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*S.P.L.A.T.: Super Paintball Length and Trajectory*

An experiment was done to see how shot distance and temperature of a paintball would affect the size of the splat made when the paintball was shot at a solid target with a slingshot. The experiment's hypothesis was: If paintballs are shot from three different lengths, 10 foot, 15 foot, and 20 foot, and at 4 different temperatures, 0 degrees Fahrenheit, 40 degrees Fahrenheit, 65 degrees Fahrenheit, and 98 degrees Fahrenheit, then the paintball shot at the 10 foot distance heated up to 98 degrees Fahrenheit will have the biggest splat because it will be softer, and have a higher velocity.

The paintballs were shot from three different distances at four different temperatures at a target. Three trials were completed at each distance and temperature. After each paintball shot, the diameter of the paint splat was measured in centimeters. After calculating the averages, the results showed that the room temperature paintballs at the closest distance made the biggest splat. Therefore, the hypothesized distance of 10 feet did make the largest splat most likely from having a higher velocity. But, the room temperature paintball was slightly better than the heated paintballs for making the biggest splat and both the heated and room temperature paintballs were much better at making bigger splats when compared to the lower temperature paintballs at any distance.