

# **Use of the Nitrogen Index *Tier Zero*, an International Tool, for Quick Assessment of Nitrogen Dynamics in Management Systems in Asia, Africa, and North and South America**

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## **ABSTRACT**

Implementation of best soil and water conservation practices will be key to addressing the large challenges that are confronting us in the 21<sup>st</sup> century. These challenges are driven by a continuously increasing population that will require an increase in production from agricultural systems, and by a changing climate with extreme events which will pose additional challenges as far as how we manage and conserve our resources to sustain the higher yields that are needed for maintaining and/or achieving food security. Improved nitrogen management will be a key component of the toolbox used in the 21<sup>st</sup> century to contribute to higher yields while reducing the risk of impacts to the environment from losses of reactive nitrogen. A tier one Nitrogen Index has been developed and transferred to different action agencies, and to users in the USA and internationally. A simpler version of the Nitrogen Index, the Nitrogen Index *Tier Zero*, has been developed to conduct, in just a few minutes, a quick assessment of nitrogen management practices and potential risk of surface, atmospheric and leaching losses of nitrogen. The *Tier Zero* tool's Recommendation Screen can be used by the user to assess the nitrogen management at a given site and make decisions that could contribute to reduced risk of nitrogen losses while increasing nitrogen use efficiencies. The tool is very user friendly, has been calibrated for different cropping systems, can be used in metric or English units, and is available in three different languages. Examples of potential applications of the tool will be presented.