AFE Committee,

My Vic and Margaret Ball Internship experience was spent at Tagawa Greenhouses. My internship was a 6 month internship starting in January and ending at the end of June. During the course of my internship, I was exposed to every facet of the business from production planning to distribution and marketing. It definitely gave a perspective of how the company operates and how each “piece” of the company works to together and impacts each other.

Starting my trek to Brighton, Colorado on New Year’s Day. It was a nice, relatively snow-free drive from Wisconsin to Colorado. I moved into the trailer provided by the company when I arrived, with great anticipation for my first day of the internship.

The first few days consisted of employee orientation and training. Besides the usual employment HR paperwork, we got an overview of the company and its operations. Training included chemical handling and application, moisture management and plant nutrition.

The other intern, Andrew Payton from University of Georgia and I then went through various departments including seeding, soil and propagation.

In the seeding department, we learned how the flats are labeled, filled and seeded with the proper variety. There were 7 different seeding lines that could operate at one time, each able to seed a flat every 5 seconds approximately. They were put onto carts according to the amount of days in the chamber needed before they would be placed on the bench. We also worked in the seed room where we checked in new seed, pulled seed needed for the seeding lines and weighed out seed returns to determine the remaining amount of seed in each packet before putting it back into inventory.
The soil department was a small department. It used to be much more complex when Tagawa Greenhouses mixed their own media, but now that it uses custom-made mixes, it only mixes soil for Ball-Tagawa Growers. We helped fill bags with this media from the hopper and palletize them.

Propagation consisted of sticking cuttings into elle pot flats. There were 50, 102 and 200 cell flats that were all stuck on the same sticking line. Cuttings were Ball exclusive cultivars that were grown on off-shore farms and shipped to our facility. The people sticking the cuttings worked in “teams” to complete sticking of a whole variety/cell size combination in one group. The typical team of 3 would stick around 33 flats/hour. Drew and I really but our full effort into it, but didn’t quite stick that fast! I guess it takes some time to perfect that level of efficiency.

We then moved into Propagation Production for 2 weeks with Tha Cha, working with Stuart (one of the growers). We learned all about cutting propagation including the cultural requirements of different species for rooting and growing into liners. I assisted in updating production templates for some of the liner crops with new cultural information. I also assisted in irrigating part of the propagation range on a daily basis. During our training we learned about Tagawa’s moisture management program which includes the weighing of trays with a scale in order to ascertain the moisture level of the trays. By taking weights of representative trays on each bench in the range, we could then determine when the trays would need to be irrigated based on their weight currently was. Each tray size had minimum and maximum target weights, with some variation from species to species. This ensured that the liners were being dried down consistently. This increases the rate of root growth to the bottom of the liner as well as reducing fungal pathogens.

I then was given the opportunity to see the shipping process in action. I was able to assist in the tags of orders with “jimmy tags” which were placed in each tray showing who the tray was shipping to, what day would ship, and what box or racks it would ship in or on. All these trays were then brought to
collation where they would be put down a conveyor and put into the correct rack or box. This allowed for the process of boxing and racking trays to be done in one place, reducing problems of trays not being shipped or having the wrong tray shipped.

After that point, Drew and I split up, with him going to the Golden facility for plug production and myself staying in Brighton. For my plug production part of the internship, I worked directly under Tha Cha, production manager of the North/Brighton facility. To start this part of the internship, I was given about 30,000 ft² of a plug range to manage as a “grower”. With the mentoring that I was given by Tha, I managed all the irrigation, chemical application and overall performance of the crop in my area. I directly performed all the production tasks for my area, with exception of one day per week, which I had an irrigator cover my area for me. This way, I could get a day off!

Moisture management for plugs was similar to propagation except we used boom irrigation primarily for plugs. This made for a less physical job of irrigating and emphasized more on planning and proper implementation to achieve proper moisture management instead. Typically, a plug tray would need to be irrigated every other day, unless it was particularly cloudy or extremely hot.

Like most greenhouses, Tagawas worked on a week numbered system. For plugs was a certain week the tray would be seeded and certain week it would ship. A tray label would look like this:
Crop times for plugs vary from as little as 3 weeks up to almost 10 weeks (from seeding to shipping). Most of the plugs I grew in my area were 4-5 week crop times. It sounded like a lot of time but after a while, I realized there was a lot to get done in that time before the product shipped!

One of the main tools to growing the crop besides irrigation would be PGR’s. I thought, that with such a short amount of time, you would want as must growth as possible, but actually most plugs require a growth regulator. The main reason is for height control, you do want a good amount of vegetative “top growth” but if the plug is tall, lanky and flimsy it just won’t grow into a healthy plant after transplanting. Tall plugs are also difficult for the customer to transplant into another container, especially if they are mechanically transplanted.

I learned that different PGR’s create different resulting plugs. Some act on stem elongation, others on leaf expansion and other a combination. Different species need different treatments in order to finish properly. I found that timing is critical with PGR’s and plugs. There are templates that are guidelines for applications, but you really have to look at the plant to tell when to apply. When you observe you can get a feel for the growth rate and health, allowing you to make a sound decision. It really is an integral part of production and without it plugs would be more difficult to produce.

During my time in plug production, I was able to have a rich experience working in a multicultural environment. Communication was definitely a challenge for me at first, as many of the operations workers did not speak English or very little English. I had to adapt and become more flexible. Non-verbal communication was important such a visually showing something instead of using words, which works well concepts I did not know how to articulate in Spanish.

Even though for the first part of my plug production time I worked essentially by myself, I did have the support of the production team which includes the other growers, irrigators and mangers. I
participated in production meetings in which strategic planning, production methods and labor scheduling were discussed and new processes created from them.

During the second part of my plug production time, I was given more responsibility. I was put in charge of two ranges totaling about 75,000 ft². At that point, the ranges were had both plug and bedding production going on at the same time. I was given employees to train in as irrigators to assist me in production in the ranges. With employees asking questions and needing answers before doing a task, I learned to be more “on top of things”, and making decisions about production before I needed to have them made. Being sure of what I wanted to accomplish with the production, I myself became a more through and deliberate grower. I had others depending on me to give direction, without the direction, they would not be able to efficiently continue to meet production goals. Managing employees was a totally new concept for me, but the scale and importance of my management was. I truly felt that the saying is true that by teaching you learn to be better at you are teaching.

Managing employee schedules was also part of my role. The need to have enough time/labor scheduled in case something goes wrong and requires more time was balanced with lean flow and budgetary restraints. Managing to ensure that employee are scheduled when they will be more efficient and in a role they are comfortable in. This management experience I feel will be very important for my future career in the industry. Some pictures of bedding plants from my ranges, grown for Home Depot
and Costco:
At the end of my plug and bedding production time at Brighton, I went down to New Mexico for two weeks to experience production and operations there. I learned about bedding plant order processing, loading of orders, biological pest control and production methods use there.

Charlie McKenzie, production manager at Tagawa – Southwest showed me all about the releasing of biological predatory insects in order to control greenhouse pests. Various species of biologicals have different insects they control and at different levels of control. Pat Lopachin, general manager there showed me the operational part of the facility. I had to opportunity to pull orders, load trucks, perform inventory checks and manage the dock. The southwest facility grew only bedding plants, for both Home Depot and Costco stores in Colorado.

When I got back to Brighton at the end of two weeks, I then joined up with the other intern Drew in our internship activities for the remainder of the my time there.

In the end of May, I had got to experience the marketing and merchandising part of the business. We spent one week working in various ways at Tagawa Gardens, a subsidiary “sister company” of TGE. It is a garden center in Centennial, CO that is a full service garden center and a very prestigious one at that. We got to spend time in activities related to customer service, supply chain management and marketing. Jim and his staff were very gracious and were open to anything that we wanted to take time to experience in the two weeks.

The other week we spend merchandising in Home Depot and Costco stores around Denver. We were able to work in a variety of stores with different setups in many. We got to learn the inventory processes performing at the store level that would then assist in making sure the stores have what is needed and what is going to really sell. Signage and Point-of-Purchase materials were also very important in the stores. Making sure all items have correct prices and signage and is displayed correctly was very important. All Home Depot stores followed a general planogram that showed roughly where
product categories would be displayed and how they were to be displayed. Besides these more retail-related tasks, we helped keep the plants looking good with water and general care.

The last month of my internship consisted a variety of experiences. Quality control, inventory, shipping, receiving, maintenance, project management and many other departments.

One integral part of the internship that I experienced was with John Williams, QC manager for Tagawas. He taught me all about the various ways they ensure quality including physical counts of germination in plugs, verifying locations of product, keeping tabs on product quality before shipping and the standards of quality that Tagawas has in place.

John spent time with me throughout the internship and it really helped me to know what quality was really being looked for and gave the opportunity to improve my production techniques to achieve the ideal quality.

Project management was spent with Christine Torres. I was able to get a glimpse into the way long term planning was done and how continual process improvement was achieved. She showed us how she examined a particular part of the process and analyzed it for ways to improve it. With these examinations, came potential large-scale improvement projects that would increase efficiency, quality, worker satisfaction, or any improvement to the company as a whole. Christine did not achieve these projects by herself but brought together all the interested parties that would be affected and the ones with expertise that would be valuable to the success of the project. By bringing everyone to the table, ideas are tested to the limit and only the best decisions are made. I found this be a very effective management style that allowed for respect of everyone’s ideas and still achieves the best possible outcome.
We also spent time with Bill Kluth, internship manager and responsible for many business management aspects including water acquisition, insurance, legal affairs, intellectual property, regulations and taxation.

Bill enlightened me to the importance of water conservation. He explained the water laws of Colorado and the strain it puts on a business like Tagawas. Since Tagawas doesn’t have its own rights to much water, they must purchase water rights from individual who do not need them. We then can utilize the acquired water rights to gain the water needed for our business. Snow pack and rainfall have a critical part in the amount of water available to the business, so constant monitoring of this allows for forecasting of available water. By using drip irrigation, boom irrigation and other automated system, water required to grow a crop can be reduced.

In conclusion, I was very delighted with this opportunity and found it to be even more enriching and educational than I could have imagined. Tagawa Greenhouses was a wonderful host employer, generously providing housing and an experience I will never forget. I was able to experience every aspect of the company and get an insight into every department of the company. The view I was given of the company and how every part works as a whole to create the quality products they are known for was unparalleled. Everyone was extremely willing to answer any question I had and give me any opportunity to experience something that I wanted to experience. I have been offered and have accepted a position at Tagawa Greenhouses as a Grower starting in January. I feel it was the right fit for me and I enjoyed my experience immensely.

Respectfully,

Mitchell Haase