ISOLATION OF ESSENTIAL OILS FROM INDIGENOUS MONTANA FLORA
AND THEIR ANTIMICROBIAL EFFECTIVENESS AS A NON-TOXIC
STERILIZING REAGENT AGAINST BACTERIA THAT CAUSE FOOD
BORNE ILLNESS.

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Bacterial resistance and the negative effects of chemicals used to kill them have become
a growing worldwide public health concern. The widespread use of antibiotics in medicine
and Animal husbandry have caused bacteria adaptation to antibiotics. New drug discovery
has become vital in fighting the war against drug-resistant bacteria such as Escherichia coli,
Staphylococcus aureus, and Salmonella epidermis, which have posed considerable medical
problems. Essential oils are a safe, generally non-toxic and relatively inexpensive alternative
to synthetic chemical based antibiotics. Essential oils hydro-distilled from indigenous
Montana flora will be explored for their antimicrobial effectiveness as a non-toxic sterilizing
reagent against bacteria. We hypothesis that the oils of Lomatium dissectum, Arctostaphylos
uva-ursi (L.), Chimaphila umbellate (L.), W. Bart Prunella vulgaris L, Artemisia dracunculus
L, Spreng Medicago lupulina L., and Balsamorhiza sagittata will have significant anti-
bacterial properties and variability that works to reduce bacterium’s resistance.