



IFA AGRICULTURE CONFERENCE
Optimizing Resource Use Efficiency
for Sustainable Intensification of Agriculture

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**CURRENT STATUS AND PERSPECTIVES ON
CHINESE AGRICULTURAL POLICIES AND
SCIENTIFIC FERTILIZATION**

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“Current status and perspectives on Chinese agricultural policies and scientific fertilization”

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Ladies and Gentlemen,

Good Morning. We gathered here in Kunming, Yunnan, the city of eternal spring, to participate in 2006 IFA International Fertilizer Agriculture Conference co-held by CNCCC and IFA, in which we will discuss together how to effectively utilize agricultural resources and achieve sustainable development. First of all, on behalf of the China Ministry of Agriculture, I would like to extend the warmest congratulations to this conference and the heartiest welcome to all the participants. My speech, entitled *Current Status and Perspectives on Chinese Agricultural Policies and Scientific Fertilization* will briefly cover three themes: the perspectives on Chinese agricultural development and related policies, current conditions of fertilization practices in China, and the progress and perspectives of scientific fertilization.

I. Chinese Agriculture Development and Agricultural Policies

Having the majority of its population of 1.3 billion in the countryside, China has been faced with the conditions of the fundamental resource shortage. Since the establishment of the People's Republic of China and especially since the Reform and Opening-up, agriculture has always been among those that received most attentions from Chinese government and has been constantly the top priority of economic development. In recent years, the government has assigned the utmost importance to problems concerning agricultural practices, rural areas, and agricultural population. This is a step further to encourage and support agricultural development. With the innovative and hard efforts of the Chinese people, especially millions of farmers, agricultural development in China has accomplished great achievements.

1. The comprehensive agricultural productivity has been significantly upgraded.

Since the Reform and Opening-up, the comprehensive agricultural productivity has raised dramatically marked by several milestones. At the end of the 20th century, we have leveled up from constant shortage of foodstuff and other major agricultural products to surplus food in good years. With less than 9% of the world's arable land, China successfully feeds and dresses about 21% of the world population. This is a remarkable contribution to the world in terms of foodstuff and agriculture, and people's dream of ample food and clothing has come true. In recent years, in response to the consecutive drops in the production of foodstuff, Chinese government has reacted with a series of more direct and stronger policies and measures, which resulted in major improvement. In 2005, the production of foodstuff has shown a 3.1% increase and met the demand, reaching 484 million tons of output.

2. The competitiveness of rural areas and agricultural economy have obviously improved

The indicator of the development of modern agriculture is the wide spread of modern technology. Now, the contribution rate of agriculture in China has reached 48%. In areas of scientific researches, super rice, astronautic seed-breeding and other technologies are among the most advanced in the world. The economy in the rural areas is showing an overall prosperity with the layout of agricultural regions significantly optimized, sharp increase of the percentage of prime-quality and specialized agricultural products, the quality and safety standard of agricultural products steadily raised, the pace of agricultural industrialization picking up, and the sustained healthy development of the secondary and tertiary industry.

3. The reform and the opening-up in the rural areas are deepening.

Since the reform and the opening-up, China has established and is continuing to better its fundamental agricultural management institutions, which is based upon household contract management. Since China's entry of the WTO, China has become the fourth largest country in terms of agricultural trading, testifying to its fast-paced open-up process, and high-speed increase in trading of agricultural products. Hereby, I feel especially important to address that agricultural taxes have been completely eliminated in China. Farmers have once and for all bid farewell to an agricultural tax institution existing for 2,600 years.

4. Farmers' lives are making historical advance from getting dressed and fed to being well-off

In recent years, Chinese government has taken comprehensive measures to promote increases in farmers' incomes. It is estimated that the Engel's Index of farmers' households in 2005 would drop by 1.7% to 45.5%. The net income of an average farmer reached 3255 RMB Yuan, showing a climb of 6.2% from last year. Currently, poor population in the rural areas has fallen to 26 million. Meanwhile, besides of continuing progress in the political civilization and spiritual civilization in the countryside, culture, education, health, sports and other social undertakings are achieving rapid developments, which brought profound changes to the countryside.

The achievement in above four aspects is not only the result of the support from Chinese government, but also the fruit of hardworking farmers. From the above four aspects, it is clear to see that China has laid out a pretty well-rounded agricultural policy framework. But hereby I still would like to briefly address it in three aspects, namely, Giving More, Taking Less, and Cutting Loose.

Looking at Giving More, Industries and cities in China have attained the foundation and capability to spare resources to help agriculture and rural areas. Chinese government has started readjusting the distribution of national income and more spending on the Three Agriculturals (i.e. agricultural production, agricultural areas, and agricultural population). In 2004, the central government spent 262.6 billion RMB on the Three Agriculturals, seeing a sharp rise of 22.5%. The policy adjustment included a switch of subsidy from the foodstuff distribution channels to foodstuff growers, and a subsidy encouraging the use of better seeds, and a subsidy on agricultural machinery purchases. The three subsidies added up to 14.8 billion RMB. 2005 saw a further spending increase on the Three Agriculturals. In terms of the three subsidies mentioned above, there was an increase of 3.4 billion RMB. Moreover, Chinese government also emphasized the construction of fundamental facilities, compulsive education in the rural areas, and the public health facilities in the countryside with a large investment increase.

As for Taking Less, Chinese government has speed up in the tax reform in the rural areas to reduce farmers' burden. This reform, initially started its piloting practice in Anhui Province in 2000, has eliminated agricultural taxes in 28 provinces, autonomous regions, and municipalities till 2005, and will take effect in the rest three provinces this year. The goal of eliminating agricultural taxes in five years will be reached before schedule and will save the farmers more than 30 billion in taxation.

The next point is Cutting Loose. To create a foundation for farmers to generate income, China has been unwaveringly pushing forward the market-oriented agricultural product distribution reform. Currently, the market and price of all agricultural products except for tobacco and cocoons is open and free. Free market's function of resource configuration is working satisfactorily well. Also, the government is actively in the areas such as pushing forward reform and development of township-owned enterprises, speeding up the development of agricultural products processing industry and service industry in the rural areas, encouraging small private businesses and other non-public economic entities. What especially worth mentioning is the efforts to continuously improve the job environment in the cities for people from the rural areas, to provide trainings for professional skills, because the labor economy will become an important source of income in the rural areas.

Envisioned with a scientific view of development, and based on the demand for a general planning of the cities and rural areas, agricultural development in China will enjoy steady, comprehensive, and enhanced supporting policies. The agriculture and the economic structures in the rural area will be continued to be improved, the construction of foundational facilities in the rural area will be truly improved, and all kinds of reform in the rural areas will be deepened. It is our goal to work hard to break a new ground in socialistic rural construction, and to lead the rural areas onto a path towards such civilization of developed productivity, well-off living, and friendly environment.

II. Current Use of Fertilizer in China

As is well-known, Chinese agriculture is famous for its tradition of intensive cultivation. Therefore, in the thousands of years of agricultural history of development, organic fertilizer claims its important role. Chinese farmers planted leguminous crops and green manure, making farmyard manure, applying livestock manure, compost, cake manure, and plant ashes, all of which have been propelling the development of traditional agriculture. In recent years, the manufacture and use of organic fertilizer has been innovated all over China. For example, the using of crop stalks as a fertilizer has been widely spread. Also the swine-biogas-fruits (or tea or vegetables) eco-environment model has shown dramatic dissemination. China's fertilizer industry made its first step in 1960s. Now after 40 years of development, China has become a major player both in fertilizer manufacturing and utilization. The quantity of fertilizer in China reached 46.368 million tons in 2004, taking up around 35% of world's fertilizer consumption. Facts have shown that the fast growth of the fertilizer industry and the wide use of fertilizer in agricultural practice are of vital to the breakthrough of foodstuff production in a short period of time. Experts estimate that fertilizers' contribution to China's foodstuff production exceeds 40%.

Looking back at the history of development of China's fertilizers, two shifts in China's fertilizer use can be identified. First, the structure of fertilizer use has shifted from organic fertilizer alone to dominantly chemical fertilizers. Now, the rate of organic fertilizer usage to chemical fertilizer usage is one to three. That means the use of organic fertilizer accounts for 25% of the overall fertilizer use and the 75% use of chemical fertilizers. Second, the varieties of fertilizers used have shifted from nitrogen fertilizer alone to a mixed use of nitrogen, phosphorus, and potassium fertilizers.

Even though the fertilizer development and application has improved much, China is still far behind the developed countries, especially in the field of scientific fertilization, which shows in the following aspects:

1. Inappropriate Fertilizer Application Structure

A lot of areas exists the misleading phenomena of emphasizing chemical fertilizer rather than organic fertilizer, nitrogen fertilizer more than phosphorous and potassium fertilizer, and macro-element fertilizer instead of secondary and trace element fertilizers.

2. A gap between fertilizer production and application

On one hand, the fertilizer production is mainly on single element fertilizer, and is low in proportion of special-purpose fertilizers, compound fertilizers, formulated fertilizers and similar new products. On the other hand, many farmers choose fertilizers according to the market supply instead of land capability and plants need. Because of the resource constraint, potassium fertilizer could not meet the needs of agricultural production development.

3. Low fertilizer utilization rate

The problem is caused by inappropriate fertilizer structure as well as low technical level in fertilizer application. As for the application concept, a large number of farmers regard that the more fertilizer applied the better plant would grow, and they are used to broadcasting and surface application; On the application techniques, the promotion work for formulated fertilization, balanced fertilization and deep placement etc. is far from enough. At present, the contemporary nitrogen fertilizer utilization rate is only around 30% that is 20% lower than the developed countries.

4. The negative effect of fertilizer is rising.

The over-applied nitrogen fertilizer arouses the consumption and storage processing quality problem of agricultural products as well as non-point source pollution of soil and water bodies. Besides, the insufficient use of animal manure and stalks also brings certain agricultural non-point source pollution.

III. Progress and Perspectives of Scientific Fertilization

The Chinese government pays much attention to fertilizing all along. Chairman Mao put forward the agricultural Eight Points of Agriculture (soil, fertilizer, water, seeds, density, fostering, management, working) in 1958, which made the soil and fertilizer application improvements important measures to increase agricultural production. Since then, the chemical-fertilizer-oriented agrobased industry has grown fast all over China. Especially since the end of last century, the Chinese government has organized the implementation of Rich Soil Project, and popularized the technology of soil testing for formulated fertilization, meanwhile, lead farmers to apply more organic fertilizers, and strengthened construction of the arable land capability in a large scope, which further enhanced the fertilizing task. In the future, China Ministry of Agriculture will focus on scientific fertilization as an important measure to uplevel agricultural technology and upgrade the agricultural comprehensive productivity, so as to optimize fertilizer structure, increase fertilizer utilization rate, and enhance arable land capability, which could lay solid foundation for securing national food safety, and further facilitate the work in the following aspects:

1. To continue implementing the Rich Soil Project.

It mainly emphasizes strengthening arable land infrastructure construction, improving the measures of testing and technology promotion, so to enhance the ability to serve technology promotion; establishes a sound system of soil agro-chemical monitoring and information management, a model system of new technologies for soil fertilizer and new products experiments as well as a comprehensive model base for Rich Soil Project; Enhancing the arable land capability construction, exploring new technology of soil fertilizer use, increasing fertilizer utilization efficiency, so as to promote agricultural sustainable development.

2. To carry out the arable land nutrition analysis and quality evaluation.

During the 11th Five Year Plan, the Ministry of Agriculture will carry out the task of arable land nutrition analysis and quality evaluation, and to understand the condition of soil fertility in the main producing areas, which could provide scientific basis for scientific fertilization and improve the Medium-low Yield Farmland

3. To promote the technology of soil testing and formulated fertilization.

In 2005, the central government has invested 200 million RMB into piloting the soil testing and formulated fertilization which covers an area of 5.33 million hectares that radiates more than 16 million hectares, and the improperly used fertilizer has been reduced by 2.4 million tons (actual quantity), which resulted in obvious upgrade of fertilizer application technology. This year, the central government will increase the earmarked capital greatly for soil testing and formulated fertilization which is planned more than 500 million RMB, and the core model area covers 18.66 hectares radiating more than 4500 hectares. This investment is aiming at increase 3-5 percentages of fertilizer utilization in project areas and saving the cost of 375 RMB per hectare. By implementing this project, it is helpful to correct the farmers' understanding on fertilizer application, and to promote the regulating and standardizing the technology of fertilizer application technology.

4. To advocate applying more organic fertilizer.

The use of organic fertilizer is the tradition of Chinese agriculture and an important content of environment-friendly agriculture as well. China possesses abundant resources of organic fertilizer with a great utilization potential. The animal manure, crop stalks, cake manure and green manure contain the total nutrition of nitrogen, phosphorus and potassium of about 70 million tons, which equals 1.5 times of China's total fertilizer application. Chinese government plans to establish subsidy pilot areas to increase soil organic matters which could make full use of organic fertilizer resources, and to encourage farmers to plant green manure, to make farmyard manure, and to popularize biogas so as to leverage the hazard-free treatment. Also it is dedicated in spreading the technology of existing stalk mulching, and improving the organic fertilizer utilization, the soil and arable land quality.

5. To promote non-environmental-pollution fertilizer application technology.

The Chinese government is exploring the technologies of micronutrients, foliage application, slow release fertilizer, microorganism fertilizer, nitrogen fertilizer inhibitor and storage control, and is importing advanced technologies such as precision fertilization, nutrition analysis fertilization and irrigation with fertilizers to advance China's scientific fertilization technologies. Besides, the experiments, modeling and promotion work guarantees the production of qualified and safe agricultural goods.

6. To set-up a sound system of regulations and standards.

The tasks of stipulating fertilizer management regulations, perfecting scientific fertilization standard system, reinforcing the policies to secure fertilizer qualities and scientific application, and realizing fertilizer standardized management have been carried out. The Chinese government and pertinent departments are making Fertilizer Management Codes and related regulations to drive the fertilizer management into a lawful procedure.

Ladies and Gentlemen,

Fertilizers is the foodstuff for human's foods, and is the material foundation of agriculture development.

I believe that the success of this conference will facilitate the development of China's fertilizer industry. I firmly hold this belief that with the effort of agriculture committee of IFA, there is a promising future for the international fertilizer industry and fertilizer science via cooperation and this will surely contribute more to the global agricultural development.

Finally, I wish you a successful conference.

Thank you!