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Product Quality Along the Fertilizer Value Chain



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Outline of Presentation

- I. Background
- II. Importance of Product Quality
- III. Factors Contributing to Quality of Fertilizers
- IV. Scope of Fertilizer Quality Monitoring
- V. Corporate Social Responsibility/Product
- VI. Stewardship
- VII. Issues/Concerns

Background

- Fertilizer refers to any material, organic, inorganic, natural or synthetic which supplies one or more elements necessary for plant growth and development
- Most commonly used fertilizer contain basic elements, namely: Nitrogen, phosphorus and potassium
- Other fertilizers contain micronutrients such as Zinc, Boron, Copper, Manganese, Molybdenum, Iron which are required by plants in small quantity
- Fertilization- Improves crop quality and optimize/maximize crop productivity

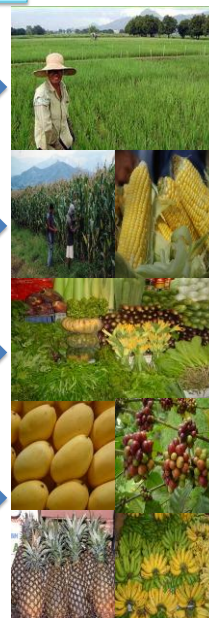
Importance of Quality Control

To assure the farmers of standard quality fertilizer

Quality control test determines fertilizer quality with respect to minimum and maximum nutrient contents

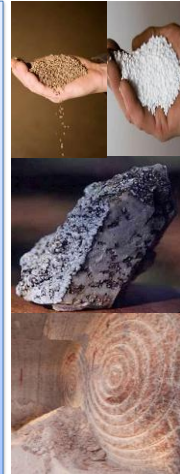
Validate the contents of fertilizer as claimed versus standards

It is a check against unethical business practice of selling adulterated fertilizer raw materials



III. Factors Contributing to the Quality of Fertilizers

- Importance of quality raw materials (Primary/Secondary/Micronutrients)
 - i.e. Nitrogen - Ammonia
 - Phosphorus - Phosphate Rock
 - Potassium - Solid ores layers in underground clay and salt deposits



Factors Contributing to the Quality of Fertilizers

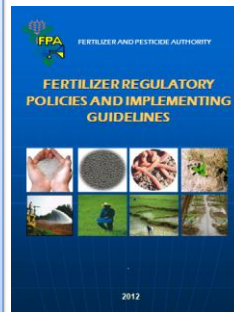
➤ Technology

- Manufacturing process
- Granulation
- Blending
- Bagging
- Redesign/replacement of existing/old equipment to improve efficiency
- Process improvements and innovations which include the use of more effective catalyst/improve instrumentation, among others



IV. Role of Regulatory Agency

1. Registration of fertilizer products
2. Licensing of stakeholders- i.e. importers, exporters, manufacturers, indentors, distributors, dealers
3. Enforcement of standards promulgated by the government
4. Monitoring
5. Impose sanctions/penalties to violators of government regulations i.e. suspension, revocation of license, product registration



Fertilizer Product Registration/Licensing

- ❑ All fertilizer products, organic or inorganic, raw materials and ingredients for fertilizer, which are imported or produced locally, should be registered with the regulatory agency
- ❑ Registration requirements submission of :
 - ✓ product specification supported by chemical analysis
 - ✓ mode of action
 - ✓ product type
 - ✓ results of efficacy tests conducted by an accredited/independent researcher to determine if fertilizer products are of acceptable quality and effective as guaranteed by the manufacturer and/or importer before they are marketed.
- ❑ Grant of licenses to qualified stakeholders i.e. Importers, Exporters, Manufacturers/Processors



Fertilizer Quality Control Monitoring

1. Product sampling from the different stakeholders i.e. importers/distributors/dealers on a regular basis
2. Testing /Laboratory Analysis of samples collected to validate claims in the label versus established government standards



VI. Product Stewardship/ Corporate Social Responsibility

- Business Ethics and Transparency
- Product/ Environmental Stewardship
- Healthy and Safe Working Environment
- Employee Relations and Workplace Practices
- Farmer-Industry-Regulator Relations
- Community Relations



VII. Issues/ Concerns

- Adulteration of fertilizer
- Underweight fertilizer
- Off- specs fertilizer
- Misuse/Overuse of fertilizer
- Timely shipment of fertilizer vessel



**FAKE
AMMONIUM
SULFATE**

