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Biodiesel from Sunflowers: An Analysis of Planting Dates, Soil Temperature, and Oil Content

This project was designed to determine if planting date or soil temperature had an influence on the oil content of sunflowers grown for biodiesel production. I predicted that planting date would affect the oil content of sunflowers more than the soil temperature at time of planting. Those sunflowers planted earlier would produce higher oil content than those planted later. The experiment took place on 5 fields with 4 different planting dates on each. Planting was done in one week intervals during a one month period. Soil temperature was recorded at time of each planting. Soil samples were also taken every two weeks throughout the growing season and analyzed for moisture content. When the sunflowers were ready for harvest, seed samples were taken from each plot and sent to a laboratory for oil content testing. An analysis of the data collected revealed none of the relationships I expected to find between any of the variables. As planting dates progressed from earlier to later, soil temperatures did not get warmer as I thought they would. Oil content did not exhibit any correlation between planting date, soil temperature or soil moisture either. The results of my project did not support my hypothesis. Sunflowers that were planted earlier than others did not produce sunflowers with higher oil content. All other planting dates were analyzed also and no relationship to oil content was found. Soil temperature was also analyzed, but no relation was found to oil content here either.