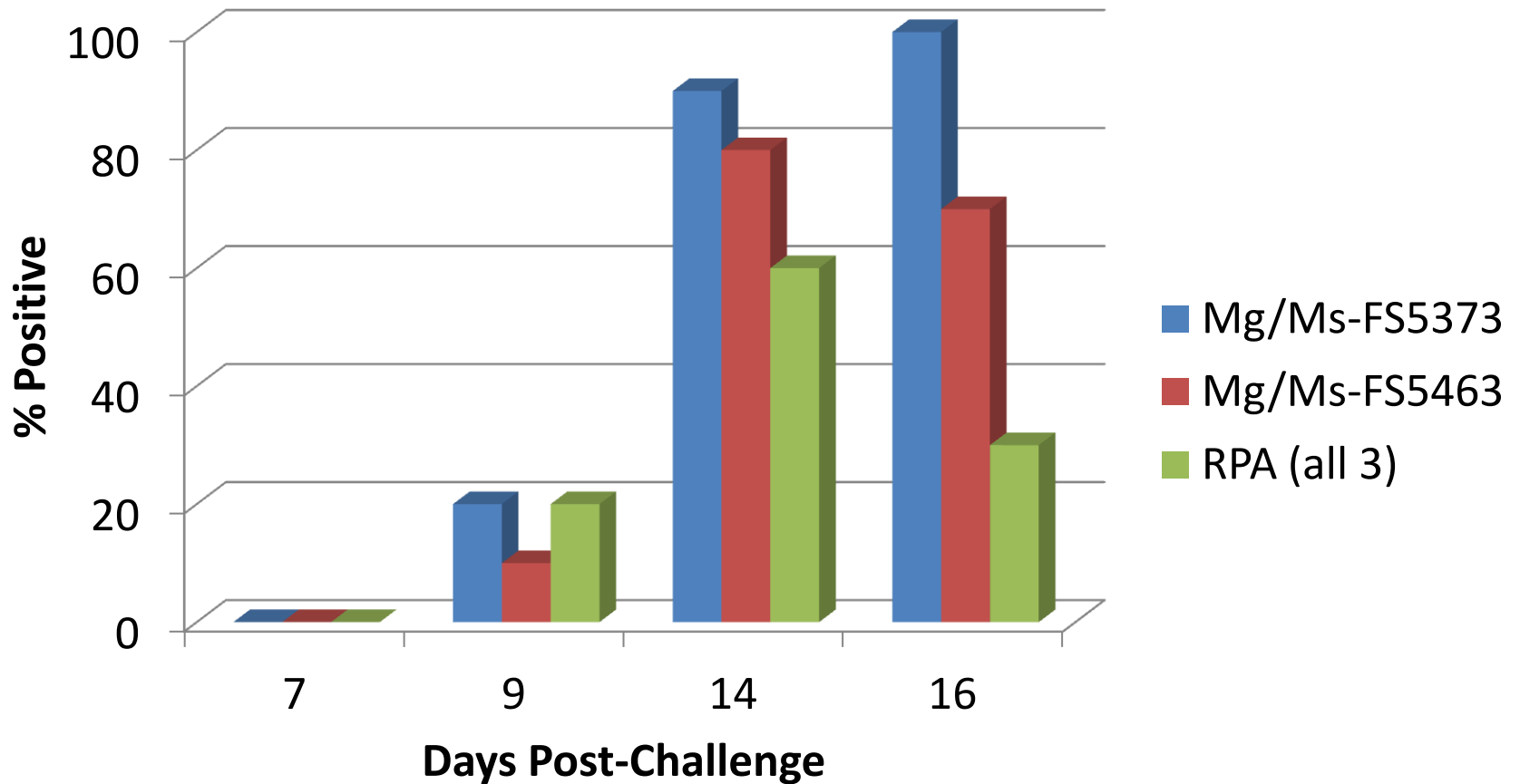


ELISA and RPA Comparison (MS WVU1853 Contacts)

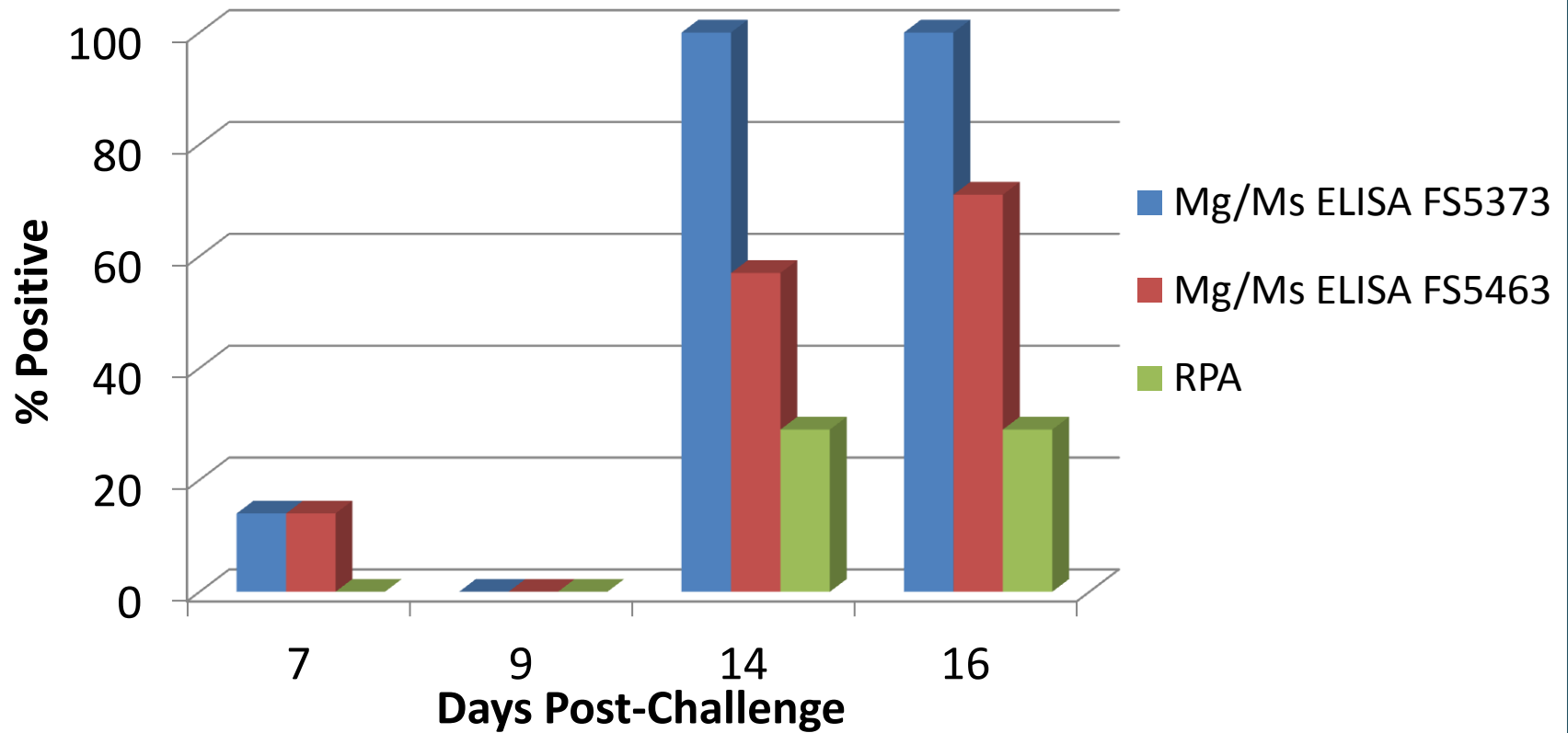


ELISA and RPA Comparison

(MS K5664 Inoculated)



ELISA and RPA Comparison (MS K5664 Contact)



Summary

- Mg/Ms ELISA and RPA detected positive birds
 - WVU 1853 challenged group starting 7 days post-challenge (dpc)
 - # birds positive: Mg/Ms ELISA > RPA
 - MS K5664 challenged group starting 9 dpc
- In contact exposed birds, the Mg/Ms ELISA detected positives birds 1 wk prior to the RPA (7 dpc vs 14 dpc)



Conclusion

- Detection of Ms infected birds with the BioChek Mg/Ms ELISA was equal or better than that with the RPA with respect to sensitivity and therefore a viable alternative to RPA testing



**Thank
you!!**