

**B-17 : DISTRIBUTION OF DIFERENT FORMS  
OF SOIL NITROGEN IN SOME SRI LANKAN SOILS**

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This study was conducted to investigate the distribution of different forms of soil nitrogen in top and sub layers of 9 representative soils of Sri Lanka. Soil nitrogen was fractionated into 6 nitrogen forms. The 0.01M CaCl<sub>2</sub> extraction was used to extract available inorganic nitrogen fraction and considered as one form of soil nitrogen (Stanford and Smith, 1972). Subsequently, acid hydrolysis (6N HCl) was used to extract acid hydrolyzable nitrogen fraction and it was separated into four

nitrogen forms namely, ammonia nitrogen, amino acid nitrogen, amino sugar nitrogen and acid hydrolyzable unknown nitrogen (Stevenson, 1982). The remaining nonhydrolyzable nitrogen fraction was taken as an acid insoluble nitrogen form of soil.

The distribution of different forms of nitrogen showed a wide variation among our soils. The total hydrolyzable nitrogen (ammonia nitrogen, amino acid nitrogen, amino sugar nitrogen and acid hydrolyzable unknown nitrogen) decreased with the depth of the soil. This may be attributed to the decreasing trend of the content of amino acid nitrogen which was the major component of the acid hydrolyzable nitrogen. In contrast to that, acid insoluble nitrogen form increased with soil depth. Further, the correlation showed that there were significant positive relationships between several nitrogen forms and soil organic matter. This proves that the amount of acid hydrolyzable nitrogen depends on soil organic matter content. There were no significant relationships between acid insoluble nitrogen and organic matter content of soil.