It is a common notion that plants are detrimentally affected by insect pests. However, plants have evolved immune-like defenses in order to fend off the herbivore. The plants do so by utilizing plant defense hormones such as jasmonic acid and salicylic acid. We want to explore whether these defense hormones hinder the growth of tomato and corn seedlings both directly and indirectly. To test the direct effect we exposed four replications of 20 seeds to concentrations of jasmonate, salycilate, or a control treatment of H2O in agar filled petri dishes. We observed seedling sprouting time and measured roots and stem growth. For our indirect experiment we treated a four-week-old plant to these hormones and added 20 seeds to the soil surrounding this plant to see if the signal was present in the soil. Again, the plants were observed for growth. The seedlings and plants were flash frozen in liquid nitrogen for RNA purification and gene expression analysis. We expect that plants exposed to the defense hormones will grow slower due to the stimulation of plant defenses.