The rapidly growing body of Twitter, Facebook, and other social media data offers novel ways to quantify political affiliation and predict election results. By incorporating such data, we can improve upon traditional prediction methods that rely solely on polling data. The goal of this study is to use natural language processing methods to build models from Twitter to predict outcomes of presidential primary results at the county level. Using word frequencies and order, we construct machine learning models using Random Forests, \( k \)-Nearest Neighbors, Support Vector Machines, and Ensemble Methods. We will compare the effectiveness of such Twitter data driven techniques against more conventional polling methodologies. (Received September 20, 2016)