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Dispersal of seeds from splash-cup plants RACHEL PEPPER, University of Puget Sound — Splash cup plants disperse their seeds with the help of raindrops. The seeds sit in a small (mm-scale) conical cup and are ejected upon drop impact. The seeds are ejected at velocities up to five times the impact speed of the raindrop, and are dispersed up to 1 m away from the parent plant, which is only a few cm high. Previous work investigating the mechanism of this remarkable dispersal predicted an optimum cup opening angle of around 40, which matched reasonably well with experiments performed with 3D-printed splash cup models. Those experiments were done with off-center drop impacts on initially empty cups with no seeds. We discuss similar experiments for cups that are not initially empty, but rather contain seed mimics, water, or both seeds and water. For some of these realistic initial states results are strikingly different from empty cups. Connections to theory will also be discussed.

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