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### *Planaria Grow: Fast or Slow? The Effects of Healing Remedies on the Regeneration of Planaria*

This project studied the effects of Healing Remedies (Vitamin D, Vitamin E, Oregano, and Onion) and a prepared pharmaceutical (Mederma) on Planaria regeneration (Heads, Tails, full regeneration). Dilutions of 1/1000, 1/10,000, 1/100,000, 1/1,000,000 and 1/10,000,000 were made for the five Healing Remedies. 10 planaria were cut into ten heads and 10 tails for each of the serial dilutions (5) and for each of the Healing Remedies (5). This made 25 Petri dishes for each of the three trials, not including 2nd and 3rd generations. Each trial also had 2 controls in distilled water, one with 10 whole planaria and one with 10 planaria cut into 10 heads and 10 tails. I hypothesized that if serial dilutions of Vitamin D, Vitamin E, Oregano, and Onion (all used for their healing properties) and a prepared pharmaceutical (Mederma) are used to study the rate of regeneration, then Vitamin D and Mederma will have faster regeneration than the control in both 1st and 2nd generations. Results showed that all of the healing agents had a negative effect on the regeneration of the planaria. Only the control had 100% regeneration (10 days). Vitamin D had the fastest regeneration rate of 2-4 days. It also had the single greatest percent of regeneration (85% at 1/1,000) of all the Healing Agents, but also produced the highest number of obvious mutations. Mederma had the lowest regeneration rate and highest death rate. Overall percentages of Total Regeneration: Vitamin D - 42%; Vitamin E - 42%; Oregano - 41%; Onion - 30%; Mederma - 8%.