

## **Response of yield, nitrogen use efficiency and grain protein content of wheat (*Triticum aestivum* L.) varieties to different nitrogen levels**

### **ABSTRACT**

A field experiment was carried out in order to investigate the response of nitrogen use efficiency and yield of two wheat varieties to different nitrogen levels. The wheat varieties, viz. Bijoy (V1) and Prodip (V2) were tested under 4 levels of nitrogen (N0 = 0 kg N/ha, N1 = 60 kg N/ha, N2 = 120 kg N/ha and N3 = 180 kg N/ha) where wheat varieties assigned in main plot and nitrogen treatments in subplot. Grain yield was increased with increasing rates of nitrogen. Maximum grain yield (3.85 kg/ha) produced by the variety Prodip when N applied @ 180 kg/ha and minimum (1.15 kg/ha) by the variety Bijoy under control treatments. Interactions of two variety and nitrogen levels; N uptake by grain and straw increased with increasing nitrogen levels. Highest N uptake by grain (90.60 kg/ha) and straw (25.53 kg/ha) were observed from the variety Prodip with 180 kg N/ha. Highest (38.66) N use efficiency (NUE) was noticed in Prodip when received 60 kg N/ha. Grain protein (%) also showed maximum value (14.29) when Prodip fertilized with 180 kg N/ha. Between two varieties, Prodip was the best performer with 180 kg N/ha due to maximum nitrogen content and upake in grain and straw, maximum N use efficiency fertilizer recovery percentage and grain protein.

**Keyword:** Nitrogen use efficiency; Protein content; Wheat; Yield