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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Technical guideline on environmental safety application of
chemical fertilizer**

化肥使用环境安全技术导则

(English Translation)

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Foreword

To implement the "People's Republic of China Environmental Protection Law", "People's Republic of China Air Pollution Prevention Law" and "Water People's Republic of China Pollution Prevention Act "to prevent or reduce the use of chemical fertilizers adverse environmental impacts, protect the ecological environment, the development of this standard.

This standard specifies the principles of environmentally safe use of fertilizers, technical measures for pollution control and management measures and other related content.

This standard is the first release.

This standard is developed by the Ministry of Environmental Protection Science, Technology organization.

This standard is mainly drafted by. Environmental Protection Department of the Nanjing Institute of Environmental Sciences, Chinese Academy of Environmental Sciences.

This standard is approved by the Ministry of Environmental Protection March 8, 2010.

This standard since May 1, 2010 implementation.

The standard explanation by the Ministry of Environmental Protection.

Fertilizer use environmentally safe technology Guide

1 Scope

This standard specifies the principles of environmentally safe fertilizer use, control measures and management measures and other related content.

This standard applies to the supervision and management of environmental safety

guidance farming fertilizer use, but also as an agricultural crop production guidance technology sector Branch Studies based fertilization.

2 Terms and definitions

The following terms and definitions apply to this standard.

Fertilizer Direct or indirect supply of crop nutrients, improve soil characteristics, in order to improve crop yield and quality of the material. Generally divided into organic fertilizer, no Organic fertilizer and microbial fertilizer three categories.

Organic fertilizer organic manure Refers mainly from plants and (or) animals, applied to the soil to provide plant nutrition and soil physical and chemical properties of its main functions containing Carbon materials.

Fertilizer chemical fertilizer Chemical fertilizers referred to, also known as inorganic fertilizers. It refers to the minerals, air, water as raw material, through chemical fertilizers and machined steel. Have Nitrogen, phosphorus, potassium and trace elements fertilizer, containing only nitrogen, phosphorus and potassium, one of the three elements is called a single fertilizers, and containing two or three of Called composite (mixed) fertilizer.

Fertilizer nitrogenous fertilizer to provide plant nutrients nitrogen as its main effect of single fertilizers. The main varieties are urea, ammonium sulfate, ammonium nitrate, ammonium chloride, Ammonium, ammonia and liquid ammonia.

Phosphate phosphorous fertilizer to provide its main plant nutrients phosphorus efficacy of single fertilizers. The main varieties of phosphate rock, superphosphate (including ordinary superphosphate and Two kinds of triple superphosphate), calcium magnesium phosphate slag phosphate fertilizer.

Potash fertilizer to provide nutrients for the main effect of plant potassium elemental fertilizer. The main varieties are potassium sulfate, potassium chloride and the like.

Composite (mixed) fertilizer complex (compound) fertilizer it refers to chemically synthesized or mixed into fertilizer containing nitrogen, phosphorus and potassium in the two kinds or more nutritious elements.

Trace element fertilizer microelement fertilizer those containing one or more plant growth are necessary, but very little fertilizer and nutrient requirements, such as Boron, manganese fertilizer and Zn, Copper fertilizer, molybdenum fertilizer.

Slow-release fertilizer slowly-available fertilizer Over a period of time can slow release fertilizer nutrients for plant uptake and utilization of.

2.10

Basal basal fertilizer Before sowing or before transplanting into the soil fertilizer.

2.11

Additional fertilizer top dressing During the growing process of applying fertilizer.

2.12

Urease inhibitor urease inhibitor that certain can inhibit urease activity, delaying the hydrolysis of urea to reduce ammonia nitrogen volatilization loss of substance.

2.13

Nitrification inhibitor nitrification inhibitor that certain bacteria can inhibit nitrification activity, slow down the conversion of ammonium to nitrate, thereby reducing the nitrogen to nitrate leaching losses were state quality.

2.14

Fertilization formula fertilization Comprehensive use of modern agricultural science and technology achievements, according to the laws of crop fertilizer, for the soil properties and fertilizer effect, have put forward before the crop planting Manure, a reasonable ratio of NPK fertilizer and a variety of fertilizer, the amount and the corresponding application technique.

3 Fertilizer Environmental Safety Principles

3.1

Under the premise of protecting agricultural production, conserve resources, improve the utilization of fertilizers.

3.2

consider the climate characteristics in different regions, cropping systems, environmental carrying capacity and environmental quality requirements, determine fertilizer varieties, dosage and Shi Method.

3.3

Analysis of fertilizer varieties of different characteristics, and the way the loss factors by adjusting factors can be artificially controlled, from the source, Field management, the end of the three aspects of control interception loss fertilizers, reduce environmental pollution risks.

4.1 Product choice

4.1.1

for fertilizer based on soil properties, crop nutritional characteristics, fertilizer characteristics and ecological characteristics, reasonable choice of fertilizer varieties.

4.1.2

soil more prone to leakage, minimize the use of prone to runoff, likely to be volatile and risky environment fertilizer, not to use nitrate fertilizer, suitable for use ammonium nitrogen fertilizer.

4.1.3

If the soil is warm and humid, it is desirable to use slow-release fertilizers.

4.1.4

appropriate to increase the proportion of organic fertilizer use, promote fertilization, administered compound (mixed) fertilizers, slow-release fertilizer.

4.2 Fertilizer use control

4.2.1

Considering the type of crop, yield goals, soil nutrient status, nutrient inputs other way, the degree of environmental sensitivity, determine the amount of fertilizer.

4.2.2

Through soil testing, soil nutrient supply of the understanding of the situation, in combination with other nutrients input conditions, such as irrigation methods, organic fertilizer Administration, health seed material (some seed coating containing fertilizers), etc., to determine the amount of fertilizer to use. At higher soil nutrient content should be less fertilizer;

When organic fertilizer, should be appropriate to reduce the amount of chemical fertilizer.

In addition to the presence of nutrients limiting factors (such as water) 4.2.3 Agricultural production, it should be less fertilizer.

4.2.4

in the following areas should be applied as little as possible or no fertilizer. Land near drinking water source protection areas; development in the lime pits and caves solution Strong soil leaching;; there is a thin layer of limestone soil runoff area prone areas; soil erosion affected areas; high water table Area.

4.3 Fertilizer application methods

4.3.1

fertilizer applied as far as possible in the crop root absorption zone, in order to improve fertilizer efficiency, reduce losses. But the leakage stronger soil, nitrogen Fat deep application has increased the possibility of leaching, should not be used.