The Application of Herbicides and Nitrogen on Glycine Max

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The purpose of my project "The Application of Fertilizer and Nitrogen on Glycine Max" was to determine the most efficient way to care for your soybeans. On June 5, I planted four different plots of soybeans. Two of those plots contained 40 pounds of nitrogen and two of them did not. On July 8, I applied a half rate of herbicides to one plot with nitrogen and one plot without nitrogen. Then I applied a full rate of herbicides to the remaining two plots. The reason I did this was to see if herbicides and/or nitrogen would correlate with production, and soybeans natural process of nitrogen fixation. I also applied a second round of herbicides to each plot on July 10. As the soybeans grew, I went out once a week to record their height, number of nodules, and nodule size. The soybeans matured and were harvested on October 12. Once they were harvested, I recorded the yield and moisture for each of the plots. From my results I determined which plot was the most productive and cost effective. The most productive plot was the plot without nitrogen and a full rate of herbicide yielding 52 bushels per acre. This plot was also the most profitable after subtracting the variable costs from each of the plots. This concludes that having a strong weed control to limit the competition for the soybeans is more important than worrying about whether or not the herbicides will kill the nitrogen fixing bacteria on the nodules. It also shows that not applying nitrogen is better,because the plots with nitrogen started off great but didn't have as many nodules as the other plots. Once the supply of nitrogen that was given to them ran out, the soybeans couldn't make nitrogen fast enough, and as a result they didn't have enough nodules and they fell behind from the other plots.

Awards Won: