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The Effects Of Anthocyanins On Planaria Regeneration

The purpose of this experiment is to see if anthocyanins found in blackberries or blueberries affect the regeneration of *Dugesia tigrina* planaria. "Anthocyanins are compounds found in plants, particularly berries that have powerful antioxidant properties (Sahelian, M.D. 2007)". The hypothesis is that anthocyanins found in blackberries and blueberries will increase regeneration of *D. tigrina* planaria. I also think that blackberries will increase regeneration more quickly than blueberries because blackberries are more closely related to elderberries which have shown to help regenerate planaria. The extract of anthocyanins using gel chromatography was put into Petri dishes where I had put planaria that were cut in half transversally. After one week the planaria were fed and the water changed, and fresh anthocyanins were added. After two weeks I measured the length of the planaria to see the effects of anthocyanins on regeneration. In conclusion, neither the planaria treated with blackberry nor the blueberry anthocyanins showed a significant growth as compared to the untreated group (control). In group one, the average growth of the blueberry treated planaria was 0.26 centimeters, like the control. The blackberry treated planaria did show a 0.04 centimeter average growth increase as compared to the control. In group two the planaria treated with blueberry anthocyanin grew 0.03cm. less than the control, and the blackberry anthocyanin group grew an average of 0.11 cm less. The data did not support my hypothesis suggesting the benefits of anthocyanins to regeneration and thus to tissue stem cell research.