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AVAILABILITY OF *AZOLLA* -N TO RICE IN RELATION TO TIME OF APPLICATION

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The availability of Azolla-N to rice in comparison to urea fertilizer, was

studied using ^{15}N-labelled material. Labelled Azolla was incorporated either at transplanting or at tillering. Similarly, labelled urea was applied either at transplanting or tillering. Labelled urea was also given by the recommended best split method. Control treatment received no nitrogen. The isotope plots were $1m^2$, but comparable treatments using unlabelled material were given in $20m^2$ plots and the results standardised to assess grain yields.

Recovery of nitrogen by rice from urea or Azolla was lower when given at transplanting than when applied at tillering. Highest N-recovery was from Azolla given at tillering and this was 56% and 12% in grain and straw respectively. Similar increases in grain yield (52% over the control) were obtained either by incorporating a total equivalent of 47kgN/ha of Azolla at transplanting and tillering or by applying 60kgN/ha of urea by the recommended best split method, while the same amount of urea given in two splits (at transplanting and tillering), yielded only a 41% increase.

These results show that either N-losses from urea are greater than from Azolla or the positive effects of Azolla are not entirely due to nitrogen.

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