



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## Determination of the Utilization of Nitrogen From Tobacco Waste By Wheat Crop With <sup>15</sup>N Tracer Technique

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**Abstract:** The field experiment was laid out with randomized block design with split plot and three replications during the 1991- 92 years. Each plot was 16 m<sup>2</sup>. Tobacco-waste at the rates of 0, 10, 20, 30 and 40 tons/ha were applied to the plots and Bezostiya wheat variety was sown in 23 rd October, 1991. Nitrogen as (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> at the rates of 0, 20, 40, 60 and 80 kg N/ha was applied to the plots in 31 st March, 1992. The rates of 20 and 80 kg N/ha were only labelled with <sup>15</sup>N at 10% atom excess because of their high cost under field conditions. Wheat crop was harvested in 13 th July, 1992. Straw and grain yield were recorded. The straw and grain were analysed for total N and <sup>15</sup>N by emission spectrophotometry. According to the results of this research, increasing tobacco-waste and nitrogenous fertilizers have important effect on the yield, N content and N uptake of wheat crop. The % Ndff (nitrogenous fertilizer) increased from 6.14 to 19.03 at 20 and 80 kg N/ha respectively for wheat straw. The % Ndf (Tobacco-waste) was 12.49, 26.45, 34.01 and 33.86 (as the mean of 20 and 80 kg N/ha rates) at 10, 20, 30 and 40 tons/ha T.W rates, respectively. The percent N utilization of nitrogen fertilizer (N.F.) decreased from 13.50 to 10.90 at 20 and 80 kg N/ha rates, respectively. The percent utilization of T.W was 1.86, 3.24, 2.55 and 2.74 (as the mean of 20 and 80 kg N/ha rates) at 10, 20, 30 and 40 tons/ha rates respectively. In wheat grain, the percent N utilization of nitrogen fertilizer (N.F.) decreased from 40.60 to 38.40 at 20 and 80 kg N/ha, respectively. The percent utilization of T.W decreased from 16.53 (control) to 8.97 (40 ton/ha).

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