

Tucker Shrout & Vinny Ozzello
Flood Prevention

The purpose of this project was to test which material-denim, polypropylene, or burlap, would be the best sandbag material. Our goal was to determine which sandbag material would hold back the most water and to also determine the amount of time water was held back in each sample.

The experiment involved building a water proof box, measuring 4 in tall, 10 in wide, and 18 in long. Three sandbags (5x5 in) were built for each type of material, and filled each with one pound of sand. We then set the sandbags at the end of the box, (the open end), and ran 1 gallon of water down the box to the sandbags. The opposite end of the box was elevated 2 in off the ground. We then timed how long it took all of the water to run through the sandbags. We also captured the water that ran through the sandbags with a container that we put at the end of the box enabling us to measure how much water escaped the sandbags.

Preliminary data did not support the original hypothesis that denim would be the best sandbag material. Data is as follows: average time (min) for water to pass through sandbags- polypropylene = 10.26, denim= 9.62, burlap= 5.26; average water amount (ml) that escaped sandbag: polypropylene = 3,367, denim= 3,050, burlap= 2,979. Data collection is on-going.

Data thus far indicates that polypropylene held back water the best, while the burlap absorbed the most water.