



Right Product, Right Rate, Right Time, Right Place.

The Foundation of BMPs for Fertilizer

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IFA International Workshop on Fertilizer Best Management Practices (FBMPs)

BEST AGRICULTURAL PRACTICES

IFA/PPI

To optimize fertilizer use in Mexico, Central America and South America

These guidelines are based on input from the professional staffs of IFA, PPI and ANDA, blending farmer experience with scientific research and education. This document is intended for general, non-specialized audiences.

June 1994



Fertilizer Best Management Practices (FBMPs)

- PPI scientists defined BMPs as ...
“practices which have been proven in research and tested through farmer implementation to give optimum production potential, input efficiency, and environmental protection.”



Fertilizer Best Management Practices (FBMPs)

- Today ... more emphasis on environmental protection than optimal production
- Current definitions ... practical management systems designed to reduce soil loss and mitigate adverse environmental effects on water quality caused by nutrients, animal waste, and sediments



Both soil conservation and agronomic BMPs can work together to meet the objectives of optimal production potential and mitigation of adverse nutrient-caused environmental effect.

Mitigation BMPs

- Strip cropping
- Terracing
- Contour stripping
- Grass waterways
- Special manure handling
- Animal waste structures
- Ponds
- Minimal tillage
- Grass filter strips
- Nutrient application

Agronomic BMPs

- Variety
- Planting date
- Hybrid maturity
- Row-spacing
- Seeding rate
- Plant population
- Integrated pest management
- Weed control
- Disease control
- Nutrient management



Fertilizer Best Management Practices (FBMPs)

- BMPs differ depending on objective ... to be used by farmers – BMPs must be economic – must be profitable and sustainable
 - Nutrient management deserves special attention ... critical to optimizing production potential and to environmental stewardship
- But ...



Public Perception Fertilizer Industry Is Not To Be trusted

The image shows two overlapping news website screenshots. The top one is CNN.com with the headline "Deadly Bomb made from fertilizer" circled in red. The bottom one is BBC News with the headline "Coca-Cola's 'toxic' India fertiliser" circled in red. Below these is a larger article snippet with the headline "Radioactive & Toxic Chemicals Now Farm Fertilizer!" circled in red. The article text reads: "SEATTLE (AP) - Toxic heavy metals, chemicals and radioactive wastes are being recycled as fertilizer and spread over farmers' fields nationwide - and there is no federal law requiring that they be listed".

The image shows a screenshot of a news article from LJWorld.com. The article title is "Fertilizer runoff from Midwest creates a barren sea" and the sub-headline is "Nutrients actually feed 'Dead Zone' in Gulf". The author is Scott Rothschild. The article is dated September 26, 2005. The text mentions "Topeka — The Dead Zone" and "SW1P, 3JH, UK". There are also navigation buttons like "SEARCH", "E-mail story", "Printer-friendly", "E-mail editor", and "Comments". An advertisement for "CELEBRATE RECOVERY" is visible on the right side of the page.

Public Perception Fertilizer Industry Is Not To Be trusted







Gaining Public Confidence

- Part of the solution ... widespread adoption of fertilizers BMPs.
- We need to be unified in the promotion of fertilizer BMPs that improve nutrient use efficiency ... without sacrificing farmer profitability.



North American Approach

BEST MANAGEMENT PRACTICES (BMPs)

BMP Category	BMP Examples	
 <p>Right Product <i>Match fertilizer type to crop needs</i></p>	<ul style="list-style-type: none"> • Soil Testing • N, P, K, Secondary and Micronutrient • Enhanced Efficiency Fertilizers 	<ul style="list-style-type: none"> • Nutrient Management Planning • Select appropriate fertilizer and on-farm nutrient sources for the cropping system.
 <p>Right Time <i>Make nutrients available when crops need them</i></p>	<ul style="list-style-type: none"> • Application Timing • Controlled Release Technologies 	<ul style="list-style-type: none"> • Inhibitors • Fertilizer Product Choice
 <p>Right Place <i>Keep nutrients where crops can use them</i></p>	<ul style="list-style-type: none"> • Application Method • Incorporation of Fertilizer • Buffer Strips 	<ul style="list-style-type: none"> • Conservation Tillage • Cover Cropping
 <p>Right Rate <i>Match amount of fertilizer to crop needs</i></p>	<ul style="list-style-type: none"> • Soil Testing • Yield Goal Analysis • Crop Removal Balance • Nutrient Management Planning • Plant Tissue Analysis 	<ul style="list-style-type: none"> • Applicator Calibration • Crop Scouting • Record Keeping • Variable Rate Technology • Site-Specific Management

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Fertilizer BMPs

- There is no set of universal fertilizer BMPs ... site-specific and crop-specific ... vary from one region to the next and one farm to another depending on soils, climatic conditions, crop and cropping history, and management expertise
- Right product, rate, time and place ... guiding principles that can be applied in any farming system



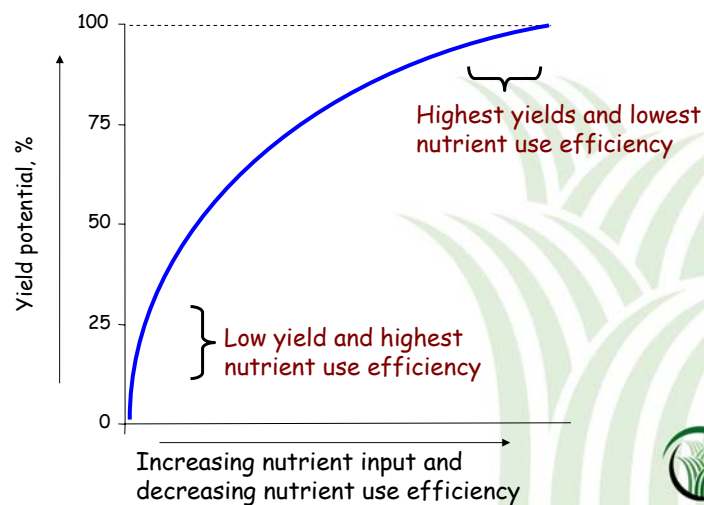
Fertilizer BMPs

Fertilizer BMPs:

- should help ensure fertilizer uptake and removal by target crops is optimized and nutrient loss to environment is minimized
- should increase nutrient use efficiency, but maximum use efficiency is not the primary objective ... goal is to use fertilizers efficiently and effectively



Yield Response vs. Nutrient Use Efficiency





Fertilizer BMPs

- Development and adoption of BMPs for fertilizer are necessary for the fertilizer industry to demonstrate its commitment to product and environmental stewardship, and to help the farmer produce sustained, profitable yields.



Fertilizer BMPs

- Right nutrient, right rate, right time, and right place provide a framework for a farmer to select those BMPs best suited to his soils, crops, climate, and management capabilities.



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