Project Deliverable H: **Prototype III and Customer Feedback**
GNG 1103 – Engineering Design

Although not much has changed, the design of our prototypes roof has significantly changed. We have decided to not use two panels, and instead our roof panels will be a series of triangular supports(trusses) that will be placed every 2 feet on top of our walls. This will make the portability of our greenhouse roof more difficult, but it will still easily transported by two people. The triangle supports will be roughly 2 feet high, and will be connected at the tops by plywood sections to hold them together more effectively. Small square gouges will be taken out of the angled section, and will allow the beams to sit on wood support while hanging off slightly for the gutters to easily be connected. Our roof will still be attachable by nuts and bolts, as there will be a layer of wood along the edge of the roof that will allow lay flat against the top of the walls. This will let the nuts and bolts go perpendicular to both panels and hold the walls and roof together when tightened. This was chosen because it was determined that the panels method would not be able to safely support the necessary weight that will be required.

To test our prototype, our group will sit on the roof of the greenhouse, while wearing the appropriate safety equipment. This will mimic the load that the greenhouse will experience during winter, when snow builds up on top off the roof. This will make sure that our greenhouse is suitable to hold the necessary amount of weight that was required by the client, and show that we have safe structure. On the other hand, if there is too much deformation or deflection it will show that we will need to add more support and make our greenhouse sturdier and safer. The test will take place once we have attached the roof to our greenhouse, and be completed before design day so that our results may be shown to prove that our greenhouse meets some requirements.