

Drew Schendel

*Rule the Radiation: The Effect of Cell Phone Radiation on Lumbriculus variegatus*

The purpose of this research project was to determine if Specific Absorption Rates (SAR) amounts (amount of radio frequency energy absorbed by the body from cell phones) affects regeneration of *Lumbriculus variegatus*. Cell phone radiation will be produced by using two identical cell phones calling each other and placed between the regenerating worms. To begin the procedure, three worms were cut into head, middle, and tail sections for each group. After each group was set-up, the worms were exposed to the cell phone radiation for their respective amount of times. Regeneration growth was recorded three times throughout the exposures. This was repeated a second time for two trials as well as with a smart phone trial. Analyzing the data show that cell phone radiation does affect regeneration rates, by either decreasing growth dramatically or initiating faster growth, like in cancer cells. With the LG Cosmos phone it appears that shorter more frequent exposure is more detrimental to regeneration than longer exposure times and less often. For example in Trial 1, the 5 minute group experienced a great increase in regeneration with 20% increase in head regeneration and 60% in the middle. The other groups did not experience this growth. With the smart phone Droid 2, the longer exposure seemed to increase growth rapidly rather than the short frequent exposures. For example, in the 10 minute exposure group, the head had an increase of 30% and the tail had a 28% increase. In the 20 minute exposure group the middle had an increase of 55% and the tail a 10% increase. This was much larger than the 5 minute exposure group. Overall, cell phone exposure does affect regeneration rate, but different phones may vary.