

# FINDING THE TOOLS TO SUPPORT SUSTAINABLE NUTRIENT MANAGEMENT

**C**hanging the way we manage nutrients – that is the focus of the fifth issue of *Better Crops – South Asia*. When asked how we run our institute, I often respond that we are in the business of making small holder farmers more efficient and profitable, while leaving for their children a better soil resource for future food security. Sounds rather simple, but it really does wrap together all of the issues we focus on each day in our work at IPNI.

**Targeting improved fertilizer use efficiency remains our principle scientific focus.** How often have you heard a presentation on nutrient management that does not attempt to bring improved efficiency into the discussion? Whether it is building on low yields with balanced use of macronutrients, or optimizing production with secondary and micronutrients, there are a number of ways to improve on efficiency. The challenge becomes making improvements in efficiency which remain profitable and easily within reach of the farmer client.

**Soil testing has been, and remains, a major component of making efficient fertilizer recommendations.** The only problem we have encountered is that most farmers do not have access to soil testing services which are price sensitive or timely for their cropping practices. Combine this with the massive number of individual fields, relative to the soil testing infrastructure, and you are left with what has evolved over time in the country, blanket state recommendations.

**Plant-based nutrient recommendation systems have potential to support farm level Site-Specific Nutrient Management (SSNM) recommendations.** In fact, our recent work using the decision support tool 'Nutrient Expert' for wheat and maize in South Asia has shown that we can achieve considerable accuracy in making fertilizer nutrient recommendations that help a farmer achieve a target yield. In addition, we can make that recommendation using the fertilizer products locally available to the farmer, include modifications to account for his previous crop and management practices which impact on nutrient responses, and provide some economic analysis to guide him in his final decision making. All this from the office of his local farm adviser, such as an industry agronomist or extension agent.

**Finding tools which support sustainable nutrient management practices remains the goal.** Balanced fertilization remains one of core principles with all of our research and development work, world wide. Add to this our growing knowledge of the spatial distribution of nutrients and how this variability can be managed. Ultimately, using decision support tools like Nutrient Expert will contribute to the set of tools we can equip agronomists with.

**At IPNI we continue to evaluate and consider all options for the economic and environmentally sustainable use of plant nutrients in South Asian cropping systems.**



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