Correlation Between Various Methods of Fertilizer and Development of Salicornia europaea

Taylor, Sarah (School: The Marine Academy of Science and Technology)

Over time, human populations in coastal areas have affected the environment more and more. Nutrients in marshes and salt pans are increasing due to human impact. Nutrient pollution is one of the biggest human-induced environmental issues worldwide. Salt pans are similar to marsh environments in that they absorb runoff, this property makes the growth of their plants under the pressure of anthropogenic eutrophication an important topic. Salicornia is a salt pan plant that is gaining media attention for its possibility of becoming a source of “sea produce”. In this project, the overall growth of Salicornia europaea was studied after treatment with animal waste, phosphorus heavy organic fertilizer, nitrogen heavy commercial fertilizer, and control. Soil cubes were separated into four boxes in groups of 8 by 3 soil cubes each. Each of the 24 cubes in every box were sowed with 3 Salicornia Europaea seeds. Box A was nitrogen based commercial fertilizer, Box B was phosphorus based organic fertilizer, Box C was the control group , and Box D was animal waste. Graphs of the amount of branches, number of stems, and height of plants were analyzed. Overall, organic had significantly more growth in branches. Commercial fertilizer, however, had the most growth in stems. Finally, the organic fertilizer had the highest height. The commercial seemed to grow fast in the first week, but organic caught up and then some in the second, third, and fourth. Overall, the organic, phosphorus based fertilizer was most effective.

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