FERTILIZER REGULATORY POLICIES AND IMPLEMENTING GUIDELINES

2019 Edition

Masaganang ANI
Mataas na KITA

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FERTILIZER AND PESTICIDE AUTHORITY

Fertilizer Regulatory Policies and Implementing Guidelines

Fertilizer Regulations Division

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BAI Compound, Visayas Avenue
Diliman, Quezon City

2nd Edition

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MESSAGE FROM THE EXECUTIVE DIRECTOR

Let me first congratulate the Fertilizer Regulations Division (FRD) for competently leading the revision of the Fertilizer Regulatory Policies and Implementing Guidelines. After more than a year of meticulous and tireless work, FRD's efforts have finally come to fruition.

As a technical regulatory agency, our mandate is to assure the public of safe and adequate supply of fertilizer and pesticide at reasonable prices. Updating this book is way of ensuring that we stay true to our mandate and providing the transacting public with a more efficient and transparent frontline services.

The release of this edition is also timely. The Philippines witnessed the passage of the Ease of doing Business and Efficient Government Service Delivery Act of 2018 (RA 11032). As a result, the systems and procedures for registration of products and licensing of handler must be revised in order to comply with the said law. The revisions are incorporated in this Guidelines.

But most of all, the revision would not be possible without the invaluable inputs from the industry stakeholders, academe, technical experts, and fertilizer handlers who actively participated in the public consultations. I am proud to say that this is not the work FPA but a product of a FPA-industry-academe partnership in our continuing effort to maintain safe and quality fertilizer in the country.

I hope that the changes reflected herein address the needs of our fertilizer handlers in the country as we gear towards a more sustainable agriculture and food secure Philippines.

WILFREDO C. ROLDAN
Executive Director

ACKNOWLEDGMENT

We wish to extend our heartfelt gratitude to the Fertilizer Policy and Technical Advisory Committee (FPTAC) headed by Dr. Domingo Angeles, and to the following members namely: Dr. Calixto Protacio, Dr. Erlinda Paterno, Dr. Roel Suralta, Dr. Nelly Aggangan, Dr. Gina Villegas- Pangga and Dr. Veronica Migo. FPTAC, composed of experts from the government and non-government organization, served as the body the FPA consults in terms of technical inputs and recommendations for the revision of the Fertilizer Regulatory Policies and Implementing Guidelines.

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We proudly commend the FPA employees for their unwavering dedication and commitment to making this Guidebook possible. We give our great thanks to Ms. Julieta Lansangan, Chief of the Fertilizer Regulations Division (FRD) and all staff of FRD, Formerly Acting Deputy Executive Director for Fertilizer Mr. Antonio G. Cruz Jr., Deputy Executive Director for Fertilizer and Pesticide Mr. Eric Divinagracia and to our Executive Director Wilfredo C. Roldan.

We greatly appreciate also the contributions extended by the Division Chiefs of the agency; Finance and Administration (FAD) Chief Ms. Elizabeth T. Ramiro, Laboratory Services Division (LSD) Chief Jerolet C. Sahagun and Planning, Management and Information Division (PMID) Chief Ms. Digna De Leon and her team.

To all those whom we failed to mention, kudos to all of us!

Above all, this will not be complete without the providence of the Divine Being.

PREFACE

This Guidebook serves as the second edition of the FPA Fertilizer Regulatory Policies and Implementing Guidelines, since the release of its first edition in 2013. It comes as the result of the need to update its contents to make it timely and relevant to the demands of times. Further, it goes along with the Agency's undertaking to leverage its Quality Management System (QMS) to an international standard of service.

It is a document that serves as a reference by policymakers, researchers and other interested individuals in coming up with propositions and resolutions to advance the fertilizer industry.

The pages of this material features eight (8) chapters, namely The Fertilizer and Pesticide Authority (Chapter I); Fertilizer Product Registration (Chapter II); Biological Efficacy Data Generation (Chapter III); Licensing of Handlers (Chapter IV); Fertilizer Movement, Supply, and Quality Product Standard (Chapter V); Fertilizer Information and Statistics (Chapter VI); Accreditations (Chapter VII); and Penal Provisions and Enforcement Action (Chapter VIII). It presents fertilizer regulatory requirements, procedures, and processes, and defines technical terminologies for these to be understood.

We shall remain grounded in our commitment to serving the public with excellence!

CHAPTER I
THE FERTILIZER AND PESTICIDE AUTHORITY

1.1. INTRODUCTION

Fertilizer continues to play an important role in Philippine agriculture due to its significant contribution in increasing crop productivity – FOOD. Fertilizer is needed to produce more food from limited land resources to feed the fast-increasing population.

In the early seventies, the Philippine Government launched an agricultural program, promoting self-sufficiency in rice and corn. Because of this, the demand for fertilizer increased. Since there was no control over the fertilizer industry then due to the laissez faire policy, the government created the Fertilizer Industry Authority (FIA) through Presidential Decree No. 135 on 13 February 1973. The FIA's primary functions were to regulate fertilizer prices, distribution, import, export and domestic production of fertilizers.

However, with the easing of fertilizer prices in the international and domestic markets and the Philippines achieving self-sufficiency in rice production in 1977, Presidential Decree No. 1144 was promulgated on May 30, 1977 to create the Fertilizer and Pesticide Authority (FPA) as an attached agency of the Department of Agriculture and abolished the FIA. The agency's regulatory function was extended to the pesticide industry as well. Presidential Decree No. 1144 gave FPA broad powers with absolute control over the fertilizer sector. These powers fall into four categories, namely: *regulatory, monitoring, evaluation, and promotion*.

In 1986, trade liberalization was implemented by the government. The fertilizer trade was deregulated through the following:

a. Removal of procurement control (i.e. determination of import requirements, conduct of bidding and allocation of import volume)
b. Scrapping of the price-setting function of the government
c. Stopping the issuance of FPA Import Permit for Fertilizer.

On May 5, 2014, the FPA was transferred to the Office of the Presidential Assistant for Food Security and Agricultural Modernization (OPAFSAM) through Executive Order No. 165. Then on September 17, 2018 FPA was transferred back to DA by virtue of Executive Order 62.

1.2. MANDATE

Pursuant to Section 1 of PD 1144, the Fertilizer and Pesticide Authority is mandated *to assure the agricultural sector of adequate supplies of fertilizer and pesticide at reasonable prices, rationalize the manufacture and marketing of fertilizer, protect the public from the risks inherent in the use of pesticides, and educate the agricultural sector in the use of these inputs*

1.3. POWER AND FUNCTIONS

Section of PD 1144 states that *the FPA shall have jurisdiction, on over all existing handlers of pesticides, fertilizers and other agricultural chemical inputs. The FPA shall have the following powers and functions:*

I. Common to Fertilizers, Pesticides, and Other Agricultural Chemicals

1. *To conduct an information campaign regarding the safe and effective use of these products;*

2. *To promote and coordinate all fertilizer and pesticides research in cooperation with the Philippine Council for Agriculture and Resources Research and other appropriate agencies to ensure scientific pest control in the public interest, safety in the use and handling of pesticides, higher standards and quality of products and better application methods;*

3. *To call upon any department, bureau, office, agency or instrumentality of the government, including government-owned or controlled corporations, or any officer or employee thereof and on the private sector, for such information or assistance as it may need in the exercise of its powers and in the performance of its functions and duties;*

4. *To promulgate rules and regulations for the registration and licensing of handlers of these products, collect fees pertaining thereto, as well as the renewal, suspension, revocation, or cancellation of such registration or licenses and such other rules and regulations as may be necessary to implement this Decree;*

5. *To establish and impose appropriate penalties on handlers of these products for violations of any rules and regulations established by the FPA;*

6. *To institute proceedings against any person violating any provisions of this Decree and/or such rules and regulations as may be promulgated to implement the provisions of this Decree after due notice and hearing;*

7. *To delegate such selected privileges, powers or authority as may be allowed by law to corporation, cooperatives, associations or individuals as may presently exist or be organized to assist the FPA in carrying out its functions, and;*

8. *To do any and all acts not contrary to law or existing decrees and regulations as may be necessary to carry out the functions of the FPA.*

II. Fertilizers

1. *To make a continuous assessment of the fertilizer supply and demand situation, both domestic and worldwide;*

2. *To establish and enforce sales quotas, production schedules, distribution areas and such other marketing regulations as may be necessary to assure market stability and viable operations in the industry;*

3. *To determine and set the volume and prices both wholesale and retail, of fertilizer and fertilizer inputs;*

4. *To establish and implement regulations governing the import and export of fertilizer and fertilizer inputs, and when necessary, to itself import and/or export such items, including the negotiating and contracting of such imports and exports;*

5. *To import fertilizer and fertilizer inputs exempt from custom duties, compensating and sales taxes, and all other taxes, and to purchase naptha locally free from specific taxes and the corresponding duty on the imported crude, and to sell or convey such fertilizer or*

fertilizer input to any individual association, or corporation likewise exempt from the payment of customs duties and all other taxes;

6. *To control and regulate all marketing companies, whether importer, indentor, wholesaler or retailer; by controlling and regulating prices, terms, mark-ups, distribution channels, promotion, storage and other marketing factors in the domestic fertilizer market;*

7. *To regulate and control quality of the different grades of fertilizer and to set new grades when necessary;*

8. *To control and regulate all aspects of domestic fertilizer production, including the utilization of idle capacity and the orderly expansion of the industry and to compel the utilization of unused or underutilized capacities of fertilizer companies and to direct any improvements modifications or repairs as may be necessary to accomplish this;*

9. *To approve or to reject the establishment of new fertilizer of fertilizer input plants and the expansion or contraction of existing capacities;*

10. *To obtain complete access to all pertinent information on the operations of the industry, including audited and/or unaudited financial statements, marketing, production, and inventory data;*

11. *To control and assist in the financing of the importation of fertilizer and fertilizer inputs of production, of inventory and working capital, and of the expansion of the industry;*

12. *To do all such things as may be necessary to maintain an adequate supply of fertilizers to the domestic market at reasonable prices while maintaining the long term viability of the industry.*

III. Pesticides and Other Agricultural Chemicals

1. *To determine specific uses or manners of use for each pesticide or pesticide formulation;*

2. *To establish and enforce tolerance levels and good agricultural practices for use of pesticides in raw agricultural commodities;*

3. *To restrict or ban the use of any pesticide or the formulation of certain pesticides in specific areas or during certain periods upon evidence that the pesticide is an imminent hazard, has caused, or is causing widespread serious damage to crops, fish or livestock, or to public health and environment;*

4. *To prevent the importation of agricultural commodities containing pesticide residues above the accepted tolerance levels and to regulate the exportation of agricultural products containing pesticide residue above accepted tolerance levels;*

5. *To inspect the establishment and premises of pesticide handlers to insure that industrial health and safety rules and anti-pollution regulations are followed;*

6. *To enter and inspect farmers' fields to ensure that only the recommended pesticides are used in specific crops in accordance with good agricultural practice;*

7. *To require if and when necessary, of every handler of these products, the submission to the FPA of a report stating the quantity, value of each kind of product exported, imported, manufactured, produced, formulated, repacked, stored, delivered, distributed, or sold;*

8. *Should there be any extraordinary and unreasonable increases in prices, or a severe shortage in supply of pesticides or imminent dangers or either occurrences, the FPA is empower to impose such controls as may be necessary in the public interest, including but not limited to such restrictions and controls as the imposition of price ceilings, controls on inventories, distribution, and transport, and tax-free importation of such pesticides or raw materials thereof as may be in short supply.*

1.4 VISION

The FPA's vision is improved quality of life for all Filipinos through increased farm productivity and food production using the necessary fertilizer and pesticide inputs that do not endanger human health and environment on a sustainable basis.

1.5. MISSION

The mission of FPA is to be a catalyst in the empowerment of farmers and fisher folk by helping them become better informed, more efficient and conscientious in the management of their plant nutrition and crop protection requirements towards conservation of our land and marine resources.

CHAPTER II
FERTILIZER PRODUCT REGISTRATION

2.1 GENERAL INFORMATION

2.1.1 Basic Policies

2.1.1.1. PD 1144 SECTION 9. Registration and Licensing. No pesticides, fertilizer, or other agricultural chemical shall be exported, imported, manufactured, formulated, stored, distributed, sold or offered for sale, transported, delivered for transportation or used unless it has been duly registered with the FPA or covered by a numbered provisional permit issued by FPA for use in accordance with the conditions as stipulated in the permit. Separate registrations shall be required for each active ingredient and its possible formulations in the case of pesticides or for each fertilizer grade in the case of fertilizer.

2.1.1.2. *No person shall engage in the business of exporting, importing, manufacturing, formulating, distributing, supplying, repacking, storing, commercially applying, selling, marketing, of any pesticides, fertilizer and other agricultural chemicals except under a license issued by the FPA.*

2.1.1.3. *The FPA, in the pursuit of its duties and functions, may suspend, revoke, or modify the registration of any pesticide, fertilizer and other agricultural chemicals after due notice and hearing.*

2.1.1.4. Inorganic Fertilizers, Biostimulants, Fortified Organic Fertilizer, Genetically Modified Organisms (GMOs), Decomposers, Soil Conditioners/Soil Amendment, Plant Growth Regulators and Raw Materials for fertilizer, which are imported or produced locally, should be registered with FPA.

2.1.1.5. The registration process carries with its pertinent documentary requirements to support claims on the quality of the product and its effectiveness to target crops.

2.1.1.6. The registration process likewise provides suitable guidelines for the registration of all fertilizer products to assure farmers and end-users of their acceptable quality and effectiveness as guaranteed by the manufacturer and/or importer before they are marketed.

2.1.1.7. Registration requirements include the submission of product specification supported by chemical analysis, product type and the result of efficacy trials conducted by an accredited researcher. The set of data is evaluated by a technical evaluator.

2.1.1.8. With increasing market demand, a wide range of products are provided through continued production of new grades, brands and types of locally produced and imported fertilizers. Registration of these commercially processed fertilizers is therefore needed to give greater assurance that the quality of each brand is maintained at the specified standards (characteristics and effects) as claimed by the producer or importer.

2.1.1.9. Fertilizer handlers such as importers, importer-end-user, exporters, manufacturers, formulators, processors, national distributor, area distributor, institutional user and bulk blenders should register their products with FPA.

2.1.2 Coverage

The following grade, type and classification of fertilizer products, and raw materials (based on Philippine Standard) are subject for registration with FPA:

2.1.2.1 Inorganic Fertilizer

a. Traditional
b. New Grades
c. Specialty Grades
d. Controlled Release

2.1.2.2 Biostimulants

a. Humic substances
   a.1 Humic acid
   a.2 Fulvic acid
b. Protein hydrolysates
c. Seaweed extracts
d. Chitosan and other biopolymers
e. Inorganic compounds
f. Microbial Inoculants/Biological fertilizer
   f.1. Beneficial bacteria
   f.2. Beneficial fungi

2.1.2.3 Fortified Organic Fertilizer

2.1.2.4 Genetically Modified Organisms (GMOs)

2.1.2.5 Decomposers

2.1.2.6 Soil Conditioner/Soil Amendment

2.1.2.7 Plant Growth Regulator

2.1.2.8 Raw materials

2.1.3 Definition of Terms

Beneficial nutrients – are mineral elements which either stimulate growth but are not essential or which are essential only for certain plant species under given conditions (Marschner, 1995). They include sodium, silicon, cobalt, nickel, selenium, aluminum, and others like iodine and vanadium.

Biopolymers – are polymers that occur in nature. Examples are high molecular weight carbohydrates and proteins.

Biostimulants – any substance or microorganism that when applied to plants or soil, it stimulates and enhances physiological processes, nutrient efficiency, abiotic stress tolerance and/or crop quality traits regardless of its nutrient content. Biostimulants can be categorized into: humic substances, protein hydrolysates, seaweed extracts, chitosan and other biopolymers, inorganic compounds and microbial inoculants.

Brand name - a term, name or trademark, with logo which may or may not be registered in the Intellectual Property Office (IPO) and used in connection with one or more grades of fertilizer. FPA reserves the right to approve and disapprove product brand name based on the list of products registered with FPA.

Bulk Fertilizer - a non-packed inorganic fertilizer

Bulk-blended Fertilizer – customized mix or blended fertilizer obtained by physically mixing various grades of finished fertilizers suitable to the specific needs of the farmer based on his soil analysis.

Certificate of Product Registration – written approval indicating the company name, brand name, guaranteed analysis, manufacturer, country of origin, registration number and validity granted to registered products.

Chitosan - are deacetylated forms of chitin, a naturally occurring component of fungal cell walls, nematode eggshells, and the exoskeleton of insects and crustaceans. (Albrecht, 2019)

Compost – any product in solid or liquid form, of plant (except by-products from petroleum industries) or animal origin, that has undergone substantial decomposition that can supply available nutrients to plants with a total Nitrogen (N), Phosphorus (P_2O_5) and Potassium (K_2O) of 2.5 or less than five percent (2.5-5%). This may be enriched by microbial inoculants and naturally occurring minerals, but no chemical or inorganic fertilizer material has been used in the production or added to the finished product to affect the nutrient content. Compost and soil conditioner are used interchangeably in this standard. (PNS/BAFS 183:2016)

Compound Fertilizer - any combination or mixture of inorganic fertilizers where two or more of the materials contain the primary and/or secondary nutrients and micronutrients.

Controlled Release Fertilizer - provides nutrients slowly throughout the growing season or longer. Most slow release fertilizers are condensation products of urea and aldehydes and coated traditional fertilizers with sulfur, polymers, nitrification inhibitors etc.

Decomposers – are biologically active products containing microorganisms that hasten the decomposition of plant and animal residues into organic fertilizer, compost or soil conditioner.

Fertilizer - any substance, solid or liquid, inorganic or organic, natural or synthetic, single or a combination of materials that is applied to the soil or on the plant to provide one or more of the essential nutrients to improve plant nutrition, growth, yield or quality, or for promoting a chemical change that enhances plant nutrition and growth.

Foliar Fertilizer – fertilizer nutrients soluble in water which may be applied directly to the aerial portion of plants. It is the most effective means of fertilizer application when problem of soil fixation exists. The most important use of foliar sprays has been in the application of micronutrients.

Fortified Organic Fertilizer - any decomposed organic product of plant or animal origin is enriched/spiked with microbial inoculants, plant growth substances and/or chemical ingredients to increase its nutrient content to a minimum total N.P.K. of 8%.

Genetically Modified Organisms (GMOs) - organisms that are modified by biotechnology or recombinant DNA technology. Such organisms include viroids, viruses, cells or whole organisms.

Grade – refers to the minimum percentage of nitrogen (N), available phosphorous (P_2O_5), soluble potash (K_2O) stated in their order and other macronutrients and micronutrients that are present in appreciable amounts i.e. ammonium sulfate (21-0-0), ammonium phosphate (16-20-0) and compound fertilizer (14-14-14).

Guaranteed analysis - a statement assuring the nutrient contents and microbial contents expressed in terms of the minimum percentage as claimed in the manufacturer's label.

Heavy Metals - group of toxic metals (e.g. *arsenic, cadmium, mercury, lead)*, which when present in concentration above the allowable tolerable level are toxic. As important environmental contaminants/pollutants, heavy metals can cause recognizable toxic effects or a diminution of amenity and quality of life.

Humic substances - are collections of natural components of the soil organic matter with relatively low molecular mass that result from the decomposition of plant, animal and microbial residues, and from the metabolic activities of soil microbes. Humic substances include humic acids and fulvic acids. (Albrecht, 2019)

Inorganic compounds - Chemical elements that promote plant growth and may be essential to particular taxa but are not required by all plants are called beneficial nutrients (Pilon-Smits et al., 2009).

Inorganic Fertilizer – any fertilizer product whose major nutrients (NPK) are supplied by inorganic/mineral or synthetic/chemical compounds. It maybe in solid or liquid form and contain considerable amount of at least one of the essential primary macronutrients such as N, P and K; secondary macronutrients such as Ca, Mg and S, and micronutrients.

Label - a legal document written on the container either printed or in graphic forms of any fertilizer product which indicates accurate information about the products for which it is registered. This includes the grade, weight, source or origin and FPA registration number.

Microbial Inoculants/Biological Fertilizers - biologically active products containing optimum population of one or a combination of active strains of bacteria, actinomycetes, algae, and fungi that are useful in different biological activities, such as N- fixation, decomposition of organic residues and solubilization of some essential nutrients such as phosphorus from the soil.

New Grades – locally formulated or imported fertilizers with no previous registration with FPA.

Official Sample - any sample of fertilizer taken by the FPA personnel in accordance with the provisions of the rules and regulations

Pathogen - a biological agent that causes disease, e.g. bacteria, fungi, protozoa, virus.

Person – includes individual, partnership, association, firm or corporation.

Plant Growth Regulator - any organic or inorganic compound, natural or synthetic, which in low concentration promotes or modifies physiological response of the plants.

Plant Macronutrients – group of essential nutrients needed by plants in large amount. This includes *Nitrogen (N), Phosphorus (P), Potassium (K), Calcium (Ca), Magnesium (Mg) and Sulfur (S)*

Plant Micronutrients – group of nutrients which are essential for plant growth but are required in small amounts. These include readily available forms of iron (Fe)*, manganese (Mn), boron (B), molybdenum (Mo), copper (Cu), zinc (Zn), chlorine (Cl) and cobalt (Co).*

Primary Plant Macronutrients - group of essential nutrients needed by most plants in large quantities. These include readily available forms of *nitrogen, phosphorus, potassium* and/or any combination of these nutrients.

Protein Hydrolysates - are mixtures of peptides and amino acids that are produced by enzymatic or chemical hydrolysis of proteins from animal- or plant-derived raw materials (Colla et al., 2015).

Raw Material - organic or inorganic materials used in the production of intermediate or finished fertilizer products. These include naturally-occurring and processed minerals such as guano, rock phosphate, potash, limestone, dolomite, peat, gypsum, and sulfur and intermediate materials such as superphosphate, phosphoric acid, sulfuric acid, ammonia, urea, ammonium sulfate and other deposits that are found in nature, mined and used in fertilizer production. Raw materials such as polymer, seaweeds and microorganisms are also included in this group.

Registered Product - product approved by FPA covered by its corresponding certificate of product registration or approval letter (for provisional registration)

Registrant - any person who registers fertilizer under the provisions of the rules and regulations on fertilizer.

Seaweed Extracts – soluble powders or liquid formulations derived from different extraction procedures from seaweeds and are known to have a beneficial effect in plant growth due to its major component comprising of 30%-40% dry weight of polysaccharide. Its chemical constituents include complex polysaccharide, fatty acids, vitamins, phytohormones and mineral nutrients. (Albrecht, 2019)

Secondary Plant Macronutrients - group of essential nutrients, which are required by most plants in lesser amounts than that of primary nutrients. These include readily available forms of *sulfur (S*)*, calcium (Ca)* and *magnesium (Mg).*

Soil Conditioner / Soil Amendment - organic or inorganic material, natural or synthetic, that is applied to the soil to modify certain soil physical properties, such as structure, moisture retaining capacity, shrinking and swelling capacity or resistance to crusting, and to improve soil chemical or biological conditions. Examples are polyelectrolytes such as complex vinyl and acrylic, gypsum, diatomaceous earth, vermiculite, perlite, and lime.

Specialty Grades – finished fertilizer products recommended to overcome a specific problem or supplying the nutrient need of a specific ornamental, indoor plant, lawn grasses or for any purpose other than growing agricultural food, feed, fiber or other industrial crops.

Technical Evaluators - persons designated by FPA through a Special Order to use their expertise on fertilizer matters.

Ton - a net weight of 1000 kilograms.

Trademark – any distinctive word, name, symbol, emblem, sign or device or any combination thereof adopted and used by a manufacturer or merchant on his goods to identify or distinguish them from those manufactured, sold or dealt in by others.

Traditional inorganic fertilizers - includes all inorganic fertilizers in solid or liquid form which are water-soluble, fully registered for at least 10 years with FPA, and available in the market and widely used in the country.

2.2 PRODUCT REGISTRATION

2.2.1. Types of product registration

2.2.1.1. Full Registration

For traditional fertilizers, full registration is granted when all administrative and technical requirements have been satisfactorily complied with.

Whereas for non-traditional fertilizers, full registration requires the conduct of bioefficacy test in two (2) distinct seasons or two (2) agro-climatically locations such as different provinces, with significant results on a representative crop.

Full registration of a product shall be valid for three (3) years from date of issuance. Application for renewal of registration should be filed within three (3) months before its expiry date. Application for renewal after its expiry date and renewal of inactive full registration may be allowed only in cases of force majeure or fortuitous event which shall be indicated in a notarized petition of the applicant and subject to evaluation by FPA. If ever the petition is granted, the same provided hereunder. Any application for renewal of registration shall be subject to a 50% surcharge, if it is filed within one (1) month after the expiry date. If filed beyond one (1) month after its expiry date, a 100% surcharge shall be imposed.

2.2.1.2. Provisional Registration

Provisional registration is granted when only one season of bioefficacy test with significant results on a representative crop has been conducted.

Provisional registration of a product shall be valid for one (1) year from date of issuance. Renewal of the same status can only be granted up to a maximum of two (2) renewals to give time for the bioefficacy test required for full registration. Any application for renewal of registration shall be subject to a 50% surcharge, if it is filed within one (1) month after the expiry date and to a 100% surcharge if filed beyond one month after expiry date.

2.2.2. Requirements for Product Registration

I. Administrative Requirements

1. Duly notarized application form with documentary stamp; Application Form FPA-FRD-F01 for local fertilizers and FPA-FRD-F02 for imported fertilizers. Information to be supplied on the application form shall include the following:

    a. Product Information
        - Brand/Trade Name **-** the name of the product to be sold and to be printed on the label. Superlative and supernatural names, such as

Miracle, Super, Best, Demon, which imply superiority of the product compared with other products are **NOT** allowed. The company shall submit three (3) sets of brand names for approval by FPA.

- Type of Product **–** inorganic fertilizer, biostimulants, fortified organic fertilizers, GMOs, Decomposers, soil conditioner/soil amendment, plant growth regulator and raw materials, on FPA's definition.
- Guaranteed Analysis **-** the minimum percentage content of the primary nutrients, secondary nutrients and micronutrients as confirmed by FPA recognized laboratories.
- Size and Type of Packaging
- Country of Origin (for imported fertilizers)
- Name of Manufacturer (for imported fertilizers)
- Name of Supplier (for imported fertilizers)
- Trader (for imported fertilizers)

b. Company Information
c. List of raw materials used in the production of the product
d. Target crops (refers to crops to which the fertilizers are to be applied)
e. FPA accredited researcher (the name of the FPA accredited researcher who conducts the efficacy test)
f. Cost components and Prices

In case of new importation, when registrant cannot provide details on the cost component and prices, a waiver should be made available stating that they are going to provide the cost component and prices on the succeeding importation.

II. Technical Requirements

A. <u>Inorganic fertilizers</u>

a. Traditional inorganic fertilizers

1. Actual Production Process – brief description with schematic diagram of the production process indicating the percentage of raw material used
2. Passed Confirmatory Analysis done by FPA recognized laboratory. Test reports are valid as confirmatory analysis within one (1) year or less after the test report date. In case where no FPA recognized laboratory can perform the analysis, this can be done by other independent laboratories in the country or from abroad.
   i. Sample of the Product
      Solid samples – 250 g to 500 g
      Liquid samples – 500 ml to 1 L
      Microbial inoculants – 2 pcs of 200 g or 200 ml
   ii. Methods of analysis (if needed)
   iii. Test of guaranteed composition
   iv. Test of heavy metals (for some inorganic fertilizers, fortified organic fertilizers and soil conditioners)
   v. Test of total coliform (for liquid samples, fertilizers with naturally available raw materials and microbial inoculants)
3. Certificate of Analysis (COA) from the manufacturer (for imported fertilizers)
4. Materials Safety Data Sheet or MSDS (for imported fertilizers)
5. Draft Label

b. Non-traditional Inorganic Fertilizers (New grades, specialty and controlled release inorganic fertilizer)

List of requirements are the same as traditional inorganic fertilizers. In addition, bio efficacy data is required for product registration. One (1) bio efficacy data is required for provisional registration while two (2) bio efficacy data for the same crop conducted in two different locations or two different seasons are required for full product registration. Analysis for release pattern is also required for controlled release fertilizers.

B. Biostimulants

List of requirements are the same as with non-traditional inorganic fertilizer, but no test for heavy metals is required.

For microbial inoculants or biological fertilizers, the guaranteed analysis of the inoculants as claimed must conform to the minimum count in the PNS/BAFS 183:2016 standard for respective inoculants. A certificate of analysis of a population of one or a combination of active strains of bacteria, actinomycetes, algae and fungi by FPA recognized laboratory together with two (2) samples of 200 g or 200 mL taken from the same batch should be submitted. One sample will be analyzed for confirmation at any FPA recognized laboratory and the cost of analysis shall be charged against the applicant's account. The remaining sample will be retained at FPA for analysis a month before the expiry date claimed by the manufacturer. The expiry date should be indicated in the label. Test for pathogens will be done too.

C. Fortified organic fertilizer

List of requirements are the same as of traditional inorganic fertilizers. Moreover, it must conform to the following specifications below:

TABLE 2. 1 SPECIFICATIONS FOR FORTIFIED ORGANIC FERTILIZER

Properties	Specifications
Total NPK	8% minimum
C:N	12:1
Moisture content	≤35%
Organic matter	≥20%

D. Genetically Modified Organisms (GMOs) and Decomposer

List of requirements are the same with Biostimulants. Moreover, the materials should pass through the National Committee on Biosafety of the Philippines (NCBP) and FPA will regulate it on a case-to-case basis.

E. Soil Conditioner/Soil Amendment

List of requirements are the same as non-traditional inorganic fertilizers. However, for liming materials as amendment, the following additional information are required.

i. Calcium Carbonate Equivalent (CCE)
ii. Particle size distribution, % particle size passing through 60, 20, and 100 mesh sieve
iii. Percent active compound (CaO, MgO)
iv. Neutralizing value

v. Active ingredient/component be analyzed if needed.

F. Plant Growth Regulator

List of requirements are the same as non-traditional inorganic fertilizer, but no heavy metals test shall be required. Bio-efficacy data from foreign countries can be evaluated for one-year provisional approval of registration.

G. Raw Materials

List of requirements are the same as traditional inorganic fertilizers, but no test for heavy metals is required. However, if the material is wastewater, it has to conform to the wastewater quality/characteristics for re-use for irrigation and fertilization as shown in Annex 2.1.

2.2.3. Renewal of Product Registration

Renewal for both full and provisional product registration requires the following:

1. Duly accomplished and notarized Application Form with documentary stamp
2. Photocopy of old Certificate of Product Registration (CPR)
3. Production Process Flowchart (except for raw material) – for local fertilizers only
4. Confirmatory analysis
5. Sack/label
6. Certificate of Analysis (COA) from the manufacturer – for imported fertilizers
7. Material Safety Data Sheet (MSDS) - for imported fertilizers

2.2.4. Guaranteed Analysis and Tolerance

Guaranteed analysis is a statement assuring the nutrient contents expressed in terms of the minimum percentage as claimed in the manufacturer's label. The composition of the fertilizer material with respect to its minimum essential nutrient content shall conform to the declared guaranteed analysis which shall be indicated in the label of the package. Tolerances are intended to give allowance to the deviations of laboratory results from the guaranteed analysis due to transport, storage, sampling and analysis. The following tolerance rules are observed according to the type of product:

a. For inorganic fertilizer and fortified organic fertilizers, the permissible minimum tolerance from the guaranteed nutrient shall not be less than 98% and shall not exceed two (2) percentage units for each declared nutrient.

b. Soil conditioners

Declared Parameter	Tolerance
Total calcium oxide (CaO)	±3.0 percentage points
Total magnesium oxide (MgO)	
Concentration below 8%	±1.0 percentage point
Concentration between 8-16%	±2.0 percentage points
Concentration above or equal to 16%	±3.0 percentage points
*Neutralizing value	±3.0 percentage points
*Granulometry	±10% relative deviation of the declared percentage of material passing a specific sieve

Other declared nutrients	98% minimum tolerance; two (2) percentage points allowed exceedances
*For liming materials	

c. Plant Growth Regulators

Laboratory results shall meet the minimum value declared and must not exceed up to 20% relative deviation.

d. Biostimulants

Laboratory results for each of the declared component shall not be less than 90% of the declared value. For microbial inoculants, the actual concentration of the micro-organisms shall meet the minimum count as declared at the label and must conform with PNS/BAFS 183:2016 standard.

For products composed of blends of fertilizing materials and one or more biostimulants, the following tolerances shall be applied for the declared content of each biostimulant:

Declared concentration in g/kg or g/l	Permissible Tolerance
Up to 25	±15% relative deviation
More than 25 up to 100	±10% relative deviation
More than 100 up to 250	±6% relative deviation
More than 250 up to 500	±5% relative deviation
More than 500	±25 g/kg or ±25 g/l

2.2.5. Allowable Levels of Heavy Metals

I. For inorganic fertilizers

A. American Association of Food Control Officials (APPFCO)

The allowable heavy metal level in phosphate and micro-nutrient fertilizers, except those with nitrogen or potassium content only, can be computed based from Table 2.1 as follows:

1. Fertilizers with a phosphate guarantee; but, no micro-nutrient guarantee:

Multiply the percent guaranteed P_2O_5 in the product by the values in the table to obtain the maximum allowable concentration of each metal. The minimum value for P_2O_5 utilized as a multiplier shall be six (6.0).

2. Fertilizers with one or more micro-nutrient guarantees; but, no phosphate guarantee:

Multiply the sum of the guaranteed percentages of all micro-nutrients (as defined by AAPFCO's Official Fertilizer Term, T-9) in the product by the value in the appropriate column in the Table 2.2 to obtain the maximum allowable concentration (ppm) of each metal. The

minimum value for micro-nutrients utilized as a multiplier shall be one (1).

3. **Fertilizers with both a phosphate and a micro-nutrient guarantee:**

i. Multiply the guaranteed percent P_2O_5 by the value in the appropriate column. The minimum value for P_2O_5 utilized as a multiplier shall be 6.0. Then,
ii. Multiply the sum of the guaranteed percentages of the micro-nutrients by the value in the appropriate column. The minimum value for micro-nutrients utilized as a multiplier shall be one (1). Then,
iii. Utilize the higher of the two resulting values as the maximum allowable concentration (ppm) of each metal.

TABLE 2. 2 AAPFCO RISK-BASED CONCENTRATIONS FOR INORGANIC FERTILIZERS

Metals	ppm per 1% P_2O_5	ppm per 1% Micronutrient
Arsenic	13	112
Cadmium	10	82
Lead	61	463
Mercury	1	6

B. Food and Agriculture Organization (FAO) and Fertilizer Control Order (FCO) of 1985

The following inorganic fertilizers are adulterated when they contain heavy metals in amount greater than the allowable limits set by the Food and Agriculture Organization and Fertilizer Control Order of 1985 in Table 2.3:

TABLE 2. 3 HEAVY METAL LIMITS FROM FOOD AND AGRICULTURE ORGANIZATION (FAO) AND FERTILIZER CONTROL ORDER (FCO) OF 1985

Fertilizer	Heavy metal limits
Ammonium sulphate	As_2O_3 - 100ppm
Zinc sulphate heptahydrate	Pb – 30 ppm Cd – 25 ppm As – 100 ppm
Zinc sulphate monohydrate	Pb – 30 ppm Cd – 25 ppm As – 100 ppm
Chelated Zn, as Zn-EDTA	Pb – 30 ppm
Chelated Fe, as Fe-EDTA	Pb – 30 ppm
Manganese sulphate	Pb – 30 ppm
Borax (Sodium tetraborate)	Pb – 30 ppm
Copper sulphate	Pb – 30 ppm
Ferrous sulphate	Pb – 30 ppm
Ammonium molybdate	Pb – 30 ppm

Fertilizer	Heavy metal limits
Solubor (Disodium Octaborate Tetrahydrate)	Pb – 30 ppm
Magnesium sulphate	Pb – 30 ppm
Rock Phosphate (RP)/Phosphate Rock (PR)	Cd – 27 ppm

I. For Fortified Organic Fertilizer and Soil Conditioners

TABLE 2. 4 HEAVY METAL LIMITS FROM PNS/BAFS 183:2016

Heavy metals	Maximum Allowable Level (ppm dry wt.)
Arsenic (As)	20
Lead (Pb)	50
Chromium (Cr)	150
Mercury (Hg)	2
Cadmium (Cd)	5

TABLE 2. 5 REQUIREMENTS FOR FERTILIZER PRODUCT REGISTRATION

	Type of Registration							
Requirements	New		Renewal		Third Party Authorization		Additional Supplier/Trader	Label Expansion (Non-Traditional Fertilizer)
	Imported	Local	Imported	Local	Imported	Local	(for Imported)	Local/Imported
Duly accomplished and notarized Application Form with documentary stamp	✓	✓	✓	✓	✓	✓	✓	✓
Passed confirmatory analysis	✓	✓	✓	✓	[a]✓	[a]✓	×	×
Production Process Flowchart	[b,f]✓	[b,f,g]✓	×	×	×	×	×	×
Sack/label	✓	✓	✓	✓	✓	✓	✓	✓
Certificate of Analysis (COA) from the manufacturer	✓	×	✓	×	×	×	×	×
Material Safety Data Sheet (MSDS)	✓	×	✓	×	×	×	✓	×
Photocopy of CPR	×	×	[c]✓	[c]✓	[d]✓	[d]✓	[e]✓	✓
Photocopy of the approved Experimental Use Permit (EUP)	[b]✓	[b]✓	×	×	×	×	×	✓
Bioefficacy data for the same crop One (1) – For Provisional Registration Two (2) – For Full Registration	[b]✓	[b]✓	×	×	×	×	×	✓
Registration and/or Filing Fee	✓	✓	✓	✓	✓	✓	✓	✓

a. Photocopy of confirmatory analysis from the Primary Registrant
b. Additional requirement if Non-Traditional Fertilizer
c. Photocopy of old CPR
d. Photocopy of CPR from the Primary Registrant
e. Photocopy of CPR of initial registration with same manufacturer
f. Except for raw material
g. Production Process Flowchart for new registration of traditional and non-traditional local fertilizers is required

2.2.6. Labeling Requirements

The label is a legal document and very important in packaging and marketing a fertilizer product. Information on the label provides the seller and the buyers with the safe and effective use of the product for which it is registered.

General Consideration in Labeling:

a. All information contained in the label must be written legibly, in English and/or Filipino. All information must be printed in a font size that would be legible from a normal distance without the aid of the magnifying glass.

b. Label must have violet-purple border band with a minimum thickness of 0.32 cm for container smaller than 250 mL or 300 g net weight and 0.64 cm thickness for bigger container up to 4 L or 5 kg.

c. For products packed in boxes or plastic bags weighing 1-5 kg, product information and direction for use should be printed directly in the container with violet-purple band.

d. For product sold in containers smaller than 50 mL only, the product information is required to be printed on the label at the space specified. The direction for use should be printed in a separate leaflet or flyer.

e. Brand name must not deceive or mislead the purchaser with respect to the composition or utility of the product.

f. Label Claims

There are claims that are not allowed on a product label, or must be substantiated before appearing on product; examples are:

1. undefined acronyms
2. unsubstantiated claims
   - specific claims such as 20% more yield
   - claims for unidentified active ingredients
   - claims that discredit competing companies
   - claims such as certified or approved without mentioning the certifying or approving agency/organization and without supplying a copy of the certificate or approval
   - the word professional is unacceptable unless sold only through distributors to the end-user, and the main panel of the label must also bear the following statement: **For Professional Use Only**
   - graphics that imply the use of pattern that has not been approved (e.g. food crop pictures when food use has not been approved); or unsubstantiated environmental benefits.

b. The label for the following must contain:

1. <u>Bottles and Cartons</u> (Annex 2.2)

Middle Panel (1)

- Caution "KEEP OUT OF REACH OF CHILDREN"
- Trade Name, Descriptive Statement
- Artwork (only crops registered)
- Registered by the Fertilizer and Pesticide Authority
- FPA Registration No.
- Manufacturing date
- Batch/Lot No.
- *Expiry date (mm/dd/yyyy)
- New Weight/Volume
  *For products with microbial inoculant

Middle Panel (2)

- Directions for use
- Dosage
- Frequency
- Other instruction/information

Left Panel

- Guaranteed Analysis
  - Macronutrients should be expressed in percentage (%)
  - Micronutrients should be expressed in ppm
- Name and Address of Manufacturer (for local only; optional for imported)
- Name and Address of Distributor

Right Panel

- Storage & Disposal
- Compatibility with pesticide and other agricultural chemicals (Please indicate that a "jar test" must be conducted first before field application)
- Prohibition
- Warranty

Color Band – ¼" violet-purple (4-panel label)

2. <u>Bags and Sachets of Solid Inorganic Fertilizer</u> (Annex 2.3)

Front

- Brand name (with logo)
- Guaranteed Analysis
  - Macronutrients should be expressed in percentage (%)
  - Micronutrients should be expressed in ppm
- Country of Origin (for imported only)
- Name and Address of Manufacturer (for local; optional for imported)
- Name and Address of Distributor
- FPA Registration No.

Back

- Direction for Use
- Batch number/Lot number

- Brand Name with logo (optional)
- Net content (in kg)
- Manufacturing date

3. Tanks (Annex 2.5)
    - Brand name
    - Guaranteed analysis
        - Macronutrients should be expressed in percentage (%)
        - Micronutrients should be expressed in ppm
    - Name and Address of Manufacturer (for local; optional for imported)
    - Name and Address of Distributor
    - FPA Registration No.

4. Containers (Annex 2.6)

Front

- Brand name
- Guaranteed analysis
    - Macronutrients should be expressed in percentage (%)
    - Micronutrients should be expressed in ppm
- FPA Registration No.
- Warning and precautions
- *Expiry date (mm/dd/yyyy)
- Manufacturing date
- Purple band
- Target crops

*For products with microbial inoculant

Back

- Artwork (for crop to which the product was tested only)
- Direction for use
- Name and Address of Manufacturer (for local; optional for imported) with company logo beside
- Name and Address of Distributor with company logo beside
- Purple band

2.2.7. Processing and Estimated Timetable for Review Process

1. Application forms for registration should be duly accomplished and submitted in duplicate copies (Figure 2.1). It shall be screened for completeness and if it is incomplete, it will be returned to the applicant. Registration and filing fee shall be collected when all the registration documents are submitted. The application forms shall be logged in into the registration tracking system and will be forwarded to the Technical evaluator.

2. Technical evaluators are expected to complete the review of the data within fifteen (15) calendar days.

3. Irrespective of the results of the review, FPA will notify the applicant, in writing, of the status of review and registration. Applicants should comply within fifteen (15) working days.

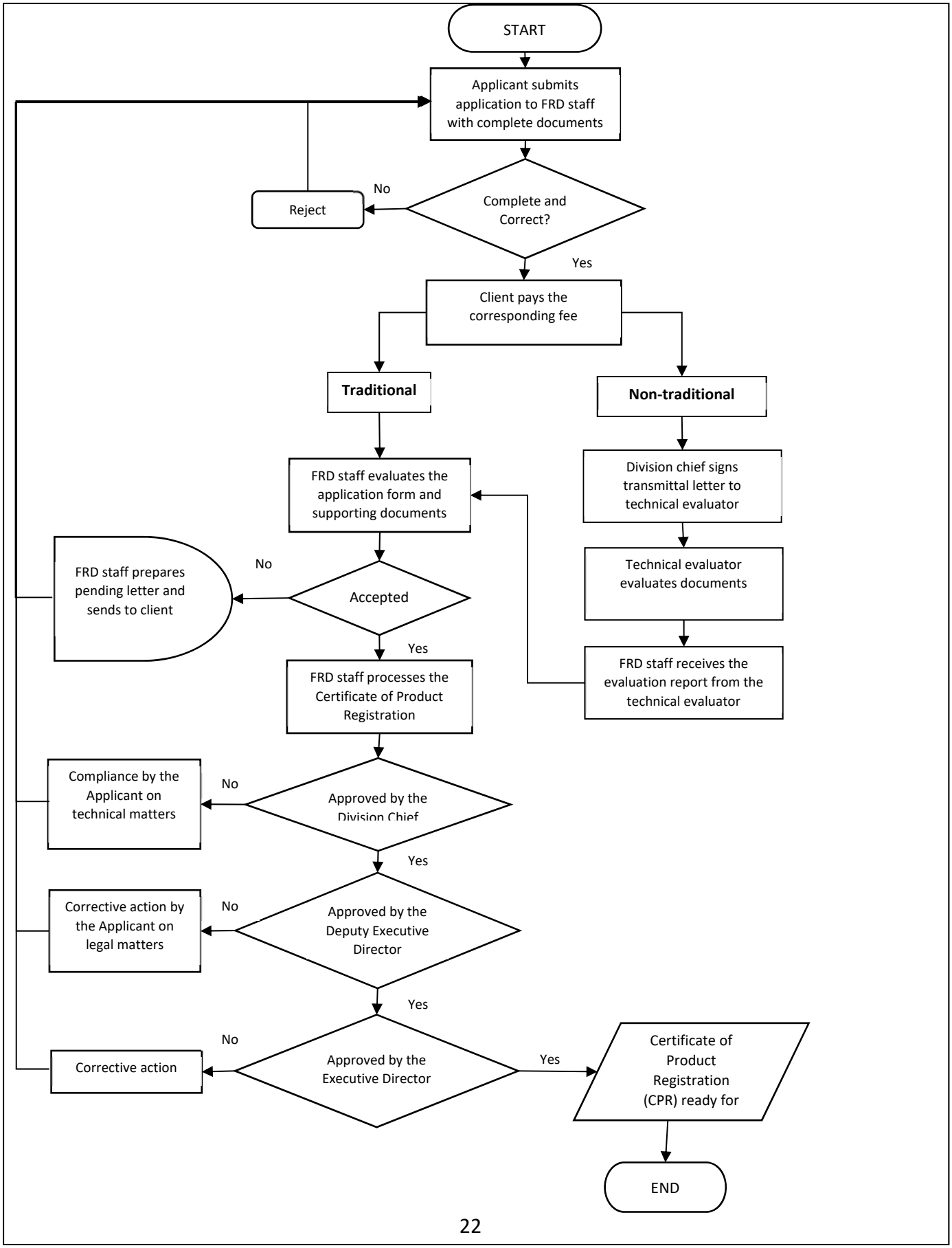
2.3 LABEL EXPANSION

Label expansion can be filed by registrants who wish to add other crop groupings to the target crop/s of their non-traditional product. Prior to filing, one approved bioefficacy test must be conducted on a representative crop of the desired crop grouping (Table 3.3), such that other crops belonging to the same grouping no longer need any additional bioefficacy test. Multiple bioefficacy tests on representative crops from different groupings may be filed simultaneously and will be charged per crop.

2.4 EXCLUSIVITY IN THE USE OF DATA

Data submitted to support the first full registration of a particular product will be granted protection for a period of five (5) years from the date of first issuance of full product registration. During this period, subsequent registrants may rely on these data only with first party authorization. Otherwise, they should submit their own data. After five (5) years from the date of first issuance of registration or data reporting, other applicants may use the data of the primary registrant provided they share the cost in the data generation expenses incurred by the latter. The applicants should agree on the cost and/or otherwise, government mediates on the amount of their share of expenses. Moreover, the applicants must submit convincing proof that the product being registered is of the same raw materials and follows the same production process.

FIGURE 2. 1 SCHEMATIC DIAGRAM OF THE FERTILIZER PRODUCT REGISTRATION



2.5 THIRD PARTY AUTHORIZATION

Third Party Authorization (TPA) is accepted provided that the product being applied is fully registered and the following requirements are satisfactorily complied with:

a. Duly accomplished and notarized application form
b. TPA letter duly notarized with the exact date of expiration and with Product Registration details
c. Copy of test report from Primary registrant
d. Proposed label

The TPA is an agreement or contract between two (2) companies, the primary registrant and the party who receives the TPA, which gives the latter an authorization to sell or distribute the product. The validity depends on the expiry date indicated on the CPR of the primary registrant.

It is non-transferable and limited to ten (10) TPAs only and can be issued by the primary registrant only. The receiving third party cannot issue the same to another company.

Upon filing of application, the authorized party should pay the corresponding registration and filing fee.

2.6 REGISTRATION OF PRODUCTS ON A PER MANUFACTURER BASIS

Any product being applied for registration should be registered on a per manufacturer basis regardless of country of origin.

Registration of product with additional supplier but with same manufacturer shall be required.

2.7 REGISTRATION OF BIOLOGICAL FERTILIZERS

In adherence to the rules and regulations of the NCBP, FPA shall require registrants to obtain clearance from the said committee prior to registration of the biofertilizer products.

The data requirement for the registration of living organisms that need to produce the biofertilizers shall be determined on a case-to- case basis after consultation with NCBP and FPA. Under the NCBP and FPA rules, the Philippines will regulate the use of any commercial biofertilizers, genetically modified organisms (GMOs) and agricultural products derived through modern Biotechnology.

TABLE 2. 6 FEES AND CHARGES FOR REGISTRATION

Registration Fee	Provisional		Full	
	Local (Php)	Imported (Php)	Local (Php)	Imported (Php)
New Application - Filing Fee	600	600	600	600
EUP/Product/Crop	600	1,200	600	1,200
Inorganic (New)	1,200	1,800	3,600	6,000
Inorganic (Old)	1,200	1,800	3,000	5,400

Registration Fee	Provisional		Full	
Organic	600	1,800	1,800	4,200
Soil Conditioner	600	1,800	1,800	4,200
Raw Material	600	1,800	1,800	4,200
Plant Growth Regulator	1,200	1,800	1,800	4,200
Specialty	1,200	1,800	1,800	4,200
Validity (year/s)	**1**	**1**	**3**	**3**

2.8 RESTRICTED FERTILIZER PRODUCTS

Potassium Nitrate (KNO_3), in pure solid form, either as technical (99% KNO_3) or agricultural (97% KNO_3) grade, and other nitrates like calcium nitrate; calcium ammonium nitrate; sodium nitrate, and other materials whose handling is governed under Republic Act 9516, has inherent qualities which are beneficial to agriculture. KNO_3 is a proven flower inducer for mango and other crops. However, KNO_3 and other nitrates are substances which are found to be potential carcinogens and can be used as ingredients in the manufacture of explosives. Henceforth, importation, sale, possession and use of these chemicals are restricted and subject to strict supervision by the Firearms and Explosives Office (FEO) of the Philippine National Police (PNP).

2.8.1 Definition of Terms

Formulated Mango Flower Inducer – FPA-registered product, in solid or liquid form, nitrate or ethylene/ethephon- based that has been diluted with water and/or other substances which are not harmful to mango trees, used for the purpose of inducing mango trees to flower.

Potassium Nitrate - potassium nitrate in pure, solid form which is either technical (99% KNO_3) or agricultural (97% KNO_3) grade.

Mango Contractor - refers to person(s)/entities who enter a contract with a mango grower to service his trees (from flower induction to harvesting) for a fee or on a sharing basis.

Other Nitrates - refer to calcium nitrate, calcium ammonium nitrate, sodium nitrate and other materials under Executive Order No. 522. (Importation of ammonium nitrate in solid form was banned effective November 22, 2002).

2.8.2 Acquisition of Potassium Nitrate and Other Nitrates for Agricultural Use

2.8.2.1 Under existing regulations, the importation, transport, storage and use of nitrate is under the jurisdiction of the Philippine National Police Firearms and Explosives Office (PNP-FEO) as provided for Republic Act 9516. Thus, a permit to import, purchase and acquire potassium nitrate and other nitrates is required from the Chief of the PNP-FEO, whether for agricultural use or other purposes.

2.8.2.2 Only FPA-licensed persons/entities can apply for a permit to import and use potassium nitrate and other nitrates for agricultural purpose from the PNP-FEO.

2.8.3 Sale and Use of Potassium Nitrate and Other Nitrates

2.8.3.1 Only FPA-licensed mango contractors can purchase and use potassium nitrate and other nitrates. The use of KNO_3 and other nitrates for mango flower

induction should conform to the instructions given during the FPA-accredited and recognized Mango Contractors' Training Workshop.

2.8.3.2 FPA and PNP-FEO licensed importers/ distributors can sell/distribute potassium nitrate only to licensed mango contractors who are trained in the proper use of potassium nitrate and other flower-inducing products, fertilizers and pesticides.

2.8.3.3 FPA and PNP-FEO licensed importers/distributors can also sell/distribute other nitrate fertilizers except potassium nitrate to crops other than mango but not limited to the following crops such as: vegetables, cutflowers, sugarcane, pineapple and banana. The importer/distributor must submit disposition reports as to where the product is sold.

2.8.3.4 Requirements such as location of farm, number of fruit bearing trees, area and contract will all be added to monitor the use of KNO_3. Also, scheme of fertilization of the trees after harvest should be outlined and be disclosed.

2.8.4 Provisions

2.8.4.1 After accomplishing all the requirements for a Mango Contractor's license an inspection report from FPA Field Officer will be submitted to FPA Central Office. The Mango Contractor's license shall be effective for 1 year and renewable every year thereafter.

2.8.4.2 Mango Contractors without FPA and PNP- FEO license to distribute potassium nitrate and other nitrates are prohibited from selling or distributing such commodities.

2.8.4.3 All movements of potassium nitrate and other nitrates, which are covered under Republic Act 9516, shall be under the supervision of PNP-FEO.

2.8.4.4 All growers and mango contractors without FPA license as "Mango Contractor" are not allowed to use potassium nitrate and other nitrates. However, they can use formulated flower inducer.

2.8.4.5 Agro-pesticide dealers are prohibited from selling potassium nitrate and other nitrates.

2.8.4.6 Potassium nitrate and other nitrates have to be registered with FPA if also used in other crops other than mango.

2.8.4.7 Safety Monitoring System is needed for Ammonium Sulfate (21-0-0) and Potassium Sulfate (0-0-50) for importation, manufacture, distribution, sale and movement as these are in the master list of explosive materials of the PNP. Importers and manufacturers should secure a Transshipment Permit from FPA, from warehouse to distribution points on a regional basis. FPA certified copy of Import Permit and Transshipment Permit should be submitted to FPA regional office and Provincial PNP command to avoid theft, pilferage, robbery or hijacking or damage caused by force.

2.8.5 Penalties

Aside from penalties imposed by PNP- FEO for violators of provision under Republic Act 9516, FPA may impose sanctions against violators of this guideline which include, but are not limited to, the issuance by FPA of a Stop Sale / Stop Use / Stop Move Hold Order or the suspension or revocation of business license and imposition of such other sanctions that FPA is empowered under its charter, after due notice and hearing.

CHAPTER III
BIOLOGICAL EFFICACY DATA GENERATION

3.1 GENERAL INFORMATION

Bioefficacy data generation is a mechanism to support claims on the effectiveness of a fertilizer to supply the major and/or minor nutrients needed by the plants for growth and/or reproduction.

The following products that need to undergo bioefficacy testing are: non-traditional inorganic fertilizers such as new grades, specialty and controlled release inorganic fertilizers, plant growth regulator, biostimulant, soil conditioner (except gypsum, lime, dolomite, perlite and vermiculite) and microbial inoculants.

3.2 EXEMPTIONS FROM EFFICACY DATA GENERATION

Traditional fertilizer includes all fertilizer products in solid or liquid forms which are water soluble and fully registered for ten (10) consecutive years in FPA does not require Bioefficacy Data Generation. The list of traditional fertilizers contained in Table 3.1 shall be updated through memorandum circular on a yearly basis.

Traditional inorganic fertilizers produced from raw materials whose major nutrients (N-P-K) are known to be completely available to the plants are exempted from bioefficacy data generation. These raw materials include ammonium sulfate, ammonium chloride, urea, ammonium phosphate, superphosphate, potassium phosphate, potassium chloride, and potassium sulfate.

Bulk-blended fertilizers using traditional inorganic fertilizers are also exempted from bioefficacy data generation. These are urea, ammonium sulfate, ammonium chloride, ammonia and sulfuric acid, potassium nitrate and calcium nitrate for nitrogen sources. For potassium sources, they include the following: potassium sulfate and potassium chloride; and for phosphorus sources, di-ammonium chloride, ammonium phosphate sulfate (16-20-0), ordinary superphosphate, triple superphosphate, mono-ammonium phosphate, phosphoric acid, rock phosphate and Triple 14. For other nutrients such as magnesium and calcium, magnesium sulfate, agricultural lime and dolomites, and for zinc source, zinc sulfate is among the list.

TABLE 3. 1 TRADITIONAL INORGANIC FERTILIZERS AND SOIL CONDITIONERS THAT DO NOT REQUIRE BIOEFFICACY DATA GENERATION

Inorganic fertilizer	Composition			
	Nitrogen (%N)	Phosphate (%P_2O_5)	Potash (%K_2O)	Other nutrients (%)
Agricultural lime				45-77 CaO
Ammonia (anhydrous)	82	0	0	
Ammonium chloride	25	0	0	
Ammonium phosphate sulfate	16	20	0	15 S
Ammonium sulfate	21	0	0	24 S
Calcium nitrate	15.5	0	0	27 CaO
Diammonium phosphate	18	48	0	
Magnesium sulfate				25 MgO

Inorganic fertilizer	Composition			
	Nitrogen (%N)	Phosphate (%P_2O_5)	Potash (%K_2O)	Other nutrients (%)
Monoammonium phosphate	11	48	0	
Ordinary superphosphate	0	20	0	
Potassium chloride	0	0	60	
Potassium nitrate	13	0	45	
Potassium sulfate	0	0	50	18 S
Rock phosphate				As declared
Tobacco grade	6	9	15	
Triple 14	14	14	14	
Triple 16	16	16	16	
Triple superphosphate	0	46	0	
Urea	46			
Zinc sulfate				23-36 Zn; 11-18S
Dolomite				30 CaO; 20 MgO

3.3 EXPERIMENTAL USE PERMIT

Experimental Use Permit (EUP) must be filed by applicant and approved by FPA before any bioefficacy field test is conducted to generate data required for registration. Hence, data from studies conducted without prior approved EUP will not be accepted. The applicant should see to it that the test meets the standard protocols for bioefficacy testing. All experiments must be conducted by FPA- accredited researchers who will be chosen by the applicant within their financial capability.

Application for EUP must be submitted one (1) month before conducting the actual test. The applicant shall be notified of the approval/disapproval of his application within fifteen (15) days after the receipt of application. EUPs for simultaneous trials on different locations and crops on the same product may be filed, provided that all policies are followed. Timetable for EUP processing for registration is shown in Figure 3.1.

The volume of product to be imported for EUP shall be computed based on the following specific information:

a. Product classification
b. Crop(s) (Table 3.2)
c. Total area covered by trial
d. Total amount of product needed
e. Inclusive dates for the duration of trial
f. Proposed treatment & method of application
g. Location of experiment (enclose map of location)
h. Name of researcher/accreditation number
i. Address of Research Institute/Farmer's field

The EUP is valid only for one (1) growing season for testing a crop. The EUPs period of coverage may be extended upon request provided the reasons are acceptable and approved.

The FPA-accredited researcher shall be allowed to conduct five (5) experiments at a given time. However, FPA will monitor closely the number of simultaneous trials (number and locations) conducted by each researcher so as not to sacrifice the quality of trials. It is strictly prohibited for an FPA-accredited researcher to conduct bioefficacy trials for the institution or company that he/she is affiliated to.

3.4 EFFICACY TEST PROTOCOL

In the conduct of efficacy tests, the following protocol shall be strictly satisfied:

3.4.1 Experimental Condition

The bioefficacy test of the new product should be tested on the target crop for which it will be marketed. This test will also serve as technology-demonstration for farmers.

a. *Experimental site* – For good responsive results, trials may be allowed in areas other than experimental stations including those owned by the registrant, provided that the researcher is in no way affiliated with the registrant. The trial field must be accessible for monitoring for it will be inspected and endorsed by FPA Regional or Provincial Officer as a requirement of EUP application.

i. Description of specific fertilizer and crop history. Validation of these data can be done by interview.
ii. Soil analysis before experimentation. Soil depth shall depend on the kind of root system of test crop.
iii. Location, soil type, bulk density, porosity, topography, hydrology (water table), water quality, slope, and position in topo-sequence.

The trial conditions should be laid out in either irrigated or non-irrigated field depending on the cultivar/crop used.

- For irrigated crops, source of irrigation water, frequency of irrigation and depth of water at each stage shall be recorded.
- For non-irrigated/upland crops, physical properties such as bulk density, porosity, weed conditions, etc. shall be recorded.

Recommended rate of inorganic fertilizer should be based on soil analysis of the site and Minus One Element Technique (MOET) if for irrigated soil as Zn and S deficiencies are getting widespread. Application of N fertilizer at later stage of rice crop should be based on Leaf Color Chart (LCC) to avoid excessive application of fertilizer.

b. *Selection of crop* – Crop must be of variety commonly grown in the region.

c. *Design and layout of the trial and other cultivation management required*

The trial design should determine the statistical analysis required of the fertilizers that are to be used. They should be applied uniformly to all plots. Precise data on application should be given.

d. *Plot size* – net plot size depends on target agricultural produce as shown in Table 3.2

FIGURE 3. 1 FLOWCHART FOR EUP PROCESSING

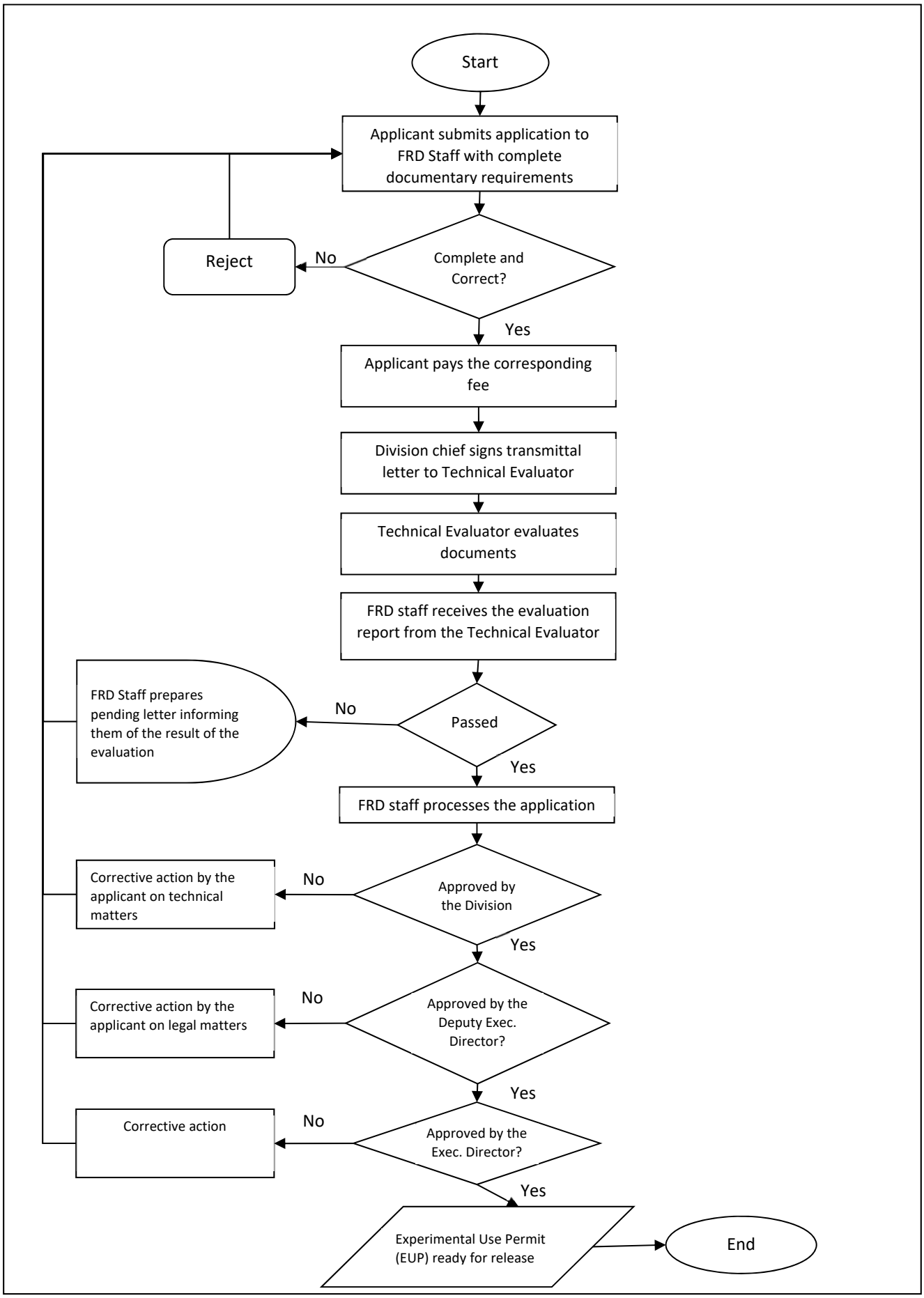


TABLE 3. 2 PLOT SIZE

Crops	Plot Size (m^2)
1. Lowland Rice	16-20
2. Upland Rice	16-25
3. Corn and other upland cereals	16-25
4. Vegetables (leafy, fruiting, cole, bulb)	10-16
5. Legumes (field, vegetables)	16
6. Cucurbits	16
7. Root crops	16
8. Forage	16
9. Turf	2.5 (fairway) 3.6 (greens)
10. Sugarcane	5 x 7 = 35 or 6 x 9 = 54
11. Mango[a]	one fruit-bearing tree per treatment per replication using 4 quadrants x 4 replications (1 x 4 x 4)
12. Ornamentals	3 plants in 5 sampling sites per plot of at least 16 m^2 or per treatment per replication x 3 replications (3 x 5 x 3)

[a]Four quadrants per tree, if possible, with sampling units of 25 randomly selected buds/quadrant or a total of 100 flowering buds per tree. If not, state the sampling units.

e. *Treatments* – description of product and standard to be tested and the treatments must be able to give information on:

i. Test product(s) – The formulated product under investigation.

ii. Reference Products – It must have similar nutrients as those present in the test products. For example, if the test product is single fertilizer, the reference product must be 46-0-0 or 21-0-0 and the like.

Products accepted as traditional fertilizer such as 18-46- 0, 16-20-0, single element fertilizer such as urea (46-0-0), Ammonium sulphate (21-0-0), or Single Superphosphate (0-18-0), Muriate of potash (0-0-60), or Sulphate of potash (0-0-52) or any fertilizer products found effective for 10 years.

iii. Mode, type, and time of application – Application should comply with Good Agricultural Practices (GAP). The type and time of application will normally be specified in the (proposed) label. The date of each application should be recorded. All activities such as purchase of all inputs and application rate, time of application should be recorded in the logbook for traceability.

g. *Mode of assessment, recording, and measurements*

h. *Meteorological and edaphic data*

This should include at least precipitation and temperature. Any significant change in weather should be noted. All data should preferably be recorded on the trial site but may be obtained from a nearby meteorological station throughout the trial period. Extreme weather conditions, such as severe or prolonged

drought, heavy rains, typhoons that will likely influence the results should be reported.

3.4.2 Efficacy Test Results

Efficacy test results shall be evaluated based on the approved experimental use permit to ensure that the approved protocols and treatments are followed. The data for showing the effectiveness of the new products should be statistically significant over the control. The terminal report shall be submitted within one (1) year after conclusion of the trial.

3.4.3 Treatment Protocols

I. Granular and Soil-Applied Inorganic (N.P.K.)

1. Control
2. Recommended rate (RR) based on soil analysis using inorganic traditional (reference) fertilizer
3. ½ RR (inorganic)
4. ½ RR (inorganic) + RR of new fertilizer product
5. RR of new fertilizer product
6. RR (inorganic) + RR of new fertilizer product

II. Soil and Foliar-applied Liquid Fertilizer (N.P.K.)

1. Control
2. RR (reference fertilizer) (inorganic)
3. ½ RR (inorganic)
4. ½ RR (inorganic) + RR of new product and frequency of soil/foliar liquid fertilizers
5. Full soil/foliar (RR) of the new product
6. RR (inorganic) + RR of new fertilizers product

III. Fertilizers for Fishpond

1. Control (Farmer's Practice)
2. RR (Inorganic fertilizer)
3. RR of new product*

*If liquid fertilizer, e.g. liters based on volume of water in a treatment plot

IV. Biofertilizers/Organic fertilizers

1. Control
2. RR (inorganic) based on soil analysis
3. ½ RR (inorganic)
4. ½ RR (inorganic) + RR biofertilizer or organic
5. RR biofertilizer or organic
6. RR (inorganic) + RR biofertilizer or organic

V. Foliar/Soil applied micronutrients

1. Control
2. RR of N-P-K (inorganic) based on soil analysis
3. RR (inorganic) + 0.5 RR of new product
4. RR (inorganic) + RR of new product
5. RR (inorganic) + 1.5 RR of new product

6. RR of new product

VI. Mango Flower Inducers

1. Control (water only)
2. RR of reference product (KNO_3; Ethephon for Pineapple)
3. 0.5 RR of new inducer*
4. RR of new inducer
5. 1.5 RR of new inducer

*Treatments nos. 3 and 5 can be optional.

VII. Plant Growth Regulators

1. Control (water only)
2. RR of standard product
3. RR of new product
4. RR (standard product) + RR of new product

*The mode, type, and time of application should be based on the manufacturer's recommendation.

VIII. Soil Conditioner/Soil amendment

1. Control
2. RR of N-P-K using traditional fertilizer
3. RR (inorganic) + 0.5 RR of amendment
4. RR (inorganic) + RR of amendment
5. RR (inorganic) + 1.5 RR of amendment
6. RR of amendment

*Recommended data for efficacy test (growth and yield, change in the physical & chemical properties as claimed by manufacturer).

IX. Decomposers

1. Control
2. RR traditional decomposer registered with FPA
3. RR new decomposer

X. Biostimulants

1. Control
2. RR of N-P-K (inorganic) based on soil analysis
3. RR (inorganic) + 0.5 RR of new product
4. RR (inorganic) + RR of new product
5. RR (inorganic) + 1.5 RR of new product
6. RR of new product

3.4.4 Parameters to be Gathered on Target Crop

Appropriate sampling techniques for data gathering should be followed. The parameters to be gathered for each crop are discussed in the following paragraph and should also be described in the terminal report of the efficacy test results.

I. Lowland Rice

a. Plant data before harvest

1. *Average plant height (in cm).* 30 days after transplanting (DAT). Measure from 16 hills taken from 4 corners, 4 hills per corner after discounting the border rows. Measure from base of plant to the height of the tallest leaf. Take the average. Tag the 16 hills.
2. *Tiller count at 30 DAT.* From the tagged 16 hills, tiller count will be recorded and transformed to number of tillers per m². The area occupied by the 16 hills is 0.64 m².
3. *Weed weight, density and classification at 30 DAT/60 DAT.* Get weed weight and count and classify according to grasses, broadleaves and sedges from 0.5 m² quadrant from 4 reps/plot.

b. Plant data at harvest

1. *Average plant height (in cm).* From the tagged 16 hills, measure the height from the base of plant to the tip of the highest panicle.
2. *Tiller count (productive and unproductive).* Get the count from the tagged 16 hills.
3. *Panicle count.* Count the panicles from the tagged 16 hills and this will represent the number of productive tillers. The count will likewise be transformed to panicle count per m².
4. *Straw weight at harvest from 5 m² per plot in kg*. From the harvest area of 5 m², weigh the straw after threshing.
5. *Grain yield in tons/ha.* Compute the yield from dry weight of filled grains from 5 m² harvest area. Convert the yield to tons/ha with corrected moisture content of 14%.

II. Upland Rice

1. *Straw weight*. Cut close to the ground and weigh straw after threshing.
2. *Grain weight*. Weigh the threshed grains as fresh then dry, weigh again. Convert the yield to tons/ha corrected for moisture content at 14%.
3. *Weed weight, density, and classification at 30 days after seeding (DAS)/60 DAS.* Get weed weight and count and classify according to grasses, broadleaves and sedges from 0.5 m² quadrant from 4 reps/plot.

III. Corn

1. Number of ears per harvest area per plot.
2. Weight of fresh ears with husks per harvest area.
3. Weight of fresh ears without husks per harvest area.
4. Dry weight of kernel, in tons/ha. Weigh one (1) kilo of corn kernel, sun-dry for 3 days and get the dry weight for the estimation of kernel yield at 14% moisture.
5. Biomass weight at harvest.

IV. Vegetables

1. **Leafy Vegetables:** pechay, lettuce, celery, upland kangkong, mustard, Chinese cabbage, head cabbage, saluyot, alugbati, spinach and other leafy vegetables.

   a. <u>Marketable yield of plants in tons/ha</u>**.** Weigh all the marketable plant parts from harvest area. Convert the yield in tons/ha.

2. **Fruiting Vegetables:** eggplant, tomato, ampalaya, pepper, okra, cucumber, squash, upo, patola and other similar crops.

    a. Number of fruits/ha**.** Harvest all marketable and ripe fruits from harvest area and count. Total all yield data per picking schedule.
    b. Weight of fruits in tons/ha**.** Weigh harvested fruits from harvest area and record total yield from every picking schedule. Compute the total yield in tons/ha.

3. **Cole:** cabbage, cauliflower, and broccoli (Flower Vegetables)

    a. Weight of marketable curd (cauliflower) and bud cluster (broccoli), in tons/ha. Pick only marketable size curd or bud cluster, weigh and record total yield from every picking schedule.

4. **Bulb Vegetables:** garlic, ginger, onion or leek

    - **Garlic**

        a. Average plant height one (1) month after planting. Measure plant height from 10 random hills, get the average.
        b. Fresh weight of marketable bulbs in tons/ha. Harvest bulb from harvest area and convert yield to tons/ha.
        c. Dry weight of bulbs, in tons/ha. Dry the harvest from the area then weigh. Convert yield to tons/ha.

    - **Ginger**

        a. Number of tillers from 1.0 or 1.5 m^2. Count the no. of tillers from 2 rows with 5 hills/row in the middle of the harvest area.
        b. Weight of rhizomes, in tons/ha**.** Weigh rhizomes after removing the soil from the harvest area and convert to tons/ha.

    - **Onions/Leek**

        a. Plant height of 10 plants/plot at 2 months after planting
        b. Fresh weight of bulbs in tons/ha**.** Harvest all Bulbs/clusters from the harvest area and convert to tons/ha.
        c. Dry weight of bulbs in tons/ha. Dry the bulbs and weigh. Compute the yield in tons/ha.

V. Legumes

1. **Field Legumes:** cowpea, peanut, soybean, and mungbean.

    - **Cowpea**

    a. Fresh weight of matured pods, in tons/ha. Harvest the pods from the harvest area and convert to tons/ha.
    b. Dry weight of pods, in tons/ha. Dry the pods and shell, convert yield to tons/ha.
    c. Weight of shelled beans, in tons/ha. Shell the dry pods and convert yield to tons/ha.

- **Soybean and Mungbean**

  a. Nodule count from 10 sample plants. Dig/pull out plants from within the harvest area and count the nodules. The effective nodules are in the primary roots.
  b. Fresh weight of matured pods, in tons/ha. Harvest pods from the area and weigh. Convert yield to tons/ha.
  c. Bean yield, in tons/ha. Dry the pods and shell. Convert yield to tons/ha.

- **Peanut**

  a. Fresh weight of pods, in tons/ha. Harvest the pods from the area. Weigh and convert yield to tons/ha.

  b. Weight of shelled peanut, in tons/ha**.** Shell the pods and weigh. Convert yield to tons/ha.

2. **Vegetable legumes:** string beans/pole sitao, cowpea, sweet pea, lima beans, kadios

- **Sweet Pea**

  a. Fresh weight of tender pods, in tons/ha**.** Harvest the tender pods from the area and weigh. Convert yield to tons/ha.
- **String beans/Pole sitao**

  a. Fresh weight of green vegetable stringbean in tons/ha**.** Harvest during several picking schedule only marketable green vegetable stringbeans from the harvest area and weigh. Total all weights and convert yield to tons/ha.

TABLE 3. 3 CROP GROUPINGS AND REPRESENTATIVE CROPS

Crop Groups	Sub-Group	Representative Crops
1. ROOT CROPS	a. Root and tubers	*Carrots, Potato, Radish*
	b. Bulb vegetables	*Garlic, Leek, Onion*
2. FRUITING & LEAFY VEGETABLES	a. Leafy vegetables	*Lettuce, Spinach*
	b. Fruiting vegetables	*Eggplant, Tomato*
	c. Herbs and spices	*Sweet basil, Oregano*
	d. Brassica (coles)	*Cabbage, Chinese Mustard, Pechay Baguio, Pechay*
	e. Cucurbit vegetables	*Cantaloupe, Cucumber, Squash*
3. LEGUMES	a. Legumes (Succulent or dried)	*Stringbean, Sweet Potato*
	b. Field legumes	*Mungbean, Soybean, Peanut*
4. MANGO & OTHER FRUITS	a. Citrus	*Calamondin, Pummelo*
	b. Pome	*Apple, Chico, Pear*
	c. Stone	*Cherry, Prune, Peaches*
	d. Small fruit	*Bignay, Grapes, Strawberry*
	e. Tree nuts	*Cashew nut, Pili nut*
5. CORN & OTHER UPLAND CEREALS		*Corn, Sorghum, Wheat*
6. RICE		
7. FORAGE FODDER & STRAW OR CEREAL GRAINS	a. Forage	*Corn*
	b. Grass foliage	*Napier grass*
	c. Non-grass animal feeds	*Ipil-ipil, Stylo*
8. ORNAMENTALS	a. Cutflowers	*Orchids*
	b. Foliage	*Bamboo, Lady Palm, Maidenhair Fern*
	c. Indoor plants	*Aglaonema, Poinsettia*
	d. Turf	
9. PERENNIAL INDUSTRIAL CROPS		*Coconut, Coffee, Cacao, Abaca, Palm Oil Tree, Black Pepper, Rubber*
10. ANNUAL/BIENNIAL INDUSTRIAL CROPS		*Cotton, Ramie, Sugarcane, Tobacco*
11. OTHERS		

VI. Cucurbits - cucumber, melon, watermelon

1. Cantaloupe or Rock melon

a. Average diameter of fruit, in cms. Get 10 sample fruits and measure the circumference.
b. Number of fruits/ha. Count the number of marketable fruits from harvest area and convert to hectare basis.
c. Weight of fruits, in tons/ha. Weigh the fruits every picking schedule and total the weight. Convert to tons/ha.

2. Watermelon/Melon

a. Average length of vines, in cms. Measure length of vines from 4 hills within the harvest area and get the average.
b. Number of fruits/ha. Count the number of fruits from harvest area and convert to per ha basis
c. Weight of fruits
d. Diameter of fruits

VII. Root crops - cassava, gabi, taro, irish or white potato, sweet potato, yam, etc.

1. Cassava

a. Weight of storage roots in tons/ha. Clean the storage roots from the harvest area, removing adhering to the storage roots.
b. Weigh and convert yield to tons/ha.

2. Gabi

a. Weight of corms in tons/ha. Harvest the corms from the harvest area and clean. Weigh the corms and convert yield to tons/ha.
b. Percent of the big and small corms.

3. White Potato

a. Total weight of tubers, in tons/ha. Weigh the tubers from the harvest area after cleaning and convert yield to tons/ha.
b. Weight of marketable tubers.

4. Sweet Potato

a. Weight of "fleshy or storage roots" or sweet potato, in tons/ha. Weigh the marketable roots from the harvest area after cleaning. Convert yield to tons/ha. Classify the yield into good, poor and rejects.

5. Singkamas (turnips)

a. Weight of "singkamas" in tons/ha. Wash "singkamas" to remove soil/dirt. Air-dry or wipe and weigh it from the harvest area. Convert yield to tons/ha.

6. Yam

a. Weight of corms in tons/ha. Harvest the corms from harvest area and clean. Weigh the corms and convert yield to tons/ha.
b. Percent of the big and small corms

VIII. Forage

a. Herbage yield. Harvest herbage from 0.5 m² quadrant, dry and weigh
b. Plant height. Measure height of forage from 6 sampling sites then get the average.

IX. Turf

a. Three (3) Clipping yields 3x a week for 12 weeks (fairways) in kg/25 m^2, then get the average.
b. Three (3) Clipping yields 3x a week for 12 weeks (greens) in g/m^2, then get the average.

X. Sugarcane

a. Sugarcane yield in kilobag per ton cane (LKG/TC) and ton cane per hectare (TC/ha).

XI. Mango

a. Number of days from chemical induction to 50% flower bud emergence and time of fruiting (Table 3.4). Sampling area: one fruit bearing tree per treatment per replication using 4 quadrants/fruit bearing tree x 4 replications (1 tree x 4 quadrants x 4 reps).

   For one quadrant, if possible 25 buds may be randomly selected. Since 4 quadrants/tree shall be sampled, a total o f 100 buds/tree/ treatment shall be taken. If not possible, state the number of buds sampled. Four replications per treatment will be sampled.
b. Intensity of flowering to be recorded at full bloom (Table 3.4).
c. Number of fruits per panicle at thumb size 45-50 days after flowering initiation (DAFI)) and egg size (65 DAFI).
d. Fruit yield/tree (weight, number and size) at harvest time.

   d.1. Mean weight of fruit per panicle.
   d.2. Marketable fruit classified according to weight from Class 'A' to 'C'. The range of weight is greater than 300 g for Class A or large, 250-299 g for Class B or medium and 200-249 g for Class C or small, 100-148 g for Class D or very small.
   d.3. Unmarketable fruit maybe any class but with defects (disease,insect damage, physical injuries and physiological disorders).
   d.4. Sweetness (optional).

TABLE 3. 4 CRITERIA FOR MANGO FLOWER INTENSITY EVALUATION

Score	Intensity	Description
0	None	No flower
1	Poor	Few flowers or sporadic flowering on tree canopy; up to a maximum of 25% is covered with flowers
2	Fair	About 25 to 50% of tree canopy has flowers
3	Moderate	Many flowers but not all parts or an aggregate of 50 to 75% of the canopy has flowers
4	Excellent	Numerous flowers all over or in practically all parts of the canopy

XII. Ornamentals - Yield and growth.

Three (3) plants in 5 sampling sites per plot or treatment per replication (3 x 5 x 3) or 2 plants per pot with 6 replications per treatment (2 x 6 x 3)

1. **Cut flower**
   a. Intensity of flowering/ rooting
   b. Number of days from chemical induction to flowering or rooting
   c. Number of flowers per plant or roots/plant
   d. Quality of flowers according to class 'A' to 'C'

2. **Foliage**
   a. Number of leaves per plant and/or per pot
   b. Size of leaves per plant and/or per pot
   c. Weight of leaves per plant and/or per pot
   d. Quality of foliage leaves

3. **Indoor plants**
   a. Number of leaves per plant and/or per pot or number of flowers per plant and/or per pot
   b. Weight of leaves per plant and/or per pot
   c. Size of leaves per plant and/or per pot
   d. Quality of leaves or flowers

XI. Tobacco

1. Cured leaf yield – cured leaves from 20 sampling plants
2. Physical quality – leaf quality characterized by the grade distribution (high, medium and low).
3. Crop Value – cured leaves are graded and weighed according to the grade standard and be given price per grade
4. Chemical Quality – nicotine, reducing sugar, and chloride contents of cured leaves be determined.

CHAPTER IV
LICENSING OF HANDLERS

4.1. BASIC POLICIES

4.4.1 All persons who shall engage in the business of exporting, importing, manufacturing, formulating, bulk blending, distributing, supplying, repacking, storing, commercially applying, selling, marketing of any pesticide, fertilizer and other agricultural chemicals must secure a license from FPA.

4.4.2 Pursuant to P.D. 1144, FPA is authorized to promulgate rules and regulations for the registration and licensing of fertilizer handlers, pesticide and other agricultural inputs, collect fees pertaining thereto as well as for renewal, suspension, revocation or cancellation of such registration or license and such other rules and regulations as may be necessary to implement P.D. 1144.

4.4.3 Applicants for dealership license must submit the certificate of Training on FPA Accredited Safety Dispenser of Agricultural Chemicals to FPA. Cooperatives shall pay only 50% of the license fee for fertilizer dealership per outlet. Filing fee shall not be collected from new applicants. However, for new applicants for fertilizer handlers other than dealers, a filing fee shall be collected. All other outlets shall be licensed separately.

4.4.4 Fertilizer dealership and dealer-repacker licenses shall be valid for three (3) years reckoned from the date of its issuance while for fertilizer handlers other than dealers, their license shall be valid for one (1) year. Renewal for such shall be filed three (3) months before its expiry date. Application for renewal filed within one (1) month after its expiry date shall be subject to a 50% surcharge while those filed after the said period shall be subject to a 100% surcharge.

4.2. COVERAGE

A license is a written authority granted by FPA to an individual or firm to manufacture/process, bulk blend, supply, distribute, market, sell, repack, store, import and export fertilizer products and/or plant growth regulating materials for commerce. Fertilizer handlers, who are exporters, importers, indentors, processors, bulk blenders, manufacturers, formulators, suppliers, distributors, bulk handlers, area-distributors, dealers and dealer-repackers of fertilizer, warehouses for fertilizer inputs and other agricultural chemicals have to apply and secure a license from FPA.

4.3. DEFINITION OF TERMS

Accreditation – authorization issued to a person/entity of a networking or multi-level marketing scheme, in lieu of a license, after successfully attending the Accredited Safety Dispensers training.

Area Distributor – refers to a fertilizer establishment who can sell fertilizer products to dealers and outlets but with specific area of coverage within the political boundary of its island group, namely Luzon, Visayas, or Mindanao. Area distributor need not register their own fertilizer products.

Bulk Blender – any person engaged in fertilizer operations through the mechanical mixing of two or more granular fertilizer materials to produce mixtures containing nitrogen (N), phosphorus (P), potassium (K) and other essential plant nutrients for a customized fertilizer

Bulk Handler - any person engaged in handling the fertilizer either in bulk or in bag which include bagging and hauling from the port to the warehouse.

Dealer – any person who sells fertilizers directly to farmers or end-users.

Dealer-Repacker - refers to FPA-licensed dealers duly authorized to repack solid inorganic fertilizers except nitrates in smaller quantities of 1, 2 and 5 kg.

Distributor - any person or entity who sells fertilizer products to dealers, other distributors and outlets nationwide. It includes fertilizer companies that carry their own brand names and affix their company names in the label

Exporter - any person/entity who sells fertilizers to other countries.

Fertilizer and Pesticide Accredited Network Dispenser (FPAND) – a person in the networking or multi-level marketing also known as Individual Business Operator (IBO), among others who do not have a permanent store/structure licensed by the Authority and is authorized to dispense fertilizer/pesticide products which are registered with the FPA from a primary company or the duly licensed handler by the Authority.

Fertilizer Handlers - refer to exporter, importer, area distributor, distributor, manufacturer, formulator, processor, bulk-blender, bulk handler, formulator, repacker, indentor, bulk-handler, dealer and dealer- repacker of fertilizer inputs.

Formulator – any person involved in the development of fertilizer formulations intended for toll manufacturing or processing

Importer - any person/entity engaged in the importation of fertilizer as a business and sells to distributors.

Importer-End-User - refers to commercial plantations, which import and use the fertilizers directly for their consumption and private research institutions or companies that import or use fertilizers for testing purposes.

Indentor - any person/entity who acts as an agent who transacts business with a foreign/local supplier in behalf of the company/registrant or who arranges business between two or more contracting parties.

License - refers to the written authority granted by FPA to an individual or firm to manufacture/process, supply, distribute, market, sell, repack, store, import, and export fertilizer and/or plant growth regulating materials for commerce

Mango Contractor - refers to person or entities that enter into a contract with a mango grower to service his trees (from flower induction to harvesting) for a fee or on a sharing basis

Manufacturer – any person engaged in the fertilizer operations through the conversion of raw materials into a finished fertilizer product

Multi-level Marketing - network marketing or multiple efforts, among others. Under this scheme, distributors/dealers or IBOs who are independent contractors and not employees of the company, act both as the company's customer base as well as the marketing and sales arm for the company's products and business opportunities

Outlets - additional stores owned by a dealer or distributor

Person - an individual, partnership, association, firm or corporation that is recognized by law as the subject of rights and duties

Primary Company – the duly licensed handler by FPA with an office/store/warehouse, who follows the networking multi-level or multiple effort of marketing and distribution system and supplies the duly registered products to the FPAND

Processor – any person engaged in the fertilizer operations through a series of mechanical operations to alter the physical form of raw materials from mining or mineral deposits into a finished product readily available as plant nutrient.

Repacker - refers to any fertilizer company duly authorized to repack fertilizers and other new grades except nitrates for distribution. Repacking of solid fertilizers is in 5, 10, 25 and 50 kg. For liquid fertilizers, repacking volume is in 25, 50, 70, 100 and 250 ml.

Supplier – refers to any person or entity which sells fertilizer products to importers

Warehouse - storehouse for fertilizer products

4.4. REQUIREMENTS FOR LICENSING OF HANDLERS

The licensing requirements and the corresponding fees depend on the type of activity and subscribed authorized capitalization of the company. Table 4.1 shows the Summary of Licensing Requirements.

4.4.1 Importer and Importer/End-Users

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application

   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Notarized copy of Certificate of Capitalization
4. Photocopy of Distributorship Agreement/Certificate from Primary Company
5. Recommendation from FPA Regional/Provincial Officer on the area of coverage
6. Warehouse Risk Appraisal Report
7. Registration of Fertilizer Warehouse
8. Fees – license fee and filing fee based on paid up capital

4.4.2 Institutional User

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application

Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.

3. Notarized copy of Certificate of Capitalization
4. Photocopy of Distributorship Agreement/Certificate from Primary Company
5. Recommendation from FPA Regional/Provincial Officer on the area of coverage
6. Warehouse Risk Appraisal Report
7. Registration of Fertilizer Warehouse
8. Environmental Compliance Certificate (ECC) or Certificate of Non-Coverage (CNC)
9. Fees – license fee and filing fee based on paid up capital

4.4.3 Area Distributor and Distributor

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Notarized copy of Certificate of Capitalization
4. Photocopy of Distributorship Agreement/Certificate from Primary Company
5. Recommendation from FPA Regional/Provincial Officer on the area of coverage
6. Warehouse Risk Appraisal Report
7. Registration of Fertilizer Warehouse
8. Fees – license fee and filing fee based on paid up capital

4.4.4 Bulk Handler

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Notarized copy of Certificate of Capitalization
4. Inspection Report of the site by the FPA officers

5. Recommendation from FPA Regional/Provincial Officer on the area of coverage
6. List of Bulk Handling equipment
7. Fees – license fee and filing fee based on paid up capital

4.4.5 Exporter

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Notarized copy of Certificate of Capitalization
4. Recommendation from FPA Regional/Provincial Officer on the area of coverage
5. Warehouse Risk Appraisal Report
6. Registration of Fertilizer Warehouse
7. Fees – license fee and filing fee based on paid up capital

4.4.6 Indentor

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Notarized copy of Certificate of Capitalization
4. Photocopy of Contract with Manufacturer/Supplier
5. Fees – license fee and filing fee based on paid up capital

4.4.7 Repacker

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application

Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.

3. Notarized copy of Certificate of Capitalization
4. Photocopy of Distributorship Agreement/Certificate from Primary Company
5. Inspection Report of the site by the FPA officers
6. Recommendation from FPA Regional/Provincial Officer on the area of coverage
7. Warehouse Risk Appraisal Report
8. Registration of Fertilizer Warehouse
9. Fees – license fee and filing fee based on paid up capital

4.4.8 Manufacturer/Processor/Formulator

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Notarized copy Certificate of Capitalization
4. Photocopy of Mining Permit from DENR (if applicable)
5. Environmental Compliance Certificate (ECC) or Certificate of Non-Coverage (CNC)
6. Inspection Report of the site by the FPA officers
7. Recommendation from FPA Regional/Provincial Officer on the area of coverage
8. Warehouse Risk Appraisal Report
9. Registration of Fertilizer Warehouse
10. Fees – license fee and filing fee based on paid up capital

4.4.9 Dealer

1. Duly accomplished and notarized application form with documentary stamp
2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purposes is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Recommendation from FPA Regional/Provincial Officer on the area of coverage
4. Photocopy of Accredited Safety Dispenser Identification (I.D.) Card

5. Photocopy of Certificate of Membership if member of Cooperative
6. Fees – license fee and filing fee based on paid up capital

TABLE 4. 1 REQUIREMENTS FOR LICENSE TO OPERATE AS FERTILIZER (NEW) HANDLER AND VALIDITY OF LICENSE

	Importer/ Importer End-User	Institutional User	National Distributor	Area Distributor	Bulk Handler	Exporter	Indentor	Repacker	Manufacturer/ Processor/ Formulator/	Dealer	Dealer-Repacker	Mango Contractor
1. Duly accomplished and notarized application form with documentary stamp	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. For: Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation Cooperative – copy of Cooperative Development Authority (CDA) Registration Single Proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×
3. Notarized copy of Certificate of Capitalization/Paid-up Capital	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	×	×
4. Photocopy of Distributorship Agreement/Certificate from Mother Company	✓	×	✓	✓	×	×	×	✓	×	×	×	×
5. Inspection Report of the Plant/Repacking Site by the FPA officers (Annex 2.7/2.8)	×	×	×	×	✓	×	×	✓	✓	×	×	×
6. Recommendation from FPA Regional/Provincial Officer on the area of coverage	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	×
7. Risk Appraisal Checklist for Warehouse/Store (Annex 4.1)	✓	✓	✓	✓	×	✓	×	✓	✓	×	×	×
8. Registration of Fertilizer Warehouse	✓	✓	✓	✓	×	✓	×	✓	✓	×	×	×
9. Photocopy of Mining Permit from DENR (if applicable)	×	×	×	×	×	×	×	×	✓	×	×	×
10. Environmental Compliance Certificate (ECC) or Certificate of Non-Coverage (CNC)	×	✓	×	×	×	×	×	×	✓	×	×	×
11. List of Bulk Handling equipment	×	×	×	×	✓	×	×	×	×	×	×	×
12. Photocopy of Contract with Manufacturer/Supplier	×	×	×	×	×	×	✓	×	×	×	×	×
13. Photocopy of Accredited Safety Dispenser (ASD) ID	×	×	×	×	×	×	×	×	×	✓	×	×

14. Certificate of Attendance in Mango Contractor Training	×	×	×	×	×	×	×	×	×	×	×	✓
15. Filing Fee	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	×	×
16. License Fee	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PRODUCT REGISTRATION	✓	✓	✓	×	×	✓	×	✓	✓	×	×	×
VALIDITY OF LICENSE (Year)	1	1	1	1	1	1	1	1	1	3	3	3

TABLE 4. 2 REQUIREMENTS FOR LICENSE TO OPERATE AS FERTILIZER HANDLER (RENEWAL) AND VALIDITY OF LICENSE

	Importer/ Importer End-User	Institutional User	National Distributor	Area Distributor	Bulk Handler	Exporter	Indentor	Repacker	Manufacturer/ Processor/	Dealer	Dealer-Repacker	Mango Contractor
1. Duly accomplished and notarized application form with documentary stamp	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Photocopy of Audited Financial Statements/ Income Tax Return for the previous year	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	×	×
3. Monthly Production and Sales Report for the previous year	×	×	×	×	✓	×	×	✓	✓	×	×	×
4. Inspection Report of the Plant/Repacking Site by the FPA officers (Annex 2.7/2.8)	×	×	×	×	✓	×	×	✓	✓	×	×	×
5. Recommendation from FPA Regional/Provincial Officer on the area of coverage	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	×
6. Risk Appraisal Checklist for Warehouse/Store (Annex 4.1)	✓	✓	✓	✓	×	✓	×	✓	✓	×	×	×
7. Registration of Fertilizer Warehouse	✓	✓	✓	✓	×	✓	×	✓	✓	×	×	×
8. Photocopy of Accredited Safety Dispenser (ASD) ID	×	×	×	×	×	×	×	×	×	✓	×	×
9. Certificate of Attendance in Mango Contractor Training	×	×	×	×	×	×	×	×	×	×	×	✓
10. License Fee	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PRODUCT REGISTRATION	✓	✓	✓	×	×	✓	×	✓	✓	×	×	×
VALIDITY OF LICENSE (Year)	1	1	1	1	1	1	1	1	1	3	3	3

4.4.10 Dealers' Association

A member of the association must apply for license as dealer/dealer-repacker of fertilizer.

4.4.11 Dealer-Repacker

1. Duly accomplished and notarized application form with documentary stamp

2. For:
   Corporation/Partnership – copy of Security & Exchange Commission (SEC) registration and Articles of Incorporation, wherein one of the primary purpose is the manufacturing/ importing/ exporting and distributing of fertilizer, Board Resolution authorizing representative to file application
   Cooperative – copy of Cooperative Development Authority (CDA) Registration, Board of Resolution authorizing representative to file application
   Single proprietorship – copy of certificate of business name registration with Department of Trade & Industry (DTI) and Special-Power-of- Attorney, if filed by a representative.
3. Recommendation from FPA Regional/Provincial Officer on the area of coverage
4. Photocopy of Certificate of Membership if member of Cooperative
5. Fees – license fee and filing fee based on paid up capital

All fertilizers to be repacked should be registered by any of the following: distributor, importer, manufacturer or whichever is the source of the fertilizers.

For liquid fertilizer, repacking weight is 25, 50, 70, 100, 250 ml, and at distributor's level not at dealer's level.

4.4.12 Mango Contractor

1. Duly accomplished and notarized Application Form with documentary stamp
2. Certificate of membership if member of Cooperative
3. Certificate of attendance to Mango Contractor Training
4. Fees

4.5. PROCESSING OF LICENSES FOR HANDLERS OF FERTILIZER

The schematic diagram for license processing is shown in Figure 4.1.

4.5.1. Applicant shall submit duly accomplished application form for licensing in duplicate copies. This shall be submitted through the FPA field officers in the provinces or regions, to the FPA central receiving officer or to the FPA Fertilizer Regulatory Regulations Division personnel.

4.5.2. Submitted documents shall be validated. If found incomplete, it will be returned to the applicant. If the applicant completes all the requirements, filing fee for new applicants and license fee for new and renewal applicants shall be collected. If in provinces or regions, payments can be made in the form of postal money order (PMO) payable to FPA.

4.5.3. The application will be entered in the licensing tracking system.

4.5.3.1. If the application is for license as a dealer, dealer-repacker and mango contractor, the applicant's certificate of training should be submitted.

4.5.3.2. If application is for license as a manufacturer, importer, distributor or exporter, the registration of fertilizer products to be imported, distributed, exported, processed, bulk-blended or manufactured is needed.

4.5.3.3. Issuance of license.

4.6. VALIDITY OF LICENSE AND RENEWAL

4.6.1. The license of dealers shall be valid for three (3) years while the license of fertilizer handlers shall be valid for one (1) year.

4.6.2. Application for renewal of license shall be filed three (3) months before expiry date. If there are changes in their articles of incorporation, full copy of the SEC registration certificate shall be submitted.

4.6.3. Renewal of licenses and warehouse registration is decentralized to FPA regional offices. As a general rule, all licenses shall be renewed at least a month before the expiration. Licenses renewed within a month after expiration shall have a surcharge of 50% while licenses that are renewed after a month of expiration shall have a surcharge of 100% of the usual license fee.

4.7. REGISTRATION OF FERTILIZER WAREHOUSE

Application for warehouse registration is required to be eligible as a Licensed Fertilizer Handler. Requirements are listed as follows:

4.7.1 Documentary Requirements

1. Duly accomplished and notarized Application Form
2. Recommendation by FPA Regional/Provincial Officer covering the location of the warehouse
3. Warehouse Risk Appraisal Report by FPA Regional/Provincial Officer. The parameters to be considered in the risk appraisal are stated in *4.7.2. Facility Requirements.*

4.7.2 Facility Requirements

1. The minimum floor area for a fertilizer warehouse must be fifty (50) square meters.
2. The facility should display the warehouse registration certificate and a billboard with white background indicating its registration number as shown in Figure 4.2.
3. Capability of dealing with leaks and spills
4. Adequate lighting, ventilation and fire extinguishers installed
5. Good Housekeeping and tidiness
6. Product storage and stacking
7. General attitude towards human health and safety
8. Hygiene standard in work and eating area
9. Waste disposal i.e. broken bottles, packages, spills etc.
10. Stock management (Records of obsolete/defective products and products with damaged labels)
11. With warning signs and emergency numbers posted
12. Concrete impermeable floor
13. With lockable doors

FIGURE 4. 1 SCHEMATIC DIAGRAM OF LICENSE PROCESSING FOR FERTILIZER

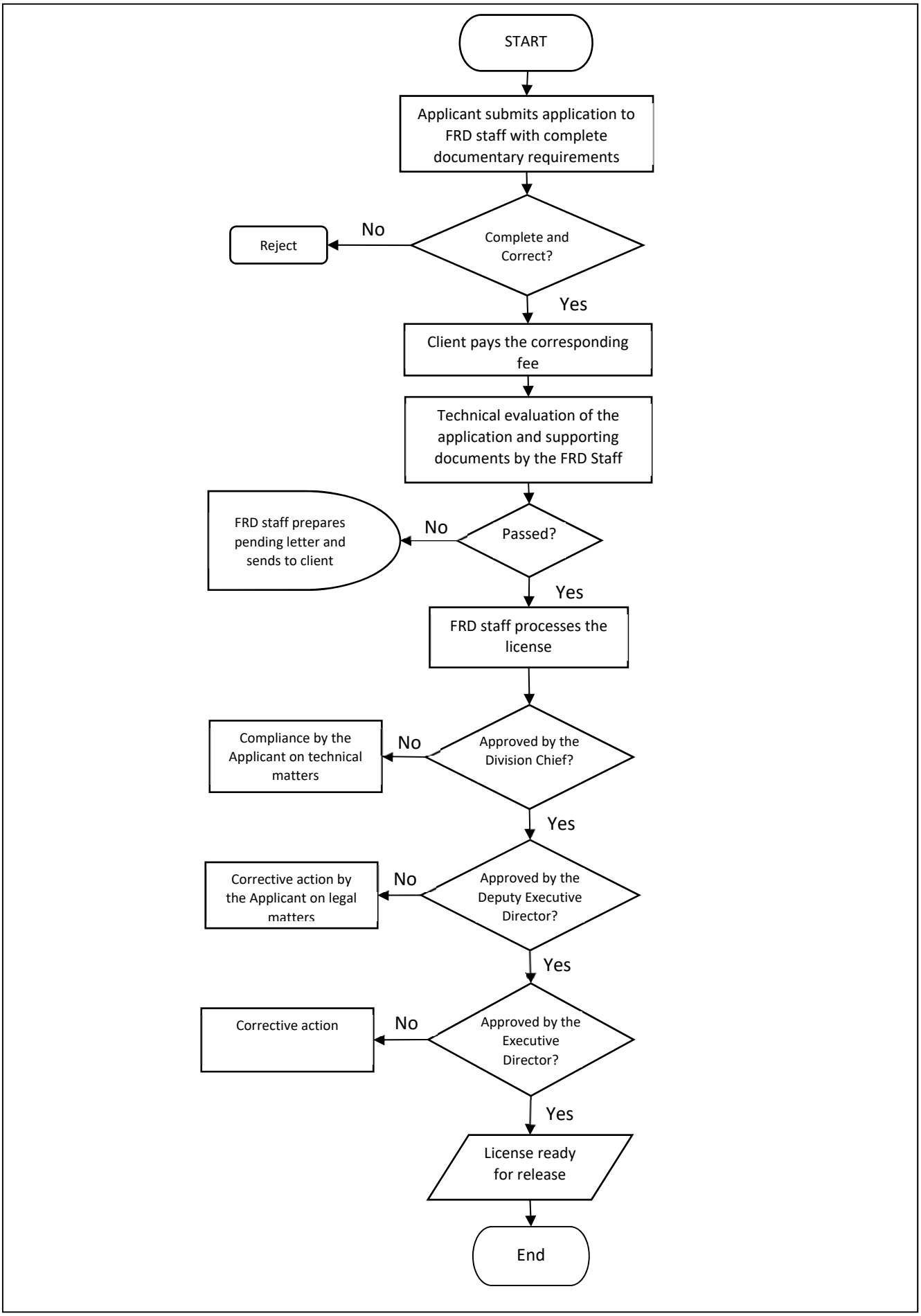
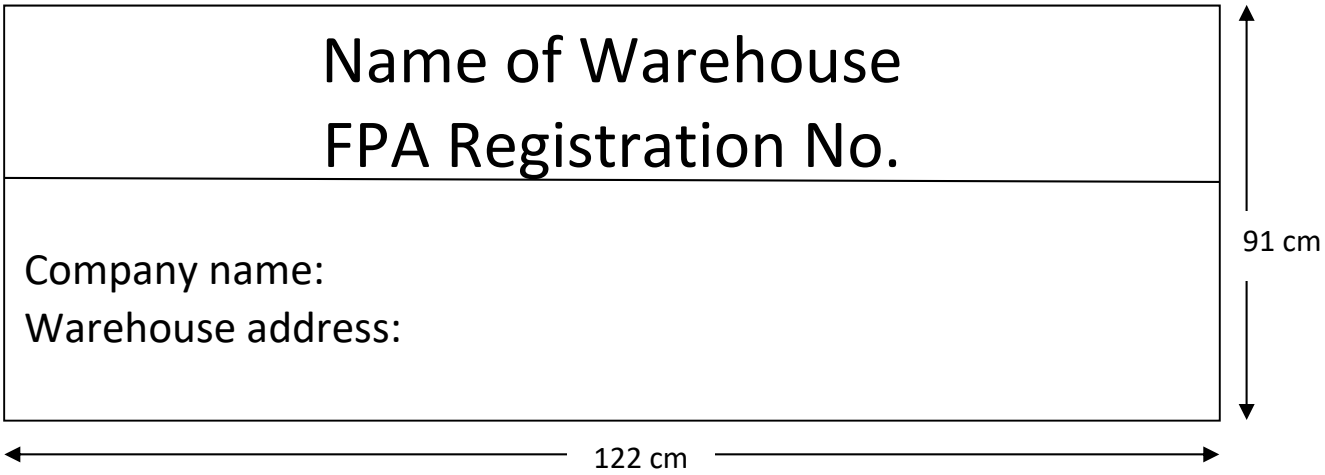


FIGURE 4. 2 FPA BILLBOARD FOR FERTILIZER WAREHOUSE



4.8. FEES AND CHARGES

4.8.1. License Fees

License fees are based on the companies' capitalization (subscribed or paid up capital plus retained earnings or earnings for the year) as follows:

4.8.1.1. Fertilizer Handlers other than Dealers

	Amount (Php)
1. Over P5M capitalization	
1st activity	8400
Additional activities	4800
2. Over P1M to P5M capitalization	
1st activity	5400
Additional activities	3600
3. Over P500T to P1M capitalization	
1st activity	3600
Additional activities	1800
4. P500T and below capitalization	
1st activity	1800
Additional activities	850
5. Filing Fee per activity for new applicants	
Manufacturer Processor Formulator Repacker Institutional User, Bulk Handler Bulk Blender Rebagger	3600
Other activities (Importer Distributor Exporter Indentor Importer-End user	1800

4.8.1.2. **Dealers (renewable every 3 years)**

	Amount (Php)
1. Fertilizer dealer-repackers	1800
2. Members of dealer's association	1500
3. Fertilizer and pesticide dealers	4000
4. Members of fertilizer and pesticide dealer's association	3200
5. Cooperative	*50% discount of dealer's fee*

4.8.1.3. **Warehouses**

	Amount (Php)
1. Fertilizer	1200
2. Both fertilizer and pesticide	2400

4.8.1.4. **Mango Contractors (annually)**

	Amount (Php)
1. Mango Contractors	1200
2. Members of Accredited Associations	600

4.8.2. Processing Fees

	Amount (Php)
1. VAT Exemption Certificate	600
2. Permit to industrial users	600
3. Export Permit	600
4. Authority to purchase damaged fertilizer	600
5. Transshipment permit	600
6. Other certifications	600

4.8.3. Penalty Fees for Late Renewal

	Surcharge
1. Within 1 month after expiry date	50%
2. After 1 month after expiry date	100%

4.8.4. Penal Provisions

FPA may suspend or revoke after due notice and hearing, the license of establishments found to have violated any of its provisions of licensing.

CHAPTER V
FERTILIZER MOVEMENT, SUPPLY AND QUALITY PRODUCT STANDARD

5.1 FERTILIZER MOVEMENT

5.1.1 Background

Considering the country's archipelagic geography, the delivery of fertilizer stocks from sources to end-users in the different farming communities nationwide is the main concern of the fertilizer distribution system. The standards of efficiency in the physical distribution of fertilizer are reckoned in terms of the timely availability of suitable fertilizer at a favorable price. From farmers' viewpoint, an increase in efficiency means getting the right kind of fertilizer needed for its timely application to growing crops at the lowest possible cost.

5.1.2 Basic policies

5.1.2.1. Pursuant to P.D. 1144, FPA is mandated to rationalize the manufacture and marketing of fertilizer for the purpose of assuring the agricultural sector of adequate supply of fertilizers at reasonable prices. No person shall be allowed to engage in the business of importing, producing, storing, distributing, marketing, and exporting any fertilizer except under a license issued by FPA.

5.1.2.2. No fertilizer product shall be imported, produced, distributed, marketed, or exported unless it has been duly registered with the FPA. All fertilizer products which are either imported, produced or mixed locally and intended for agricultural use are exempted from the payment of a 12% Value Added Tax. Certification for this incentive shall be secured from the FPA.

5.1.2.3. Damaged, off-specification or bad order fertilizer, which include, among others, sweepings or water damaged fertilizer contaminated with inert substances but still retain its fertilizing properties, may only be disposed upon approval and supervision of FPA. Such inventory must be marked "bad order", "damaged fertilizer" or with a large "**X**" to distinguish them from good order stocks. Its movement is monitored through a corresponding transshipment permit from FPA.

5.1.2.4. Damaged fertilizer is given the maximum selling price of 70% of its previous warehouse price and should only be sold directly to end- users or farmers' cooperatives.

5.1.2.5. By and large, the quality standards referred to as the Philippine National Standard (PNS) specifies the physical properties, chemical composition, packaging, marking, testing or analytical method of analysis for each target fertilizer grade.

5.1.2.6. For solid inorganic fertilizer, the permissible minimum tolerance from the guaranteed nutrient shall not be less than 98% of each of the major nutrients.

5.1.2.7. The packaging of fertilizer as specified by the PNS should be at a 50 kg bag weight.

5.2 FERTILIZER SUPPLY

5.2.1 Fertilizer Importation

In line with the liberalization policy, importation of fertilizer shall no longer require FPA clearance prior to the opening of letter of credit (L/C). However, all fertilizer importations for agricultural use shall only be done by FPA-licensed importers and shall cover only FPA-registered fertilizer under these conditions:

5.2.1.1 The FPA Certificate Authorizing Importation of Fertilizer (CAIF) for the opening of L/Cs and for other modes of importation shall no longer be required.

5.2.1.2 Procurement shall be through direct negotiation by fertilizer companies with foreign suppliers.

5.2.1.3 Imported fertilizer is subject to quality monitoring by FPA. Standard sampling procedures shall be observed in the gathering of samples for laboratory analysis.

5.2.2 Fertilizer Production

Manufacturers/processors, who engage in fertilizer production business, must be licensed and their products must be registered with the FPA. Under Sec. 109 (1) (B) of National Internal Revenue Code (NIRC) of 1997, as amended, tax exemption is granted to all fertilizer manufacturers.

SEC. 109. Exempt Transactions.

(1) Subject to the provisions of Subsection (2) hereof, the following transactions shall be exempt from the value-added tax.

(B) Sale or importation of fertilizers; seeds, seedlings and fingerlings; fish, prawn, livestock and poultry feeds, including ingredients, whether locally produced or imported, used in the manufacture of finished feeds (except specialty feeds for race horses, fighting cocks, aquarium fish, zoo animals and other animals generally considered as pets);

5.2.3 Fertilizer Marketing and Distribution

Since the liberalization of fertilizer trade in 1986, fertilizer marketing and distribution became a free enterprise of the private sector. Companies can enter the distribution business of the wholesale and retail level after securing appropriate license from FPA to operate the business.

5.2.4 Fertilizer Exportation

Exportation of any type of fertilizer shall further be subjected to the rules and regulations promulgated by agencies governing exports. Exporting of products for countries where the Philippines has no trade relations has to be cleared by the exporter with other appropriate agencies such as BOC, before FPA issues an export certificate.

5.2.4.1 Guidelines in the exportation of raw materials or finished fertilizer products

1. No person shall be allowed to engage in the business of exporting fertilizers except under a license issued by FPA.

2. No product mentioned herein may be exported unless previously registered with the FPA. Export of fertilizer samples shall not be covered by this registration requirement.

3. FPA Export Certificate to Export has to be secured before any shipment is made. Requirements for FPA permit to export are as follows:

   - Duly accomplished and notarized Application Form with documentary stamp
   - Proforma invoice
   - Sales Contract/Purchase Order
   - Processing Fee

4. Imported traditional fertilizer grades may not be exported unless authorized by the FPA.

5. Commitment to deliver shall not extend beyond six (6) months from issuance of an FPA Export Certificate.

6. Export of products intended for countries where the Philippines has no trade relations has to be cleared by the exporter with other appropriate agencies as the Bureau of Customs (BOC) before FPA issues an export certificate.

7. Exportation of any type of fertilizer shall further be subjected to rules and regulations promulgated by BOC and other agencies governing all exports.

5.3 DISPOSAL OF OVERLANDED/ MISSHIPPED/ RECOVERED GOOD ORDER/ DAMAGED/ BAD ORDER FERTILIZERS

5.3.1 Definition of Terms

Damaged/Bad Order Fertilizer – fertilizers that do not conform to the standard requirements for good order fertilizer. This includes sweepings, water damaged, and fertilizer contaminated by inert substances but still retain their fertilizing qualities.

Disposition of Damaged Stocks- distribution of fertilizer may be done through sale, bid awards, donations, and all other legitimate acts to do away with damaged stocks.

Misshipped Fertilizer - includes fertilizer shipments not intended for the country through carrier that sunk or run around the Philippine waters and ceded to Philippine private or government entities or an unauthorized fertilizer importation apprehended and seized by law enforcement agencies.

Over landed Fertilizer - any volume of fertilizer that is in excess of the certified volume declared by the importer/consignee or/ consignor.

Recovered Good Order Fertilizer - recovered fertilizer that meets the minimum standard requirements for good order fertilizer with not more than 2% nutrient loss and 1% moisture content.

Revalidation – refers to the extension of the fifteen (15) day validity period of a previously issued permit to transport those partially used or totally unused due to valid reasons such as changes in fertilizer grades, viable pricing, transport limitations, etc. which hampered the permit holder from completing the transshipment within the authorized period.

5.3.2 Damaged fertilizers at Distributor/Dealer warehouse/Store

5.3.2.1 Distributor/dealer should report to the FPA Provincial Officer the number of damaged fertilizer stocks that were actually damaged specifying the grade, volume, reason and extent of damaged within two days from the occurrence of the damaged stocks.

5.3.2.2 The damaged fertilizers should be stored separately with the good order fertilizer and should be marked as such.

5.3.3 Overlanded, recovered good order fertilizer, damaged or bad order fertilizer

Acquired by insurance companies, adjusters, salvaged companies, law enforcement agencies and others.

a. Purchase of fertilizer shall be in this order:

a.1 The original owner/consignee shall have the first option to purchase.

a.2 The recovered good order/damaged fertilizers shall be offered to duly licensed companies with the second option to purchase. Should all or two or more fertilizer companies be willing to acquire the fertilizer, the company with the right offer through a closed bidding supervised by FPA shall be awarded with the stocks.

a.3 Should there be no taker on the second option; the recovered good order/damaged fertilizers shall be offered to qualified agricultural cooperatives.

a.4 In the case of over landed fertilizers, the original importer/consignee shall have the option to apply for additional permit from FPA.

a.5 Should the original importer/consignee not exercise its option, this shall be waived, and the over landed fertilizers shall then be qualified as recovered good order fertilizers and its disposition shall be in accordance with paragraphs a.2, a.3, a.4 of Section 5.3.3.

b. Interested buyers shall be guided by the following procedures:

b.1 Interested buyers shall submit a letter of request to buy damaged fertilizer and secure clearance from the FPA Field Officer concerned.

b.2 For agricultural cooperatives, their president or any responsible official must file with FPA a notarized sworn statement indicating the name and addresses of farmer-members, location of farms and their respective fertilizer allocation of the requested damaged fertilizers and crops to be planted for one crop season. It shall also be stated that these farmers have authorized the president or their representative to purchase and supply the fertilizer.

The concerned FPA Field Officer shall attest that the buyer is a legitimate agricultural cooperative and that the request for number of bags is sufficient for application in the members' farm for the cropping season.

b.3 It is emphasized that these damaged fertilizers are not subject to resale.

b.4 Upon confirmation of sale, withdrawal of stocks shall only be allowed under the supervision of the FPA Field Officer to ensure that bags are clearly marked "X" at the front-center and back center of the bag.

b.5 Damaged stock shall not be released unless properly marked and the buyer must secure a permit to transport from FPA Central Office if the quantity is 100 bags or more, or from the FPA Field Officer if the quantity is less than 100 bags.

b.6 A monthly report of transshipment permit issued shall be submitted by the FPA Provincial Officer to FPA Central Office and copy furnish the FPA Regional Officer.

b.7 A monthly report of damaged stocks disposal and schedule of withdrawal shall be submitted by the warehouse supervisor/in-charge to FPA Central Office and copy furnish the FPA Field Officer within (fifteen) 15 days after the month being reported.

b.8 The buyer-farmer-end-user/cooperative shall be required to submit photocopy/ies of the delivery receipt/s issued by the seller of damaged fertilizer and a liquidation report to FPA Central Office indicating the name and addresses of the end-users, grade and volume served and the transfer price if the acquisition is made through a cooperative. The Field Officer should also be copy furnished with these documents by the buyer. No subsequent transshipment permit shall be issued to buyers who have not fully liquidated their previous withdrawals for damaged fertilizers.

b.9 Sweepings/spillages of imported fertilizers bagged in the Philippines which may be and thereafter re-exported to other countries shall be issued the necessary permits by FPA upon application thereof. If these fertilizers are classified as damaged, guidelines in Sections 4.3.2 and 4.3.4 of this shall apply for the pricing, transshipment and disposition.

b.10 Bagging and rebagging of recovered good order fertilizers shall be under the direct supervision of the FPA Regional or Provincial Officer. These products can be sold and classified as regular stocks of fertilizer dealers.

5.3.4 Pricing of Good and Bad orders

The maximum price for recovered good order fertilizer shall be the same as the previous warehouse price for good order stocks provided it conforms with the standards. However, the maximum price for damaged fertilizers is reduced as follows depending on the extent of natural loss and moisture content based on laboratory analysis results:

5.3.4.1 Damaged fertilizer with nutrient loss of not more than 10% and moisture content of not more than 2%, based on laboratory analysis result shall have a maximum selling price of 70% of the previous warehouse price.

5.3.4.2 Damaged fertilizer with nutrient loss of more than 10% and/or moisture content of more than 2% based on laboratory analysis result shall have a maximum selling price of 50% of the previous warehouse price.

5.3.4.3 Pricing of damaged Solophos fertilizer shall depend on the nutrient loss and appearance. Moisture content as basis for pricing is excluded since this fertilizer has a tendency to become powder below 1% moisture content.

5.3.4.4 Damaged fertilizer shall not be subject for resale.

5.3.5 Authority to Issue Permit to Buy/Transship Damaged fertilizers

5.3.5.1 Damaged/bad order fertilizers shall not be released unless properly marked and the buyer shall secure a transshipment permit from FPA Central Office if the quantity is 100 bags or more or from the FPA Field Officer in case of smaller volume upon clearance from Central Office.

5.3.5.2 For the distribution of good order fertilizers, the sales invoices and/or delivery receipts issued by the seller company shall be used as basis in the issuance of permit to transport.

5.3.5.3 In cases wherein damaged fertilizers are to be withdrawn from a certain province and the buyer- end-user's farm is not within the provincial location of the seller's warehouse, the FPA Provincial Officer who has jurisdiction over the farm where the inputs are shall issue the transshipment permit. However, the issuing Officer must notify the FPA Provincial Officer who has jurisdiction of the area of withdrawal of such movement, for proper monitoring. Movement of damaged fertilizers from one region to another should be supervised by the FPA Regional Officers provided it has clearance from FPA Central Office.

5.3.5.4 Sellers shall be held liable for any sale/release of damaged fertilizers to any buyer who has not been issued the corresponding FPA authority/permit.

5.3.5.5 A maximum of 10 bags/50 kgs. of damaged fertilizers regardless of grade and of crop planted will be the basis for computation of per hectare allocation.

5.3.6 Revalidation of Permit

Issuance of permits for extension/revalidation maybe granted provided the following are submitted to FPA:

5.3.6.1 Letter request to the FPA Central Office for revalidation of the transshipment permit stating the cause for the delay of withdrawal and/or reasons for not having used the permit previously issued provided there is a clearance from the FPA Field Officer.

5.3.6.2 Certificate of availability of damaged fertilizer stocks issued by the warehouse supervisor/in charge or any responsible official of the seller and a certificate that no portion of the previous request was served. If partial withdrawal was made, the number of bags partially withdrawn should be reported to FPA Field Officer.

5.3.6.3 The original and duplicate copies (trucker and seller's copy) of the permit previously issued must be surrendered to FPA Central Office.

5.3.6.4 Permit to be issued is valid for 45 days only.

5.3.7 Fertilizer Packaging

The government agency mandated to develop and promulgate standards is the Bureau of Product Standards under the Department of Trade and Industry. Under the Philippine National Standards (PNS) 98:1993, the packaging of fertilizer materials are as follows:

a. Material

   Complex fertilizer weighing more than five (5) kilograms shall be packed in woven polypropylene sack that conforms to PNS 95 with polyethylene liner while those weighing five (5) kilograms or less shall be packed in polyethylene bags with a minimum thickness of 0.025 mm to afford maximum protection from normal hazard of transportation and handling.

b. Sizes

   Complex fertilizer shall be packed into 50 kg, 25 kg, 10 kg, 5 kg and 1 kg with a tolerance of ±0.4%.

5.4 LICENSE TO REPACK

5.4.1 Legal basis

Pursuant to the provisions under Section 9 of PD 1144, repacking of fertilizer is prohibited unless duly authorized in writing by FPA.

5.4.2 Definition of terms

Dealer-Repacker - refers to FPA-licensed dealers duly authorized to repack solid inorganic fertilizers except nitrates in smaller quantities of 1, 2 and 5 kg.

Repacker - refers to any fertilizer company duly authorized to repack fertilizers and other new grades except nitrates for distribution. Repacking of solid fertilizers is in 5, 10, 25 and 50 kg. For liquid fertilizers, repacking volume is in 25, 50, 70, 100 and 250 ml.

Supplier - refers to the source (whether distributor, manufacturer or importer) of fertilizer, which will be repacked in smaller quantities.

Traditional inorganic, solid fertilizer - any fertilizer product with properties determined predominantly by its mineral content or synthetic chemical compounds. It contains considerable amount of at least one of the essential plant nutrients such as nitrogen, phosphorus, potassium and secondary macronutrients or micronutrients.

5.4.3 Coverage

Covers only FPA-licensed dealers and distributors who are authorized to repack traditional solid, inorganic fertilizer generally sold in 50 kg bag.

5.4.4 Packaging Requirements for Dealer- Repacker

1. Fertilizer sold in 50 kg bags can be repacked by dealers into packages of one (1), two (2) and five (5) kg.

2. Materials to be used for repacking should be thick, transparent plastic bags durable enough for handling and transport. All repacked materials should be labeled and sealed properly.

3. The bag should be labeled with the following information printed on a piece of paper and inserted inside the bag or printed on the bag itself:
   - Name and complete address of repacker
   - Fertilizer grade
   - Date repacked
   - Net contents
   - Name of supplier
   - FPA license with Repack No.

Note: The label should be visible and legible at all times.

5.4.5 Packaging Requirements for Distributor- Repacker

1. The fertilizer can be repacked into 25, 50, 70, 100 and 250 g/mL using thick, transparent plastic bags/bottle durable for handling and transport. All repacked materials should be labeled and sealed properly.

2. All information contained in the label must be written in English and/or Filipino.

3. Label must have purple border band of $^{1}/_{8}$ inch for container smaller than 250 mL or 300 g net weight, and ¼ inch for bigger container up to 4 L or 5 kg.

4. For products packed in cardboard boxes or plastic bags weighing 1-5 kilograms, the product information and usage direction should be printed directly on the container with required border band.

5. For products sold in containers smaller than 50 mL, only the product information is required to be printed on the label. This should be printed in the space specified in the sample label. The usage direction should be printed in a separate leaflet or flyer.

5.4.6 Requirements for License to Repack

Refer to sections 4.4.7 and 4.4.10 for the list of requirements for Repacker and Dealer-Repacker respectively.

5.4.7 Validity of License

5.4.7.1 The license to repack shall be valid for three (3) years. The license, however, shall automatically end its effectivity upon the expiration of the dealership license, unless this is renewed.

5.4.7.2 Application for license to repack shall be filed with the office of the FPA field officer who will conduct inspection and ensure that weighing scales are available at repacking site and at the point of sale. The FPA field officer will then recommend to FPA head office the approval of the application.

5.4.8 Other Provisions

5.4.8.1 It is reiterated that sweepings, bad order or damaged fertilizer should not be repacked for resale.

5.4.8.2 Once a 50-kg fertilizer bag is opened, all the contents should be repacked immediately to prevent deterioration of its quality and adulteration. It is prohibited to keep a 50 kg bag open and repacked only as the need arises.

5.5 INCENTIVES

5.5.1 VAT exemption

Pursuant to the provisions of Revenue Regulations No. 7-95 - Consolidated Value- Added Tax in relation to the stipulations of Republic Act No. 7716 - Expanded Value-Added Tax Law.

"SALE OR IMPORTATION OF FERTILIZER X X X SHALL BE EXEMPTED FROM VALUE-ADDED TAX COVERAGE."

5.5.1.1. Requirements:

1. Importer must be licensed by FPA and the product being imported must be registered with FPA.
2. Duly accomplished and notarized Application Form with documentary stamp
3. Bill of Lading
4. Commercial Invoice
5. Packing List
6. Photocopy of Certificate of Product Registration (CPR)
7. Laboratory Analysis from a Third Party Laboratory taken from the country of origin prior to its shipment to the Philippines
8. License and Permit to import from PNP-FEO (for importation potassium nitrates and other nitrates)
9. Disposition report of previous importation (for importation of potassium nitrates only)

5.5.2 Duty Free Importation of Fertilizer under AFMA

FPA Memo Circular on duty free importation of farm inputs such as fertilizer is specified in "The Agriculture and Fisheries Modernization Act of 1997" in Annex 5.1.

5.6 PRODUCT QUALITY STANDARD AND ITS CONTROL

5.6.1. Legal Basis

Section 6, II-7 of P.D. 1144 mandates FPA, ***"To regulate and control the quality of the different grades of fertilizers and set new grades when necessary."***

5.6.2. Quality Standards

To strengthen the quality standards, the FPA uses as reference the Food and Agriculture Organization (FAO) and Fertilizer Control Order (FCO) specifications as the minimum standards for registration purposes, particularly for traditional fertilizer products. Annex 4.4 presents the *Schedule I – Specifications for Fertilizers* from Fertilizer Control Order of 1985.

The data on specifications especially for new fertilizer grades submitted by the registrant is validated by FPA Analytical Services Laboratory or other FPA-recognized laboratories. If the applicant-registrant has claims in the product that cannot be analyzed by the FPA Analytical Services Laboratory or by any of the FPA-recognized laboratories, the independent laboratory analysis from the country of origin duly authenticated by the Philippine Embassy, will be recognized and adopted by FPA.

5.6.2.1 Physical Qualities

Solid inorganic fertilizer - is in the form of powder, granules, pellets, prills or crystals, and is dry, free-flowing and free from lumps, visible impurities and extraneous matter. The moisture content is not more than 2.0% for both coated and uncoated.

Liquid fertilizer - the plant nutrients are in suspension, slurry or in solution form.

5.6.2.2 Chemical Qualities

The plant nutrient content of the fertilizer should conform with the guaranteed analysis specified on the product label. The guaranteed analyses of fertilizer nutrients are expressed in terms of:

- **Nitrogen** – as total N (%), Ammoniacal N (%), and % Nitrate N
- **Phosphorous** – as total P2O5 (%) and as available P2O5 (%) (i.e H2O soluble + citrate-soluble P2O5)
- **Potash** – as total K2O (%) and as % water soluble K_2O

a. Inorganic Fertilizers

- **Solid**

The permissible minimum tolerance of each of the guaranteed nutrient content should not be less than 98% of each of the major nutrients as indicated in the label.

- **Liquid**

A 10% aqueous solution of the fertilizer material should not have a pH of less than 5.0 but not more than 8.0.

5.6.2.3 Product Packaging

The Philippine National Standards (PNS) standard specifies the packaging of solid fertilizer in a 50 kg bag. FPA, however, in Memorandum Circular No. 93-04 dated June 9, 1993, authorized, through a licensing procedure, FPA- licensed dealers to repack fertilizer into one (1), two (2) and five (5) kg packs. Moreover, FPA agreed on the packaging of fertilizer, at the importer, manufacturer and distributor level in five (5), ten (10) twenty-five (25) and fifty (50) kg. bag provided the provision for the type of bag material and product labeling is followed. For liquid fertilizers, 25, 50 70, 100, and 250 ml repacking volumes are allowed.

5.6.2.4 Marking/Bag Label

The PNS/FPA standard markings on fertilizer bags shall include the following information:

- Name of material, brand name
- FPA product registration number
- Guaranteed composition of nutrient(s)
- Net mass in kilograms (kg)
- Business name
- Name and address of manufacturer, importer, repacker
- Country of origin and manufacturer, if imported
- For nitrate-based fertilizer - the warning “not recommended for crops under flooded or submerged soil conditions”

- Information on “optimum storage requirements” should be placed on the label in cases of organic fertilizer, soil conditioners and soil amendments

5.7 ENFORCEMENT OF QUALITY STANDARDS

5.7.1 Mandatory enforcement on imported fertilizer

Mandatory enforcement applies to major imported or locally produced fertilizers which are traditionally used for agricultural purposes in the Philippines, namely: urea, ammonium sulphate, 16-20-0, 14-14-14, muriate of potash, ammonium chloride and di-ammonium phosphate. The list of fertilizer under this category shall be expanded whenever deemed necessary (Table 3.2)

5.7.1.1 Importation of fertilizer as enumerated above under mandatory enforcement should be accompanied by a Certificate of Analysis done by any independent laboratory in the country of origin of the manufacturer.

5.7.1.2 Quality Control Inspection of imported fertilizer shall be done by FPA, on-the-spot basis, as follows:

a. FPA field personnel shall gather fertilizer samples at either one or all of the following places: (Sampling procedure in Annex 4.2)
   1. Vessel
   2. Bagging site
   3. At importers' warehouse. Importer shall be given prior notice and sampling shall be conducted in the presence of the importer or his authorized representative.
b. Samples shall be analyzed by FPA Analytical Laboratory or in any FPA recognized laboratories in Manila in accordance with the choice of the importer(s). Samples will be analyzed for nutrient content, moisture, particle size, and when applicable, biuret, ash and heavy metals, if needed.
   - The analysis fee shall be paid by the importer upon applying for VAT Exemption Certificate.
   - Analysis result shall be made available to the importer immediately upon release by the laboratory.

5.7.1.3 FPA shall also inspect bag weights accuracy and conformity of shipment to packages and marking requirements under PNS. Minimum requirements on markings may be waived by FPA provided importers inform FPA seven (7) days prior to arrival of shipment and shall provide justifications acceptable to FPA as such.

5.7.2 Mandatory enforcement on locally manufactured fertilizer (granulated, blended or compacted)

5.7.2.1 Local manufacturer of fertilizer grades enumerated under the mandatory enforcement clause is required to submit to FPA a Certificate of Analysis for each product formulation every quarter. The analysis shall include nutrient content, moisture, particle size, and when applicable, biuret, ash and heavy metals, if needed.

5.7.2.2 In addition, quality control inspection of locally manufactured fertilizer shall be done by FPA, on- the-spot basis, under the rules and procedures stated in the Mandatory Enforcement for Imported Fertilizer.

5.7.3 Selective enforcement on imported fertilizer

Selective enforcement shall apply to all locally produced and imported fertilizers not covered by mandatory enforcement.

Imported fertilizer not covered by mandatory enforcement is subject to quality control inspection by FPA on-the-spot basis. The same provisions and procedures under the mandatory enforcement for imported fertilizers shall be followed.

5.7.4 Selective enforcement on locally manufactured fertilizer

5.7.4.1 Locally manufactured fertilizer not covered by mandatory enforcement shall be subject to the FPA's quality control inspection on-the-spot basis.

5.7.4.2 Designated FPA field personnel shall gather fertilizer samples at either one or both of the following places: (Sampling procedure in Annex 4.2)

a. Port of discharge
b. Manufacturer's warehouse: The manufacturer shall be given prior notice if samples are to be taken. Sampling shall be done in the presence of the manufacturers or his authorized representative.

5.7.4.3 Samples shall be analyzed by FPA Analytical Laboratory or any of the following FPA recognized laboratories

5.7.4.4 FPA shall also inspect weight accuracy of locally manufactured fertilizer and conformity to packaging and marking requirements under the PNS. Minimum requirements on markings may be waived by FPA provided the manufacturer gives prior notice and acceptable justification to FPA.

5.7.4. Selective enforcement on fertilizer dealers and distributors

5.7.5.1 Imported and locally manufactured fertilizer being sold by dealers and distributors are subject to on-the-spot quality control inspection by FPA

5.7.5.2 Designated FPA field personnel shall gather fertilizer samples from dealers' and distributors' outlets and warehouses. (Sampling procedure in Annex 4.2)

5.7.5.3 Samples shall be analyzed as to product specifications and be checked for weight accuracy and conformity to packaging and marking requirements.

5.8 FERTILIZER QUALITY CONTROL MONITORING

5.8.1 Product Sampling

In the course of quality control inspection sorties, FPA field personnel are authorized to gather fertilizer samples (Sampling procedure in Annex 4.2) on an on-the-spot basis, for laboratory analysis. At the importer or manufacturer's level, prior notice shall be given by the FPA personnel to secure entry to the premises, if samples are to be taken. It shall be done in the presence of the importer, manufacturer or designated representative. One third of the

samples will be sealed by the FPA personnel and will be kept by the owner for future reference.

5.8.2 Testing/Laboratory Analysis

I. Product samples will be analyzed in laboratory for the following: nutrient content, moisture, particle size, and when applicable, biuret, ash content and heavy metals, if needed. The PNS designated this analysis as testing. The method of analysis follows the procedures prescribed by the PNS according to the Product Standards.

II. Analysis of the samples will be done at FPA Analytical Laboratory or in any of the FPA recognized laboratories chosen by the importer. Analysis fee will be shouldered by the importer/manufacturer.

III. If the analysis establishes that the nutrient content is below standard specifications, FPA shall declare the batch to be “off specification” or “bad order” fertilizer. In which case, it should be disposed directly to end-users at a discounted price. Bag markings should indicate that the contents are “off spec” or “bad order”. Also, an “**X**” marking at the front and back of the bag establishes that the contents are such.

CHAPTER VI
FERTILIZER INFORMATION AND STATISTICS

6.1 BASIC POLICIES

6.1.1 One of the broad powers that PD 1144 bestowed to FPA is the monitoring of fertilizer use, development of trade information and statistics, monitoring activities which include the continuous assessment of the fertilizer supply situation, both domestic and worldwide, collection of data on sales, inventory levels, prices, and the use of fertilizer at the farm level.

6.1.2 Stated on PD1144 Section is *to make a continuous assessment of the fertilizer supply and demand situation, both domestic and worldwide.*

6.2 STANDARDIZATION OF REPORTING SYSTEM

Data and information on fertilizer usage and trade are collected and analyzed for use by FPA in its planning and policy formulation and for dissemination to the concerned stakeholders.

The mechanics employed by FPA in collecting data from the different segments of the fertilizer sector is either one or combination of the following approaches:

6.2.1 All concerned handlers are required to submit data and standard format prepared by FPA. Data required are supply and demand reports and fertilizer sales and inventory reports. Reports should be submitted to FPA on or before the 15th day of the following month.

6.2.2 All fertilizer dealers are required to submit to their respective FPA field officer, every 7th of the month, reports on volume of sales, prices, and stock inventory by fertilizer grade.

6.3 GUIDELINES FOR FERTILIZER PRICE MONITORING

In view of harmonizing the procedure for monitoring the price of fertilizer throughout the Regional Field Units, the following guidelines are implemented/reiterated:

6.3.1 Monitoring of fertilizer price shall be done to at least six (6) major inorganic fertilizer grades namely; Urea (46-0-0), Ammonium Sulphate (21-0-0), Ammonium Phosphate (16-20-0), Complete (14-14-14), Muriate of Potash (0-0-60), and Di-Ammonium Phosphate (18-46-0)

6.3.2 Fertilizer price shall be obtained from ten (10) representative dealer establishments from each province

6.3.3 Monitoring shall be on a weekly basis and the average price of each fertilizer grade per province shall be submitted by the Regional Office to Field Operations Coordinating Unit (FOCU) every Wednesday using the Weekly Fertilizer Prices Monitoring Form (Annex 6.1)

CHAPTER VII
ACCREDITATION

7.1 ACCREDITATION OF FERTILIZER/PLANT NUTRITION RESEARCHERS

7.1.1 General information

FPA conducts trainings for fertilizer dealer/handler as pre-requisite to licensing and for accreditation of fertilizer/plant nutrition researchers. Researchers who perform research works on fertilizer and plant nutrition to generate biological efficacy or other related data for a product in support to FPA registration are required to attend a training workshop for accreditation.

The training workshop is designed to give researchers a deeper understanding of the nature and importance of bioefficacy test protocol, to update them on the latest/established experimental design and statistical analysis and develop their technical competence and personal confidence in interpreting research results and statistical data, and to enhance their scientific writing skills.

7.1.2 Guidelines for Accredited Fertilizer/Plant Nutrition Researchers

a. Accredited researchers should only conduct experiment on the discipline accredited for, which should be duly covered by an approved Experimental Use Permit.

b. Accredited researchers can/may conduct up to a total of five (5) experiments at a time. In cases where more than five (5) products or crop(s) trials are to be handled at one cropping season, he/she must seek prior approval from FPA.

c. Test results generated by accredited researchers employed by chemical companies will not be honored to support product registration. An independent accredited researcher must be contracted to conduct the product efficacy trial based on a Memorandum of Agreement.

d. Accredited researchers employed by any Government Research Institutions and/or State Colleges/Universities (SCUs) and whose conduct of research for the data generation for product registration purposes require the use of government facilities and time should have their research project(s) approved by the head of the concerned institution.

e. Research Terminal Reports by accredited researchers may be accompanied with a certification that the study followed Good Agricultural Practices

f. Accredited researchers are required to submit the report to the registrant within a month after the termination of the field test. Terminal report must be accompanied with endorsement from Regional/Provincial officer and submitted within a year from end of trial.

7.1.3 Requirements for Accreditation

7.1.3.1 Training and submission of approved protocol

a. There will be a standard module for fertilizer and pesticide researcher's training workshop. The module shall conform to the Food and Agriculture Organization

research protocols on fertilizer as well as review statistical design for experimentation and writing the research terminal report.

b. The duration of the training workshop is 2 days.

c. The workshop output includes presentation of test protocols for representative disciplines and crops written by the participants, as well as critiquing of the protocols.

d. The protocols shall be reviewed and approved by the fertilizer technical evaluators specified in the Special Order issued by the FPA. The approved protocol shall be submitted to the FPA.

e. At the end of the course, the concerned FPA Accredited Training Association (FATA) and its resource speakers shall be assessed by the training participants and FPA's Regional Officer. The results of the assessments and the percentage of passers are the factors in the evaluation of the FATA for the renewal of its accreditation with FPA.

7.1.3.2 Accreditation

The applicants must apply for accreditation on the discipline well supported by their academic specialization, trainings, published research or current research undertakings, and years of research experience to indicate competence.

In the case of in-house researchers where publication of researches are not allowed due to confidentiality, a certification stating the same shall be part of the requirements.

Expansion of accreditation for additional research discipline (i.e. plant nutrition plus pesticide) may be granted upon request provided that it is supported with authorship of one (1) publication in a refereed journal or two (2) publications in non-refereed journals or at least 5 years' research experience on the additional discipline being applied for. Presentation of research paper may be requested by the FPA.

7.1.3.3 Requirements

1. New Applicant

a. Accomplished application with 1 x 1 latest picture (white background);
b. Certificate of attendance to fertilizer and pesticide researchers' training conducted by the FPA Accredited Training Associations (FATA);
c. Latest resume with details on research undertakings;
d. Approved protocol; and
e. With at least 3 years' research experience on the discipline being applied for.

2. Renewal

a. Accomplished application with 1 x 1 latest picture (white background);
b. Certificate of attendance to at least one (1) symposium conducted by FATA; and
c. Latest resume with details on research undertakings.

3. Additional Research Discipline (New)

a. Accomplished application with 1 x 1 latest picture (white background);
b. Certificate of attendance to fertilizer and pesticide researchers' training conducted by the FPA Accredited Training Associations (FATA);
c. Latest resume with details on research undertakings; and
d. Approved protocol

7.1.4 Status of Accredited Researchers

The status of FPA accredited researchers could either be active or inactive. Active researchers are those who have attended the symposium and renewed their accreditation while inactive researchers are those who failed to renew their accreditation and therefore could not conduct research on efficacy trials for agrochemicals.

7.1.5 Validity and Fees

The applicable Certificate and Accreditation Card shall be issued after evaluation and compliance with the requirements.

The following are the accreditation fees:

First discipline	Php 1,200
Additional discipline (with separate ID)	Php 1,200
Additional discipline (without separate ID)	Php 400

The accreditation card is valid for two (2) years from the date of its issuance. Failure to renew the accreditation would automatically classify researcher to inactive status. No surcharges shall be imposed on late renewal.

7.2 ACCREDITED SAFETY DISPENSER (ASD) FOR FERTILIZER AND PESTICIDE

7.2.1 General information

In support to the national government's efforts to increase agricultural production, an Accredited Safety Dispenser (ASD) training program is being implemented. The objective is to educate the agricultural sector on the proper and efficient use of fertilizers and pesticides. The said training will enhance the skills of the agricultural dealer/retailer and likewise provide them with concrete information about product knowledge, input use, and storage and handling general shop management, demand forecasting. Furthermore, it will professionalize the agro-inputs trade and enable the retailers/dealers to become effective and efficient suppliers of the needed agricultural inputs to farmers.

This covers persons obtaining accreditation from the FPA as safety dispensers which are composed of:

a. proprietors or employees of licensed dealers;

b. Individual business operator (IBO) who do not have a permanent store/structure licensed by the FPA and is authorized to dispense registered fertilizer and/or pesticide products which are carried/owned by a licensed handler. Individual Business Operator (IBO) is a person in the networking or multi-level marketing scheme.

Once accredited, the person shall be called "Accredited Safety Dispenser (ASD)".

7.2.2 Responsibilities of ASD

1. The ASD shall advise buyers/end-users on the safe use, handling and storage of fertilizer and pesticide products at the store or during business operation, in the case of IBO;

2. The ASD is required to be personally present at the store during business hours;

3. The ASD shall keep records of sale and disposition of fertilizer/pesticide products and the same shall be available for inspection by FPA; and

4. The ASD shall ensure that only FPA-registered fertilizer and pesticide products are to be dispensed.

7.2.3 Guidelines in Accreditation

A. Training

1. The attendees should have the following qualifications:

    a. At least 18 years of age.
    b. At least high school graduate.

2. The duration of the training is two (2) days;

3. A 50-item pretest and posttest shall be administered to determine the progress of learning and the effectiveness of the training; and

4. Certificate of Attendance shall be issued to those individuals who completed the ASD Training Course.

B. Accreditation

1. Holders of Accredited Pesticide Dispenser (APD) and Accredited Professional Pesticide Adviser (APPA) cards are required to attend the ASD training course before an ASD card can be issued.

2. Requirements:

    2.1 New applicant

    i. Accomplished application with 1 x 1 latest picture (white background)
    ii. Certificate of attendance to ASD training

    2.2 Renewal

    i. Accomplished application with 1 x 1 latest picture (white background)

7.2.4 Validity and Fee

An ASD accreditation card shall be issued by the FPA after evaluation and compliance with the requirements.

The accreditation fee is P600 with a validity of three (3) years from the date of its issuance. No surcharges shall be imposed on the late renewal.

7.3 MANGO CONTRACTORS TRAINING

7.3.1 General information

Training is required for mango contractors, growers and spray crews in their acquisition and use of potassium nitrate and other nitrates as mango flower inducer.

The training is designed to train these handlers on the correct use of potassium nitrate as mango flower inducer and also to develop their awareness on the safe and judicious use of fertilizers and pesticides.

7.4 LABORATORY RECOGNITION PROGRAM

The FPA Laboratory Recognition Program is being established to support the agency's monitoring and regulatory activities on testing of fertilizer and pesticide formulations and residues both in agriculture and the environment mainly in remote areas and locations where shipment of samples to be submitted for analysis to Laboratory Services Division (LSD) is not possible, thereby, enhancing the quality and safety of local and imported agricultural inputs and products while ensuring the protection of the environment.

This recognition program will also cover laboratories that can provide analytical services to stakeholders that cannot be accommodated by FPA laboratory but necessary for agency's regulatory decision making.

A. DEFINITION/ SCOPE OF QUALITY

1. FPA Laboratory Recognition

FPA Laboratory Recognition is an official issuance acknowledging the technical competency of a laboratory to perform analytical testing of fertilizer and pesticide formulations and residues.

2. FPA Recognized Laboratories

FPA Recognized Laboratories refers to all competent laboratories in the Philippines that are approved by FPA to conduct fertilizer and pesticide analysis in support of the implementation of FPA Rules and Regulations. An FPA Laboratory Recognition Certificate shall be issued to the laboratories only if they comply with the FPA Laboratory Recognition requirements.

3. Scope of Laboratory Recognition

The Laboratory Recognition Program shall cover all participating laboratories that have the technical competence or capability to carry out specific analytical tests in fertilizers, pesticides and/or other agricultural chemicals. Moreover, LSD shall be the principal authorized laboratory to conduct analyses on all fertilizer, pesticides and other agricultural chemicals. All requests for laboratory analysis of fertilizers, pesticides and other agricultural chemicals from Fertilizer Regulations Division (FRD), Pesticide Regulations Division (PRD) and Regional Field Units (RFUs) shall be submitted to and coordinated with LSD. FPA shall only tap the services of FPA recognized laboratories only when:

a. there are transportation issues; or
b. if LSD, for some valid technical reason, has determined that it cannot perform the analysis or can no longer accommodate the request for analysis.

Only specific tests on fertilizers, pesticides and other agricultural chemicals within the scope of the Laboratory Recognition for which the participating laboratory has been approved and recognized by FPA shall be considered as valid.

4. Types of Recognition Granted

a. Full recognition will be granted to the applicant laboratory that has satisfactorily completed all the requirements specified in this Guidelines. An FPA Laboratory Recognition Certificate will be issued to the qualified laboratory.

b. In case of emergency, as will be determined by FPA, a special recognition will be granted to a laboratory that can perform the required analysis.

5. Duration

The FPA Laboratory Recognition Certificate shall be effective for three (3) years from the date of issuance unless earlier revoked/ cancelled.

B. REQUIREMENTS FOR LABORATORY RECOGNITION

1. Documentary requirements

Applicant laboratory shall provide to the FPA the following documents:

a. Application Documents

i. Letter of Intent
ii. Duly accomplished and notarized FPA prescribed application form

c. Legal Documents

i. Registration certificate from SEC for corporations or Department of Trade and Industry (DTI) for sole proprietorship
ii. Mayor's/Business permit issued by the city or municipality where the laboratory is located, or the equivalent document for Exclusive Economic Zones or Areas
iii. Tax clearance per E.O. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR)

d. Technical Documents

i. Organizational and functional chart of the laboratory including its position in its parent organization, if any, and job descriptions of its technical and support personnel
ii. Accreditation/Recognition record of the laboratory (if any)
iii. Laboratory test report forms

iv. List of reference literatures available in the laboratory
v. Equipment calibration and maintenance program of the laboratory
vi. Quality assurance program of the laboratory
vii. Track record of the laboratory
viii. Validation report of test methods
ix. Results of proficiency testing participated, or intra-laboratory exercise(s) conducted
x. Floor plan of the laboratory and related facilities (scale=1:100)

2. Track Record of the Applicant Laboratory

Applicant laboratory shall be in operation for at least two (2) years and shall have analyzed a minimum of three hundred (300) fertilizer and/or pesticide samples.

3. Manpower Requirement

a. The Laboratory Head of the fertilizer and/or pesticide laboratory shall be a registered chemist holding a valid Professional Identification Card (PIC) issued by the Professional Regulatory Commission (PRC) and has at least five (5) years' experience in laboratory analysis and management;

b. The laboratory shall have a minimum of one (1) registered chemist, having the necessary education, training, technical knowledge and experience to carry out the assigned function in the generation of test results. The said chemist shall have at least one (1) year experience in performing various fertilizer and/ or pesticide analyses;

c. The number of laboratory personnel shall be proportionate to the number of analysis and samples performed by the laboratory. In case the laboratory has chemical technician, the same shall have a valid PIC and must be supervised by a registered chemist.

4. Physical Layout

a. The laboratory shall be housed in a permanent building constructed of strong materials.

b. The laboratory shall have adequate running water supply and regular electric power supply and provisions for emergency power source.

c. Workrooms shall be well ventilated with adequate provisions for either natural or artificial lightning.

d. The working space shall correlate with the volume and type of analysis to be undertaken, including provisions for periods of peak workload.

e. The laboratory shall include sufficient bench top area for processing samples, storage space for chemicals, glassware, portable and fixed equipment, and an adequate appropriate area for cleaning glassware and sterilizing materials

f. The laboratory shall ensure separation to incompatible laboratory activities (e.g. pesticide formulation area should be separated from pesticide residue area)

g. The laboratory shall have provisions for safety in the laboratory work area and its personnel by having emergency exits and egress, emergency eye wash, shower, medical kit, fire extinguishers, fume hoods and personal protective equipment (PPE).

5. Equipment and Apparatus

a. The laboratory shall be equipped with laboratory instrument, apparatus and other equipment required for the conduct of testing which include sampling, physical testing, sample preparation, extraction, clean-up, assay determination, processing and analysis of test data and storage as specified in their documented sampling and test procedure(s).

b. The laboratory shall ensure that all analytical instrument, equipment and apparatus used in the analysis of fertilizer and pesticide samples are calibrated and maintained. Maintenance and calibration records of these equipment shall be kept and updated and must be available upon request of the FPA.

6. Test Methods

a. The laboratory shall use only the test methods authorized by FPA which include but not limited to:

   i. The test methods prescribed and authorized by Codex Committee on Pesticide Residues (CCPR);
   ii. Standard procedures and methods (e.g. AOAC, US EPA and FDA, ASTM, CIPAC or FAO); and
   iii. In-house developed test methods or modified from standard methods for analysis of proprietary products provided these are properly documented and validated. Validation shall be done using analytical standards, through inter-laboratory calibration, or parallel runs with standard methods.

b. All test methods shall be properly documented.

7. Quality Control

a. The laboratory shall perform the adequate quality control for each batch of analysis which shall include:

   i. replicate test samples;
   ii. replicate spike control samples;
   iii. method blanks; and
   iv. use of quality control chart for the analysis to evaluate the validity of the test results.

b. The laboratory shall satisfy the quality objectives for each test method set by FPA to suit the purpose for which the analysis is done.

c. The laboratory shall have a program to periodically validate the performance of the test methods.

8. Laboratory Procedures

a. The laboratory shall have documented standard operational procedures (SOP) and work instructions for the receipt of the samples, turnover of results, assignment of analysis, analyst reporting, checking of results, preparation of the laboratory test report, storage and filing of requests for analysis test reports, disposal of test solutions and samples. The SOPs shall include the pertinent forms used in the different processes involved. The SOPs shall also insure traceability of samples.

b. The laboratory shall have documented procedure in addressing clients' complaints on test reports.

C. PROCEDURE IN THE RECOGNITION PROCESS

1. Submission of Documentary Requirements

The applicant laboratory must submit all the documentary requirements listed in Section 4.1 and payment of FPA Laboratory Recognition fee.

2. Preliminary Assessment of the Laboratory

The FPA Laboratory Recognition Committee (FLRC) shall make preliminary assessment of the completeness of the documentary requirements. If complete, FLRC shall advise the applicant laboratory to submit one (1) hard copy and an electronic copy of the complete documentary requirements and pay the FPA approved laboratory recognition fee.

3. Laboratory Assessment

Upon the receipt of complete documentary requirements, FLRC Secretariat shall schedule the visits of FLRC to the laboratory for assessment. Each member of FLRC present as assessors shall be provided with the documentary requirements at least 1 week before the scheduled visit.

During the assessment visit, the FLRC assessors shall validate the data and information contained in the documentary requirements and evaluates the laboratory's compliance with FPA laboratory recognition guidelines.

4. Consolidation and Review of Data and Information

The FLRC Secretariat shall consolidate and make a summary of the Laboratory Assessment Reports by the FLRC assessors. Based on the reports and data or information available, the FLRC shall recommend to the FPA Executive Director the issuance/non-issuance of the FPA Laboratory Recognition Certificate to the applicant laboratory.

5. Re-assessment of Laboratory

a. If FLRC found the applicant laboratory not complying with the requirement(s) for recognition, the FLRC shall:

   i. Immediately inform the management of the applicant laboratory of its non-compliance(s) Make recommendations on how to correct the laboratory's non-compliance(s).

   ii. Provide the Executive Director and the applicant laboratory with the Non-compliance Report that they prepared in accordance with the format prescribed by FPA.

b. The FPA shall require the applicant laboratory to correct its non- compliance(s).

c. Request for reassessment shall be entertained when the applicant laboratory provided the FLRC with a letter stating that they have already corrected their non-compliance(s) accompanied by supporting documents, if applicable, and paid the reassessment fee amounting to ten thousand pesos (P10,000).

6. Granting of Recognition

a. The FPA Laboratory Recognition Certificate shall be issued, signed and approved by the FPA Executive Director after the laboratory has been validated to comply with the appropriate requirements set by FPA.

   The Certificate shall, among others, contain the following information: name and address of the recognized laboratory, recognition number, recognition status, names of the authorized signatories, effectivity of recognition, and signature of the Chair of FLRC and FPA Executive Director.

b. Scope of Recognition shall also be issued accompanying the FPA Laboratory Recognition Certificate listing those tests/analysis that FPA considers the recognized laboratory can perform effectively.

c. The FPA Laboratory Recognition Certificate shall not be transferable.

7. Extension of the Scope of Recognition

The FPA Recognized Laboratory requesting for the extension of its Scope of Recognition shall submit the prescribed FPA application form supported with the necessary data/information and pay the laboratory accreditation fee of ten thousand pesos (P10,000.00). This application shall undergo the same procedure as the application for laboratory recognition.

Upon the approval of the request for extension, the revised Scope of Recognition shall be issued to the Recognized Laboratory.

8. Directory of FPA Recognized Laboratories

All recognized laboratories shall be listed in a directory of official fertilizer and/or pesticide laboratories or another suitable publication or records maintained by Secretariat.

9. Monitoring and Surveillance of Recognized Laboratory

FPA shall institute monitoring mechanisms within the period of effectivity of Recognition to ensure that the recognized laboratories continuously comply with the requirements. The FLRC shall conduct periodic monitoring and surveillance of the Recognized laboratory. This includes but limited to the following:

a. Scheduled/unscheduled laboratory inspection; and
b. Provision of quality control/inter-comparison samples for analysis by the Recognized laboratory.

D. RESPONSIBILITIES OF THE RECOGNIZED LABORATORY

1. Compliance to Laboratory Recognition Requirements

a. The Recognized Laboratory shall continuously comply with the appropriate requirements in the FPA Guidelines and other requirements that may be specified by FPA.

b. The Recognized Laboratory shall pursue to comply or align with requirements of ISO 17025 “General Requirements for the Competence of Testing and Calibration Laboratories” and the “Guidelines on Good Laboratory Practice (GLP) in Pesticide Residue Analysis” set by Codex Alimentarius Commission.

2. Cooperation of Recognized Laboratory

a. The Recognized laboratory shall cooperate with the FLRC for the Laboratory Recognition Program to enable the latter to perform their duties conveniently during assessment and surveillance visits.

b. The Recognized Laboratory shall:
    i. Allow access of FPA assessors to the following: premises, records and analysis;
    ii. Conduct tests required by the FPA; and
    iii. Allow FPA assessors to interview the laboratory staff.

3. Proficiency Testing (PT)

a. The laboratory shall participate in inter-laboratory proficiency tests at least two (2) for residue and at least three (3) for formulation per year as part of the surveillance in the performance of the recognized laboratory.
b. Results of inter-laboratory exercises shall be submitted to FPA before it can renew its laboratory recognition. (Check guidelines of Philippine Accreditation Bureau (PAB) on PT)

4. Payment of Fees

The applicant laboratory shall pay the laboratory recognition fee amounting to ten thousand pesos (P10,000.00) for new application, renewal, reassessment or extension of the scope of recognition.

5. Notification of Change

The Recognized Laboratory shall inform immediately the FLRC Secretariat (and in no case shall this be beyond one week) of significant changes in the laboratory that would affect the quality of its test results or compliance with laboratory recognition requirements. FPA may conduct reassessment, suspend, or withdraw recognition depending on the severity of effect of changes on quality of test results.

Significant changes that should be reported immediately include the following:

a. the Recognized Laboratory's technical staff, equipment, facilities, or laboratory location;
b. the Recognized Laboratory's organization, policies and procedures; and
c. the Recognized laboratory's authorized signatories.

6. Reference to FPA Laboratory Recognition

a. The Recognized Laboratory may cite in communication media such as brochures or any other advertising material its recognition by FPA. However, such reference shall be done only during the validity of recognition and shall claim recognition to specific scope of tests for which it has been recognized.

b. The Recognized Laboratory shall not use the FPA Laboratory Recognition Certificate in such a manner as to bring FPA into disrepute and shall not make any statement relevant to its recognition that FPA may reasonably consider to be misleading.

c. The Recognized Laboratory, in making reference to its recognition status, shall use the following phrase as appropriate: "FPA Recognized Laboratory for specific tests and identified by FPA Recognition Number(s)….".

7. Cooperation with FPA

a. The Recognized Laboratory shall perform tests (for fee) requested by FPA with respect to test data for registration or confirmation of test data submitted for registration and shall give priority to these tests.

b. The Recognized Laboratory shall participate in at least one (1) program of FPA on monitoring of fertilizer and pesticide formulations and residues under mutually agreed conditions (compensations, due dates, etc.).

c. The Recognized Laboratory shall participate in inter-laboratory tests programs run by FPA in its studies on sample handling, test procedures or other areas concerning fertilizer and pesticide residues or formulations.

E. MISCELLANEOUS REQUIREMENTS

1. Suspension, revocation of laboratory recognition certificate and reduction in the scope of recognition

a. FPA may suspend or revoke the FPA Laboratory Recognition Certificate, reduce the scope of recognition, or require re-assessment, in the following grounds:

   i. Changes in personnel, equipment, or scope of activity of a recognized laboratory that will render the laboratory to be non-compliant;
   ii. Non-submission/delay in the submission of annual reports;
   iii. Violation of the terms and conditions for the recognition;
   iv. Failure to provide reasonable cooperation to FPA and its assessment team; and
   v. Deliberate falsification of documents and test results.

b. Should there be ground for suspension or revocation, the FPA shall issue a notice to the recognized laboratory requiring it to submit an explanation letter, within fifteen (15) calendar days from receipt, to show cause why the FPA Laboratory Recognition Certificate should not be suspended or revoked.
c. Upon receipt of the response of the show cause letter, the same shall be referred to the FLRC who shall evaluate and recommend to the FPA Executive Director the corresponding action.

2. Renewal

Application for renewal shall be filed at least three (3) months before the expiration of Certificate.

3. Handling of Complaints

a. FLRC shall act immediately on a complaint.
b. All complaints shall be recorded. The record shall include the name of complainant, nature of complaint, action taken, and the person who took charge of the complaint.
c. Complaints that are not resolved immediately shall be put in writing by the complainant. The letter of complaint shall be addressed to the FPA Executive Director. FLRC shall study or investigate and resolve the complaints. The complainant shall be provided with the resolution on their complaint(s).

4. Confidentiality

All information gained by FPA and its authorized agents in processing, granting, maintenance and renewal of laboratory recognition will be treated as confidential between FPA and the laboratory. Such information will be handled on a strict “need to know” basis and will not be divulged without written instructions from the FPA. The FLRC shall be made aware of and

abide to this requirement of confidentiality. Moreover, the Recognized laboratory shall sign a contract or memorandum of agreement with FPA assuring that all laboratory information such as data and test reports shall not be disclosed or released to others without consent and approval from FPA.

CHAPTER VIII
PENAL PROVISIONS AND ENFORCEMENT ACTION

8.1 PENAL PROVISIONS

8.1.1 Administrative sanctions

Administrative sanction shall be imposed for violation of any of the provisions of P.D. 1144 and its implementing rules and regulations.

Penalties

1. Suspension, revocation and cancellation of any license, authority or registration issued by FPA
2. Closure of the establishment
3. Issuance of Stop Sale, Use, Move and Hold Order
4. Confiscation/seizure of products and/or effects as subject of the offense
5. Reprimand explanation and warning
6. Administrative fine of not less than P5,000 but not more than P20,000

Administrative sanctions shall be imposed by FPA against all persons or entities who shall violate or refuse to abide by the provisions of the pertinent directive on fertilizer product registration or those who violate or shall refuse to abide by the provision of the circulars.

a. Explanation and warning

Offenders, especially those who committed first offense, are either allowed to present themselves and explain the circumstances of the violation committed. Mostly, these first offenders are warned. Subsequent commission of violating, however, shall be dealt with sternly.

b. Cancellation of registration

c. Grounds for revocation of license

c.1. Gravity of the offense committed

c.2. Repeated commission of the offense/ violation

c.3. Continued defiance or refusal to cooperate with FPA in the implementation of its rules such as refusal to allow entry to premises during investigation or routine inspection.

d. Guidelines for suspension of license

Relative to the suspension of FPA license of handlers who violate rules and stipulations under the FPA Stop Sale, Use, Move and Hold Order, the following are the guidelines in implementing the suspension order:

d.1 Copy of the suspension letter to be served personally by the FPA Regional or Provincial Officer concerned. It should be received by the owner or the designated representative of the establishment or whoever is manning the store.

d.2 In case of the refusal to receive suspension order, FPA Officers should seek the assistance of the local officials or law enforcement officers to witness the serving of the suspension letter.

d.3 Conduct thorough inventory and pack the fertilizer stock in question and have the listing signed by FPA Officer and the owner/ store's representative.

d.4 Inform the store owner/representative that violation of the suspension order may lead to revocation of license.

d.5 Inform the respective supplier of the suspension.

d.6 Install notice of suspension prominently.

d.7 Check the activities of the suspended store to ensure that no fertilizer business takes place within the period of suspension.

d.8 Notice of lifting of suspension should be served within a week before the end of the suspension order.

e. Denial of request for renewal of license

f. Denial of request for VAT Exemption certificate for fertilizer import

Such denial is among the administrative sanctions that FPA may impose against those who violate FPA rules.

g. Cancellation/recall of VAT Exemption Certificate if already issued.

8.1.2 Criminal Action

Based on the gravity of the offense that include, but is not limited to, selling of fake, adulterated or unregistered fertilizer products and smuggling of fertilizer, criminal action may be instituted against violators of any of the provisions of P.D. 1144 and its implementing rules and regulations. The usual procedures for prosecution under special laws shall be observed and the litigation shall be conducted by appropriate court.

Penalties

1. Imprisonment of not less than fifteen (15) years and one (1) day or more than twenty (20) years if the amount involved is more than P50, 000.
2. Imprisonment of not less than 10 years and 1 day or more than 15 years if the amount involved is P10,000 or less as well as a fine ranging from the amount equal to the value involved to 3 times of the value but not less than P5,000 nor more than P20,000.

3. A fine of P5,000 but not more than P10,000 for other violation where the amount involved cannot be determined, provided, that the falsification of public or commercial document is committed by reasons or on the occasion of committing any act punishable herein, the offender shall be imposed the maximum fine and term of imprisonment as prescribed above. Criminal prosecution shall be without prejudice to administrative sanctions which the FPA may impose. If the violation is committed by a corporation, firm, partnership, cooperative, association or any other entity, the penalty shall be imposed upon the guilty officials or officers of such corporation, firm, partnership, association or entity.

8.2 ENFORCEMENT ACTION

8.2.1 Stop Sale, Stop Use, Stop Move and Hold Order

Stop Sale, Use, Move and Hold Order is issued to cover fertilizer inventories that are confirmed, through inspection and investigation, to be either fake, adulterated, unregistered or underweight or when a fertilizer product is being offered for sale or use in violation of FPA rules. The owner or custodian shall be ordered to hold the subject stock at a designated location after proper accounting, marking and acknowledgement by the owner or authorized representative. The order shall remain in force until the law or pertinent provision violated shall have been complied with or until the said violation shall have been resolved or dispensed with by the proper authority.

8.2.2 Inspection of establishment or location where fertilizers are stored

Officers and employees duly designated by the FPA Executive Director are authorized to enter at any given time, any establishment or location where fertilizers are being stored for distribution and sale, for the purpose of inspection and obtaining samples for laboratory analysis and specimen of containers or labels of subject products.

Before such inspection, FPA representative(s) must present appropriate credentials to the owner, operator or any other agent in charge of the establishment or any other place where fertilizers are being distributed or sold. If the FPA representative(s) obtains any sample, he should give to the store owner, operator or person in-charge, a receipt describing the sample obtained before leaving the premises and if requested, a portion of each sample equal in volume and weight to the portion left. Once the samples are analyzed, the store owner, operator or person in-charge must be promptly furnished with the result of analysis.

8.2.3 Submission of Reports

Any person or handler who sells or offers for sale, delivers or offers to deliver, any fertilizer or related product/s subject to P.D. 1144, shall upon request of any FPA representative, duly designated by the Executive Director, to furnish the following reports:

a. Importation
b. Production Sales Report
c. Sales/Prices
d. Export
e. Disposition Report (for importers of nitrates for agricultural usage)

Failure to submit the said data will deter the issuance of license for renewal.

8.2.4 Quality Standards

8.2.4.1 Imported and locally manufactured fertilizer

Fertilizer imports should be accompanied by a Certificate of Analysis from the manufacturer while local producers are required to submit to FPA, a Certificate of Analysis for each fertilizer formulation every year, if possible. The analysis should include nutrient content, moisture, particle size and when applicable, biuret and ash.

Quality control inspection and product sampling shall be conducted by FPA on-the- spot at any place or location. Samples taken will be analyzed only at FPA recognized and accredited laboratories. Analysis fee shall be charged to the importer/manufacturer to be paid during application for VAT Exemption Certificate issued by FPA. Importer/manufacturer shall be provided a copy of the laboratory analysis result immediately.

FPA shall also inspect the bag weight accuracy and conformity with packaging and marking requirements under FPA and the PNS. However, minimum requirements on bag markings may be waived provided, importers inform FPA seven (7) days prior to arrival of shipment and that there is a justifiable reason acceptable to FPA.

8.2.4.2 Fertilizer distributors and dealers

Imported and locally manufactured fertilizers that are being sold by distributors and dealers are subject to an on-the-spot quality control inspection and random weighing by designated FPA personnel.

The designated FPA personnel or field officers shall gather fertilizer samples for laboratory analysis. Samples will be analyzed as to product specification and conformity to packaging and marking requirements.

8.2.4.3 Provisions governing restricted fertilizer products

a. Inspection report of FPA Field Officer is submitted to FPA Central Office for the issuance of a license as a mango contractor after other requirements are met. The mango contractors' License shall be effective for 1 year and renewable every year thereafter.

b. Mango contractors without FPA and PNP-FEO license to distribute potassium nitrate and other nitrates are prohibited from selling or distributing such commodities.

c. All movements of potassium nitrate and other nitrates, which are covered under RA 9516 shall be under the supervision of PNP-FEO.

d. All growers, mango contractors without FPA license as "mango contractor" are not allowed to use potassium nitrate and other nitrates. However, they can use formulated flower inducer.

e. Potassium nitrate and other nitrates have to be registered with FPA if used in crops other than mango.

Aside from penalties imposed by PNP-FEO for violators of provision under RA 9516, FPA may impose sanctions against violators of this guideline which include, but are not limited to, the issuance by FPA of a Stop Sale, Stop Use, Stop Move Hold Order or the suspension or revocation of business license and imposition of such other sanctions that FPA is empowered under its charter, after due notice and hearing.

8.3 SPECIAL COMMITTEE TO INVESTIGATE MALPRACTICES IN THE FERTILIZER INDUSTRY – FPA MEMORANDUM NO. 92-01

On April 10, 1991, the Department of Agriculture and the Fertilizer Industry Association of the Philippines (FIAP) forged an agreement reiterating mutual cooperation in the implementation of fertilizer laws. One of the prominent features of the agreement is a provision recognizing the problem of under weighing of fertilizer and other unethical and unfair practices which are committed by some members of the fertilizer industry. In the same agreement, the parties made a mutual commitment to stop these malpractices. It is pursuant to this agreement that a Special Committee is created to implement the provisions of the said Memorandum of Agreement.

8.3.1 Legal basis

Sec. 6, Par. 3 of P.D. 1144 states:

> *FPA shall have jurisdiction over existing handlers of pesticides, fertilizers, and other agricultural chemical inputs. The FPA shall have the following powers and functions:*
>
> *x x x x x*
>
> *"3. to call upon any department, bureau, office, agency or instrumentality of the government including government- owned or controlled corporation or any officer or employee thereof and on the private sector for such information or assistance as it may need in the exercise of its powers and in the performance of its functions and duties."*

8.3.2 Jurisdiction and Scope of Responsibilities of Special Committee

a. Oversees the investigation of reported violations, malpractices, unethical and unfair trade practices on the fertilizer industry. These violations and malpractices shall include, but are not limited to underweighting of fertilizer, adulteration, selling of bad order or good order fertilizer and such other schemes and activities that are inimical and disadvantageous to the farmers.

b. Recommends measures to prevent the occurrence of these violations and malpractices.

c. Recommends sanctions to be imposed on erring parties. It is, however, understood that the powers and prerogatives vested on the Special Committee, by virtue of this Memorandum Circular, shall not in any way diminish the power of FPA. It can still act on its own if circumstances warrant.

8.3.3 Procedure of Investigation

a. The memorandum of the Special Committee shall immediately designate the members of the investigation team to investigate, report, verbal or otherwise, a particular violation.

b. If in the process of the investigation, a person or entity is caught in illicit activities involving fertilizer – underweight, adulterated and the like, he shall be presumed to have committed a violation unless proven otherwise.

c. A distributor or dealer caught in illicit activities involving fertilizer shall be presumed to have committed a violation unless he can show documentary evidence proving that the supplier committed the violation. In this case, the supplier should replace the fertilizer immediately.

d. The investigation team shall immediately report the result of the investigation to the Special Committee which in turn, will submit its recommendation to the FPA and FIAP.

e. The FPA and FIAP shall immediately act on the recommendation of the Special Committee.

GLOSSARY OF TERMS

Actual Production Process - a brief description with schematic diagram of the production process indicating the percentage of raw materials used.

Area Distributor – refers to a fertilizer establishment who can sell fertilizer products to dealers and outlets but with specific area of coverage within the political boundary of its island group, namely Luzon, Visayas, or Mindanao. Area distributor need not to register their own fertilizer products.

Beneficial nutrients – are mineral elements which either stimulate growth but are not essential or which are essential only for certain plant species under given conditions (Marschner, 1985). They include sodium, silicon, cobalt, nickel, selenium, aluminum, and others like iodine and vanadium.

Biopolymers – are polymers that occur in nature. Examples are high molecular weight carbohydrates and proteins.

Biostimulants – any substance or microorganism that when applied to plants or soil, it stimulates and enhances physiological processes, nutrient efficiency, abiotic stress tolerance and/or crop quality traits regardless of its nutrient content. Biostimulants can be categorized into: humic substances, protein hydrolysates, seaweed extracts, chitosan and other biopolymers, inorganic compounds and microbial inoculants.

Brand - a term, design or trademark used in connection with one or more grades of fertilizer.

Brand name - a term, name or trademark with logo which may or may not be Intellectual Patent Office (IPO)-registered and used in connection with one or more grades of fertilizer. FPA reserves the right to approve and disapprove product brand name based on the list of products registered with FPA.

Bulk-Blended Fertilizer - customized mix or blended fertilizer obtained by physically mixing various grades of finished fertilizers suitable to the specific needs of the farmer based on his soil analysis with previous arrangement as approved by FPA.

Bulk Blender – any person engaged in fertilizer operations through the mechanical mixing of two or more granular fertilizer materials to produce mixtures containing nitrogen (N), phosphorus (P), potassium (K) and other essential plant nutrients for a customized fertilizer

Bulk Fertilizer - non-packaged inorganic fertilizer

Bulk Handler - any person/entity engaged in handling the fertilizer either in bulk or in bags which include bagging and hauling from the port to the warehouse.

Certificate of Product Registration – written approval indicating the company name, brand name, guaranteed analysis, manufacturer, country of origin, registration number and validity granted to registered products.

Chitosan - are deacetylated forms of chitin, a naturally occurring component of fungal cell walls, nematode eggshells, and the exoskeleton of insects and crustaceans. (Albrecht, 2019)

Compost – any product in solid or liquid form, of plant (except by-products from petroleum industries) or animal origin, that has undergone substantial decomposition that can supply available nutrients to plants with a total Nitrogen (N), Phosphorus (P_2O_5) and Potassium (K_2O) of 2.5 or less than five percent (2.5-5%). This may be enriched by microbial inoculants and

naturally occurring minerals, but no chemical or inorganic fertilizer material has been used in the production or added to the finished product to affect the nutrient content. Compost and soil conditioner are used interchangeably in this standard.

Controlled Release Fertilizer - is a fertilizer which provides nutrients slowly throughout the growing season or longer. Most slow release fertilizers are condensation products of urea and aldehydes and coated traditional fertilizers with sulfur, polymers, nitrification inhibitors, etc.

Damaged/Bad Order Fertilizers - are fertilizers which do not conform to the standard requirements for good order fertilizer. This includes sweepings, water damaged, fertilizer contaminated by inert substances but still retain their fertilizing qualities.

Dealer – any person who sells fertilizers directly to farmers or end-users.

Dealer-Repacker - refers to FPA-licensed dealers duly authorized to repack solid inorganic fertilizers except nitrates in smaller quantities of 1, 2 and 5 kg.

Repacker - refers to any fertilizer company duly authorized to repack fertilizers and other new grades except nitrates for distribution. Repacking of solid fertilizers is in 5, 10, 25 and 50 kg. For liquid fertilizers, repacking volume is in 25, 50, 70, 100 and 250 ml.

Decomposers – are biologically active products containing microorganisms, fungi, and earthworms that hasten the decomposition of plant and animal residues into organic fertilizer, compost or soil conditioner.

Disposition of Damaged Stocks - distribution of fertilizer through sale, bid awards, donations, and all other legitimate acts to do away with damaged stocks.

Distributor - any person or entity who sells fertilizer products to dealers, other distributors and outlets nationwide. It includes fertilizer companies that carry their own brand names and affix their company names in the label

Distributor-Repacker - refers to FPA-licensed distributor duly authorized to engage in repacking of traditional, solid, inorganic fertilizer and liquid as foliar fertilizer materials in smaller quantities.

Exporter - any person/entity who sells fertilizers to other countries.

Experimental Use Permit- shall be applied for and approved before any bioefficacy field test is conducted by accredited researcher following treatments and protocols set by FPA to generate the data required for registration.

Fertilizer - any substance, solid or liquid, inorganic or organic, natural or synthetic, single or a combination of materials that is applied to the soil or on the plant to provide one or more of the essential nutrients to improve plant nutrition, growth, yield or quality, or for promoting a chemical change that enhances plant nutrition and growth.

Fertilizer Handlers - refer to exporter, importer, area distributor, distributor, manufacturer, formulator, processor, bulk-blender, bulk handler, formulator, repacker, indentor, bulk-handler, dealer and dealer- repacker of fertilizer inputs.

Foliar Fertilizer - fertilizer nutrients soluble in water which may be applied directly to the aerial portion of plants. When problems of soil fixation of nutrients exist, foliar application constitutes the most effective means of fertilizer placement. The most important use of foliar sprays has been in the application of micronutrients.

Formulated Flower Inducer – FPA-registered product, in solid or liquid form, nitrate or ethylene/ethephon-based, that has been diluted with water and/or other substances which are not harmful to mango trees, used for the purpose of inducing mango trees to flower.

Formulator – any person involved in the development of fertilizer formulations intended for toll manufacturing or processing

Fortified Organic Fertilizer - any decomposed organic product of plant or animal origin enriched/spiked with microbial inoculants, plant growth substances and/or chemical ingredients to increase its nutrient content so that its total N.P.K. minimum value is 8%.

Full Registration - type of registration granted when all administrative and technical requirements are satisfactorily complied with which includes two (2) distinct seasons or two (2) agro-climatically distinct locations of bioefficacy tests with significant results on a representative crop.

Genetically Modified Organisms (GMOs) - organisms that are modified by biotechnology or recombinant DNA technology. Such organisms include viroids, viruses, cells, or whole organisms, which may pose hazard to human health and environment.

Grade - refers to the minimum percentage of nitrogen (N), available phosphorus (P_2O_5) and soluble potash (K_2O), stated in their order and other macronutrients and micronutrients that are present in appreciable amounts, e.g. Ammonium sulfate (21-0-0), Ammonium phosphate (16-20-0) and Compound Fertilizer (14-14-14).

Guaranteed analysis – a statement assuring the nutrient contents expressed in terms of the minimum percentage as claimed in the manufacturer's label.

Heavy Metals - group of metals (Ex. *arsenic, cadmium, chromium, mercury, lead)*, which when present in concentration above the allowable tolerable level are toxic. As important environmental contaminants/ pollutants, heavy metals can cause recognizable toxic effects or a diminution of amenity and quality of life.

Humic substances - are collections of natural components of the soil organic matter with relatively low molecular mass that result from the decomposition of plant, animal and microbial residues, and from the metabolic activities of soil microbes. Humic substances include humic acids and fulvic acids. (Albrecht, 2019)

Import Consolidator - any person who represents and assists eligible agricultural enterprises which have small size orders or lack direct import experience.

Importer - any person engaged in the importation of fertilizer as a business but sells to distributors.

Importer-End User - refers to commercial plantations, which import and use the fertilizers directly for their consumption and private research institutions or companies that import or use fertilizers for testing purposes.

Indentor - any person/entity who acts as an agent who transacts business with a foreign/local supplier in behalf of the company/registrant or who arranges business between two or more contracting parties.

Information dissemination - the use of quad-media, newsletter, leaflets, fliers, info kits and other Information and Education Communication (IEC) materials to ensure extensive spread of message to all target beneficiaries.

Inorganic compounds - chemical elements that promote plant growth and may be essential to particular taxa but are not required by all plants. These are also called beneficial nutrients (Pilon-Smits et al., 2009).

Inorganic Fertilizer - any fertilizer product whose major nutrients nitrogen (N), phosphorus (P) and potassium (K) are supplied by inorganic/mineral or synthetic/chemical compounds. They maybe in solid or liquid form and contain considerable amount of at least one of the essential plant nutrients: Primary macronutrients, such as N.P.K., secondary macronutrients, such as calcium, magnesium and sulfur and micronutrients.

Institutional Linkages - require the execution of a Memorandum of Agreement/ Understanding with government organizations, farmers' associations, private sector, academe and other concerned individuals or groups.

Label - is a legal document, whether in texted or in graphic forms printed on the container which indicates accurate information about the product for which it is registered. This includes the grade, weight, source or origin and FPA registration number.

License - refers to the written authority granted by FPA to an individual or firm to manufacture/process, supply, distribute, market, sell, repack, store, import, and export fertilizer and/or plant growth regulating materials for commerce.

Liquid Fertilizer - fertilizer wherein the plant nutrients are in suspension, slurry or in solution form.

Mandatory Enforcement - applies to major imported or locally produced fertilizers which are traditionally used for agricultural purposes in the Philippines, namely: urea, ammonium sulphate, 16-20-0, 14-14-14, muriate of potash, ammonium chloride and di-ammonium phosphate. The list of fertilizers under this category shall be expanded whenever deemed necessary.

Mango Contractor - refers to person(s)/entities that enter into a contract with a mango grower to service his trees (from flower induction to harvesting) for a fee or on a sharing basis.

Manufacturer – any person engaged in the fertilizer operations through the conversion of raw materials into a finished fertilizer product

Microbial Inoculants/Biological Fertilizers - biologically active products containing optimum population of one or a combination of active strains of bacteria, actinomycetes, algae, and fungi that are useful in different biological activities, such as N- fixation, decomposition of organic residues and solubilization of some essential nutrients such as phosphorus from the soil.

Misshipped Fertilizer - includes fertilizer shipments not intended for the country such as carrier that sunk or run aground in the Philippine waters and ceded to Philippine private or government entities or an unauthorized fertilizer importation apprehended and seized by law enforcement agencies.

Mixed Compound Fertilizer - any combination or mixture of inorganic fertilizers where two or more of the materials contain the primary and/or secondary nutrients and micronutrients.

Mixed Fertilizer - a fertilizer containing any combination or mixtures of commercial fertilizers designed for use or claimed to have value in promoting plant growth.

New Grades - include locally formulated or imported fertilizers with no previous registration with FPA.

Official Sample - any sample of fertilizer taken by the FPA personnel in accordance with the provisions of the rules and regulations by FPA.

Other nitrates - refer to calcium nitrate, calcium ammonium nitrate, sodium nitrate and other nitrates under Executive Order No. 522 (Importation of Ammonium nitrate in solid form was banned effective November 22, 2002).

Outlets - additional stores owned by a dealer or distributor.

Overlanded Fertilizer - any volume of fertilizer that is in excess of the certified volume declared by the importer/consignee or exporter/consignor.

Pathogen - a biological agent that causes disease, e.g. bacteria, fungi, protozoa, virus.

Person - includes individual, partnership, association, firm or corporation.

Plant Growth Regulator - any organic or inorganic compound, natural or synthetic, which in low concentration promotes or modifies the physiological response of the plants.

Plant Macronutrient - group of essential nutrients needed by most plants in large amounts. These include nitrogen, phosphorus, potassium, calcium, magnesium and sulfur or any combination of nutrients.

Plant Micronutrient - group of nutrients, which are essential for plant growth but are required in small amounts. These include readily available forms of iron, manganese, boron, molybdenum, copper, zinc, chlorine, and cobalt.

Potassium Nitrate - Potassium nitrate in pure, solid form, which is either technical (99% KNO_3) or agricultural (97% KNO_3) grade.

Primary Plant Nutrient - group of essential nutrients needed by most plants in large quantities. This includes readily available forms of nitrogen, phosphorus and/or potassium or any combination of these nutrients.

Processor – any person engaged in the fertilizer operations through a series of mechanical operations to alter the physical form of raw materials from mining or mineral deposits into a finished product readily available as plant nutrient.

Protein Hydrolysates - are mixtures of peptides and amino acids that are produced by enzymatic or chemical hydrolysis of proteins from animal- or plant-derived raw materials (Colla et al., 2015).

Provisional Registration - type of registration granted when the technical requirement had been completed including one season of efficacy test with significant results on a representative crop.

Raw Materials - organic or inorganic materials used in the production of intermediate or finished fertilizer products. These include naturally-occurring and processed minerals such as guano, rock phosphate, potash, limestone, dolomite, peat, gypsum, and sulfur and intermediate materials such as superphosphate, phosphoric acid, sulfuric acid, ammonia, urea, ammonium sulfate and other deposits that are found in nature, mined and used in fertilizer production. Raw materials such as polymer, seaweeds and microorganisms are also included in this group.

Recovered Good Order Fertilizer - recovered fertilizer that meets the minimum standard requirements for good order fertilizer with not more than 2% nutrient loss and 1% moisture content.

Registered Product - product approved by FPA covered by its corresponding certificate of product registration or approval letter (for provisional registration)

Registrant - any person who registers fertilizer under the provisions of the rules and regulations on fertilizer.

Repackers - any fertilizer companies duly authorized to engage in retailing traditional, solid and inorganic fertilizers in smaller quantities except nitrates. Repacking of fertilizer in 5, 10 and 25 kg is at the distributor level.

Seaweed Extracts – soluble powders or liquid formulations derived from different extraction procedures from seaweeds and are known to have a beneficial effect in plant growth due to its major component comprising of 30%-40% dry weight of polysaccharide. Its chemical constituents include complex polysaccharide, fatty acids, vitamins, phytohormones and mineral nutrients. (Albrecht, 2019)

Secondary Plant Nutrients - group of essential nutrients which are required by most plants in lesser amounts than that of primary nutrients. These include readily available forms of sulfur, calcium and magnesium.

Selective Enforcement - shall apply to all locally produced and imported fertilizers not covered by mandatory enforcement.

Soil Conditioner/Soil Amendment - organic or inorganic material, natural or synthetic, that is applied to the soil to modify certain soil physical properties, such as structure, moisture retaining capacity, shrinking and swelling capacity or resistance to crusting and to improve soil chemical or biological conditions. Examples are polyelectrolytes such as complex vinyl and acrylic, gypsum, diatomaceous earth, vermiculite, perlite and lime.

Solid, Inorganic Fertilizer - fertilizer that is in the form of powder, granules, pellets, prills or crystals, and shall be dry, free-flowing and free from lumps, visible impurities and extraneous matter. The moisture content is not more than 2.0% for both coated and uncoated.

Specialty Grades - include finished fertilizer products recommended to overcome a specific problem or supply the nutrient need of a specific ornamental, indoor plant, lawn grasses or for any purpose other than growing agricultural food, feed, fiber or other industrial crops.

Supplier - refers to any business entity which sells fertilizer products to importers.

Supplier for repackers - refers to the source (whether distributor, manufacturer or importer) of fertilizer which will be repacked in smaller quantities.

Target users/crops – refer to the location and specific demographics of the products to be sold and for what crops these are used for.

Technical Evaluators - persons designated by FPA through a Special Order to use their expertise on fertilizer matters.

Ton - is a net weight of 1000 kilograms.

Trademark - is any distinctive word, name, symbol, emblem, sign or device or any combination thereof adopted and used by a manufacturer or merchant on his goods to identify or distinguish them from those manufactured, sold or dealt in by others. Trademarks with product logo expressed in words, special characters and pictures and distinguishing marks or art works such as solid bands, dotted bands, colorful borders, as an expression of identity of the company must be registered with
the Intellectual Property Office.

Traditional Inorganic Fertilizers - include all inorganic fertilizers in solid or liquid form which are water soluble, fully registered for at least 10 years with FPA.

Warehouse - storehouse for fertilizer products.

ANNEX 2. 1 ACCEPTABLE WASTEWATER QUALITY/CHARACTERISTICS FOR RE-USE IN IRRIGATION AND FERTILIZATION

Wastewater quality/characteristics	**Intended Irrigation Uses of Wastewater and Acceptable Level**			
	Landscape Irrigation	**Food eaten raw and not commercially processed**	**Food crops commercially processed**	**Non-food crops**
A. For high productivity & environment protection				
Bicarbonates1 (mg/L)	< 500	< 500	< 500	< 500
Biochemical Oxygen Demand (BOD) (mg/L)	< 150	< 150	< 150	< 150
Electrical Conductivity (µS/cm)	< 2000	< 1000	< 1000	< 2000
Free residual chlorine (mg/L)	< 1	< 1	< 1	< 1
pH	6.5 – 8.0	6.5 – 8.0	6.5 – 8.0	6.5 – 8.0
Sodium Adsorption Ratio (SAR)	< 18	< 18	< 18	< 18
Sodium (Na) (meq/L)	< 3	< 3	< 3	< 3
Total Nitrogen (TN)[1] (mg/L)	< 30	< 30	< 30	< 30
Total Phosphorous (TP)1 (mg/L)	< 30	< 30	< 30	< 30
Total SuspendedSolids (TSS) (mg/L)	< 140	< 140	< 140	< 140
B. For protection of animal and human health				
Ascaris (MPN/100 mL)	0	0	0	0
Fecal coliform (MPN/100 mL)	< 200	Not detectable2	< 200	< 200
Nematodes (MPN/100 mL)	0	0	0	0

1 None to moderate degree of restriction, for total N and total P if to be used as fertilizer, the declared composition shall be + 2% of the declared % content of each nutrient.
2 The total number of fecal coliform organisms shall not exceed 14 MPN/100 mL in any sample

Limits of Trace Elements in Water for Use in Landscape/Crop Irrigation

Trace elements including heavy metals	**Maximum Limit** (mg/L)	Trace elements including heavy metals	**Maximum Limit** (mg/L)
Aluminum **1**	5.00	Lead	0.20
Arsenic	0.10	Lithium **3**	2.50
Beryllium	0.10	Manganese	0.20
Boron	0.75	Mercury	0.002
Cadmium **2**	0.01	Molybdenum	0.01
Chromium	0.10	Nickel	0.20
Cobalt	0.05	Selenium	0.02
Copper	0.20	Vanadium	0.10
Fluoride	1.00	Zinc 4	2.00
Iron	1.00		

1 High toxicity in acid soils, not a concern if soil pH is > 6.5
2 Higher toxicity in acid soils
3 Citrus: 0.075 mg/L
41 mg/L recommended for sandy soil (pH<6)

ANNEX 2. 2 SAMPLE LABEL FOR BOTTLES AND CARTONS

KEEP OUT OF REACH OF CHILDREN

TRADE NAME
DECSCRIPTIVE STATEMENT

ART WORK

Registered by the Fertilizer and Pesticide Authority
Pursuant to P.D. 1144
FPA Registration No.:___ Lot/Batch No.____
Net Content____
Date Manufactured_____
Date of Expiration____

Storage & Disposal

Compatability

Prohibition

Warranty

DIRECTION FOR USE

Crops	Time of Application	Interval	Rate
WARNING/PRECAUTIONS:			

Product Information:

Guaranteed Analysis:

Nitrogen (N) %: ____

Phosphorus (P_2O_5) %: ____

Potassium (K_2O) %: ____

Trace and secondary nutrients, if any:

Product Description

Name of Manufacturer & Address (optional)

Name of Distributor & Address

0.32cm Violet Purple

ANNEX 2. 3 SAMPLE LABEL FOR BAGS AND SACHETS – INORGANIC FERTILIZER

Front

BRAND NAME
(with logo)

Guaranteed Analysis:

Nitrogen (N) %: ____

Phosphorus (P_2O_5) %: ____

Potassium (K_2O) %: ____

Trace and secondary nutrients, if any:

Country of Origin: _____
(optional for locally manufactured products)

FPA Registration No. _____

Target Crop/s:

Name of Manufacturer (optional)

Name and address of Distributor

Back

BRAND NAME
(with logo *optional)

DIRECTION FOR USE

Batch number or Lot number (if applicable)

Date Manufactured:

Net Content: ___ kg

ANNEX 2. 4 SAMPLE LABEL FOR BAGS AND SACHETS - SOIL CONDITIONER/BIOFERTILIZER

Front

BRAND NAME
(with logo)

Guaranteed Analysis:

Nitrogen (N) %: ____

Phosphorus (P_2O_5) %: ____

Potassium (K_2O) %: ____

Trace and secondary nutrients, if any:

FPA Registration No. _____

Target Crop/s:

Country of Origin: _____
(optional for locally manufactured products)

Name of Manufacturer (optional)

Name and address of Distributor

Back

BRAND NAME
(with logo *optional)

DIRECTION FOR USE

Batch number or Lot number (if applicable)

Date Manufactured:

Expiry Date:

Net Content: ___ kg

ANNEX 2. 5 SAMPLE LABEL FOR BAGS AND SACHETS - SOIL CONDITIONER/BIOFERTILIZER

Size of Label	Volume
5 x 10 cm	100 – 500 ml
15 x 25 cm	1 – 5 L
20 x 30 cm	5 L or more

white background

BRAND NAME

Guaranteed Analysis:

Nitrogen (N) %: ____

Phosphorus (P_2O_5) %: ____

Potassium (K_2O) %: ____

Trace and secondary nutrients, if any:

FPA Registration No. _____

Name of Manufacturer & Address (optional)

Name of Distributor & Address

ANNEX 2. 6 SAMPLE LABEL FOR CONTAINERS

Front

BRAND NAME

Guaranteed Analysis:

Nitrogen (N) %: ____

Phosphorus (P_2O_5) %: ____

Potassium (K_2O) %: ____

Trace and secondary nutrients, if any:

FPA Registration No. _____
Net Content:

The warning and precautions enclosed in rectangular box

Date of Manufacture
Date of Expiry

Purple Band

Back

Artwork

_____

Directions for use:

Compatibility:

Warranty:

(Company logo beside)
MANUFACTURER
Address

(Company logo beside)
DISTRIBUTOR/IMPORTER
Address

Purple Band

ANNEX 2. 7 REPACKING SITE INSPECTION REPORT FORM

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
FERTILIZER AND PESTICIDE AUTHORITY
FPA Bldg. B.A.I. Compound Visayas Ave. Diliman, Quezon City P.O. Box 2582, Q.C.
Tel. Nos. 8920-8173*8920-8573*8922-3368-8441-1601
E-mail add: fpacentral77@gmail.com Website: http://fpa.da.gov.ph

REPACKING SITE INSPECTION REPORT

Date of Inspection: _____ Date of Last Inspection: _____

Business Name: _____

Address: _____

Proprietor / Informant: _____

Position: _____ Contact Number: _____

License Number: _____ Expiry Date: _____

I. WEIGHING SCALE

BRAND NAME	CAPACITY	QUANTITY

II. PRODUCT SPECIFICATIONS

SUPPLY/ DEMAND	PRODUCT NAME:	PRODUCT NAME:	PRODUCT NAME:	PRODUCT NAME:
Prod'n / month				
Inventory / month				
Selling Price				

CHECKLIST	YES	NO
Are the approved product labels being followed?		
Are the products properly packaged/sealed?		

Is the first-in-first-out policy being implemented?		
Are the finished products stored/stacked properly?		

III. RANDOM SAMPLING

SAMPLE	DECLARED WEIGHT	ACTUAL WEIGHT	% ACCURACY
		AVERAGE RATING:	

IV. PHYSICAL FACILITIES

1. **REPACKING SITE** OWNED: _____ RENTED: _____

   a. LOCATION: _____

   b. DATE OF CONSTRUCTION: _____

   c. KIND OF BUILDING MATERIALS
      - ROOF: _____
      - WALLS: _____
      - FLOOR: _____

   d. TOTAL AREA: _____

   e. PRODUCTION CAPACITY: _____

V. GENERAL PREMISES AND WORKING CONDITIONS

Building	GOOD	FAIR	MARGINAL	POOR
- Ventilation				
- Illumination				
- Storage Area				
- Fire / Emergency Exits				
- Presence of safety / danger signs				
- Water source / hydrants				
Eating Facilities				
Bathing Area				
House Keeping				

VI. PERSONAL PROTECTIVE EQUIPMENT

	Use	Stock		Use	Stock
Face mask			Dust mask		
Work clothes			Safety helmet		
Safety goggles			Ear plugs		
Safety shoes			Gloves		

VII. OCCUPATIONAL HAZARDS (Indicate control measures being used)

a. Physical

_____

_____

_____

b. Chemical

_____

_____

_____

_____

c. Biological

_____

_____

_____

_____

d. Ergonomic

_____

_____

_____

_____

VIII. EQUIPMENT / MACHINERIES / TRANSPORT FACILITIES

KIND	EQUIPMENT	MODEL	PRESENT CONDITION

REMARKS / OBSERVATION:

_____

_____

_____

_____

ACTIONS / RECOMMENDATIONS:

_____
_____
_____
_____

FPA INSPECTION TEAM: **COMPANY OWNER / REPRESENTATIVE:**

_____
_____
Signature above Printed name Signature above Printed name

_____
Signature above Printed name

ANNEX 2. 8 MANUFACTURING PLANT INSPECTION REPORT FORM

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
FERTILIZER AND PESTICIDE AUTHORITY
FPA Bldg. B.A.I. Compound Visayas Ave. Diliman, Quezon City P.O. Box 2582, Q.C.
Tel. Nos. 8920-8173*8920-8573*8922-3368-8441-1601
E-mail add: fpacentral77@gmail.com Website: http://fpa.da.gov.ph

MANUFACTURING PLANT INSPECTION REPORT

Date of Inspection: _____ Date of Last Inspection: _____

Business Name: _____

Address: _____

Proprietor/Informant: _____ Position: _____

Contact Number: _____ECC/CNC Number: _____

License Number: _____Expiry Date: _____

IX. ORGANIZATIONAL STRUCTURE

DEPARTMENT	NO. OF PERSONNEL			
	Male		Female	
	Permanent	Per day	Permanent	Per day
Administrative				
Marketing/Distribution				
Production				
Maintenance				
Others				

X. PRODUCT SPECIFICATIONS

SUPPLY/ DEMAND	PRODUCT NAME:	PRODUCT NAME:	PRODUCT NAME:	PRODUCT NAME:
Prod'n / month				
Inventory / month				
Selling Price				

XI. RAW MATERIALS

MATERIAL	LOCAL	IMPORTED	QUANTITY

XII. OVERVIEW OF THE PRODUCTION PROCESS

XIII. WASTE DISPOSAL METHODS

_____
_____
_____

XIV. PHYSICAL FACILITIES

1. **PLANT** OWNED: _____

RENTED: _____

f. LOCATION:

_____

g. DISTANCE FROM POPULATION CENTER: _____

h. PROXIMITY TO AQUATIC ECOSYSTEM: _____

i. DATE OF CONSTRUCTION: _____

j. KIND OF BUILDING MATERIALS
   - ROOF: _____
   - WALLS: _____
   - FLOOR: _____

k. TOTAL AREA: _____

l. PRODUCTION CAPACITY: _____

2. WAREHOUSE OWNED: _____ RENTED: _____

a. LOCATION: _____

b. DATE OF CONSTRUCTION: _____

c. KIND OF BUILDING MATERIALS
   - ROOF: _____
   - WALLS: _____
   - FLOOR: _____

d. TOTAL AREA: _____

e. STORAGE CAPACITY: _____

XV. EQUIPMENT / MACHINERIES / TRANSPORT FACILITIES

KIND	EQUIPMENT	MODEL	PRESENT CONDITION

XVI. GENERAL PREMISES AND WORKING CONDITIONS

Building	GOOD	FAIR	MARGINAL	POOR
- Ventilation				
- Illumination				
- Storage Area				
- Fire / Emergency Exits				
- Presence of safety / danger signs				
- Water source / hydrants				
Eating Facilities				
Bathing Area				
House Keeping				

XVII. OCCUPATIONAL HAZARDS (Indicate control measures being used)

e. Physical

_____

_____

f. Chemical

_____

_____

g. Biological

_____

_____

h. Ergonomic

_____

XVIII. PERSONAL PROTECTIVE EQUIPMENT

	Use	Stock		Use	Stock
Face mask			Dust mask		
Work clothes			Safety helmet		
Safety goggles			Ear plugs		
Safety shoes			Gloves		

XIX. HEALTH PROGRAM

Attending physician:

_____

Schedule:

_____

Clinic: _____

	YES	NO
Physical Examination		
- Pre-employment		
- Annual		
Laboratory Examination		
- Chest X-ray		
- CBC		
- Urinalysis		
- Fecalysis		
- ECG		
Others (pls. specify)		

Date of Last Annual Check-up: _____

Immunizations: _____

Accidents / Illnesses: _____

FOLLOW-UP INSPECTION	
Previous Inspection Date:	**CORRECTION MODE**
Previous Findings	**Further Action Recommended**

REMARKS / OBSERVATION:

_____

ACTIONS / RECOMMENDATIONS:

_____

FPA INSPECTION TEAM: **COMPANY OWNER / REPRESENTATIVE:**

_____

_____

Signature above Printed name Signature above Printed name

_____

Signature above Printed name

ANNEX 2. 9 GLOBALLY HARMONIZED SYSTEM (GHS)

I. Background

In June 2002, APEC ministers endorsed the first chemical dialogue recommendation of GHS and encouraged officials to work in the direction including thorough capacity building. In October 2002, APEC members were encouraged to work towards implementing GHS on hazard classification and labeling of chemical safety data sheets by 2006, including thorough capacity building.

Developments of GHS

There are many different systems providing information about chemicals world-wide both in terms of scope of coverage and how hazard information is to be conveyed. This resulted to uneven protection from one country to another and high cost of labeling due to different national systems. In 1992, the UNCED (United Nations Conference of Environment and Development) adopted an international mandate to develop a globally harmonized hazard classification and compatible labeling system, including material safety data sheets and easily understandable symbols. The development of the GHS has been a joint effort of the Organization for Economic Cooperative and Development (OECD), ILO, UN Committee of Experts for the Transport of Dangerous Goods (UNCETDG) and numerous national experts from the Americas, Europe, Asia and Australia.

What is GHS?

Globally Harmonized System (GHS) is a common and consistent approach to define and classify hazards from chemicals and to communicate such on labels and safety data sheets. It provides the basic principles for the establishment of chemical safety programs.

I. GHS Rationale

GHS is not a total novel concept since the harmonized classification and labeling were already in place for physical hazards and acute toxicity in the transport sector. But harmonization has not been achieved in the workplace or consumer sectors. Also, transport requirements are not often harmonized with other sectors in the country.

a. **Application of the GHS**

The GHS covers all hazardous chemical substances, dilute solutions and mixtures. It varies by type of product or stage of the life cycle. Pharmaceuticals, food additives, cosmetics and pesticide residues in food will not be covered at the point of intentional intake but will be extended to workers who may be exposed in the workplace or during transport.

b. **Benefits of Adopting GHS**

Adoption of GHS enhances protection of human life and environment worldwide. International trade involving chemicals, where the hazards have been assessed and identified properly on an international basis will be facilitated easily. There will be no duplication of testing and evaluation of chemicals to determine their hazardous effects. Countries need not develop and maintain a system of their own since GHS is internationally sustained. GHS also provides the informational framework for the sound management of chemicals of every country.

III. Principles of Harmonization

The level of protection should not be reduced as a result of harmonization. The scope includes both hazard classification criteria and hazard communication (Safety Data Sheets (SDS) / and/or labels.) Changes in all existing systems will be required to achieve, single globally harmonized system. The GHS does not include requirements for testing health and environmental hazards. Test data generated for the classification of chemicals under the existing systems should be accepted when classifying. Target audiences include consumers, workers, transport workers and emergency responders. With regards to chemical hazard communication, Confidential Business Information (CBI) should be protected.

IV. Scope Limitation

The mandate for development of GHS does not include establishment of uniform test methods or promotion of further testing to address adverse health outcomes. It is developed based on existing data for physical hazard under UNCETDG. Criteria are linked to specific test methods for hazard classes such as flammability and explosivity.

The hazard communication component of GHS may vary by product category or stage in the life cycle and intentional human intake or ingestion as well as intentional application to animals. Products such as human or veterinary pharmaceuticals are not subject to GHS hazard labeling. Labeling is also not required for food that may have trace amounts of food additives or pesticides.

GHS is not intended to harmonize risk assessment procedures or risk management decisions. Chemical inventory requirement in various countries are not related to GHS.

a. **Building Block Approach**
   Harmonized elements of GHS are a collection of building blocks and, must therefore have consistency.
b. **The GHS Elements**
   Hazard Classification Criteria are Health and Environmental and Physical while Hazard Communication is by Labels / Safety Data Sheets.
c. **Classification**
   Foundation and starting point for hazard communication and hazard classification are

used to indicate that only the intrinsic hazardous properties of substances and mixtures are considered. GHS classification involves 3 steps:

1. Identification of relevant data regarding the hazards.
2. Subsequent review of data to ascertain the hazards associated with the substance or mixture.
3. A decision on whether the substance will be classified as hazardous and its degree of hazard based on comparison of the data with agreed hazard classification criteria.

c.1 Health Hazard Classes

- acute toxicity
- skin corrosion/irritation
- serious eye damage/eye irritation
- sensitization
- germ cell mutagenicity
- reproductive toxicity
- carcinogenicity
- specific target organ system toxicity (TOST)

c.2 Environmental Hazard Classes

- Hazardous to the aquatic environment
- Acute aquatic toxicity
- Chronic aquatic toxicity

V. Definitions

Substances – chemical elements and their compounds in the natural state or obtained by any production process.
Mixture – mixtures or solutions composed of two or more substances in which they do not react.
Alloy – a metallic material, homogeneous on a macroscopic scale, consisting of two or more elements so combined that they cannot be readily separated by mechanical means. Alloys are mixtures for the purpose of classification under the GHS.

Hazard under discussion for harmonized criteria are the following:

- Respiratory irritation
- Water activated toxicity/corrosion
- Narcotics effects
- Aspiration hazard

Possible topics for the future discussion are the following:

- Immunotoxicity
- Hazardous to the terrestrial environment
- Hazardous to the ozone layer

ANNEX 4. 1 RISK APPRAISAL CHECKLIST FOR WAREHOUSE /STORE

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
FERTILIZER AND PESTICIDE AUTHORITY
FPA Bldg. B.A.I. Compound Visayas Ave. Diliman, Quezon City P.O. Box 2582, Q.C.
Tel. Nos. 8920-8173*8920-8573*8922-3368-8441-1601
E-mail add: fpacentral77@gmail.com Website: http://fpa.da.gov.ph

Name of Establishment : _____ Date : _____

Address : _____ Auditor : _____

APPRAISAL	SCORE:							
ITEM	1		2		3		4	
MAJOR								
Capability for dealing with leaks/spills i.e. does he carry absorbent materials, PPE, care cart containment of contaminated water or fine water runoff?	All the necessary requirement is in good condition, readily accessible, adequate containment of spills, fine water or runoff		All the necessary requirement is in good condition, not readily accessible, partial containment of spills, fine water or runoff water.		Some necessary equipment available, poor containment of spills, fine water or runoff water		No capability at all	
Ventilation	Good		Fair		Marginal		Poor	
Housekeeping/tidiness	Good		Fair		Marginal		Poor	

APPRAISAL	SCORE:							
ITEM	1		2		3		4	
MAJOR								
Product storage/stacking	Orderly, neat, stable, easily accessible		Room for improvement		Not very well ordered. Slightly disordered.		Generally haphazard, poor stack stability	
Page 1 of 3								
Capability for fighting small fires, i.e. availability of handheld extinguishers, positioning and maintenance	Sufficient number of extinguishers positioned to service personnel trained to use them.		Insufficient no. but serviceable with at least 1 person trained to use them		Extinguishers available but slightly unserviceable. Access difficult, doubts about ability to use them.		No extinguishers available	
General attitude towards health and safety i.e. appreciation of hazard/safety awareness.	Good		Fair		Marginal		Poor	
Hygiene standard i.e. facilities for washing, consumption of food/drink in work area.	Washing facilities available with separate eating area.		Washing facilities available, no separate eating area.		Inadequate washing facilities. No separate eating area.		Poor	
Waste disposal (presence of waste e.g. broken bottles/ packages/spills/etc.)	None		Small amount		Moderate		Poor	
Animal feeds/fertilizers/ foodstuff/etc.	Such product not stored		Stored in a physically separate area		Stored in the same area but not adjacent to pesticides		Stored adjacent to pesticides	
TOTAL SCORE (MAJOR ITEMS) :								

APPRAISAL	SCORE:			
ITEM	1	2	3	4
MAJOR				

ASSESSMENT : (MAJOR APPRAISAL ITEMS)

9-18 - Generally acceptable	Standard can be further improved by attention to specific aspects.
19-24 - Minimum acceptable	Standard, remedial action on improvement maybe required to be done within 5 months to one year on specific aspect.
25-30 - Less than acceptable	Standard, immediate remedial action on improvements required for continued operation.
31-36 - High risk	Definitely not acceptable, immediate closure/suspension of operations should be recommended until significant improvement in standards is achieved.

APPRAISAL	SCORE:							
ITEM	1		2		3		4	
SUPPLEMENTARY								
Emergency Exit	Exits clearly marked accessible and easily operable		Exits accessible and easily operable but not clearly marked		Exits are obstructed or locked		Does not exist	
Response time of fire service	Less than 10 minutes		Less than 30 minutes		More than 30 minutes		No realistic response	
Security when closed	Premises securely locked, windows guarded, etc.		Premises securely locked, access possible via unguarded windows, etc.		Premises locked with access available with relatively little effort.		No realistic security.	
Floor construction	Impermeable to liquid, no open drains.		Predominantly impermeable to liquids, no open drains		Predominantly impermeable to liquids, no open drains		Permeable to liquids and/or open drains.	
Environmental risk i.e. proximity to home/shops/ schools/waterways/etc.	More than 200 meters away		15-100 meters away		No direct adjacent within 15 meters.		Directly adjacent	
Materials of construction	Non-combustible		More than 70% non-combustible		Less than 70% non-combustible		Combustible	

APPRAISAL	SCORE:			
ITEM	1	2	3	4
MAJOR				

TOTAL SCORE (SUPPLEMENTARY ITEMS):

5 -12	Generally acceptable standard	Can be further improved by attention to specific aspects.
13 -18	Minimum acceptable standard	Remedial action or improvement maybe required to be done within 6 months to one year
19-24	Nonacceptable standard	Immediate remedial action on major improvements required.

ANNEX 4. 2 SAMPLING PROCEDURE FOR FERTILIZER PRODUCTS

The collection of representative samples is of crucial importance because if not drawn correctly, the analysis carried out on such samples will serve no purpose. Therefore, fertilizer samples must be gathered in accordance with the procedure of withdrawal of samples PNS 85:1986.

1. PROCEDURE IN GATHERING SAMPLE

a. Identify the specific lot of fertilizer to be sampled at various points from plow to the dealers' shelf.
b. Follow the PNS sampling scale to decide on the number of bags to be sampled.
c. Identify the bags where samples are to be drawn following the PNS procedure.
d. Samples drawn from the different bags should be thoroughly mixed together. This is called a composite sample.
e. The composite sample should be approximately 1.5 to 2.0 kg
f. The composite sample will be divided into three (3) subsamples of approximately one-half kilo each. These will be kept in clean, dry plastic bottles or bags with appropriate labeling.

The samples should be accompanied by the following details:

- Date of sampling
- Type/Grade of sample
- Supplier
- Name & Address of dealer/distributor where samples were drawn.
- Name of FPA personnel who drew the samples.

1.1 DISTRIBUTION OF COMPOSITE SAMPLE

The three (3) subsamples prepared from the composite sample will be distributed as follows:

a. One to the laboratory for analysis.
b. One to be retained by FPA for possible use in case of future dispute.
c. One for the owner/storekeeper.

1.2 PRECAUTIONS WHEN GATHERING SAMPLES

a. Collect the samples in the presence of the owner/storekeeper or custodian of the fertilizer as witness.
b. Take care not to damage substantially the commercial value of the fertilizer.
c. Avoid collection of samples from damaged containers or torn bags and from hard and lumpy fertilizer unless sampling for the degree of damage.
d. Avoid sampling during transit of the consignment.
e. FPA personnel gathering the sample should issue an acknowledgement receipt for the materials taken (see attached FPA form in Annex 4.3).

2. METHOD OF SAMPLING SOLID FERTILIZER PNS 85:1986

a. SCORE

This standard specifies the method used in obtaining samples of granulated crystalline or pulverized solid fertilizer materials in bags or in bulk.

b. APPARATUS

Slotted Single or Double Tube Trier – The slotted single (Figure A.1) or double trier (Figure A.2) shall be with a solid core tip constructed of stainless steel or brass. Stainless steel is required for sample on which micronutrients are to be determined. This tube trier is primarily used in taking samples from bagged fertilizers.

Stream Sampling Cup – The stream sampling cup (Figure B.1) is primarily used in taking samples in transfer belt or spout.

Container for Unground Sample – The container for unground sample shall have the capacity of one liter and made from corrosion- resistant material with a moisture proof barrier or fabricated from material which will not permit moisture to enter or leave the sample. Polyethylene plastic bags could also be used.

Containers for Ground Samples – The containers for ground samples shall be plastic or glass, 250 mL capacity, with mouth airtight cap.

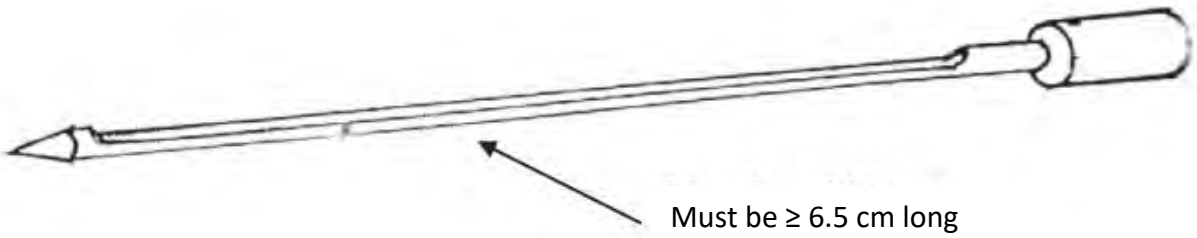


FIGURE A. 1 SINGLE TUBE TRIER

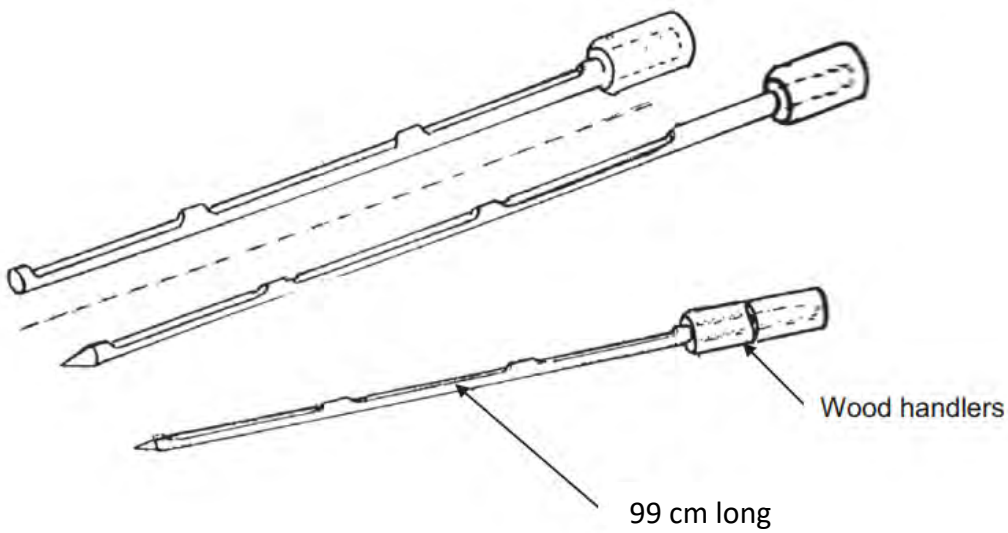
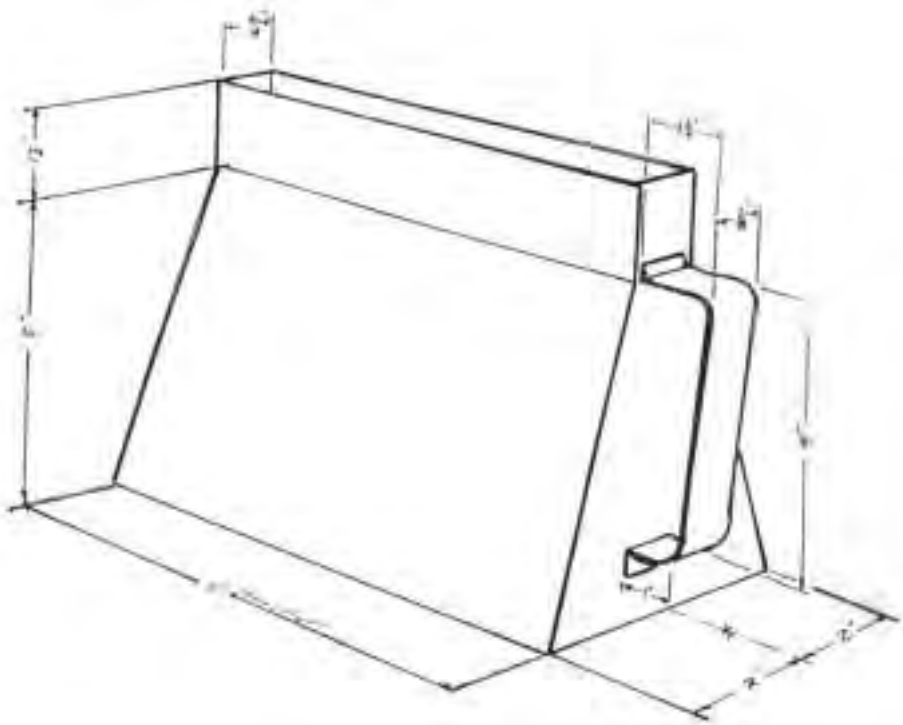


FIGURE A. 2 DOUBLE TUBE TRIER



Fabricated from: IGGA-GALVANIZED IRON
OR 18-20 GA-STAINLESS STEEL
TYPE 304

FIGURE B. STREAM SAMPLING CUP

c. PROCEDURE

c.1 Bagged Fertilizers

c.1.1 Scale of Sampling – The number of bags to be chosen from a lot shall depend on the size of the lot as given in Table 1 below.

TABLE A. 1 SAMPLING OF BAGGED FERTILIZER

Lot Size, Total No. of Bags (N)	No. of bags to be selected (n)
2 – 8	2
9 – 27	3
28 – 64	4
65 – 100	5
101 – 300	6
301 – 500	7
501 – 800	8
801 – 1,200	9
1,201 – 1,700	10
1,701 – above	10 + 1 bag for every 500 additional bags

These bags shall be chosen at random from the lot. In order to ensure randomness of selection, a random table, as agreed between the purchaser and vendor, shall be used. In case that a random table is not available, the following procedure shall be used.

Count the containers from 1,2,3, etc. up to r and so on in one order. Thus, every nth container counted shall be withdrawn from the lot to give a sub- sample for the test, where r is the internal part of the N/n. N is the total number of bags in the lot and n is the number of bags to be sampled from the lot.

c.1.2. Collection of Sample

1. Take one core from each sampling bag.

2. Place bag in a horizontal position, then roll or flip over one or more time.

3. If valve-type bag, sample through valve. If the bag, is sewn make an X-cut with a knife near the seam of the corner.

4. Insert with single tube trier so that it extends diagonally from corner (Figure C.1) with slot down. Half turn to bring the slot up. Jar bag slightly to fill the trier and remove carefully so as not to drag material out of it with the bag edges.

5. Transfer all cores to the container for unground samples, or if desired, each core maybe completely transferred to a narrow stainless-steel U-shaped trough, slightly longer than the trier length. The trough is usually fitted with a handle at one end and a pouring spout at the opposite end. The trough is used to transfer sample portions to the larger container which holds the entire composite sample. This is especially helpful when using single tube triers to avoid spillage or loss.

6. Label container of the composite sample with all pertinent information.

7. Ship samples to the laboratory for preparation and analysis.

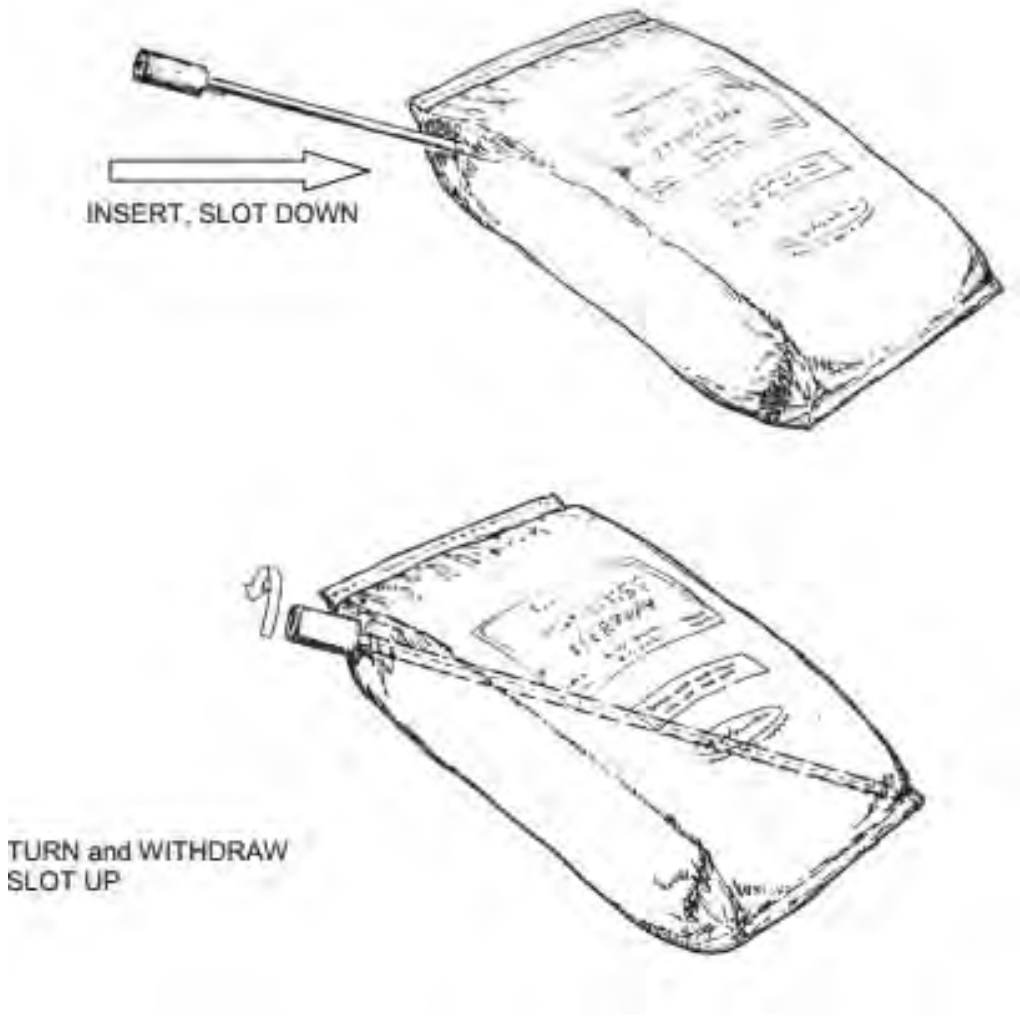


FIGURE C. BAG SAMPLING TECHNIQUE

c.2 Bulk Fertilizers

The methods described herein are used for obtaining representative samples from a lot of fertilizers in bulk. These are applicable during transfer, in single or multi- compartmented trucks, in rail cars, in storage or 1 front-end loaders.

For purposes of obtaining an official sample, a lot shall be represented by an identifiable quantity of commercial fertilizer that can be sampled by herein described procedures, up to

and including a freight car load of 45 tons maximum, or the amount contained in a single vehicle or delivered under a single invoice.

c.2.1 Collection of Sample – Collect the sample according to the following appropriate techniques.

c.2.1.1 Material in Storage

a. Sampling points for vertical cores from bulk storage piles are given in Figures D. 1 and D. 2. Level or flat piles, containing up to 100 tons, are sampled in a fashion similar to that described for the ridged piles. Withdraw (ten cores to the maximum possible depth of the trier) from positions indicated in the diagram in Figure D.2.

b. A one-sided or sloped pile is sampled at the points shown in Figure D.2. Withdraw one vertical core of material from locations 1 and 6, and two cores at locations 2, 3, 4, and 5. These sampling patterns are designed so that cores taken from each location represent an approximately equal fraction of the lot.

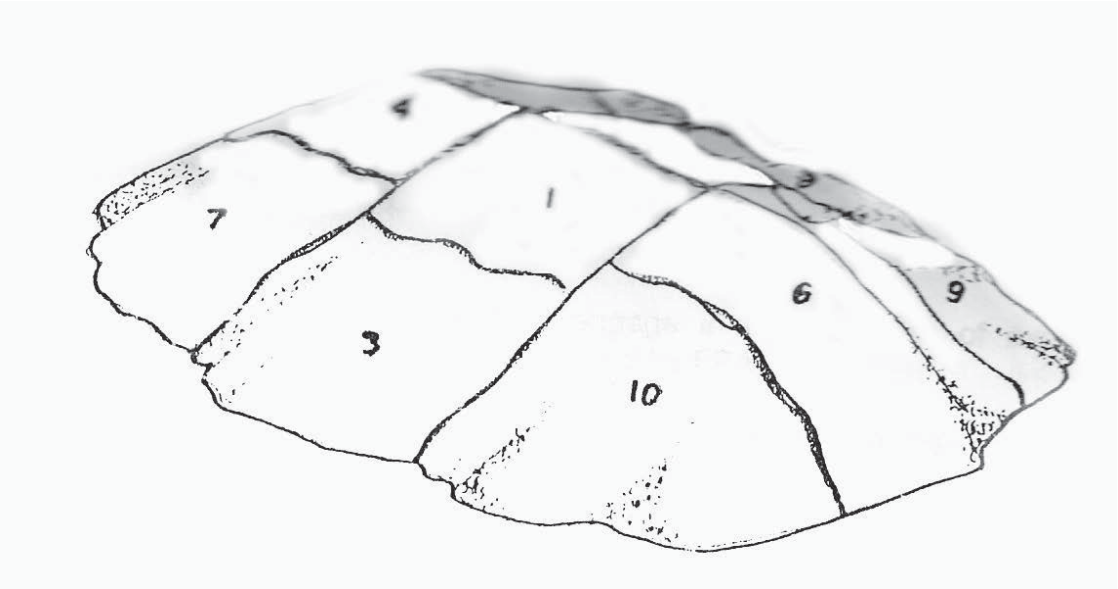


FIGURE D. 1 SAMPLE PATTERN FOR RIDGED PILE

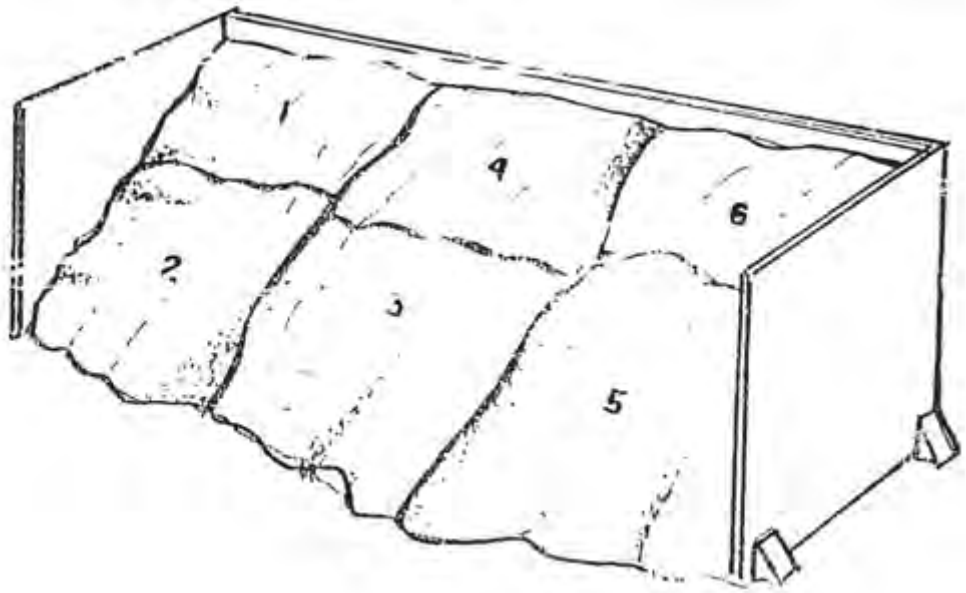


FIGURE D. 2 SAMPLE PATTERN FOR ONE-SIDED PILE. Withdraw one vertical core of material from Location 1 and 6, and two cores from locations 2, 3, 4 and 5.

c.2.1.2 Transfer Belt or Spout

Take sample by passing the stream sampling cup as illustrated in Figure E. 1 completely through the stream of the material as it drops from a transfer belt or spout. The long slot in the top of the sampling cup should be perpendicular to the falling stream. Pass the cup through the complete stream at a uniform speed, such that the cup will collect approximately equal amount at each pass but will never overflow. Empty content of the cup from each pass into a suitable container.

c.2.1.3 Single Compartment Truck

Sample the load by vertical probing procedure. Use one of the double tube triers shown in Figure A.2. Draw ten vertical cores according to the pattern shown in Figure F.1. Insert the grain probe or compartment trier vertically while closed, normally to a depth of not less than 120 cm (the depth for some of the cores will be less if the side of the truck is sloped). Open the probe until it is filled. Close and withdraw.

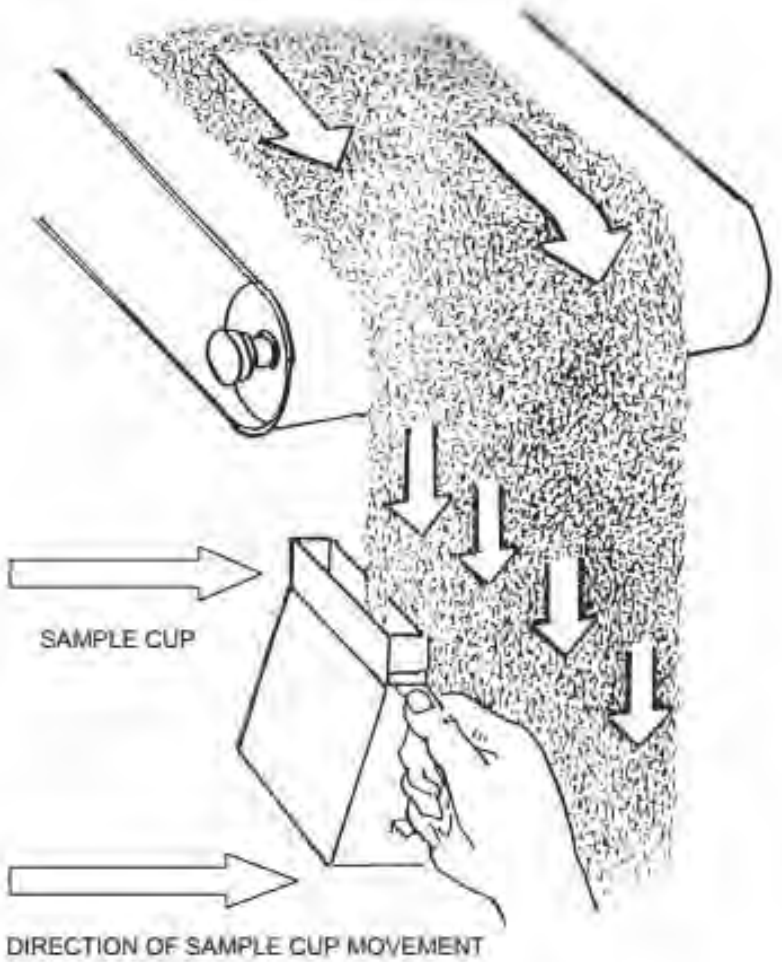


FIGURE E. 1 USE OF STREAM SAMPLING CUP FOR BELT SAMPLES

c.2.1.4 Multicompartmental Truck and Hopper Cars

Sample the multi compartmented truck and hopper car after they are loaded for shipment, or upon receipt before unloading following the pattern given in Figure F.2 for each compartment. Keep in mind that it is easy to take vertical cores before shipment and more difficult after the car or truck is received. Withdraw a minimum of ten vertical cores, inserting the probe in the positions indicated in the center of the core.

c.2.1.5 Carloads

a. Sample the material while loading or unloading the car by stream sampling as described previously. If it becomes necessary to sample the material in a box car, use the vertical probing technique as described for single compartment truck. If the pile of the material in a box car is cored or ridged, take cores from the positions indicated in Figure D.1, one at each end, then duplicate the sampling pattern described in Figure D.2.

b. Use one of the tube triers and insert to a depth not less than 120 cm in each of the indicated sampling locations. The closed double- compartmented trier is inserted, opened, filled, closed and withdrawn.

d. SUB SAMPLING BY MASS REDUCTION

Samples received in the laboratory must be reduced in mass to 225-500 g pulverized, if necessary, reduced in mass again, and stored in air- tight container. It is recommended that these procedures be carried out in a laboratory environment.

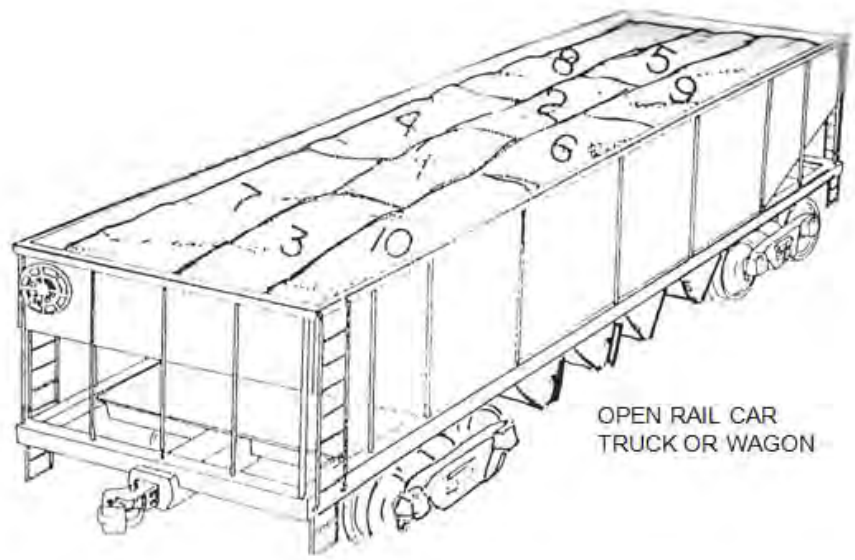


FIGURE F. 1 AOAC SAMPLING PATTERN

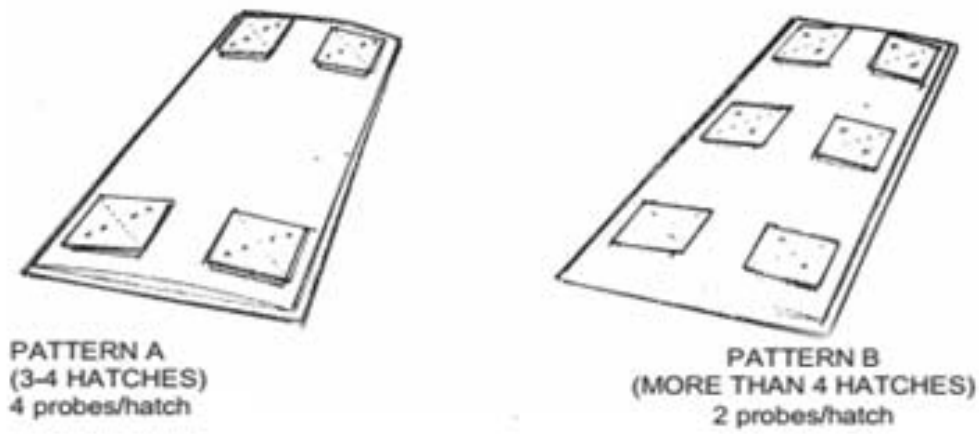


FIGURE F. 2 SAMPLE POINTS FOR COVERED HOPPER CARS OR OTHER CARRIERS

ANNEX 4. 3 ACKNOWLEDGEMENT RECEIPT OF FERTILIZER SAMPLES

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
FERTILIZER AND PESTICIDE AUTHORITY
FPA Bldg. B.A.I. Compound Visayas Ave. Diliman, Quezon City P.O. Box 2582, Q.C.
Tel. Nos. 8920-8173*8920-8573*8922-3368-8441-1601
E-mail add: fpacentral77@gmail.com Website: http://fpa.da.gov.ph

ACKNOWLEDGEMENT RECEIPT OF FERTILIZER SAMPLES

This is to certify that I, _____ , has taken the
(Name of the FPA Personnel)
following products/materials for quality monitoring:

Name of Product and FPA Registration No.	Packing/ Volume	Manufacturer/Distributor	Batch/Lot No.
1.			
2.			
3.			
4.			
5.			
6.			
7.			

at _____ on _____ in the
(Name of Store/Company & Location) (Date)

presence of: _____
(Manufacturer/Storekeeper/Owner's name or designated representative)

Sampled by: _____
Signature of FPA Personnel

Conforme: _____
Signature of Fertilizer Handler

Accomplish in triplicate:
1. Fertilizer handler
2. FPA Central Office
3. FPA Regional/Provincial Office

SCHEDULE – I

[See Clause 2(h) & (q)]
PART-A
SPECIFICATIONS OF FERTILIZERS
1(a). STRAIGHT NITROGENOUS FERTILIZERS

1. Ammonium Sulphate

i.	Moisture per cent by weight, maximum	1.0
ii.	Ammoniacal nitrogen per cent by weight, minimum	20.6
iii.	Free acidity (as H2SO4) per cent by weight, maximum (0.04 for material obtained from by-product ammonia and by-product gypsum)	0.025
iv.	Arsenic as (As2O3) per cent by weight, maximum	0.01
v.	Sulphur (as S) per cent by weight, minimum	23.0

2. Urea (46% N) (While free flowing)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen, per cent by weight, (on dry basis), minimum	46.0
iii.	Biuret per cent by weight, maximum	1.5
iv.	Particle size—Not less than 90 per cent of the material shall pass through 2.8 mm IS sieve and not less than 80 per cent by weight shall be retained on 1 mm IS sieve	

3. Urea (coated) (45% N) (While free flowing)

i.	Moisture per cent by weight, maximum	0.5
ii.	Total nitrogen per cent by weight, content with coating, minimum	45.0
iii.	Biuret per cent by weight, maximum	1.5
iv.	Particle size–Not less than 90 per cent of the material shall pass through 2.8 mm IS sieve and not less than 80 per cent by weight shall be retained on 1 mm IS sieve.	

4. Ammonium Chloride

i.	Moisture per cent by weight, maximum	2.0
ii.	Ammoniacal nitrogen per cent by weight, minimum	25.0
iii.	Chloride other than ammonium chloride (as NaCl) per cent by weight, (on dry basis), maximum	2.0
iv.	Omitted vide S.O. 1079(E) dt. 11.12.1987	

5. Calcium Ammonium Nitrate (25% N)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total ammoniacal and nitrate nitrogen per cent by weight, minimum	25.0
iii.	Ammoniacal nitrogen per cent by weight, minimum 12.5	
iv.	Calcium nitrate per cent by weight, maximum	0.5
v.	Particle size –Not less than 80 per cent of the material shall pass through 4 mm IS sieve and be retained on	

1 mm IS sieve. Not more than 10 per cent shall be below 1 mm IS sieve

6. Calcium Ammonium Nitrate (26% N)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total ammoniacal and nitrate nitrogen per cent by weight, minimum	26.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	13.0
iv.	Calcium nitrate per cent by weight, maximum	0.5
v.	Particle size -—Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve	

7. Anhydrous Ammonia

i.	Ammonia per cent by weight, minimum	99.0
ii.	Water per cent by weight, maximum	1.0
iii.	Oil content by weight, maximum	20 ppm

8. Urea Super Granulated

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen, per cent by weight (on dry basis), Minimum	46.0
iii.	Biuret per cent by weight, maximum	1.5
iv.	Particle size- —Not less than 90 per cent of the material shall pass through 13.2 mm IS sieve and not less than 80 per cent by weight shall be retained on 9.5 mm IS sieve.	

9. Urea (Granular)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight (on dry basis), minimum	46.0
iii.	Biuret per cent by weight, maximum	1.5
iv.	Particle size -—Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 2 mm IS sieve. Not more than 5 per cent shall be below 2 mm IS sieve.	

10. Urea Ammonium Nitrate (32%N) (Liquid)

i.	Total nitrogen per cent by weight, minimum	32.0
ii.	Urea nitrogen per cent weight, maximum	16.6
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.7
iv.	Nitrate nitrogen per cent by weight, minimum	7.7
v.	Specific gravity (at 15 °C)	1.32
vi.	Free ammonia (as NH3) per cent by weight, maximum	0.10

11. Neem Coated Urea

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, minimum	46.0
iii.	Biuret, per cent by weight, maximum	1.5

iv.	Benzene soluble content, per cent by weight, minimum	0.035
v.	Particle size: Not less than 90 per cent of the material shall pass through 2.8 mm IS sieve and not less than 80 per cent by weight shall be retained on 1 mm IS sieve."	

1 (b). STRAIGHT PHOSPHATIC FERTILISERS

1. Single Superphosphate (16% P_2O_5 Powdered)

i.	Moisture per cent by weight, maximum	12.0
ii.	Free phosphoric acid (as P_2O_5) per cent by weight, Maximum	4.0
iii.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	14.5
iv.	Sulphur (as S) per cent by weight, minimum	11.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	16.0

2. Single Superphosphate (14% P_2O_5 Powdered)

i.	Moisture per cent by weight, maximum	12.0
ii.	Free phosphoric acid (as P_2O_5) per cent by weight, Maximum	4.0
iii.	Water soluble phosphates (as P_2O_5) per cent by weight, Minimum	14.0
iv.	Sulphur (as S) per cent by weight, minimum	11.0

3. Triple Superphosphate

i.	Moisture per cent by weight, maximum	12.0
ii.	Free phosphoric acid (as P_2O_5) per cent by weight, maximum	3.0
iii.	Total phosphates (as P_2O_5) per cent by weight, minimum	46.0
iv.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	42.5

4. Bone meal, Raw

i.	Moisture per cent by weight, maximum	8.0
ii.	Acid insoluble matter per cent by weight, maximum	12.0
iii.	Total phosphates (as P_2O_5) per cent by weight, minimum	20.0
iv.	2 per cent citric acid soluble phosphates (as P_2O_5) per cent by weight, minimum	8.0
v.	Nitrogen content of water insoluble portion per cent by weight, minimum	3.0
vi.	Particle size–The material shall pass wholly through 2.36 mm IS sieve of which not more than 30 per cent shall be retained on 0.85 mm IS sieve.	

5. Bone meal, Steamed

i.	Moisture per cent by weight, maximum	7.0
ii.	Total phosphates (as P_2O_5) per cent by weight, (on dry basis), minimum	22.0

iii. per cent citric acid soluble phosphates (as P_2O_5) per cent by weight, (on dry basis), minimum 16.0

iv. Particle size – Not less than 90 per cent of the material shall pass through 1.18 mm IS sieve.

6. Rock phosphate

i. Particle size – Minimum 90 per cent of the material shall pass through 0.15 mm IS sieve and the balance 10 per cent of material shall pass through 0.25 mm IS sieve.

ii. Total phosphate (as P_2O_5) per cent by weight, minimum 18.0

7. Single Superphosphate (16% P_2O_5 Granulated)

i.	Moisture per cent by weight, maximum	5.0
ii.	Free phosphoric acid (as P_2O_5) per cent by weight, maximum	4.0
iii.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	14.5
iv.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and shall be retained on 1 mm IS sieve. Not more than 5 per cent shall pass through 1 mm IS sieve.	
v.	Sulphur (as S), per cent by weight, minimum.	11.0
vi.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	16.0

8. Superphosphoric Acid (70%) P_2O_5 (Liquid)

i.	Total phosphate (as P_2O_5) per cent by weight, minimum	70.0
ii.	Polyphosphate (as P_2O_5) per cent by weight, minimum	18.9
iii.	Methanol insoluble matter, per cent weight, maximum	1.0
iv.	Magnesium as MgO, percent by weight, maximum	0.5
v.	Specific gravity (at 24°C)	1.96

1(c). STRAIGHT POTASSIC FERTILISERS

1. Potassium Chloride (Muriate of Potash)

i.	Moisture per cent by weight, maximum	0.5
ii.	Water soluble potash content (as K_2O) per cent by weight, minimum	60.0
iii.	Sodium as NaCl per cent by weight (on dry basis), Maximum	3.5
iv.	Particle size – minimum 65 per cent of the material shall pass through 1.7 mm IS sieve and be retained on 0.25 mm IS sieve.	

2. Potassium Sulphate

i.	Moisture per cent by weight, maximum	1.5
ii.	Potash content (as K_2O) per cent by weight, minimum	50.0
iii.	Total chlorides (as Cl) per cent by weight, (on dry basis), maximum	2.5
iv.	Sodium as NaCl per cent by weight, (on dry basis), maximum	2.0

v.	Sulphur (as S) per cent by weight, minimum.	17.5

3. Potassium Schoenite

i.	Moisture per cent by weight, maximum	1.5
ii.	Potash content (as K_2O) per cent by weight (on dry basis), minimum	23.0
iii.	Magnesium oxide (as MgO) per cent by weight, maximum	11.0
iv.	Sodium (as NaCl) (on dry basis) per cent by weight, maximum	1.5

4. Potassium Chloride (Muriate of Potash) (Granular)

i.	Moisture per cent by weight, maximum	0.5
ii.	Water soluble potash (as K_2O) per cent by weight, minimum	60.0
iii.	Sodium (as NaCl) per cent by weight, maximum	3.5
iv.	Magnesium (as $MgCl_2$) per cent by weight, maximum	1.0
v.	Particle size – Not less than 90 per cent of the material shall pass through 3.35 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve	

5. Potash Derived from Molasses

i.	Moisture per cent by weight, maximum	4.79
ii.	Total nitrogen, per cent by weight, minimum	1.66
iii.	Neutral ammonium citrate soluble phosphate (as P_2O_5), per cent by weight, minimum	0.39
iv.	Water soluble potash (as K_2O), per cent by weight, minimum	14.70

1(cc). STRAIGHT SULPHUR FERTILISERS

1. Sulphur 90% (Powder)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total sulphur (as S) per cent by weight, minimum	90.0

2. Sulphur 90% (Granular)

i.	Moisture per cent by weight, maximum	0.5
ii.	Total sulphur (as S) per cent by weight, minimum	90.0
iii.	Particle size – Not less than 90 per cent of the material shall pass through 4.0 mm IS sieve and be retained on 1 mm IS sieve and not more than 5% shall be below 1 mm IS sieve. (Note: the product may contain inert filler material as Bentonite etc. up to the extent of 10 per cent by weight, maximum)	

1(d). N.P. COMPLEX FERTILISERS

1. Deleted vide S.O. 377(E) dt. 29.5.1992

2. Diammonium Phosphate (18-46-0)

i.	Moisture per cent by weight, maximum	2.5
ii.	Total nitrogen per cent by weight, minimum	18.0
iii.	Ammoniacal nitrogen form per cent by weight, minimum	15.5
iv.	Total nitrogen in the form of urea per cent by weight, maximum	2.5
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	46.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	41.0
vii.	Particle size – not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm size.	

3. Ammonium Phosphate Sulphate (16-20-0)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total ammoniacal nitrogen per cent by weight, minimum	16.0
iii.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	20.0
iv.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	19.5
v.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and shall be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	
vi.	Sulphur (as S) per cent by weight, minimum	13.0

4. Ammonium Phosphate Sulphate (20-20-0)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, minimum	20.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	18.0
iv.	Nitrogen in the form of urea per cent by weight, maximum	2.0
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	20.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	17.0
vii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and shall be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve	
viii.	Sulphur (as S) per cent by weight, minimum.	13.0

5. Ammonium Phosphate Sulphate Nitrate (20-20-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	20.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	17.0
iv.	Nitrate nitrogen per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	20.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	17.0
vii.	Sulphur (as S), per cent by weight, minimum	13.0

viii. Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and shall be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.

6. Ammonium Phosphate Sulphate (18-9-0)

i.	Moisture per cent by weight, maximum	1.0
ii.	Ammoniacal nitrogen per cent by weight, minimum	18.0
iii.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	9.0
iv.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	8.5
v.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

7. Nitro Phosphate (20-20-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	20.0
iii.	Nitrogen in ammoniacal form per cent by weight, minimum	10.0
iv.	Nitrogen in nitrate form per cent by weight, maximum	10.0
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	20.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	12.0
vii.	Calcium nitrate per cent by weight, maximum	1.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

8. Urea Ammonium Phosphate (28-28-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	28.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	9.0
iv.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	28.0
v.	Water soluble phosphates (as P_2O_5) per rent by weight, minimum	25.2
vi.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

9. Urea Ammonium Phosphate (24-24-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	24.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.5

iv.	Nitrogen in the form of urea per cent by weight, maximum	16.5
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	24.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	20.4
vii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

(Note: This product contains inert filler material such as sand or dolomite to the extent of 20% by weight, maximum)

10. Urea Ammonium Phosphate (20-20-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	20.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	6.4
iv.	Neutral ammoniacal citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	20.0
v.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	17.0
vi.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

(Note: This product contains filler material (inert soil) to the extent of 30 per cent by weight)

11. Mono Ammonium Phosphate (11-52-0)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen all in ammoniacal form per cent by weight, minimum	11.0
iii.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	52.0
iv.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	44.2
v.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve	

12. Omitted vide S.O. 1420 (E) dated 22.6.2012

13. Ammonium Nitrate Phosphate (23-23-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	23.0
iii.	Nitrogen in ammoniacal form per cent by weight, minimum	13.0
iv.	Nitrogen in nitrate form per cent by weight, maximum	10.0

v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	23.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	20.5
vii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

14. Ammonium Polyphosphate (10-34-0) (Liquid)

i.	Total nitrogen (all as ammoniacal nitrogen) per cent by weight, minimum	10.0
ii.	Total phosphate (as P_2O_5) per cent by weight, minimum	34.0
iii.	Polyphosphate (as P_2O_5) per cent by weight, minimum	22.1
iv.	Magnesium (as MgO) per cent by weight, maximum	0.5
v.	Specific gravity (at 27°C)	1.4
vi.	pH 5.8-6.2	

15. Ammonium Phosphate (14-28-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	14.0
iii.	Urea nitrogen per cent by weight, maximum	6.0
iv.	Ammoniacal nitrogen per cent by weight, minimum	8.0
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	28.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	23.0
vii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

16. 13:33:0:15S

i.	Ammoniacal nitrogen per cent by weight, minimum	13.0
ii.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	33.0
iii.	Water soluble phosphates (as P_2O_5), per cent by weight, minimum	30.0
iv.	Total sulphur (as S), per cent by weight, minimum	15.0
v.	Elemental sulphur (as S), per cent by weight, maximum	7.6
vi.	Sulphate sulphur (as S), per cent by weight, minimum	7.4
vii.	Moisture per cent by weight, maximum	1.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve and not more than 5 per cent shall be below 1 mm IS sieve.	

17. Diammonium Phosphate (16:44:0)

i.	Moisture percent by weight, maximum	3.0
ii.	Total nitrogen per cent by weight, minimum	16.0
iii.	Ammoniacal nitrogen per cent by weight,	14.0

	minimum	
iv.	Total nitrogen in the form of urea per cent by weight, maximum	2.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	44.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	37.0
vii.	Particle size: Not less than 90 per cent of the material shall pass through 4 mm IS sieve and shall be retained on 1mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

18. Nitrophosphate (24-24-0)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	24.0
iii.	Nitrogen in ammoniacal form per cent by weight, minimum	13.5
iv.	Nitrogen in nitrate form per cent by weight, maximum	10.5
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	24.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	20.5
vii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

1 (e). N.P.K. COMPLEX FERTILISERS

1. Nitrophosphate with Potash (15-15-15)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen, per cent, minimum	15.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.5
iv.	Nitrate nitrogen per cent by weight, maximum	7.5
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	15.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, Minimum	4.0
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	15.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve	
ix.	Calcium nitrate per cent by weight, maximum	1.0

2. N.P.K. (10-26-26)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, minimum	10.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.0
iv.	Nitrogen in the form of urea per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	26.0
vi.	Water soluble potash (as K_2O) per cent by weight, minimum	26.0

vii.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	22.1
viii.	Particle size- Particle size of the material will be such that 90 per cent of the material will be between 1 mm and 4mm IS sieve and not more than 5 per cent will be below 1 mm size.	

3. N.P.K. (12-32-16)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, minimum	12.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	9.0
iv.	Nitrogen in the form of urea per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	32.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	27.2
vii.	Water soluble potash (as K_2O) per cent by weight,	
viii.	minimum	16.0
ix.	Particle size -Particle size of the material will be such that 90 per cent of the material will be between 1 mm and 4 mm IS sieve and not more than 5 per cent will be below 1 mm size.	

4. N.P.K. (22-22-11)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	22.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.0
iv.	Urea nitrogen per cent by weight, maximum	15.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	22.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	18.7
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	11.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

5. N.P.K. (14-35-14)

i.	Moisture per cent by weight, maximum	1.0
ii.	Nitrogen in ammoniacal form per cent by weight, minimum	14.0
iii.	Omitted vide S.O. 1079 (E) dt. 11.12.1987	
iv.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	35.0
v.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	29.0
vi.	Water soluble potash (as K_2O) per cent by weight, minimum	14.0
vii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

6. N.P.K. (17-17-17)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	17.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	5.0
iv.	Urea nitrogen per cent by weight, maximum	12.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	17.0
vi.	Water soluble potash (as K_2O) per cent by weight, minimum	17.0
vii.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	14.5
viii.	Particle size –Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than5 per cent shall be below 1 mm IS sieve.	

7. N.P.K. (14-28-14)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	14.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	8.0
iv.	Urea nitrogen per cent by weight, maximum	6.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	28.0
vi.	Water soluble potash (as K_2O) per cent by weight, minimum	14.0
vii.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	23.8
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

8. N.P.K. (19-19-19)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	19.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	5.6
iv.	Urea nitrogen per cent by weight, maximum	13.4
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	19.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	16.2
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	19.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1mm IS sieve.	

9. N.P.K. (17-17-17)

i.	Moisture per cent by weight, maximum	1.5

ii.	Total nitrogen per cent by weight, minimum	17.0
iii.	Ammonium nitrogen per cent by weight, minimum	8.5
iv.	Nitrate nitrogen per cent by weight, maximum	8.5
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	17.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	13.6
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	17.0
viii.	Particle size – Not less than 80 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 20 per cent shall be above 4 mm IS sieve.	

10. N.P.K.(20-10-10)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	20.0
iii.	Urea nitrogen percent by weight, maximum	17.1
iv.	Ammoniacal nitrogen percent by weight, minimum	3.9
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	10.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	8.5
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	10.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

11. N.P.K. (15:15:15)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	15.0
iii.	Ammoniacal nitrogen percent by weight, minimum	12.0
iv.	Nitrogen in the form of urea, per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	15.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	12.0
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	15.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve.	

12. N.P.K. (15:15:15:9(S))

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	15.0
iii.	Ammoniacal nitrogen percent by weight, minimum	12.0
iv.	Nitrogen in the form of urea per cent by weight, maximum	3.0

v.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	12.0
vi.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	15.0
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	15.0
viii.	Sulphur (as S) per cent by weight minimum	9.0
ix.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve.	

13. N.P.K. (12:11:18 with MgO)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	12.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.0
iv.	Nitrate nitrogen per cent by weight, maximum	5.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	11.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	7.7
vii.	Water soluble potash (as K_2O), per cent by weight, minimum	18.0
viii.	Magnesium (as Mg) per cent by weight, minimum	1.2
ix.	Sulphur (as S) per cent by weight, minimum	7.6
x.	Total chlorides (as Cl) percent by weight, maximum	1.0
xi.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve and not more than 5 per cent shall be below 1 mm IS sieve.	

14. N.P.K. 16:16:16

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	16.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	8.0
iv.	Nitrate nitrogen per cent by weight, maximum	8.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	16.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	12.0
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	16.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve.	

15. N.P.K. 9:25:25

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, minimum	9.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	6.0
iv.	Nitrate nitrogen per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5)	

	per cent by weight, minimum	25.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	21.25
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	25.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm IS sieve.	

16. Nitrophosphate with Potash (14-14-21)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	14.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	8.0
iv.	Nitrate nitrogen per cent by weight, minimum	6.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	14.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	9.0
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	21.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

17. Nitrophosphate with Potash (21-06-13)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	21.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	10.5
iv.	Nitrate nitrogen per cent by weight, minimum	10.5
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	6.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	3.7
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	13.0
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

18. Nitrophosphate with Potash Grade II (15-15-15)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	15.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	8.5
iv.	Nitrate nitrogen per cent by weight, minimum	6.5
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	15.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	9.8
vii.	Water soluble potash (as K_2O) per cent by weight,	15.0

	minimum	
viii.	Sulphur (as S) per cent by weight, minimum	3.4
ix.	Total chloride (as Cl) per cent by weight, maximum	3.4
x.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

19. Nitrophosphate with Potash Grade (15-9-20)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	15.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	8.3
iv.	Nitrate nitrogen per cent by weight, minimum	6.7
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	9.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	5.9
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	20.0
viii.	Sulphur (as S) per cent by weight, minimum	3.4
ix.	Magnesium (as Mg) per cent by weight, minimum	0.7
x.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1 mm sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

1 (f) MICRONUTRIENTS

1. Zinc Sulphate Heptahydrate (ZnSO4.7H2O)

i.	Omitted vide S.O. 49(E) dt. 16.01.2003	
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	Zinc (as Zn) per cent by weight, minimum	21.0
iv.	Lead (as Pb) per cent by weight, maximum	0.003
v.	Copper (as Cu) per cent by weight, maximum	0.1
vi.	Magnesium (as Mg) per cent by weight, maximum	0.5
vii.	pH not less than	4.0
viii.	Sulphur (as S) per cent by weight, minimum	10.0
ix.	Cadmium (as Cd) per cent by weight, maximum	0.0025
x.	Arsenic (as As) per cent by weight, maximum	0.01

2. Manganese Sulphate

i.	Free flowing form	
ii.	Matter insoluble in water per cent by weight, maximum	1.2
iii.	Manganese (as Mn) content per cent by weight, minimum	30.5
iv.	Lead (as Pb) per cent by weight, maximum	0.003
v.	Copper (as Cu) per cent by weight, maximum	0.1
vi.	Magnesium (as Mg) per cent by weight, maximum	2.0
vii.	pH not less than	4.0
viii.	Sulphur (as S) per cent by weight, minimum	17.0

3. Borax (Sodium Tetraborate) ($Na_2B_4O_7.10H_2O$) for Soil Application

i.	Content of boron as (B) per cent by weight, minimum	10.5
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	pH	9.0-9.5
iv.	Lead (as Pb) per cent by weight, maximum	0.003

4. Omitted vide S.O. 413 (E) dt. 07.04.2003

5. Copper Sulphate ($CuSO_4.5H_2O$)

i.	Copper (as Cu) per cent by weight, minimum	24.0
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	Soluble iron and aluminum compounds (expressed as Fe) per cent by weight, maximum	0.5
iv.	Lead (as Pb) per cent by weight, maximum	0.003
v.	pH not less than	3.0
vi.	Sulphur (as S) per cent by weight, minimum	12.0

6. Ferrous Sulphate ($FeSO_4.7H_2O$)

i.	Ferrous iron (as Fe) per cent by weight, minimum	19.0
ii.	Free acid (as H_2SO_4) per cent by weight, maximum	1.0
iii.	Ferric iron (as Fe) per cent by weight, maximum	0.5
iv.	Matter insoluble in water, per cent by weight, maximum	1.0
v.	pH not less than	3.5
vi.	Lead (as Pb) per rent by weight, maximum	0.003
vii.	Sulphur (as S) percent by weight, minimum	10.5

7. Ammonium Molybdate ($(NH4)_6Mo_7O_{24}$ $.4H_2O$)

i.	Molybdenum (as Mo) per cent by weight, minimum	52.0
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	Lead (as Pb) per cent by weight, maximum	0.003

8. Chelated Zinc as Zn-EDTA

i.	Appearance – Free flowing crystalline or powder or Tablet	
ii.	Zinc content (Expressed as Zn), per cent by weight minimum in the form of Zn-EDTA	12.0
iii.	Lead (as Pb) per cent by weight maximum	0.003
iv.	pH	6.0-6.5

9. Chelated Iron as Fe-EDTA

i.	Appearance – Free flowing crystalline / powder	
ii.	Iron content (expressed as Fe), per cent by weight minimum in the form of Fe-EDTA	12.0
iii.	Lead (as Pb) per cent by weight, maximum	0.003
iv.	pH	5.5-6.5

10. Zinc Sulphate Monohydrate ($ZnSO_4.H_2O$)

i.	Free flowing powder form	
ii.	Matter-insoluble in water per cent by weight, maximum	1.0
iii.	Zinc (as Zn) per cent by weight. minimum	33.0
iv.	Lead (as Pb) per cent by weight, maximum	0.003

v.	Copper (as Cu) per cent by weight, maximum	0.1
vi.	Magnesium (as Mg) per cent by weight, maximum	0.5
vii.	Iron (as Fe) per cent by weight, maximum	1.0
viii.	pH not less than	4.0
ix.	Sulphur (as S) per cent by weight, minimum	15.0
x.	Cadmium (as Cd) per cent by weight, maximum	0.0025
xi.	Arsenic (as As) per cent by weight, maximum	0.01

11. Magnesium Sulphate

i.	Free flowing – crystalline form	
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	Magnesium (as Mg) per cent by weight, minimum	9.6
iv.	Lead (as Pb) per cent by weight, maximum	0.003
v.	pH (5% solution)	5.0-8.0
vi.	Sulphur (as S) per cent by weight, minimum	12.0

12. Boric Acid (H_3BO_3)

i.	Boron (as B) per cent weight, minimum	17.0
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	Lead (as Pb) per cent by weight, maximum	0.003

13. Disodium Octa Borate Tetra Hydrate ($Na_2B_8O_{13}.4H_2O$)

i.	Boron (as B) per cent weight, minimum	20.0
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	Lead (as Pb) per cent by weight, maximum	0.003

14. Disodium Tetra Borate Penta Hydrate

i.	Boron (as B) per cent weight, minimum	15.0
ii.	Matter insoluble in water per cent by weight, maximum	1.0
iii.	Lead (as Pb) per cent by weight, maximum	0.003
iv.	Arsenic (as As) per cent by weight, maximum	0.01
v.	Particle size – Not less than 95% of the material shall pass through 5 mm IS sieve and be retained on 1.4 mm IS sieve.	

15. Zinc Sulphate Monohydrate (Granular)

i.	Matter-insoluble in water per cent by weight, maximum	1.0
ii.	Zinc (as Zn) per cent by weight, minimum	33.0
iii.	Lead (as Pb) per cent by weight, maximum	0.003
iv.	Copper (as Cu) per cent by weight, maximum	0.1
v.	Magnesium (as Mg) per cent by weight, maximum	0.5
vi.	Iron (as Fe) per cent by weight, maximum	1.0
vii.	pH not less than	4.0
viii.	Sulphur (as S) per cent by weight, minimum	15.0
ix.	Cadmium (as Cd) per cent by weight, maximum	0 .0025
x.	Arsenic (as As) per cent by weight, maximum	0.01
xi.	Particle size – Not less than 90 per cent of the material shall pass through 4mm IS sieve and be retained on 2mm IS sieve. Not more than 5 per cent shall be below 2 mm IS sieve.	

1(g). FORTIFIED FERTILISERS

1. Boronated Single Superphosphate (16% P_2O_5 Powdered)

i.	Moisture per cent. by weight, maximum	12.0
ii.	Free phosphoric acid (as P_2O_5) per cent by weight, maximum	4.0
iii.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	16.0
iv.	Boron (as B) per cent by weight	0.15-0.20
v.	Sulphur (as S) per cent by weight, minimum	11.0

2. Zincated Urea

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, (on dry basis), minimum	43.0
iii.	Zinc (as Zn) per cent by weight, minimum	2.0
iv.	Biuret, per cent by weight, maximum	1.5
v.	Particle Size – Not less than 90 per cent of the material shall pass through 2.8 mm IS sieve and not less than 80 per cent by weight shall be retained on 1mm IS sieve.	

3. Zincated Phosphate (Suspension) – for Seed Treatment

i.	Total phosphate (as P_2O_5) per cent by weight, minimum	13.9
ii.	Total zinc (Zn) per cent by weight, minimum	17.6
iii.	Neutral ammonium citrate soluble phosphate as (P_2O_5) per cent by weight, minimum	2.8
iv.	Lead (as Pb) per cent by weight, maximum	0.003
v.	pH 8+1	

4. N.P.K. Complex Fertilizer Fortified with Boron (10:26:26:0.3)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, minimum	10.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.0
iv.	Urea nitrogen (as N) per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphate as (P_2O_5) percent by weight, minimum	26.0
vi.	Water soluble phosphate as (P_2O_5) per cent by weight, minimum	22.1
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	26.0
viii.	Boron (as B) per cent by weight, minimum	0.3
ix.	Particle size – Not less than 90 per cent of the material shall be between 1 mm and 4 mm IS sieve and not more than 5 per cent shall be below 1 mm IS sieve.	

5. NPK Complex Fertilizer Fortified with Boron (12:32:16:0.3)

i.	Moisture per cent by weight, maximum	1.0
ii.	Total nitrogen per cent by weight, minimum	12.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	9.0
iv.	Nitrogen in the form of urea per cent by weight, maximum	3.0

v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	32.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	27.2
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	16.0
viii.	Boron (as B) per cent by weight, minimum	0.3
ix.	Particle size – Particle size of the material will be such that 90 per cent of the material will be between 1 mm and 4 mm IS sieve and not more than 5 per cent will be below 1 mm IS sieve.	

6. Diammonium Phosphate Fortified with Boron (18:46:0: 0.3)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	18.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	15.5
iv.	Nitrogen in the form of urea per cent by weight, maximum	2.5
v.	Neutral ammonium citrate soluble phosphates (as P_2O_5) per cent by weight, minimum	46.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	41.0
vii.	Boron (as B) per cent by weight, minimum	0.3
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and be retained on 1mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

7. N.P.K. Complex Fertilizer Fortified with Zinc (10:26:26:0.5)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	10.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.0
iv.	Urea nitrogen (as N) per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5)	26.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	20.0
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	26.0
viii.	Zinc (as Zn) per cent by weight, minimum	0.5
ix.	Particle size – Not less than 90 per cent of the material shall be retained between 1 mm and 4 mm IS sieve and not more than 5 per cent shall be below 1 mm IS sieve.	

8. N.P.K. Complex Fertilizer Fortified with Zinc (12:32:16:0:0.5)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	12.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	9.0
iv.	Urea nitrogen (as N) per cent by weight, maximum	3.0
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5), per cent by weight, minimum	32.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	25.0

vii.	Water soluble potash (as K_2O) per cent by weight, minimum	16.0
viii.	Zinc (as Zn) per cent by weight, minimum	0.5
ix.	Particle size - Not less than 90 per cent of the material shall be retained between 1 mm and 4 mm IS sieve and not more than 5 per cent shall be below 1 mm IS sieve.	

9. Calcium Nitrate with Boron

i.	Total nitrogen per cent by weight, minimum	14.60
ii.	Ammoniacal nitrogen per cent by weight, maximum	1.1
iii.	Nitrate nitrogen as N per cent by weight, minimum	13.5
iv.	Water soluble calcium as per cent by weight, minimum	17.1
v.	Boron (as B) per cent by weight, minimum	0.250

10. Nitrophosphate with Potash fortified with Boron (15:15:15: B 0.2)

i.	Moisture per cent by weight, maximum	1.5
ii.	Total nitrogen per cent by weight, minimum	15.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	7.5
iv.	Nitrate nitrogen per cent by weight, maximum	7.5
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	15.0
vi.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	4.0
vii.	Water soluble potash (as K_2O) per cent by weight, minimum	15.0
viii.	Boron (as B) per cent by weight, minimum	0.2
ix.	Calcium nitrate per cent by weight, maximum	1.0
x.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and retained on 1mm IS sieve.	

11. Diammonium Phosphate (DAP) Fortified with Zinc (18:46:0:0.5)

i.	Moisture per cent by weight, maximum	2.5
ii.	Total nitrogen per cent by weight, minimum	18.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	15.5
iv.	Urea nitrogen per cent by weight, maximum	2.5
v.	Neutral ammonium citrate soluble phosphate (as P_2O_5) per cent by weight, minimum	46.0
vi.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	41.0
vii.	Zinc (as Zn) per cent by weight, minimum	0.5
viii.	Particle size – Not less than 90 per cent of the material shall pass through 4 mm IS sieve and retained on 1mm IS sieve. Not more than 5 per cent shall be below 1 mm IS sieve.	

1(h) 100% WATER SOLUBLE COMPLEX FERTILISERS

1. Potassium Nitrate (13-0-45)

i.	Omitted vide S.O. 540 (E) dt. 12.5.2003	
ii.	Moisture per cent by weight maximum	0.5
iii.	Total nitrogen (all in Nitrate form) per cent by weight, minimum 13.0	

iv.	Water soluble potash (as K_2O) per cent by weight, minimum	45.0
v.	Sodium (as Na) (On dry basis) per cent by weight, maximum.	1.0
vi.	Total chloride (as Cl) (On dry basis) per cent by weight, Maximum	1.5
vii.	Matter insoluble in water, per cent by weight, maximum	0.05

2. Omitted vide S.O. 540 (E) dt. 12.5.2003

3. Mono – Potassium Phosphate (0-52-34) (100% water Soluble)

i.	Moisture per cent by weight, maximum	0.5
ii.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	52.0
iii.	Water soluble potash (as K_2O) per cent by weight, minimum	34.0
iv.	Sodium (as NaCl) per cent by weight (on dry basis), maximum	0.025

4. Calcium Nitrate

i.	Total nitrogen per cent by weight, minimum	15.5
ii.	Ammoniacal nitrogen per cent by weight, maximum	1.1
iii.	Nitrate nitrogen as N per cent by weight, minimum	14.4
iv.	Water soluble calcium as per cent by weight, minimum	18.8
v.	Matter insoluble in water per cent by weight, maximum	1.5

5. N.P.K. 13:40:13 (100% Water Soluble)

i.	Total nitrogen per cent by weight, minimum	13.0
ii.	Nitrate nitrogen per cent by weight, maximum	4.4
iii.	Ammoniacal nitrogen per cent by weight, minimum	8.6
iv.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	40.0
v.	Water soluble potash as K_2O, per cent by weight, minimum	13.0
vi.	Sodium (as NaCl), per cent by weight. on dry basis, maximum	0.15
vii.	Matter insoluble in water per cent by weight, maximum	0.5

6. N.P.K. 18:18:18 (100% Water Soluble)

i.	Total nitrogen per cent by weight, minimum	18.0
ii.	Nitrate nitrogen per cent by weight, maximum	9.8
iii.	Ammoniacal nitrogen per cent by weight, minimum	8.2
iv.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	18.0
v.	Water soluble potash (as K_2O) per cent by weight, minimum	18.0
vi.	Sodium as NaCl per cent by weight on dry basis, maximum	0.25
vii.	Matter insoluble in water per cent by weight,	

	maximum	0.5

7. N.P.K. 13:5:26 (100% Water Soluble)

i.	Total nitrogen per cent by weight, minimum	13.0
ii.	Nitrate nitrogen per cent by weight, maximum	7.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	6.0
iv.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	5.0
v.	Water soluble potash as K_2O per cent by weight, minimum.	26.0
vi.	Sodium as NaCl per cent by weight, on dry basis maximum	0.3
vii.	Matter insoluble in water per cent by weight, maximum.	0.5

8. N.P.K. 6:12:36 (100% Water Soluble)

i.	Total nitrogen per cent by weight, minimum	6.0
ii.	Nitrate nitrogen per cent by weight, maximum	4.5
iii.	Ammoniacal nitrogen per cent by weight, minimum	1.5
iv.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	12.0
v.	Water soluble potash per cent by weight, minimum.	36.0
vi.	Sodium as NaCl per cent by weight, maximum	0.5
vii.	Matter insoluble in water per cent by weight, Maximum	0.5

9. N.P.K. 20:20:20 (100% Water Soluble)

i.	Total nitrogen per cent by weight, minimum	20.0
ii.	Nitrate nitrogen per cent by weight, maximum	4.9
iii.	Ammoniacal nitrogen, per cent by weight, minimum	3.0
iv.	Urea nitrogen per cent by weight, maximum	12.1
v.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	20.0
vi.	Water soluble potash as K_2O per cent by weight, minimum	20.0
vii.	Sodium as NaCl per cent by weight on dry basis, maximum	0.06
viii.	Matter insoluble in water per cent by weight, maximum	0.5

10. Potassium Magnesium Sulphate

i.	Moisture per cent by weight, maximum	0.5
ii.	Potash content (as K_2O) per cent by weight, minimum	22.0
iii.	Magnesium as MgO per cent by weight, minimum	18.0
iv.	Total chloride (as Cl) per cent by weight (on dry basis), maximum	2.5
v.	Sodium (as NaCl) per cent by weight (on dry basis), maximum	2.0
vi.	Sulphur (as S) per cent by weight, minimum	20.0

11. N.P.K. 19:19:19 (100% Water Soluble)

i.	Total nitrogen per cent by weight, minimum	19.0
ii.	Nitrate nitrogen per cent by weight, maximum	4.0
iii.	Ammoniacal nitrogen per cent by weight, minimum	4.5
iv.	Urea nitrogen per cent by weight, maximum	10.5
v.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	19.0
vi.	Water soluble potash (as K_2O) per cent by weight, minimum	19.0
vii.	Sodium as NaCl per cent by weight on dry basis, maximum	0.5
viii.	Matter insoluble in water per cent by weight, maximum	0.5
ix.	Moisture percent by weight, maximum	0.5

12. Mono Ammonium Phosphate 12:61:0 (100% Water Soluble)

i.	Moisture per cent by weight, maximum	0.5
ii.	Ammoniacal nitrogen per cent by weight, minimum	12.0
iii.	Water soluble phosphates (as P_2O_5) per cent by weight, minimum	61.0
iv.	Sodium as NaCl per cent by weight, maximum	0.5
v.	Matter insoluble in water per cent by weight, maximum	0.5

13. Urea Phosphate 17:44:0 (100% Water Soluble)

i.	Moisture per cent by weight, maximum	0.5
ii.	Total nitrogen per cent by weight, minimum	17.0
iii.	Water soluble phosphates (as P_2O_5) per cent by weight, Minimum	44.0
iv.	Matter insoluble in water per cent by weight, maximum	0.5

14. N.P.K. 12:30:15 (100% Water Soluble)

i.	Moisture per cent by weight, maximum	0.5
ii.	Urea nitrogen per cent by weight, minimum	12.0
iii.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	30.0
iv.	Water soluble potash (as K_2O) per cent by weight, minimum	15.0
v.	Sulphur (as S) per cent by weight, minimum	5.2
vi.	Matter insoluble in water, per cent by weight, maximum	0.5

15. N.P.K. 12:32:14 (100% Water Soluble)

i.	Moisture per cent by weight, maximum	0.5
ii.	Urea nitrogen per cent by weight, minimum	12.0
iii.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	32.0
iv.	Water soluble potash (as K_2O) per cent by weight, minimum	14.0
v.	Sulphur (as S) per cent by weight, minimum	4.8
vi.	Matter insoluble in water per cent by weight, maximum	0.5

16. Urea Phosphates with SOP 18:18:18 (100% Water Soluble)

i.	Moisture per cent by weight, maximum	0.5
ii.	Urea nitrogen per cent by weight, minimum	18.0
iii.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	18.0
iv.	Water soluble potash (as K_2O) per cent by weight, minimum	18.0
v.	Sulphur (as S) per cent by weight, minimum	6.1
vi.	Matter insoluble in water, per cent by weight, maximum	0.5

17. N.P.K. Zn (7.6:23.5:7.6:3.5)

i.	Moisture per cent by weight, maximum	0.5
ii.	Total nitrogen per cent by weight, minimum	7.6
iii.	Nitrate nitrogen per cent by weight, maximum	2.8
iv.	Ammoniacal nitrogen per cent by weight, minimum	5.0
v.	Water soluble phosphate (as P_2O_5) per cent by weight, minimum	23.5
vi.	Water soluble potash (as K_2O) per cent by weight, minimum	7.6
vii.	Water soluble Zinc (as Zn EDTA) per cent by weight, minimum	3.5
viii.	Sodium (as NaCl) per cent by weight, on dry basis, maximum	0.15
ix.	Matter insoluble in water per cent by weight, maximum	0.5

ANNEX 5. 1

THE AGRICULTURE AND FISHERIES MODERNIZATION ACT OF 1997

IMPLEMENTING RULES AND REGULATIONS GOVERNING THE GRANT OF TARIFF EXEMPTIONS ON THE IMPORTATION OF AGRICULTURE AND FISHERIES INPUTS, MACHINERY AND EQUIPMENT UNDER SECTIONS 108 TO 110 OF REPUBLIC ACT 8435(Excerpt)

Rule I
PRELIMINARY PROVISIONS

Section 2. **Objective** - These rules and regulations shall govern the importation of agriculture and fisheries inputs; machinery and equipment exempt from the payment of tariff and duties.

Section 4**. Definition of Terms** - The terms used in this set of IRRs are defined as follows:

a). Agriculture Enterprise refers to any single proprietorship, partnership, cooperative, corporation, farmer's organization/association or juridical entity engaged in the cultivation of the soil, planting of crops, growing of fruit trees, raising of livestock, or poultry, the harvesting and marketing of such farm products, and other farm activities and practices.

b). Agriculture Inputs, Machinery and Equipment refers to goods that are used or employed in cultivation of the soil, planting of crops, growing of fruit trees, raising of livestock or poultry, the harvesting and marketing of such farm products, and in the conduct of farm activities and practices.

Rule II
COVERED IMPORTS

Section 1. The lists of agriculture and fisheries inputs, machinery and equipment eligible for tariff exemptions for five years from the date of the effectivity of this Administrative Order (AO) shall be issued in two batches, according to their appropriate eight-digit harmonized commodity description and coding system in the Tariff and Customs Code of the Philippines.

a). Annex A covers products which shall be imported duty-free and where the rules on the application/certification and monitoring procedures of this AO shall not apply.

b). Annex B shall cover eligible products for tariff exemption, subject to the application and certification procedures outline in Rule V of this set of IRRs.

Rule III
COVERED ENTERPRISES

Agriculture and fisheries enterprises as defined in Sections 4 a) and I) of Rule I of this set of IRRs shall be eligible for exemption from the payment of tariffs on imported inputs, machinery and equipment that are for their exclusive use, subject to the provisions outlined in Rule V to VIII of this set of IRRs.

Rule IV

IMPORT CONSOLIDATORS

Section 1. Import consolidators as defined in Section 4 m) of Rule I of this set of IRRs shall represent and assist those eligible agriculture and fisheries enterprises that are unable to undertake direct imports due to the small size of orders or lack of direct import experience.

An import consolidator shall be prohibited from diverting for its benefit or use, nor shall sell, barter, exchange, lease or transfer to third persons, the imported agriculture and fisheries inputs, machinery and equipment. Circumvention of this provision by the import consolidator shall be subject to the provisions under Rule VIII of this set of IRRs.

Section 2. Import consolidators shall be allowed to import duty-free agriculture and fisheries inputs, machinery and equipment, provided that they have secured the following:

a. Certificate of Registration from the Cooperative Development Authority (CDA), Securities and Exchange Commission (SEC), or with the Department of Trade and Industry as the case may be;

b. Notarized letter of endorsement duly signed by all participating eligible agriculture and fisheries enterprises, attached with their approved individual CEs, allowing the import consolidator to import agriculture and fisheries inputs, machinery and equipment on their behalf; and

c. Aggregated and consolidated import purchase orders of all participating eligible agriculture and fisheries enterprises for each import transaction.

Rule V
APPLICATION/CERTIFICATION PROCEDURES

Section 1. Agriculture and fisheries enterprises interested in availing of tariff-exempt importation shall apply for a Certificate of Eligibility (CE) from the Department of Agriculture (DA) or its deputized agencies. The CE entitles an enterprise for duty free importation of agriculture and fisheries inputs, machinery, equipment listed. However, the CE shall be an accountable form and shall not be transferable.

The DA or its deputized agency shall, in consultation with the Department of Finance and the Board of Investments in appropriate cases, issue the CE.

Section 2. The offices deputized to issue CEs are:

a. The DA's Regional Field Units (RFUs),
b. The CDA's regional offices,
c. The Department of Trade and Industry's (DTI) regional and provincial offices, and
d. The BOI and its regional offices. The Head of the above-listed offices shall be the only signatory in the CE.

Section 3. The DA or any of its deputized offices upon evaluation of the application letter and supporting documents as follows shall issue Certificates of Eligibility (CE) to agriculture and fisheries enterprises:

a. In the case of corporations and partnerships, certified copy of the registration documents of enterprise issued by the SEC; or
b. In the case of single proprietorship, a certified copy of the registration documents of enterprise issued by the DTI or a certified copy of Business/Mayor's Permit, as the case may be; or
c. In the case of a cooperative, a certified copy of the registration documents issued by the CDA; or
d. In the case of farmers'/fisherfolk's organizations and associations, a certified copy of the registration documents of enterprise issued by the SEC or an accreditation by appropriate government agency; and
e. Audited financial statements for the previous year in cases where the limit for the value of the tariff exempt transaction will be based on the enterprise's declared assets,
f. Pro-forma invoice, and
g. A sworn statement that the input, machinery, and equipment to be imported tariff-exempt will be for the exclusive use of the importing agriculture/fisheries enterprise.
h.

The CE shall be valid throughout the effectivity of this AO, unless invalidated or revoked under Rule VIII.

Section 4. The peso value of each import transaction shall not exceed the declared assets of the eligible agriculture and fisheries enterprise as evidenced by the audited financial statement of the enterprise for the previous year, or the authorized capital stock as evidenced by the SEC registration documents.

Section 5. The CE, a sample of which is attached as Annex C, shall contain the following information:

a. Name of the agriculture or fisheries enterprise;
b. Type of agricultural activity engaged in;
c. Date of issuance of the CE;
d. Total allowable peso value of import transaction, as set in Section 4 of this Rule; and
e. Tables recording the requested and actual tariff exempt import transactions made by the entity.

Rule VI
TARIFF EXEMPT IMPORT PROCEDURES

Section 1. Upon arrival of the imported agricultural and fisheries inputs at the point of entry into the Philippines, the importing agriculture or fisheries enterprise and/or import consolidator shall present the following documents to the Customs Collector to facilitate the exemption of the imports from tariff:

a. Commercial invoice;
b. Bill of Lading; and
c. In the case of agriculture and fisheries enterprise, original plus two copies of the CE with supporting documents listed under Section 3 of Rule V of this set of IRRs; or
d. In the case of an import consolidator, original plus two copies of the documents listed under Section 2 of Rule IV and (Section 3 e to 3 g) of Rule V of this set of IRRs.

Section 2. In processing the import transaction, the Customs Collector shall record on the space provided in the CE the value, quantity and the commodity code of the imported agriculture or fisheries input.

Section 3. One copy of the CE to be retained by the BOC and the other forwarded to the issuing office. The original CE shall be returned to the agriculture or fisheries enterprises for future use.

Rule VII
MONITORING AND REPORTING

The DA shall, in collaboration with the Department of Trade Industry (DTI), Cooperative Development Authority (CDA) and Bureau of Investment (BOI) monitor the domestic markets to document and guard against the diversion of imports under this set of IRRs for resale in the domestic market. The DA shall promote the collaboration of NGOs and the private sector in the monitoring process. Where violations are suspected, these agencies shall collaborate so that investigations and prosecution by the police and the Office of the Solicitor General (OSG) may proceed. The DA, CDA, DTI, BOI, DOF, BOC, and Department of Justice (DOJ) shall meet and agree on the mechanics of such monitoring. The monitoring arrangements shall be jointly approved and issued by the concerned agencies on or before 31 December 1998.

Rule VIII
PENALTIES

Section 1. Any person, partnership, corporation, association and other juridical entity found circumventing the provisions of this set of IRRs shall suffer the penalty of imprisonment for a period of not less than six (6) months but not more than one (1) year, or a fine equivalent to two hundred percent (200%) of the value of the imported materials, or both, at the discretion of the court, and the accessory penalties of confiscation of the imported goods in favor of the government and revocation of the privileges given under this title.

In cases where the violator is a juridical entity, the officers responsible in the violation of this set of IRRs shall suffer the penalty of imprisonment prescribed in this section.

The importation of goods equivalent to or exceeding the declared assets of the single proprietorship, partnership, or farmers/fisherfolk organizations and associations or the authorized capital stock in case of corporations and cooperatives, and/or the resale of the imported goods shall be a prima facie evidence of the violation of the provisions of this set of IRRs.

Section 2. Based on the investigations by the appropriate offices, and on the results of the import monitoring mechanism established in this set of IRRs, information on actions by any entity considered by any person or the concerned agencies to be in violation of this set of IRRs shall be endorsed to the Economic Intelligence and Investigation Bureau (EIIB) for proper legal action.

Section 3. Any commodities under the custody of the BOC and which are determined to have been imported in violation of any of the provisions of this set of IRRs shall be confiscated in favor of the government of the Republic of the Philippines and disposed of according to the usual procedures of the BOC.

Section 4. Any government employee or official who knowingly issued a Certificate of Eligibility to an enterprise which is not eligible under this set of IRRs shall be imposed the penalty of removal from service, demotion in rank, suspension for not more than one year without pay or fine in an amount not exceeding six months' salary in addition to such other penalties imposed by other laws, rules and regulations which were violated.

ANNEX 6. 1 WEEKLY FERTILIZER PRICES MONITORING FORM

FPA-FU Form No. 2
Revised 2017
FPA Control #:_____

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
FERTILIZER AND PESTICIDE AUTHORITY
FPA Bldg. B.A.I. Compound Visayas Ave. Diliman, Quezon City P.O. Box 2582, Q.C.
Tel. Nos. 8920-8173*8920-8573*8922-3368-8441-1601
E-mail add: fpacentral77@gmail.com Website: http://fpa.da.gov.ph

Region: _____

Period Cover: _____

GRADES	PROVINCE 1	PROVINCE 2	PROVINCE 3	AVERAGE
Urea				
21-0-0				
14-14-14				
16-20-0				
0-0-60				
18-46-0				

Prepared by:

_____
Position

Noted by:

_____
Supervising Agriculturist

Note: To be submitted to Field Office Coordinating Unit (FOCU) every Wednesday

References

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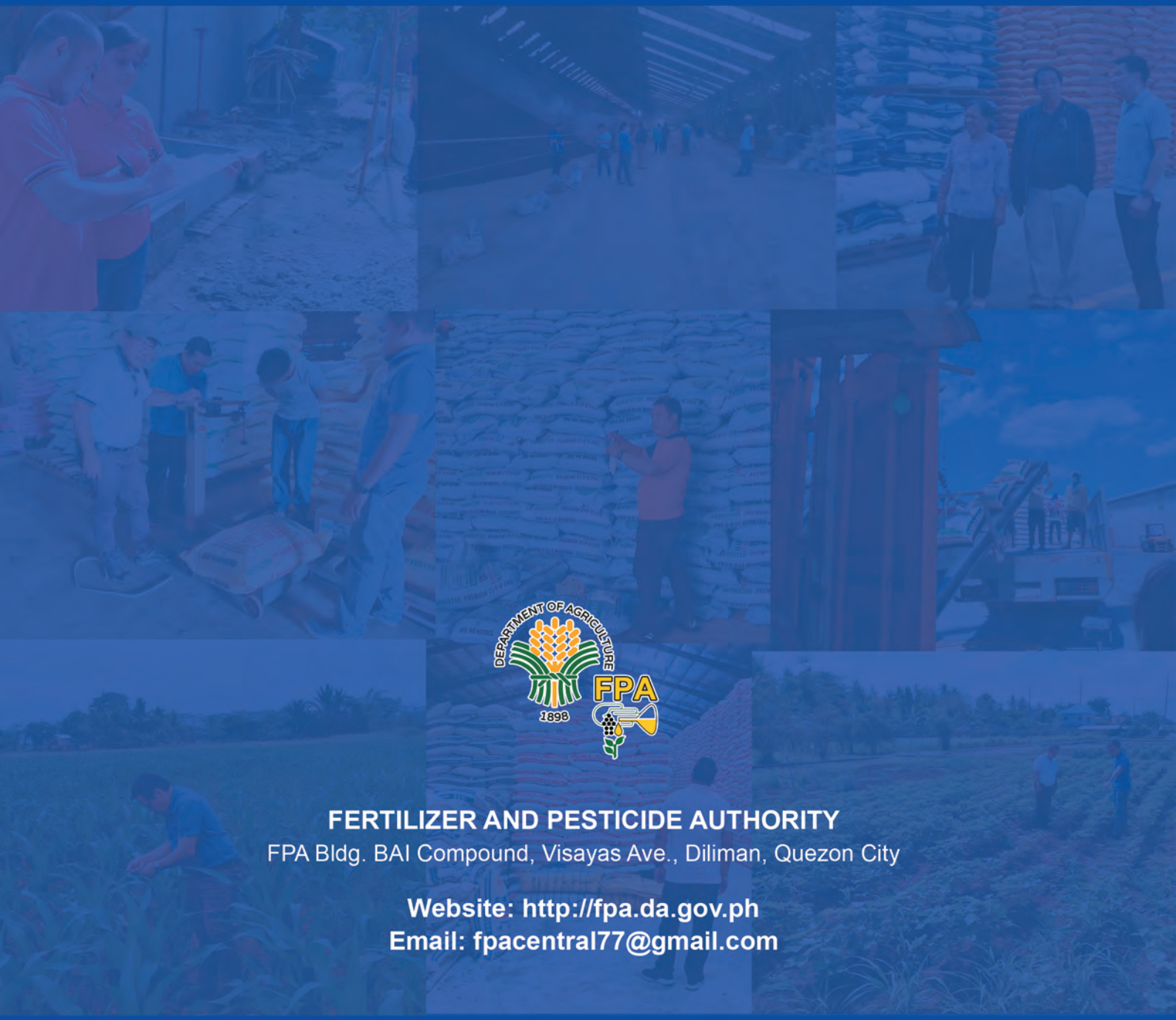

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