

Sheepshead Batch Fecundity Analysis

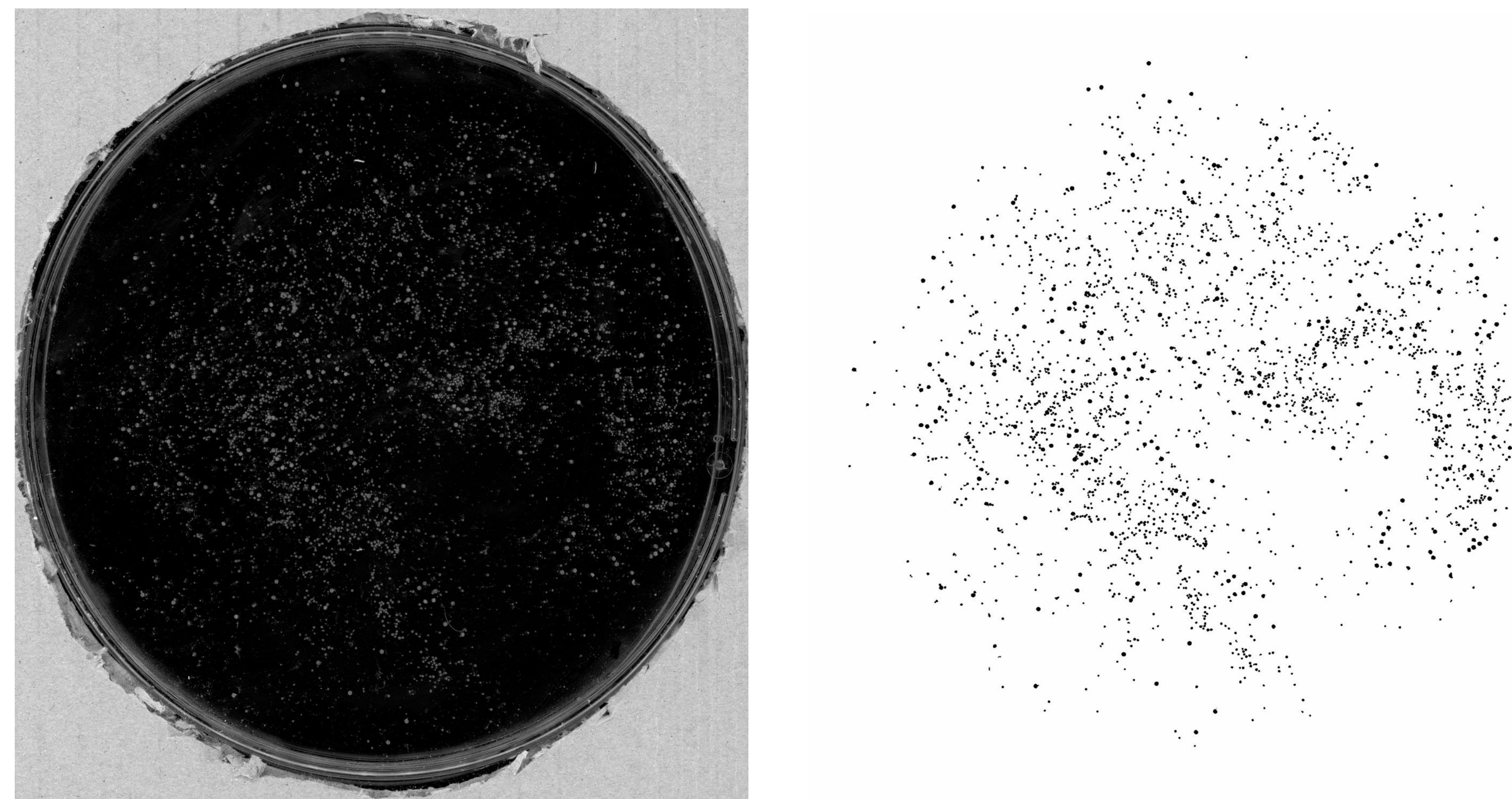
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INTRO

This analysis seeks to find the batch fecundity or amount of hydrated oocytes per fish. This was done using archived samples of adult sheepshead gonads. The sheepshead were thought to aggregate in large quantities off the coast of NC to mate. Samples caught came offshore from Shackleford Banks or Core Banks in North Carolina around april 2018 and 2019.



(Figure 1)/(Figure 2) Sheepshead was caught offshore in Outer Banks whole gonads were removed from the fish.



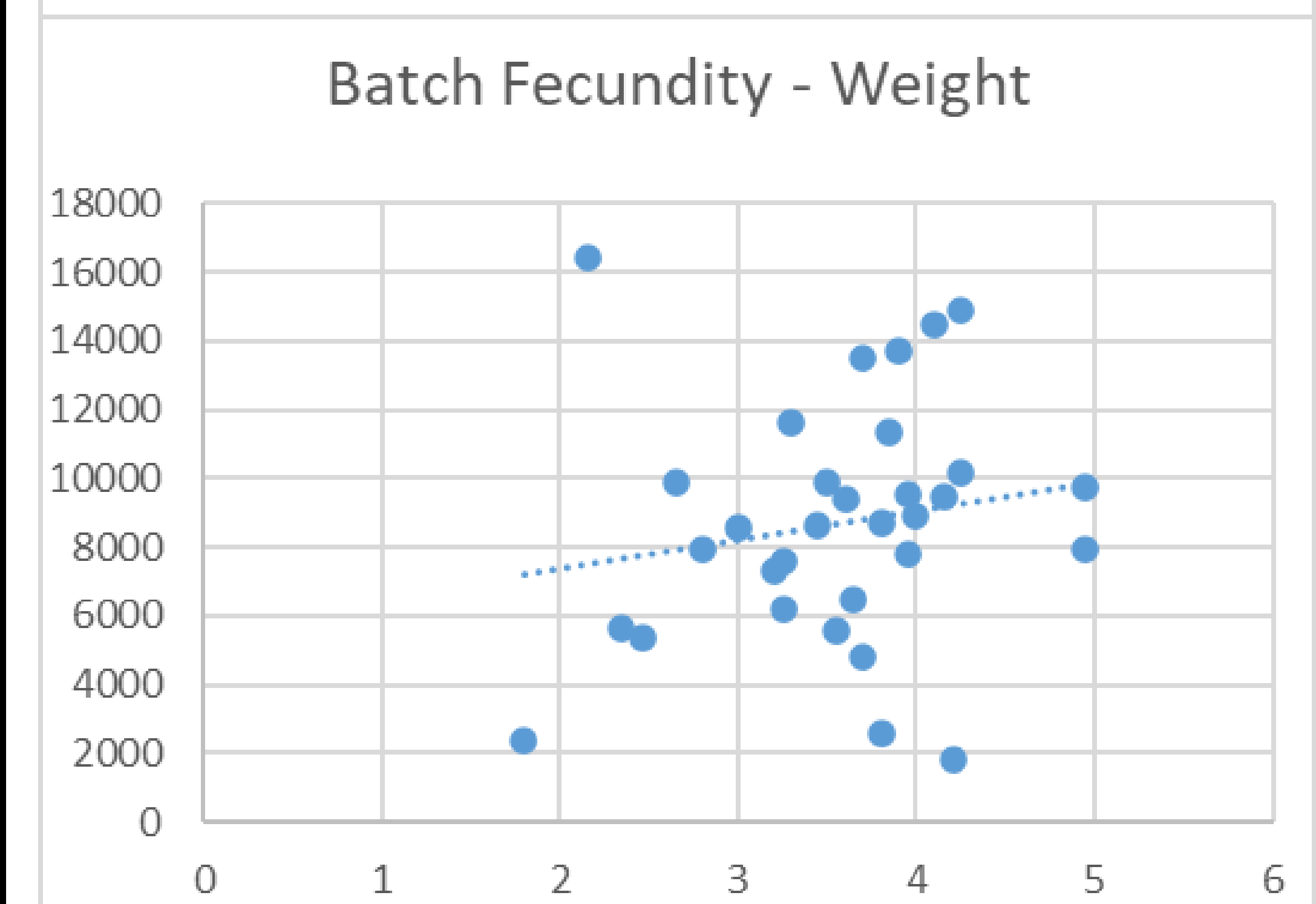
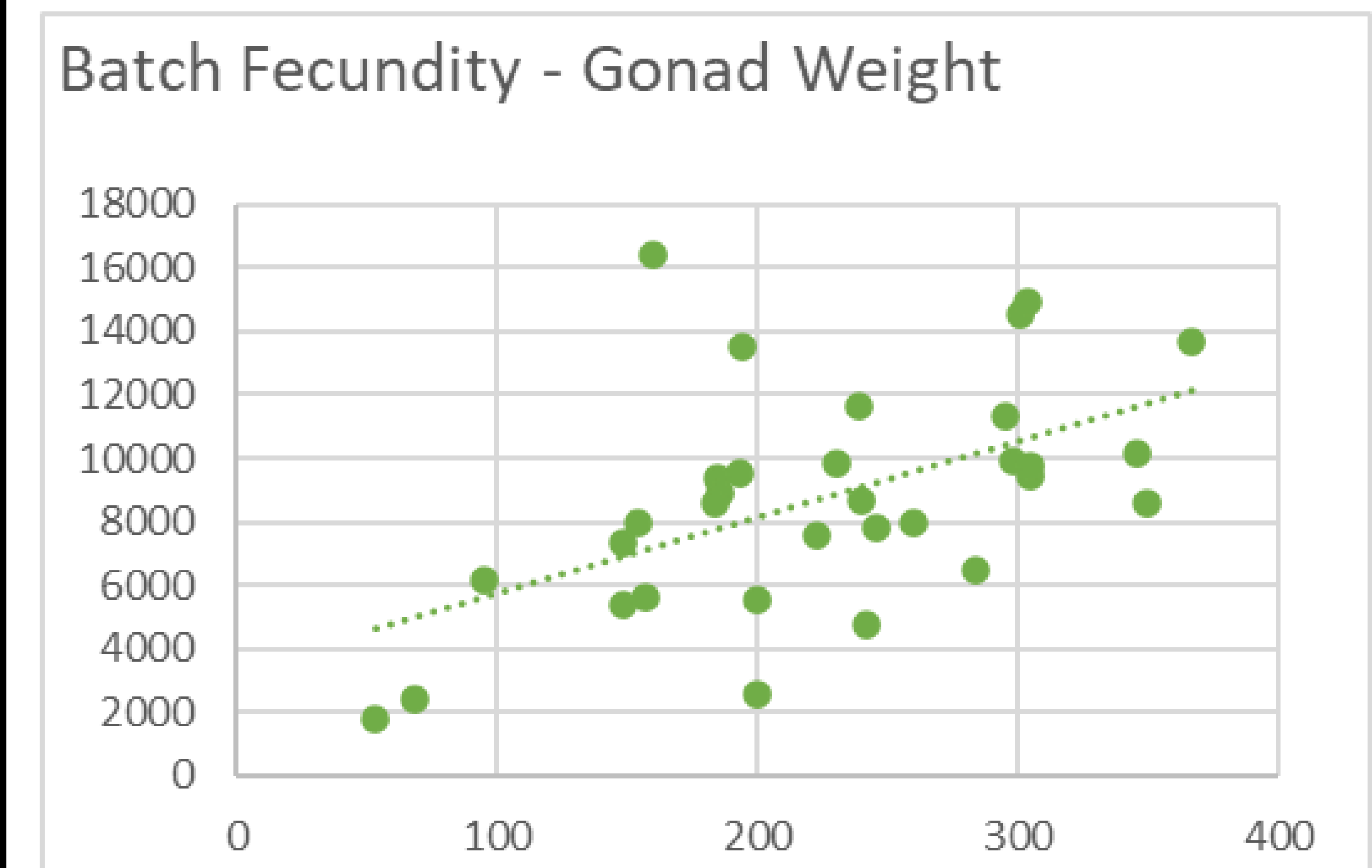
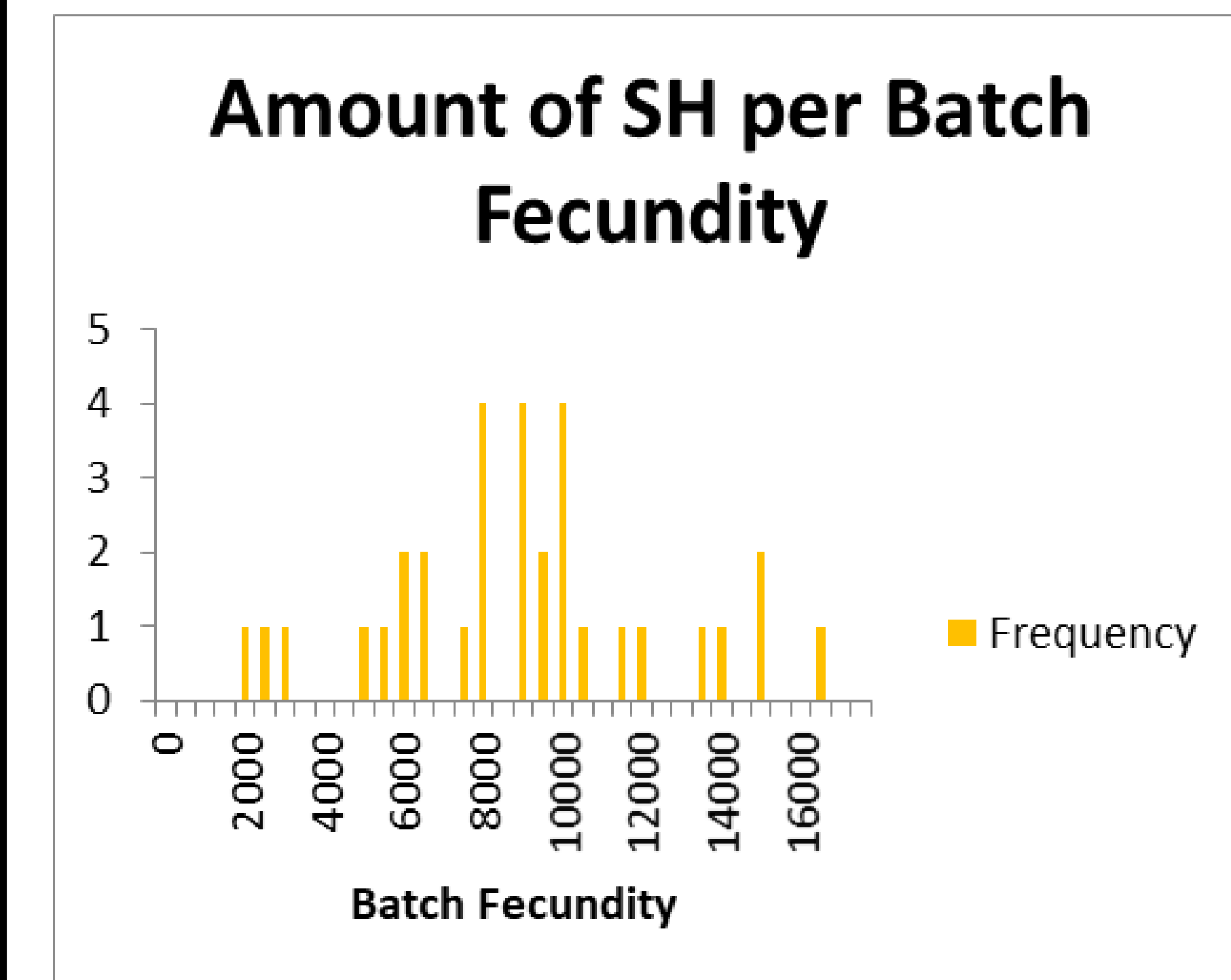
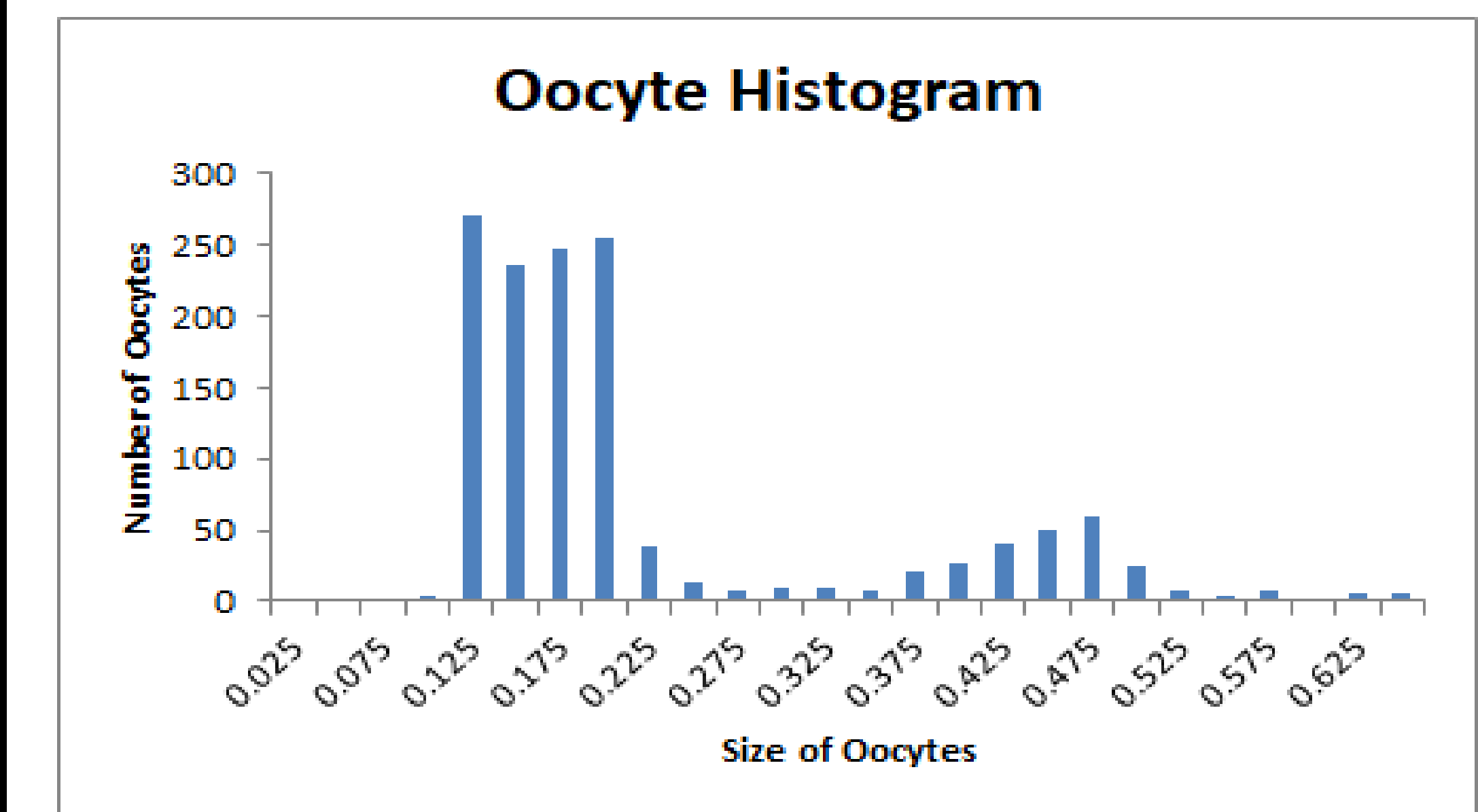
(Figure 3)/(Figure 4) Sample (SH_102). A scan was taken of the oocytes in a petri dish, (right)

SCANNING & ANALYSIS

The image processing program that was used was ImageJ for cell counting. ImageJ was used to mask and analyze the oocytes in each gonad. On the right is the mask of (SH_102), clearly showing the oocytes located within the petri dish, expunging any loose particles or oocytes that are not large enough.

RESULTS

- Weight of the whole gonad ranged from 70g to above 300g.
- The average batch fecundity ranged from 16,412.23 to 1812.515
- standard deviation 3486.41.
- There are shown to be positive correlations between batch fecundity, gonad weight, body weight, and



(Box 1)Each Sample analysis was used to create a histogram of data The low point averaged around .364528mm. Batch fecundity was shown to have a positive correlation with body weight and batch fecundity.