

EFFECT OF AQUEOUS PLANT EXTRACTS TO REDUCE AMMONIA VOLATILIZATION FROM FERTILIZERS SOIL

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ABSTRACT

There are many plants extract and many chemical compounds were decreasing volatile ammonia from the soil after adding Nitrogen fertilizer. In this study test many plants extract to know the ability this extracts on decreasing ammonia volatilization with many concentration (1.5 , 3 , 4.5) ml/100 g soil and *Hydroquinone* used to same aim .

The result explained all treatment of plant extracts and *Hydroquinone* compound with 1.5 ml/100 g soil and 2.5 mg/100 g soil respectively. Caused decreasing ammonia volatilization $p < 0.05$ except plant extract of *Vigna radiata* , caused increasing a significantly different $p < 0.05$ to ammonia volatilization compared with control treatment (soil and fertilizer only) in the second experiment used concentration 3 ml/100 g soil and 5 mg/100g soil of *Hydroquinone*. The result explained that the rate of ammonia volatilization were (10.8 , 4.1 , 5 , 13.5 , 4.2 , 4 , 2.8 , 2.7) mg NH₃/100 g soil to *Hydroquinone* , *Phaseolus vulgaris*, *Pennisetum americanum*, *Cinnamomum zeilanicum* Nees, *Eucalyptus camaldulensrs* Dehnl, *Vigna radiata*, *Matricaria chmomilla* and *Tribulus terrestris* L. respectively.

All this plant extracts caused a significantly decreasing ammonia volatilization $p < 0.05$ except *Hydroquinone* treatment and *Cinnamomum zeilanicum* Nees caused increasing ammonia volatilization compared with control treatment in this concentration 3 ml/100g soil in other experiment used plant extract to the same plants with 4.5 ml/100 g soil and 7.5 mg/100 g soil of *Hydroquinone* in the experiment to know effecting increasing concentration of this plant and *Hydroquinone* an ammonia volatilization the result explained that all plant extracts recorded a significantly different decreasing ammonia volatilization except *Vigna vadiata* the rate of volatile ammonia were (5.6 , 5.5 , 4.8 , 5 , 3.6 , 3.7 , 2.7) mg NH₃/100 g soil to *Hydroquinone* , *Phaseolus vulgaris*, *Pennisetum americanum*, *Cinnamomum zeilanicum* Nees, *Eucalyptus camaldulensrs* Dehnl, *Matricaria chmomilla* and *Tribulus terrestris* L. respectively, compared with control treatment .

The interaction between treatment and concentration explained that the highest a volatile ammonia got with *Vigna radiata* in the concentration 1.5 ml/100 g soil and was 17.8 mg NH₃/100 g soil and the lowest volatile ammonia was 2.6 mg NH₃/100 g soil to *Hydroquinone* .

There are not any a significant difference at volatile ammonia among the concentration (1.5 , 3 , 4.5) ml/100 g soil and were 5.77 , 5.81 and 5.21 mg NH₃/100 g soil.

KEYWORDS: Reduce Ammonia, Fertilizers Soil