NITRATE REMOVAL USING BAMBOO AND COCONUT CHARCOAL

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Abstract

Nitrate is one of most essential molecule for all living beings. However, when it exceeds desirable concentration, it is not favourable for consumers.

Nitrate polluted ground water is one of upcoming and common problem in almost all the developing countries. This situation arises mainly because of cheap N-fertilizers, pesticides, food processing chemicals, erroneous septic tank maintaining etc. Excessive nitrate in drinking water is poisonous to health, especially for infants and pregnant women.

Charcoal is a best adsorbent for any hazardous substances in water. Also, there are several types of charcoals depending on source of charcoal and the production procedure. Coconut shell and the bamboo charcoals were act as good absorbent for remove nitrate from the drinking water. Since activated carbon is a well-known and the popular hazardous material absorbent, it has been used as a controller.

UV range spectrophotometer was used to observe nitrate measurements. Using this spectrometric data, total inorganic nitrate adsorbent and then, the removal percentages were calculated. Best adsorbent was predicted for the high nitrate concentrated solutions based upon the grain sizes. Basically, coconut shell charcoal was accomplished the research objectives than, the bamboo stick charcoal and the controller.