

Optimization using central composite design (CCD) and the desirability function for biosorption of methylene blue from aqueous solution onto dried sunflower seed hull**Gbekeloluwa Oguntimein**8618 Wilenoak Court, Rosedale MD 21237
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The objective of this work was to optimize the experimental conditions for biosorption of methylene blue dye using dried sun flower seed hull as the biosorbent. With this aim, central composite design model was applied to achieve maximum biosorption capacity q (mg/g). In the model studied, independent variables were pH (2-10), ash dosage (0.05-0.45 g/20 ml), dye concentration (0.005-0.025 mg/L), and temperature (24.5-54.5 oC). The quadratic model was developed for the predetermined responses PDR and biosorption capacity and it was clearly seen that the experimental data fit well to model predictions statistically ($R^2 \geq 0.79$) and $\text{Prob} > F < 0.0001$). Experimental conditions for maximum biosorption capacity was determined as pH 6.0, 0.0169 mg/L MB, 0.244 g DSSH dosage and 39.5 oC temperature.

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