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Overview

- Why FBMPs – food/environment
- IFA – FBMP initiative
- Australian and New Zealand initiatives
- Future challenges
Consumer expectations and perceptions

- Sufficient, affordable and healthy food
- Reduce undernourished by half by 2015
- Feed increasing population
- Water quality concerns (N&P)
- Greenhouse gases
- Area farmed, biodiversity

Our Challenge

Fertiliser industry options

- Regulatory
  - High cost
  - Inflexible
  - National/Regional
  - Industry reactive

- Best practice
  - Cost effective
  - Flexible
  - Site specific
  - Industry proactive

Examples of existing FBMPs

- The Australian Cracking the Nutrient Code
- The New Zealand Code of Practice for Nutrient Management
- The French Code of Reference for Integrated Farming
- The European Integrated Farming Framework, EISA
- The UK Whole Farm Nutrient Plan
- Fertilizer Best Management Practices issued by FAR, USA
- The TFI/PPI Fertilizer Product Stewardship (USA)
- Best Management Practices for Colorado Agriculture (USA)
IFA initiative

Develop and issue a global framework of fertiliser best management practices (FBMPs) as a model to develop local FBMPs

Towards a Global Framework for Fertiliser Best Management Practices (BMPs)

- Based on sound science, to manage plant nutrients and crops to produce enough nutritious and safe food in an environmentally friendly, economically viable and socially acceptable manner.
- To assist in the continued development and promotion of FBMPs adapted to the specific needs of developed and developing countries.
Practices which have been proven in research and tested through farmer implementation to give optimum production potential, input efficiency and environmental protection

International Plant Nutrition Institute (IPNI)

What are Best Management Practices?

- Maximize crop uptake per unit of nutrient applied
- Maximize yield increase per unit of nutrient taken up
- Maximize yield increase per unit of nutrient applied
- Maximize farmer profit
- Reduce greenhouse gas emissions
- Limit nutrient run-off
- Replenish degraded soils
- Biofortify crops for human nutrition
- Adapt to climate change

“Best” for Doing What?
A Moving Target

Land use
Urbanization (often on fertile land), deforestation, reforestation, wetlands disappearing…

Water
Growing scarcity, changing distribution, contamination, salinization…

Multiplying demands on agriculture
New cropping patterns, declining soil pools of nutrients, new recycling loops in nutrient cycles…

Changing conditions for agriculture
Changing weather patterns (climate change), soil degradation, erosion, rural depopulation…

A Simple Principle

- **Right product(s)** – Match fertilizer (and other sources of nutrients) to crop needs
- **Right rate** – Match amount of fertilizer to crop needs
- **Right time** – Make nutrients available when crops need them
- **Right place** – Keep nutrients where crops can use them
### Elements of BMPs

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<thead>
<tr>
<th>Right product</th>
<th>Right time</th>
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<tbody>
<tr>
<td>Soil Testing</td>
<td>Application timing</td>
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<tr>
<td>N, P, K, secondary and micronutrients</td>
<td>Controlled-release technologies</td>
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<td>Enhanced efficiency fertilizers</td>
<td>Inhibitors</td>
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<td>Nutrient management plans</td>
<td>Fertilizer product choice</td>
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<td>Application method</td>
<td>Soil testing</td>
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<tr>
<td>Incorporation of fertilizer</td>
<td>Yield goal analysis</td>
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<td>Buffer strips</td>
<td>Crop removal balance</td>
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<tr>
<td>Conservation tillage</td>
<td>Nutrient management planning</td>
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<tr>
<td>Cover cropping</td>
<td>Plant tissue analysis</td>
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### Outputs for the Fertiliser Industry

- **Phase 1**: A global framework including general scientific principles: to provide a common voice
- **Phase 2**: Quantitative performance indicators
Outputs for Farmers

- **Localised BMPs**
  - Adapted to a much wider range of conditions than is currently the case
  - Updated for changing conditions as needed
- **An intermediate enabling level** (for example, a system to provide soil testing)
- **Tools for capacity building and implementation to support continuing improvement**

Outputs for Consumers

- **Labelling** to help consumers understand which products represent FBMPs (needs to be done in partnership with other agri-food actors to avoid confusion ensuing from a multiplication of quality labels)
- **Public communication on what the label and FBMPs represent**
BMPs

- Fertcare is a comprehensive approach to providing users with best practice advice.
- It incorporates first principle BMPs and specific industry or local BMPs where those are available.
- It is a highly effective approach to ensuring that all industry advice in Australia is based on best management practice underpinned by the best available science.

Code of Practice for Nutrient Management

(with emphasis on fertiliser use)

- Fertiliser use is considered within the broader context of nutrient management
- Nutrient budget is the basis for developing a nutrient management plan
  - Within the context of farm management system
- Guide for nutrient advisers and consultants
  - Also useful for farmers and growers who want to know more about nutrient management planning and the best nutrient management practices (BMP) for their production system
- Demonstrate environmental care as land managers undertake production activities and aim to run a profitable business
  - Helps land managers, consultants, Regional Councils and the public to have confidence in nutrient management practices throughout New Zealand’s primary production sector
Challenges for FBMP Adoption

- FBMPS are knowledge-intensive
- Profitability is a key driver of adoption
- Farming is a social and cultural activity as well as an economic activity

**THEREFORE**

- Farmer knowledge, farmer experiential learning and existing social capital must be leveraged for adoption
- Only multiple partners working together can hope to make significant progress on a worldwide basis