EXPERT SCIENCE PANEL SUMMARY January 31, 2022

The Expert Science Panel (Panel) had their second closed session meeting January 26, 2022, from 12:00-2:00 Pacific Time. The goal of this meeting was to review the lab methods information collected during phone interviews and the statistical data analysis performed as requested by the Science Panel.

SCCWRP first presented the main findings of the lab interviews. At the time of the meeting SCCWRP had contacted 14 out of 17 California accredited laboratories (16 laboratories have now been interviewed, 1 has not responded to our request). Based on the narrative information, it was concluded that *C. dubia* test procedures are not consistent among labs, including dilution water composition, approach and trigger to terminate the tests, age and maintenance of the *C. dubia* culture, food source and preparation (see slides 2-6 of the meeting PowerPoint).

Next, SCCWRP described the three types of statistical data analyses performed to identify test parameters likely to influence the intra-lab variability of the test outcomes. These included random forest, generalized linear model and logistic regression (see slide 11). Data analysis focused on three response variables: mean, standard deviation and CV of neonates/female. Test variables evaluated were predominantly water quality parameters, as well as year of test and age at test initiation. Unfortunately, no other parameters – including culture or brood board characteristics - could be analyzed due to inconsistent/missing data from labs. Statistical data analysis did not yield consensus on the main water quality parameters driving variability amongst labs. In fact, test parameters affecting intra-lab variability were widely different depending on the statistical method used and the laboratory (see slides 14-19, and 25-37).

Due to the large differences in test procedures from the lab interviews and the lack of meaningful results from the statistical data analysis, the Panel concluded that statistical analyses of historical data alone are not sufficient to meet the objective of Task 2; that is to identify a handful of test parameters to further optimize. Based on the evidence, the Panel recommended using a combination of narrative lab interview information, exploratory data analyses, statistical data analysis and best professional judgement to identify the subset of test procedures to optimize. The Panel recommended three areas of test procedures that warrant further investigation: 1) water quality parameters, 2) age of neonates at test initiation and 3) approach and triggers to determine test end. These factors can be evaluated in a split sample study where consistent data collection across labs is required.

The following next steps were recommended by the Panel: 1) SCCWRP should summarize the lab methods information (including interviews) to identify labs with similar/comparable procedures (e.g., same food, dilution water, neonate age at test start); 2) Data analyses should be constrained among labs using similar/comparable procedures, and 3) SCCWRP can begin developing a draft study design for the split sample study for the Panel's review at the next meeting. This study should be designed to identify or eliminate test procedures requiring further optimization.

Moving forward, the Panel asked to reconvene monthly to review project progress and interim deliverables.