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EVOLUTION OF FERTILIZER DISTRIBUTION IN CHINA

David ZENG
The Mosaic Company, China



The Mosaic Company
Suite 1532 Jiang'An Center, 8 Beisanhuan Donglu,
Chaoyang District, 100028, Beijing, China
Tel: 86 10 51085555 - Fax: 86 10 51085588
E-mail: david.zeng@mosaicco.com

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David Zeng, PhD
Director, China Distribution
The Mosaic Company

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Topics

- China's agriculture and importance of fertilizers
- 10 years of reform in China fertilizer distribution (1998 – 2008)
- How fertilizers are distributed in China?
- What's going on in China fertilizer market in 2008?
- Market outlook

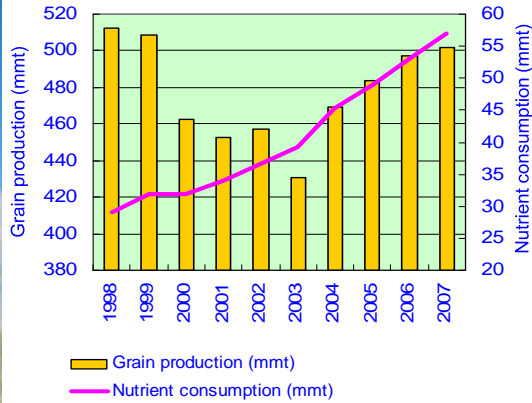


China's agriculture

- China has a population of 14 billion (21% world total) and 132 million ha of arable lands (9% world total)
- 2/3 of China population reside in rural areas where agriculture is the primary income source
- About half of China's population engages in farming
- Small-scale farming with low level of mechanization
- Difficult to organize, monitor, and standardize crop quality
- Significant progress in crop production and development of rural economy
- A major exporter of fruits and vegetables as a result of improved farm management practices
- Urbanization in China encourages the moving of labors from farming to industry and services.
- Farm consolidation and emerging commercial farming



Importance of fertilizers in China's agriculture



- Chinese government is determined to achieve food self-sufficiency (95% of food demand met by domestic food production)
- Fertilizers contribute 30% of grain yield increase
- China consumed about 57 million tons of nutrients in 2007
- Nutrient consumption increases by 5% yoy

Data source: China Agriculture Yearbook



10 years of reform (1998 – 2008)...

- Before 1998, China's fertilizer industry was operated under the central planning system
 - Government owned and managed the fertilizer production and distribution facilities
 - Government centralized the planning and decision-making for:
 - Fertilizer import and export
 - Construction of fertilizer production facilities
 - Procurement of raw materials
 - Planning of fertilizer production
 - Fertilizer distribution channels
 - Selling prices of fertilizers along the distribution chain
 - Quota system

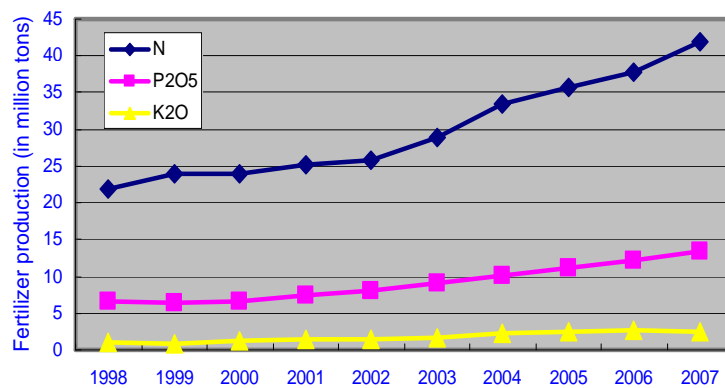


Transition to market-oriented system

- In 1998, Chinese government launched programs to reform fertilizer production and distribution
- The State Council # 39 Paper (1998): a milestone
 - China's fertilizer industry underwent transition from central planning to market-oriented system
 - De-centralizing the planning and decision-making for fertilizer production and distribution
 - Empowering the producers and distributors in their business decisions
 - Encouraging competition in the market
- **Outcomes**
 - Expansion and/or consolidation of fertilizer production capacity
 - Steady growth in fertilizer production (8-9% annual growth) and consumption (5%)
 - Improved crop production and food supplies



Fertilizer productions in China



Data source: China Agriculture Yearbook



Fertilizer distribution channels in China

- Primary channels – with government background
 - AMPC system
 - Sinochem system
- Secondary channels - “3 stations” under the Ministry of Agriculture (MOA)
 - Soil & fertilizer stations
 - Ag extension stations
 - Plant protection stations
- Franchised chain retail stores
- Fertilizer producers distribute their products to farmers through the above channels



China's fertilizer dealers

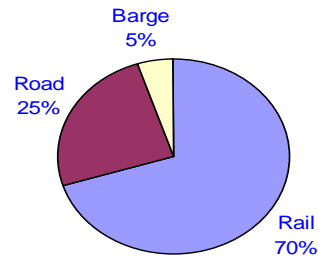
- Retail shops are the point of sales.
- Mostly privately-owned family business
- Handle small volumes (100-500 mt pa) to thousands of farmers in the neighborhood
- financially weak and incapable of aggressive business expansion.
- Usually carry >10 brands and intend to promote the products generating high margin quickly
- Influence farmer's purchase decision-making
- Lack of agronomy and marketing skills to serve farmers' requirements.



How fertilizer distribution is handled?

- **Transportation modes**

- Rail transport (least expensive)
- Road transport (most expensive)
- Barge transport (limited to areas close by river and/or ocean)



- **Package:**

- In China, fertilizers are handled in bags (e.g., 50 kg bag) for product protection, convenience of handling as well as customer and regulatory requirements



How fertilizer distribution is handled?

- Producers sell fertilizers to wholesalers mainly on cash basis, but may offer limited credits to trusted customers to increase business
- Wholesalers sell their products to retailers 70% on cash and 30% on credits
- Retailers sell their products to farmers 50% on cash and 50% on credits
- Direct bank financing to retailers and farmers for fertilizers are to be established



How fertilizer distribution is handled?

- How fertilizer producers promote their products?
 - POS promotions: Product display, signs, posters, banners
 - Information: leaflets and brochures introducing the company and product features
 - Market day promotions
 - Customer meetings for wholesalers and retailers
 - Advertising on TV, newspaper, magazines, etc.
 - Agronomy service
 - Soil testing
 - Farmer agronomy training
 - Field demonstration plots
 - Crop production advisory



Off-season fertilizer stock programs

- A government program designed to encourage:
 - Producers to produce fertilizers during off seasons (e.g., winter)
 - Distributors to take fertilizer positions during off-seasons
 - Producers ship fertilizers to the pipeline
 - Distributors
 - Taking positions during off-seasons
 - Warehousing the products
 - Sales and marketing
 - Responsible for profit and loss
 - Banks provide loans to provincial level wholesale distributors
 - Government subsidizes the bank loan interests



What's going on in China's fertilizer market in 2008?

- **January to mid-April**
 - Global food crisis pushed up crop prices, fertilizer demand and prices
 - Heavy snow storm in South China in the spring impaired fertilizer production and supply
 - Rising costs of raw materials (e.g., Sulfur) increased fertilizer production costs and selling prices
 - Government increased fertilizer export tax to curtail fertilizer exports and ensure domestic fertilizer supplies
- **Late April to late August**
 - Record high sulfur price (nearly US\$800/mt CFR) and other raw materials
 - High prices suppressed farmers' fertilizer demand
 - Sichuan earthquake in May destroyed many rock mines and P production facilities
 - In late August, Government increased fertilizer export tax (e.g., urea at 185%), effective Sept 1, reducing fertilizer exports
 - Inventories built up as a result of reduced export and weakening domestic demand
 - Financial crisis suppressed commodity demand and prices



What's going on in China's fertilizer market in 2008?

- **Since September:**
 - Fertilizer market collapsed due to reduced export and domestic demand:
 - S/D: Over supplies of fertilizers
 - Shut-down of fertilizer plants or production cutbacks
 - Sulfur price dropped from USD800 to USD50-70/mt
 - Fertilizer prices dropped sharply
 - Minimal product movement along the distribution chain
 - Market confidence deteriorated
 - Distributors step out of market due to expectation of lower prices
 - Farmers cut back fertilizer usage (e.g., 30% less in fall season)
 - Inventories building up at source of production and in the pipeline
 - Financial losses for producers and distributors due to inventory value depreciation
 - On Nov 13, NDRC announced to lower fertilizer export tax, effective Dec 1.



Market outlook

- **Short term**

- Fertilizer exports are possible, but the total volumes depend on international demand
- Expect farmers to use more fertilizers for spring crops
- However, distributors are still “wait-and-see”, not actively taking positions to refill their inventories due to expectation of lower prices
- Logistics constraints during the Chinese New Year holidays in Jan/Feb may hinder fertilizer delivery to the market



Market outlook

- **Long term**

- Fundamentals are still good
 - Strong demand for food and energy on the long run
 - Grain prices are expected to rise
 - Government’s agenda to improve food production and farmers’ well-being
 - Lower prices may increase farmers’ use of fertilizers and thus demands for fertilizers
 - Industry restructuring and consolidation to improve the scale of economics and operating efficiency

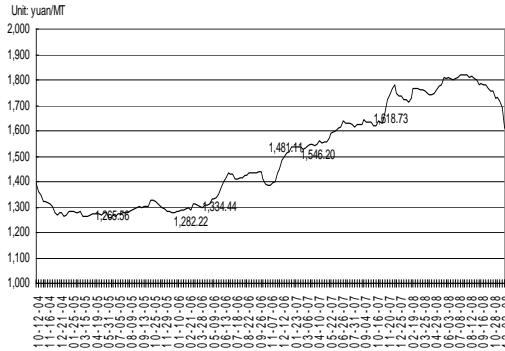
- **Factors to watch**

- Crop prices – farm economics
- Agriculture policy (farmer subsidies)
- Fertilizer exports (export tax)



Crop prices – key to fertilizer consumption

Weekly wholesale price of corn



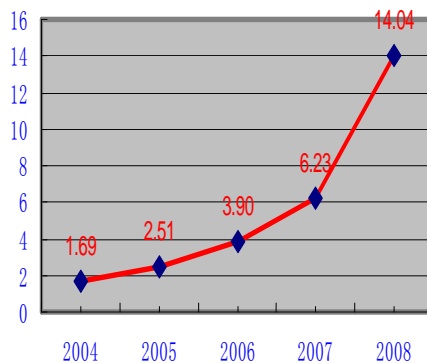
- Strong demands for grains to feed population and animals
- Grain prices are relatively low now, but expect to rise
- Government increases minimal purchase prices of major grain crops
- How big are the impacts from the financial crisis and economy recessions?

Data source: BOAC



Farmer supports to encourage grain production

Total direct farmer subsidy (in billion USD)



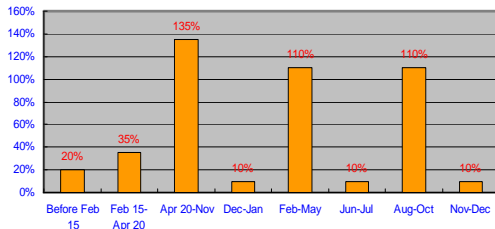
- Government eliminated agriculture tax in some regions in 2002 and expanded to the whole country in 2004.
- In 2004, government started to subsidize grain production for seed and farm equipment. Government also set a protected price for grain procurement.
- In 2006, government started to subsidize farms inputs (i.e., fertilizers, and pesticide).
- In 2008, government allocated US\$86 billion to support agriculture development, 30% increase over 2007
- Recent farmland policy gives farmers more flexibility to expand farm size and to improve fertilizer utilization efficiency
- How will government increase farmer supports in the future?

Data source: NDRC documents



Fertilizer exports – Key to S/D balance

DAP/MAP export tax (2008/09)

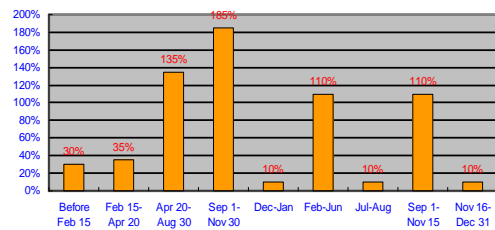


➤ Government's ag policy formulation is largely driven by rural prosperity and farmers' income, not by the industry's profit-making

➤ Government's top priority is to ensure adequate domestic fertilizer supplies to farmers

➤ Chinese government strictly regulates fertilizer exports through the imposition of fertilizer export tax

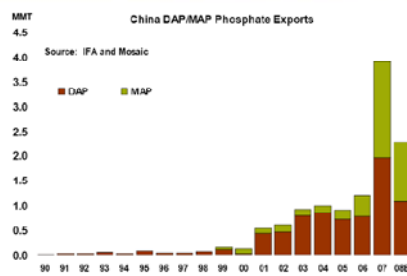
Urea export tax (2008/09)



Data source: NDRC documents



Fertilizer exports in China



➤ Chinese fertilizer exports have increased rapidly in the last 10 years as a result of much increased production .

➤ In 2008, however, fertilizer exports have seen dramatic reduction due to government controls

➤ Government is not likely to relax controls over fertilizer exports to protect Chinese farmers' well-being

➤ How will government adjust the fertilizer export tax in the future?

