Impact of Fish Fertilizer on Plant Growth

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Fishing is one of the top outdoor activities in America. In South Dakota, over 170,000 fishing licenses were sold in 2020. With the thousands and thousands of fish people catch, that means there is a ton of waste that goes down the drain after cleaning the fish. I am an outdoorsy person myself. I go hunting and fishing when I can. My family goes camping in Yankton and we pass by the fish cleaning stations all the time, so I thought they could be used for something greater. The purpose of my experiment was to see if fish guts used as a fertilizer would have a positive impact on plant growth. I hypothesized that fish fertilizer would have a positive impact on plant growth. I had two groups in which I planted 16 seeds in each group. The experimental group had 30 mL of fish guts mixed in the soil and I made a 1% solution of fish guts 30 mL of fish guts to 3000 mL of water mixed with water to water these plants. After 3 weeks of growing my plants the data I collected supported my hypothesis. The plants with fish fertilizer had an average height of 44.89 cm, a biomass of 3.80 g and 94% of the seeds grew, compared to the control height of 22.06 cm, a biomass of 2.74 g and only 50% of the seeds growing into plants. However, the control group did have a root length of 13.26 cm and leaf diameter of 4.09 cm compared to fish fertilizer root length of 9.74 and leaf diameter of 3.57 cm. With this information I believe that there is great potential for using fish guts as a fertilizer. Asian Carp are a major threat to aquatic ecosystems and perhaps if companies used fish guts as a fertilizer, these companies or states could offer an incentive to catch these fish to help this invasive species problem and use the remains of these fish as a fertilizer.

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