

Abstract Submitted
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Giant Pumpkins DAVID HU, ALEX ALEXEEV, Georgia Tech — In this combined experimental and theoretical study, we investigate the growth of pumpkins from 1 to 1000 pounds in weight. Time-lapse photography is used to document the growth of pumpkins. Data is presented on the relation between the pumpkins' weights and aspect ratios (height divided by width). We observe pumpkins tend to become squashed (up to 50%) as they increase in size. The lattice-spring method is used to numerically estimate the elasto-plastic forces resisting deformation of the pumpkin. Using levels of plasticity consistent with that of plant cell growth, we find pumpkins shapes consistent with those observed.

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