AFE Student Final Report

My internship was at Swift Greenhouses Inc. located in Gilman Iowa. Swift Greenhouses is a whole sale perennial plug production facility. They sell over 700 varieties in 288 and 50 plug sizes. Swift also sells 4”-6” finished crops to retailer across the region.

I arrived at the end of their peak season in May. I was put under the instruction of one of the growers named Hans Stckes. This was his fourth summer working there and showed to be very knowledgeable about the business. For the first couple of weeks I was put in charge of watering finished crops. At first, I was slow and watering one aisle of finished plants took me two hours. As time went on, I could get two aisles done in the same amount of time.

During my first month, I was given instructions to carry out an experiment by incorporating perlite into their soil media. Their normal soil mix contains styrofoam and the head grower wanted to see if there was any added benefit to switch to perlite instead. There were two mixes that I was supposed to trial; one with 10% by volume and one with 15% by volume of perlite. I mixed them by hand in four 32-gallon trashcans and poured them into 50 plug trays. There was a total of 175 trays; 81 trays of 10% and 94 trays of 15%. These trays were used for rooting cuttings, direct sow of seed, and transplanting of 288 plugs. The benefits for using perlite varied among plant species. Plants that like a dry down between watering did better in the 15% mix, while plants that did not like to be dry had better root development in the 10% mix.

The next soil trial I recorded the results for was for no hypnum peat moss. Hypnum peat moss is a clayey black peat that Swift’s incorporated into their soil mix to provide micronutrients to the plant. The problem with using hypnum for Swift was that the pasteurization process was not perfect. There were numerous times were weeds could be found in a plug tray that hadn’t been used. So, with keeping the rest of the mix the same, 45 50-plug trays were made with absolutely no hypnum peat. One draw backs to removing the hypnum peat was when the trays were used for rooting cuttings. Since cuttings were kept under mist for weeks at a time, the soil media became saturated and proved not to be ideal for rooting conditions. However, when used for transplanting 288 plugs, rooting was often better with some varieties. The most notable benefit was none of these trays contained weeds.

Into the second month of my internship I was given a new responsibility. I was to have my own section of 288 plug trays to water, fertilize, and provide PGR applications. It quickly became apparent to me that successfully growing 288s from seed is a skill that not everyone can be trusted with. After the seeds are sowed mechanically, they are placed in a mist chamber to germinate. The rate of germination can be vastly different between cultivars. Knowing the signs of when to pull the trays was extremely important for how well the plants would grow during production. Pulling trays too early would often result in seedlings dampening off in the greenhouse. Pulling too late causes the seedlings becoming too tall and would have lasting effects on the production cycle of that crop. Once removed from the mist chamber, they were placed on a bench in the greenhouse. Here, they would remain for about seven weeks until they were either ready for transplant or shipped to a customer. During this time, they needed to be watered (sometimes twice a day), given PGR applications, and trimmed if needed. PGR applications could include B-nine, Sumagic, Fascination, or Configure, all of which I got to gain experience applying.
One of the most beneficial tasks that was assigned to me was photographing plants for Swift's new updated catalog. The owner of Swift's wanted the catalog to be filled with pictures that had been taken on-site. This was beneficial to me because I became more familiar with most of the different perennials that were grown there. Before beginning this internship, I had never taken a plant identification course. How I went about learning the plant names was by exploring the greenhouse and looking for plants that were in flower. I would then check to see if that plant was needed for the catalog. After weeks of checking the plant list, I could accurately identify most of the crops by their genus or common name.

Left: This is a picture of me spraying Fascination on Prairie Dropseed grass (*Sporobolus heterolepis*).

Below are two picture I took for the catalog: Left Veronica Explosion Bicolor. Right Rudbeckia Goldilocks.
Above is an example of a no hypnum peat soil trial of Orange Trumpet Vine. Left contains no hypnum peat, right contains hypnum peat. The noticeable difference is in the root system; left has thinner, less predominant roots.

Left: this picture represents the perlite soil trials of Delosperma John Proffitt. The 15% mix (left) roots are noticeably thicker than the 10% (right).