Abstract

Aromatic and Poly Aromatic Hydrocarbons (PAH), antibiotics and cyanotoxins are emerging contaminants of water. The present study assess the efficiency of \textit{B. cereus} and \textit{E. ludwigii} which were initially isolated as potential crude oil degraders. Their effect on the removal of antibiotics; Amoxicillin (AMX) and Sulfanomide (SUF), PAH; Naphthalene and Phenanthrene, and cyanobacterial cyanotoxin Microsystin -LR (MC-LR) were evaluated in vitro.

Crude oil (1\% v/v) and PAH (1\% v/v) degradation were assessed by using standard spectrophotometric methods where degradation of antibiotics (60ppm) and (MC-LR) (10ppm) were analyzed by using High performance liquid chromatography (HPLC) methods. \textit{B. cereus} 88 \% degradation of crude oil whereas \textit{E. ludwigii} showed 77\% of degradation respectively. \textit{B. cereus} strain completely removed AMX and 80\% of SUF from the medium after 14 days of incubation whilst \textit{E. ludwigii} showed degradation percentage of 75\% for AMX and 60\% for SUF respectively. The results showed that the highest degradation was achieved by the bacterium \textit{B. cereus} (100\%) for MC-LR and the bacterium \textit{E. ludwigii} showed 88\% degradation respectively. Moreover, more than 78\% Naphthalene (\textit{B. cereus}; 78\%, \textit{E. ludwigii}; 87\%) and 61\% of Phenanthrene (\textit{B. cereus}; 73\%, \textit{E. ludwigii}; 64\%) were detected following 14 days of incubation. The results revealed that the bacterium \textit{B. cereus} and \textit{E. ludwigii} harbor genes which are responsible to degrade crude oil, PAH, antibiotics and MC-LR. Thus, the bacteria could be utilized as a bioremediation agent for many environmental contaminants and biotechnological approach is being undertaken to use the microbes to remove such contaminants as green solution.

Keywords: \textit{B. cereus}, \textit{E. ludwigii}; Crude oil, PAH, Antibiotics, MC-LR

Biodiversity conservation of etheno-veterinary medicinal plants used by Yadava tribes of Bangalore.

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Abstract

Ethnoveterinary medicine, the scientific term for traditional animal health care, encompasses the knowledge, skills, methods, practices, and beliefs about animal health care found among the members of a community. This study presents first-hand information about 73 prescriptions that were recorded during a field study of local traditional herbal practitioners and healers from villages around the Bangalore district of Karnataka State in Southern India. The prescriptions discussed in this paper include various medicines prepared out of herbal plants in alleviating diseases that are suffered by livestock and by the...