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Site Specific Nutrient Management (SSNM)

LECTURE 5



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5.1 Introduction

- Site specific nutrient management (SSNM) approach, relatively new approach of nutrient recommendations, is mainly based on the indigenous nutrient supply from the soil and nutrient demand of the crop for achieving targeted yield.



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5.2 Importance of SSNM

- Optimal use of existing indigenous nutrient sources such as crop residues and measures.
- Application of N, P and K fertilizers is adjusted to the location and season-specific needs of the crop.
- Local randomization for application of Zn, S and micronutrients are followed.
- Selection of most economic combination of available fertilizer sources.



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5.3 SSNM Approaches

- The relatively new approach of nutrient recommendations is mainly based on the indigenous nutrient supply from the soil and nutrient demand of the crop for achieving targeted yield
- The SSNM recommendations could be evolved on the basis of solely plant analysis or soil cum plant analysis



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5.4 Plant Analysis Based SSNM

- Selection of the Yield Goal
- Assessment of Indigenous Nutrient Supplies
- Estimation of Crop Nutrient Requirement
- Computation of Fertilizer Nutrient Rates
- Dynamic Adjustment of N Rates



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5.5 Soil-cum-Plant Analysis Based SSNM

- These soil–test crop response-based recommendations are now in practice to achieve desired yield targets in many field crops
- Thus, recent studies with intensive cropping systems have shown that fertilizer recommendations with above approach offer greater economic gains as compared with NPK fertilizer schedules conventionally prescribed by soil testing laboratories



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5.6 Decision Support Systems

- Nutrient Expert® (NE) is an easy-to-use, interactive, and computer-based decision support tool that can rapidly provide nutrient recommendations for an individual farmer field in the presence or absence of soil testing data.
- NE is nutrient decision support software that uses the principles of SSNM and enables farm advisors to develop fertilizer recommendations tailored to a specific field or growing environment.



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5.7 Decision Rules to Estimate Site-Specific Nutrient Management Parameters

- Water Availability
- Soil Fertility Indicators
- Historic use of organic materials
- Problem soils



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5.8 Current Versions of Nutrient Expert

- Nutrient Expert® for Hybrid Maize
- NE for wheat



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THANK YOU