

DONAVEN KINZER & RACHEL COOK, Dept of Biology, Fairmont State University, Fairmont, WV, 26554. The Effects of Irrigation Methods and Volume on the Growth and Production of Pea Plants. (*Pisum sativum*)

The rapid change in climate has forced many industries to adapt to the rise in temperature. Farmers have had losses in the production of their crops. In a previous experiment, I examined effects of temperature on pea plant growth and production, demonstrating pea plants experiencing a temperature of 25°C or higher showed increased rates of germination and a decrease in overall biomass production. Expanding on this research, I tested irrigation methods and volume at colder temperatures, simulating planting these crops earlier in the year. This could allow farmers to adjust plant times - avoiding heat stress and lowered production rates of their crops. In this experiment, two trays, each containing 12 pea seeds, were placed in small planters in an incubator under led lights held at 15°C. The control plants were surface irrigated with a water volume of 50 ml every two days. This will be compared to subsurface irrigated plants with a water volume of 1000 ml weekly. The pea plants at 15°C showed an overall increased rate of germination. In addition to this, the dry plant biomass of the peas under subsurface irrigation conditions was significantly higher than those of the control. This research was made possible by WV Higher Education Policy Commission, STaR Division.