

## Evaluation of the performance of different filters for sewage treatment

**Authors:**

**Khudair MY<sup>1</sup> and  
Jasim FM<sup>2</sup>**

**Institution:**

1. Civil Engineering, College of Engineering, University of Anbar, Ramadi, Iraq.
2. Soil and Water Resource, College of Agriculture, University of Anbar, Ramadi, Iraq.

**Corresponding author:  
Khudair MY**

**ABSTRACT:**

The objective of this study, is to design two wastewater filtration system, by using corn cobs and red mud (bentonite), and to compare between their performance. Filter A (bentonite) and Filter B (corn cobs) were designed and each filter consists of three layers. To determine the most effective filter, four parameters were measured that is, pH chemical, Biochemical Oxygen Demand (BOD<sub>5</sub>), Oxygen Demand (COD), and Total Suspended Solid (TSS). The results showed that Filter A showed the removal BOD<sub>5</sub> up to 87%, TSS up to 8.6% and reduction of pH up to 4.3% whereas Filter B showed the removal of BOD<sub>5</sub> up to 91%, TSS up to 13%, COD up to 89% and pH up to 18.4%.

**Keywords:**

Corn cobs, Mud, Bentonite pH chemical, BOD<sub>5</sub>, COD, TSS.