

Transportation: Ensure fertilizers are labeled, secured, Properly packed, shipped with documents, Proper Vehicle inspection and transported away from food or livestock products to avoid contamination. Always cover containers to prevent moisture exposure avoid overheating and Keep fertilizers away from heat sources.

NUTRIENT APPLICATION METHODS

Broadcasting: Evenly spread across fields.

Drilling: Applied with seeds during planting.

Side-dressing: Applied alongside crops for in-season growth.

Foliar Spray: Applied to leaves for rapid absorption.

Best Practices: Avoid over-fertilizing, consider soil type, use crop rotation, and integrate both organic and inorganic fertilizers for balanced nutrition.

SAFETY TIPS FOR APPLICATION

Avoid inhalation and skin contact.

Keep fertilizers away from water sources.

Store leftover fertilizers securely.

Wash hands thoroughly after application.

SAVE \$ WITH A NUTRIENT MANAGEMENT PLAN



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NUTRIENT AND FERTILIZER MANAGEMENT PLAN (NFMP)



MINISTRY OF COMMERCE TRADE AND INDUSTRY.



WORLD BANK GROUP

INTRODUCTION

The Nutrient and Fertilizer Management Plan (NFMP) is crafted to help farmers boost crop yields, minimize environmental impact, and promote sustainable practices. By managing nutrients carefully, farmers can improve soil health and achieve long-term productivity.

What is NFMP?

A Nutrient and Fertilizer Management Plan is the management of the amount(rate), source, placement (methods of application), and timing of plant nutrients and soil amendments. The purpose of NFMP is to: Budget, supply, and conserve nutrients for plant production.

Why NFMP Matters

Environmental Benefits: Prevents soil erosion, reduces pollution in water bodies, mitigates climate change, and conserves biodiversity by keeping soil and ecosystems balanced.

Economic Benefits: Increases crop yields, reduces fertilizer costs, improves resource use, and boosts farm income through efficient nutrient management.

Social Benefits: Enhances food security, supports rural livelihoods, protects human health, and encourages sustainable practices within

CORE COMPONENTS OF NFMP

For sustainability, an effective NFMP follows the "4 Rs" of nutrient management:

Right Source: Selects the best fertilizer type for the soil.

Right Rate: Applies the correct amount to meet plant needs.

Right Place: Ensures fertilizers are positioned near plant roots.

Right Time: Times applications to maximize nutrient uptake.



KEY NUTRIENT & FERTILIZER MANAGEMENT STRATEGIES

Soil Testing and Analysis

Identifies deficiencies and determines precise fertilizer needs.

Crop Rotation & Cover Cropping

Maintains soil health by rotating crops and using cover crops to enrich soil.

Integrated Nutrient Management (INM)

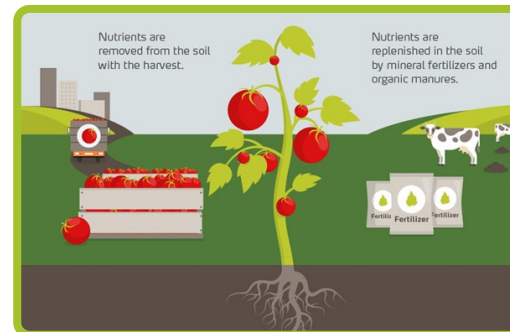
Balances organic and inorganic sources for better nutrient use.

Organic Farming

Minimizes chemical inputs with compost and manure.

RISKS OF POOR NUTRIENT MANAGEMENT

- **Soil Degradation:** Overuse of chemical fertilizers can lead to soil acidification, loss of organic matter, and nutrient imbalances.
 - **Greenhouse Gas Emissions:** Nitrogen-based fertilizers can release nitrous oxide, a potent greenhouse gas.
 - **Human Health Risks:** Fertilizer runoff contaminates drinking water with nitrates, affecting health.
 - **Economic Strain:** Improper use of fertilizers increases costs without boosting yields.
- Soil Health Decline:** Imbalances can damage soil structure and lead to loss of fertility.



IDENTIFICATIONS OF NUTRIENTS AND FERTILIZERS

Whenever you see a fertilizer product, it will have letters and numbers(%) prominently listed on the package, usually on the front. These letters and numbers(%) are very important and tell a great deal about what this fertilizer will do. Nitrogen, Phosphorus, and Potassium (N,P,K) are what the letters refer to as The (%) N-10, P-20, K-10 refers to the amount of nutrients.

- 1 Organic: Natural, environmentally friendly options (e.g., compost, manure).
- 2 Inorganic: Synthetic fertilizers (e.g., urea, Basal dressing NPK, ammonium nitrate).
- 3 NPK (Nitrogen-Phosphorus-Potassium): Balanced fertilizers.
- 4 Specialized/Liquid: Micronutrient-rich fertilizers (e.g., zinc, boron).

PROCUREMENT, STORAGE, AND TRANSPORTATION OF FERTILIZERS

Procurement: Begin with soil tests to define fertilizer needs, then work with suppliers who offer quality and cost-effective options. Needs Assessment, Specification Development, Tendering, Evaluation, Contract Award, Delivery and Inspection.

Storage: Keep fertilizers in a dry, well-ventilated space away from moisture to maintain effectiveness with Storage Conditions such as moderate Temperature and Humidity. Safety wearing Precautions protective gear when handling, Avoid inhalation of dust or fumes, Prevent skin contact and use of Fire-resistant storage.