

February 28-March 01, 2019  
London, UK

J Plant Physiol Pathol 2019, Volume 7  
DOI: 10.4172/2329-955X-C1-030

# Rice crop yield and yield attributes responses to variability of rate and timing application of nitrogen among contrasting rice cultivars

**Sabina Devkota**

Nepal Agricultural Research Council, Nepal

**P**roducing more with less is promoted to meet the current challenges of food production through optimized resources use and reduced environmental impact. For rice crop, among other inputs, nitrogen management represented a major component driving its productivity and sustainability. This study was established for determining the effect of nitrogen rate and time of application on the growth and yield of two high yielding varieties (IRRI 146 (NSIC Re 158) and IR2-10-LI-Y1-L2). Six combinations of time and rate of application were evaluated within the IRRI long term experiment platform between 2015 and 2017. Significant effect of the nitrogen management was observed on rice crop grain yield; tiller numbers per panicle, number of panicles per m<sup>2</sup> and for the filled spikelet's per m<sup>2</sup>.

Variability of these effects with difference of time of application and rate of application were observed. For instance, crop with total nitrogen application rate of 115kg/ha and 135kg/ha split in four times presented lower yield on average (5.86t/ha and 5.58 t/ha in wet and dry season respectively) than a crop with the same amount split in three times ( 5.91t/ha and 6.5 t/ha in wet and dry season respectively). However, the two varieties responded similarly to the nitrogen application rates and timings. This study highlighted the need of specific recommendation of distribution and timing for the available nitrogen that the farmers can afford for a season to maximize its return on its crop productivity.

sabina.devkota@gmail.com