

以效率为核心的中国未来现代农业发展

Increasing Productive Efficiency:
The Major Concern for Chinese
Agricultural Development

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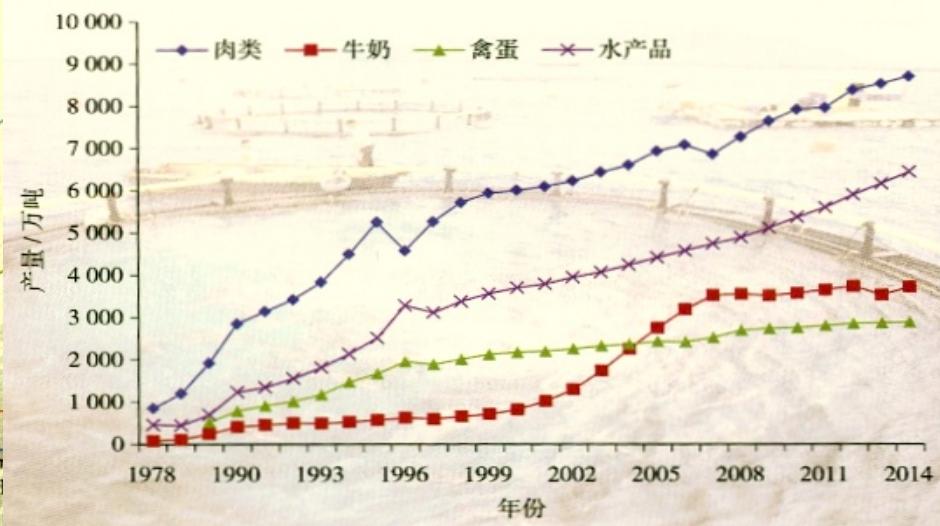
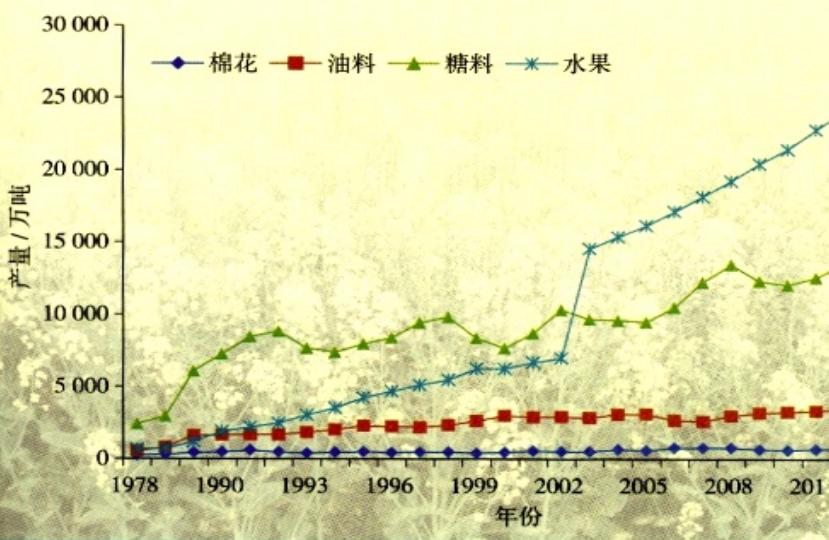
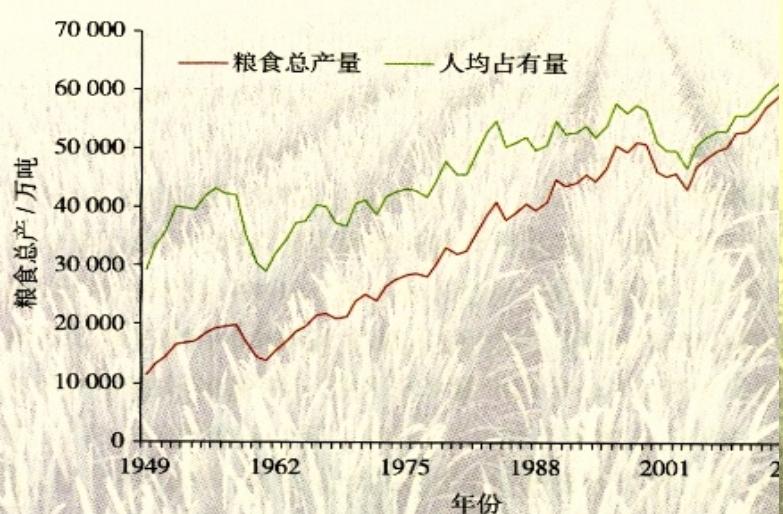


TABLE 4.1 Chinese and U.S. rank in world production for selected agricultural products, 2008/09

Agricultural products	China's rank in world production	China's share of world production Percent
Apples	1	43
Cabbages and other brassicas	1	53
Cucumbers and gherkins	1	64
Eggplants (aubergines)	1	56
Garlic	1	77
Onions, dry	1	31
Pears	1	65
Pig meat/pork	1	46
Potatoes	1	18
Rice, paddy	1	28
Sweet potatoes	1	77
Tomatoes	1	26
Watermelons	1	68
Wheat	1	16
Broilers	2	17
Maize (corn)	2	20
Cow milk, whole, fresh	3	6
Sugar cane	3	7
Beef	4	10
Soybeans	4	7

Source: FAO, FAOSTAT (accessed July 27, 2010).



1.37 billion population, 人口
674 million population in rural area, 农业人口
1.8 billion Mu arable land, 耕地

9% of world arable land, 世界耕地占比
30% of world chemical fertilizers , 化肥占比
35% of world chemicals , 农药占比
6.5% of world water resources , 水资源占比

produces 25% of world agro-products, 农产品占比
feeds 20% of world population, 人口占比



Significant Acidification in Major Chinese Croplands

J. H. Guo *et al.*

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Significant Acidification in Major Chinese Croplands

J. H. Guo,^{1*} X. J. Liu,^{1*} Y. Zhang,¹ J. L. Shen,¹ W. X. Han,¹ W. F. Zhang,¹ P. Christie,^{1,2} K. W. T. Goulding,³ P. M. Vitousek,⁴ F. S. Zhang^{1†}

Soil acidification is a major problem in soils of intensive Chinese agricultural systems. We used two nationwide surveys, paired comparisons in numerous individual sites, and several long-term monitoring-field data sets to evaluate changes in soil acidity. Soil pH declined significantly ($P < 0.001$) from the 1980s to the 2000s in the major Chinese crop-production areas. Processes related to nitrogen cycling released 20 to 221 kilomoles of hydrogen ion (H^+) per hectare per year, and base cations uptake contributed a further 15 to 20 kilomoles of H^+ per hectare per year to soil acidification in four widespread cropping systems. In comparison, acid deposition (0.4 to 2.0 kilomoles of H^+ per hectare per year) made a small contribution to the acidification of agricultural soils across China.

Acidification can alter the biogeochemistry of ecosystems and adversely affect biota (1, 2). Poorly buffered freshwater

slowly under natural conditions over hundreds to millions of years. Old soils and soils in high-rainfall regions tend toward greater acidity (8).



Fertilizer Overuse and Misuse



Fertilized to death

Vast quantities of nitrogen being poured onto farmers' fields are wreaking havoc with our forests. Nicola Nosengo investigates.



"Countries such as China have no intention of reducing their use of nitrogen", says Moldan. "In fact they are firmly committed to increasing it."

1%

64%

2%

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2015

14.78 4.11 16.33 8.5

28.23

2001

256.71%

230.27%

261.57%

172.46%

336.07%





The proposal for increasing Chinese agricultural productivity

- 1.
- 1, Promote the agricultural technology mature and integration
- 2.
- 2, Increase mechanization degree for row crops
- 3.
- 3, Apply new tool such as internet
- 4.
- 4, introduce and demonstrate new technology and new product
- 5.
- 5, Create comprehensive agricultural service system by matching with policy, investment and human resources.

谢谢大家!



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