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EFFECT OF DIFFERENT PARTS OF BLACK PLUM TREE (*SYZYGIUM CUMINI*) ON THE MICROBIAL ACTIVITIES

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Inhibitory effect of different parts (tender leaves, bark, seeds and root) of black plum (*Syzygium cumini*) tree on the microbial growth was studied by using disc diffusion method at different incubation times (14 and 24h). The aqueous extract filtrates of bark and root inhibited the growth of *Saccharomyces cerevisiae* more than that of the extract filtrates of tender leaves and seeds. The aqueous extract filtrates of the tender leaves and seeds had greater inhibitory effect on the growth of *Bacillus licheniformis* than the extract filtrates of bark and root. Inhibitory effect of tender leaves and seeds was very low on the growth of other bacteria used, viz. *Citrobacter fruendi, Escherichia coli, Pseudomonas aeruginosa* and *Klebsiela pneumonia.* Aqueous extract filtrates of various parts of the black plum tree did not show inhibitory effect on the growth of fungi; *Aspergillus oryzae* and *Aspergillus niger.* The ether extract filtrates obtained from the above said parts of black plum tree did not produce inhibitory effect on the growth of the microorganisms used in the experiment. When the fermentation medium was inoculated with palmyrah toddy mixed culture, the ethanol production was not decreased effectively by the aqueous extract filtrates of the plant parts. The plant parts as well as their residues added to media exhibited higher inhibitory effect on ethanol production and sugar consumption by palmyrah toddy mixed culture than the aqueous extract of the respective plant parts of black plum tree. The ethanol production and sugar consumption by palmyrah toddy mixed culture in the palmyrah inflorescence sap were decreased by the addition of bark and seeds of black plum tree when compared with tender leaves and root. Thus bark and seeds of black plum tree showed inhibitory effect on air born microbes present in toddy sediment than tender leaves and root. Therefore bark and seeds of black plum tree are useful to collect palmyrah inflorescence sap instead of slaked lime to avoid fermentation.