

# 27.5" or 29" Rolling Friction vs. Agility

Ziemba, Colton

The purpose of this experiment was to determine which bicycle wheel diameter is quicker in straight-line trails and which is quicker in single track, complex terrain requiring maneuverability. Four different bikers competed against themselves in a series of timed runs alternating between 27.5 -inch and 29-inch wheels on otherwise identical Trek mountain bikes with fixed-gear ratios. The straight-line track was a 100-meter stretch of hard packed gravel, and the complex terrain was 100 meters of curving, sandy soil. The athletes rode each course six times, three with each diameter wheel, and times were recorded and compared by individual. Four bikers' data was gathered and recorded in hard-packed straight line trails and complex terrain with curves. The 29-inch wheels consistently posted faster times on straight-line trails. On complex terrain, however the 27.5 inch wheels had the fastest overall average.