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Biodiesel From Sunflower Oil: An Analysis Of Soil Fertility And Sunflower Oil Content
The title of my project is Biodiesel from Sunflower Oil: An Analysis of Soil Fertility and Sunflower Oil Content. The project was designed to determine if soil fertility had an influence on the oil content of sunflowers grown for biodiesel production. I predicted that soil fertility, as defined by the nitrogen, phosphorus, and potassium levels, would have an affect on the oil content of the sunflowers. Those soils with the best fertility, particularly in regards to nitrogen levels, would produce sunflowers with the highest oil content. The experiment took place on 14 randomly selected study plots. To begin the study, soil samples were collected from each plot and submitted for analysis. When the sunflowers were ready for harvesting, seed samples were taken at each plot and sent for oil content testing. The nitrogen tests ranged from a high of 65 lbs/acre to a low of <2 lbs/acre. Phosphorus levels were very similar between all plots and potassium was found to be in excess of plant needs on all plots. Sunflower Oil content tests had a high of 43.2%, a low of 34.6% and an average of 39.5%. The results of my project did not support my hypothesis. Those soils with the best fertility, particularly in regards to the amount of nitrogen present, did not produce sunflowers with the highest oil content. My analysis of the data found no relationship between the levels of nitrogen, phosphorus or potassium and the oil content of the sunflowers.