

Jun Ho Han, Biology

University: Gyeongsang National University

Year in School: Senior

Hometown: Jinhae, South Korea

Faculty Mentor: Dr. Candace Galen, Biological Sciences

Funding Source: Gyeongsang National University

How volume of water effects in morphological growth and number of endomycorrhizas on *P. delicatum*

Junho Han and Candace Galen

In alpine tundra plants, water is the most important environmental factor of plant growth. And the endomycorrhiza is the greatest symbiotic organism. Because, it provides Nitrogen and Phosphorus to the plants and it obtains the a Carbohydrate from the plants. Based on the experimental result, I thought about that if the plants had reached the limit, would they effect to the mycorrhiza? For that question, I made a experiment plan. Through controlling of water volume, I could get the data of *P. delicatum* (called Jacob's ladder) about the morphological growths and the increment of the endomycorrhizas for 3 weeks. To control the environment, I built a weather port which can avoid rain, in addition opened the side of the weather port to make sure other variations as equal. After that, I made 4 treatments, which 10 plants have randomly assigned. And using ANOVA-test, I got 0.8615 as probablity. It means they are randomly assigned well. Each treatment has different water volume from 50ml every day to none of water. And then, I collected pre-data and post-data of morphological feature and number of endomycorrhizas. Unfortunately, I can't make a conclusion now. Because, I finished counting og the endomycorrhizas yesterday. So I need time to apply statistical approachs to my data. But I presuppose the result as the more watered plants would be had more endomycorrhizas.