Optimization of process parameter in Chromium(VI) biosorption using *zadirachta indica* (Neem) by Two Factorial design

Vyshnavi B, Shreya P & Thirumavalavan M[*]
Dept of Biotechnology, Sreenidhi Institute of Science & Technology, Hyderabad – 501 301.
+91 988 555 9960
mtvglc@gmail.com

Abstract

The removal of Cr(VI) from aqueous solution was studied using *zadirachta indica* (Neem) saw dust. The effects of variables such as Cr(VI) concentration(100-500 ppm), pH(2-8), adsorbent dosage(1 & 2 gm) and temperature(25 to 40°C)were studied. A 2^4 full factorial experimental design technique was used to study the adsorption of Cr(VI) onto the adsorbent. The factorial design model allows the prediction of the extent of different adsorption conditions of the variables. Analysis of variance (ANOVA) used to validate the model showed that there is no lack of fit at 95 % confidence level. The correlation coefficient between the experimental and calculated results showed a good performance of the model. Maximum experimental adsorption of 99.65 % was achieved under optimum condition.

Keywords *: Adsorption, concentration and Chromium(VI).*