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Does Size Matter?

The purpose of the project “Does Size Matter” was to look at the effects of dietary supplements on cell hydration. The effects of these supplements was be measured by measuring pictures of muscle fiber obtained from crayfish. Crayfish were purchased and banded and allowed to acclimate in their new surroundings. Crayfish food was then treated with different dietary supplements. These supplements included Creatine, Electrolytes, and Amino Acids. Muscle fibers were placed on microscope slides and pictures were taken using a digital camera. Muscle fiber size was then measured. As the period of ingestion and digestion of the dietary supplements continued, the size of the cells increased. The Creatine plus Electrolyte group showed the most overall growth, with a 383% growth. The control group showed the least amount of growth with a 160% growth. All of the treatment groups showed a significant amount of growth compared to the control group. This data can be applied in the real world to help increase the overall amount of protein available. With a growing demand for protein in the world, this data shows there is a cost effective way to produce more protein, without having to purchase more animals. Creatine supplementation can be very costly however. A combination of Amino Acids and Electrolytes showed almost the exact same growth as the Creatine by itself. These two things are inexpensive when compared to Creatine. This is a cost effective way to increase overall amount of protein available for a growing world population.