

Haley Matteson

Junior Division Plant Sciences

The Effects of Global Warming on the Development of Plants, Blossoms, Seeds, and Seed Pods

This project studied the effects of global warming on the rate, size of plant development and the number and quality of blossoms, seeds, and seed pods. The temperature control was 23°C, an average springtime temperature. The other temperatures tested on all three plant types (radish, squash, and Brassica rapa (Wisconsin Fast Plants) were 25°C, 27°C, 29°C, 31°C and 33°C. These temperatures covered a 7°C Global Warming projection for the next 50 -100 years. Twenty pots of radishes (2 seeds per pot) and squash (2 seeds per pot) and 100 seeds in sets of 4 pod pots were put into each of the six temperature boxes for each plant. Plants were watered and data was taken every 24 hours. I hypothesized that as the temperature rose (as predicted for global warming), overall plant growth would be slower and less productive. But what I found out was that increased temperatures did have an affect on overall plant production, but it was not the same for all of the plants: 1. Squash had no female flowers at temperatures above 23°C. However, in general, the squash plants seemed to be more tolerant to the increased temperature range. 2. Radishes were taller at the higher tneperatures, but had very poor root development at those higher temperatures. 3. Brassica rapa had its greatest overall plant development at the lower middle temperatures (25°C and 27 C).