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METHOD OF STUDYING AMMONIUM FIXATION IN stronging O by my App and COAL MINE SOILS address with high to method and

the change. . The quantitys of the exchangeable immontant held by the sort, and I the

intensity of the attendenture con acts its relative to the dominant extints in the building M.QASIM KHAN*, S.S. SHAH** AND M. ASLAM KHAN*

in addition, the reversibility of the isotherns was esummed by measuring the * Faculty of Agriculture, Gomal University, D.I.Khan. Agrill. Research Station, Tarnab, Peshawar, M. Wellon, Beshawar, M. Well

solution. A background solution of 0.04 M calcings chlande was used so that other entions

can be agreed when calculating the total divatent tops present, by assuming the total divatent tops present, by assuming the total divatent tops present, by assuming the TDARTERA Three different techniques were tested and compared to study the fixation of added ammonium in coal mine soils. Single point method II proved better than the single point method I. Q/I curve method could also be used to study the ammonium fixing ability of soils, but it was found to be time consuming and morbido laborious as compared to the single point method Il magaza abore tolan A. 181112 guali

Assumantante solution (250 mg NH,-N.E.): 1-180 NOITSUDORTMI

It is generally observed that certain amount of added ammonium is not recovered from the coal mine soils at zero day of incubation. Some ammonium ions added as ammonium salt are held in fixed forms by clays, as K is, and then are not accessible for quick exchange with other ions or for nitrification by bacteria.

Reeder and Berg [1] found a loss of added ammonium in coal mine spoil during an incubation experiment and recovered 46 ppm ammonium-N of the added 60 ppm ammonium-N at zero time. Since the spoil sample they tested was calcareous, they attributed some of this initial loss to ammonia volatilization. As no systematic study has been carried out on this aspect, the present work was undertaken to find a simple and rapid method for studying the loss of added ammonium due to ammonium fixation in a wide range of coal mine soils collected. I call to probba and but a leaft of the collected.

In order to study the ability of coal mine soils to fix ammonium-N, two methods were tested. The first method involved treatment of the soil with a known amount of ammonium sulphate solution (100 mg NH₄-N/kg soil) and after a definite time of contact, the extractable portion was removed with 0.5 M potassium sulphate solution. The difference between the ammonium added and that recovered in the extract was considered as the ammonium fixed.

The second method, which is generally used for estimation of the capacity of soil to fix potassium was tested on 5 coal mine soil samples. As much of the basic information on ammonium fixation originates from the studies on fixation of potassium ion, the