Preflood and Midseason Nitrogen Rate Effect on Nitrogen Concentration of Rice Flood Water. (S06-tucker102245-Poster)

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Abstract:

Rice floodwater could contain levels of N that may degrade the quality of fresh- and salt-water ecosystems. The purpose of this study was to monitor rice field floodwater and determine the effect of preflood (PF) and midseason (MS) urea-N applications on floodwater NH4-N and NO3-N concentrations. In 2001 and 2002, urea was applied to 'Wells' rice at four PF N rates (0 to 202 kg N/ha) and five MS (~28d after flooding) N rates (0 to 100 kg N/ha). A flood was established at the 5-leaf stage and floodwater samples were taken 1, 2, 4, and 7d after urea-N applications and then weekly until draining for harvest. Results from 2001 showed NH4-N concentrations of the floodwater were never more than 1.1 and 3.5 mg NH4-N/L following the largest PF and MS N applications, respectively. In general, for both the PF and MS N applications, NH4-N concentration decreased as time after urea-N fertilization increased and increased as N rate increased. Nitrate-N concentration was below 0.06mg NO3-N/L at all sampling times following the PF or MS N applications. Data from the 2002 growing season will also be discussed.

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