Objective 2.1.3: Co-infection of broiler chickens with *Mycoplasma synoviae*, NDV, IBV and ILTV to reproduce airsacculitis and mortality reported with MS infections in the field

Mycoplasma synoviae-ILTV vaccination Ferguson-Garcia

Trial 1: PRD-CAP Mycoplasma/LT interaction

Treatment Groups

- MS (7 DOA)
- ILT (14 DOA)
- MS (7 DOA) + ILT (14 DOA)
- Negative Control

Mycoplasma synoviae

- One week old broilers we inoculated with a recent (2014) field strain (K6677) of *M. synoviae*
- Intra airsac (100ul) and intra tracheal (50ul)
- Total dose = (TBD) CCU/dose

ILTV vaccine

- Two week old broilers will be vaccinated eye-drop with Fowl laryngo Vac (Zoetis)
- Fowl Laryngo Vac 10,000 doses was diluted in 300 ml of PBS for titration
- Titer 1.05 $x10^6$ TCID50/ml
- Applied eye drop (33 microliters) will be 3.47 $x10^4$/bird or ($\log_{10}$ 4.5 per bird)
- For vaccination the 10,000 dose vial will be diluted in 300 ml (150 PBS + 150 vehicle)

Laryngo Vac vaccine

10/13/15

serial# 1405500 exp date: 06MAR17

Virus dilution			Response		Accumulate Values		Ratio	% CPE
10-fold	Log	CPE ratio	CPE	No CPE	CPE	No CPE		
1:10	10^{-1}	5 / 5	5	0	21	0	21 / 21	100
1:100	10^{-2}	5 / 5	5	0	16	0	16 / 16	100
1:1000	10^{-3}	5 / 5	5	0	11	0	11 / 11	100
1:10000	10^{-4}	5 / 5	5	0	6	0	6 / 6	100
1:100000	10^{-5}	1 / 5	1	4	1	4	1 / 5	20
1:1000000	10^{-6}	0 / 5	0	5	0	9	0 / 9	0
1:10000000	10^{-7}	0 / 5	0	5	0	14	0 / 14	0
1:100000000	10^{-8}	0 / 5	0	5	0	19	0 / 19	0
1:1000000000	10^{-9}	0 / 5	0	5	0	24	0 / 24	0

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% above 50%	100 3
% below 50%	20

PD= 100 - 50 / 100 - 20 = 0.625

log dilution above 50%	4.0

PD x log dilution factor (1)= 0.625

log of the 50% endpoint = 4.63

Titer of Vaccine/ml

TCID $_{50}$ per 100µl: **log $_{10}$ 4.63**

TCID $_{50}$ per mL: 10 X $\log_{10}$ $^{4.63}$

TCID $_{50}$ per mL: log $_{10}$ 5.63

average of 3
5.63
6.38
6.17
18.18 **6.06 Log10**