

Site-Specific Nutrient Management (SSNM)

What is Site-Specific Nutrient Management (SSNM)?

Site-specific nutrient management promotes:

- feeding rice with nutrients as needed
- adjusting rates and timing of fertilizer applications to location- and season-specific conditions
- applying N, P, and K in a site-specific ratio required by rice
- applying S, Zn and micro-nutrients as required.

Why Use SSNM?

The supply of nutrients from soil is typically insufficient to produce high and profitable yields; hence fertilizers must be added in the right amount. It is difficult to predict the crop response to fertilizer application because of seasonal and year-to-year variation in climate and because of variability, for example between villages, in the supply of nutrients from soil. Current fertilizer recommendations, however, typically consist of blanket recommendations with fixed rates and timing for large rice-growing areas, and do not consider year-to-year variations and spatial variability.

Efficient and profitable use of fertilizers requires site-specific approaches including good guidelines and tools so that farmers can determine when and how much nutrients to apply to their rice fields in a specific season and location. SSNM provides tools and strategies to determine nutrient rates that meet crop needs under actual growing conditions at different locations.

How to Use SSNM?

- Optimize the use of indigenous nutrient sources (organic material such as straw and manures).
- Apply N based on crop need during the season using the leaf color chart.
- Apply P and K considering target yield and the soil P and K supply measured as grain yield in nutrient omission plots.
- Apply zinc, sulfur, and micronutrients as required based on local recommendations.
- Select the most economic fertilizer sources.
- Use quality seed, optimum plant density, integrated pest management, and good water management to maximize the benefits from SSNM.

Adjust SSNM to local needs and evaluate yield and profit in farmers' fields with farmer participation.



Optimize the use of indigenous nutrient sources.

Apply N as per crop need using the LCC.

Apply fertilizer P and K based on the omission plot technique.

Apply Zn and S based on local recommendations.

Select most economic fertilizer sources.

Use quality seed.

For more information:

Consult the Rice Knowledge Bank for information on SSNM at <http://www.knowledgebank.irri.org/ssnm>.

Further reading

Fairhurst T, Witt C. editors. 2002. Rice: A practical guide to nutrient management. Singapore and Makati City: Potash & Phosphate Institute, Potash & Phosphate Institute of Canada (PPIC) and International Rice Research Institute (IRRI). p 1-89.

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