Project Title: Establishing Chicken Egg Incubation Protocol for a New Vaccine Testing Facility

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Abstract: The Aspergillus species are fungal agents that cause respiratory infections in people and animals. The poultry industry is especially impacted by aspergillus associated airway diseases. A candidate vaccine has been developed by Cal Poly Pomona (CPP) Professor Dr. Jill Adler-Moore in association with Molecular Express Inc. and Western University. In order to further test and optimize this vaccine, we developed a Biosafety level 2 (BSL-2) poultry facility at CPP. The first stage in testing the efficacy of the facility is with the successful incubation of Specific Pathogen Free (SPF) chicken eggs. For this project, we established an initial protocol for that incubation. Forty SPF eggs (day 0) were acquired from a commercial supplier. The eggs were rested at 23 degrees Celsius prior to incubation. Eggs were incubated for 21 days in a cabinet incubator with automated temperature, humidity and tilting control. Incubator conditions were recorded and eggs were turned daily to normalize exposure. Candling to evaluate egg development occurred after the 1st and before the 3rd week of incubation. This process allowed us to determine the hatchability rate of our incubator protocol. Data will be used to compare results from subsequent incubations to optimize conditions for SPF chickens used in this vaccine testing facility.