Meeting Minutes

1. Who was present at the meeting

Client(s): Bradford (Brad) Hull

Consultants: Alex Salce, Huashi Li

1. When: *September 12th, 2024*
2. Summary of Problem

-Brad 5th yr PhD

Worms sampled from a population of the same eggs are partitioned into different media; a liquid culture and Agar culture (experimental units).

Agar experimental units are divided into self-contained plates. There are three replicates of each plate treatment (stressor): control, and copper.

The liquid sample contains approximately 5K worms in a reservoir per treatment. At each time step, approximately 150mL is sampled from the reservoir and ratio of alive/dead are recorded by population drawn. Three replicates are recorded.

1. Discussion

**B:**

* Worms test in plates or liquid
* Power analysis was done by his department to determine the number of Agar worms per culture, and number of experiments/replicates to be performed
* R ‘lifespan’ package may be of use
* Liquid culture samples are recorded as ratios of alive/dead
* All samples from both media taken on same day
* Au data are recorded as raw numbers (started with ~40 worms per plate)
* Samples from liquid: same volume were randomly drawn with a pipette from (~150mL, which is approx 20 worms each measurement) and were recorded as a ratio of alive/dead
* Kaplan Meyer analysis was brought up as candidate, preferred but not required
* Both agar and liquid populations came from same population of eggs, and both treatment populations were measured at the same time intervals
* Treatments - stressors are added to experimental units
* Three replicates within each treatment, three treatments per media (need to double check this)
* Goal: analyze liquid vs agar by separate treatment (compare analagous treatments between media, and also compare to control within media).

-compared to their respective controls, are they dying more quickly by treatment

**TL**: Given the cross sectional idea of his data, is there a way to put it into a Kaplan Meyer analysis, and if not, what are our recommendations? **BH** agrees

**TL**: Make sure we can satisfy all of the conditions of KM based on the experimental procedure, if not what makes sense?

KS Test? Komogolov Smirnov?

1. Next Steps

**BH:**

* BH to send data (EOD 9/13)
* If we think all three conditions are needed he can provide data

Consultants:

Analyze if procedure will work with KM anlaysis

* Within media by stressors
* between media by analogous stressor

What conditions need to be met for KM and if not what do we recommend?