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Difference In Diesel

This science fair project was a result of problems we incurred this winter with our diesel gelling and clogging filters. My initial problem was “How much paraffin is in diesel?” After an interview, I learned this was not easily testable. My project then turned towards “Which diesel has the lowest cloud point?” I thought that by doing this experiment I could help my parents make better decisions about purchasing diesel for the farm. I wanted to learn about diesel specifications and see if they differed from station to station. According to my research I thought that there would be no difference in cloud points in different diesel from various gas stations in Monte Vista. With the use of a PHASE Technology CP Analyzer I proved my hypothesis wrong. I used this machine by flushing it out with 10 mL of each diesel then placing another 10 mL in the tube. There was a range of cloud points from positive 5.7 degrees to negative 16.7°F. I verified these results by placing samples of diesel outside and taking temperature readings. By doing this experiment I found that none of the diesel met the State of Colorado’s requirement for January’s cloud point of -22 degrees Fahrenheit. My family has decided not to purchase diesel in the winter months as they have in the past because it has less energy available. In conclusion I have learned a lot about diesel and hope to help people make educated decisions on purchasing diesel.