The Effect of Superabsorbant Polymer on Soil Heavy Metal Immobilization

Khanna, Pranavi (School: Mira Loma High School)

The purpose of this experiment was to characterize the effect of the super absorbent polymer in the presence of metal ions. Sodium polyacrylate samples were prepared using variations of NaOH concentrations. Sodium polyacrylate samples were then placed into aqueous solutions containing Cu2+ ions. The effects of pH, contact time, and initial Cu2+ ion concentrations on the adsorption of Cu(II) ions were studied using a spectrophotometer. There was a definite correlation between the amount of sodium polyacrylate and the mass of Cu2+ ions, suggesting that sodium polyacrylate can be used for metal remediation. Water retention properties were also observed using water absorption capacity (WAC) formulas. An increase in ph correlated to a high WAC.

Awards Won: