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EFFECT OF PHENACYLPYRIDINIUM SALTS ON BACTERIAL POPULATION IN LIGHT OLIVE-BROWN SOIL OF BUNDELKHAND REGION (U.P.) INDIA

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ABSTRACT

Effect of phenacylpyridinium bromide (1a) and p-chlorophenacylpyridinium bromide (1b) was investigated on the soil bacterial population by plate dilution method. Based on the average total bacterial count at different concentrations of salts, it was observed that salt 1b was more bactericidal than salt 1a and deleterious effectivity increased with the increasing level. The greater antibacterial effect of salt 1b may probably be attributed to the presence of chlorine atom attached to benzene ring.

Figure : 00 References : 10 Tables : 02
KEY WORDS : Bacterial population, Pyridinium salts

Introduction

In order to cope with tremendously increasing human demands for food owing to multiple population buldge, crops of high yielding varieties have been introduced for intensive cultivation. But crop production can not go up by mere planting new high yielding varieties, putting more fertilizers and pumping more water unless crop is protected against damages cuased by insects, pests, plant diseases, weeds and others. Therefore, the modern technique of crop protection comprises the use of insecticides, fungicides and herbicides which in mono cultivation have considerable influence in agriculture [1-2].

The pyridinium salts and phosphonium salts find their extensive application in the synthesis of a wide range of heterocyclic compounds; but surprisingly the biological activities of these salts have not been studied so far. However, the effect of pyridinium salts on germination behaviour and radicle growth of *Cajanus cajan* and *Phaseolus radiatus* have been studied[3-5]. In view of above context, the present work has been undertaken to observe the effect of phenacylpyridinium bromide (1a) and p-chlorophenacyl-pyridinium bromide (1b) on bacterial population.

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