

**Table 2.** Commercialization of GMOs in China

1997	Bt cotton color-changed petunia
1999	virus-resistant sweet pepper long-shelf-life tomato virus-resistant tomato phytase for food-additive vaccine for animal use
2001	virus-resistant chilli pepper

Source: Interviews at CAAS.

north of China, around Hebei, Shandong, Henan, and Anhui provinces. In the south, the percentage of GM cotton is smaller than in the north. Also, GM cotton is not grown in Xinjiang province where cotton acreage is the largest throughout China (Fig. 1). This is mainly because Xinjiang province is not affected by the pests against which Bt cotton has advantages.

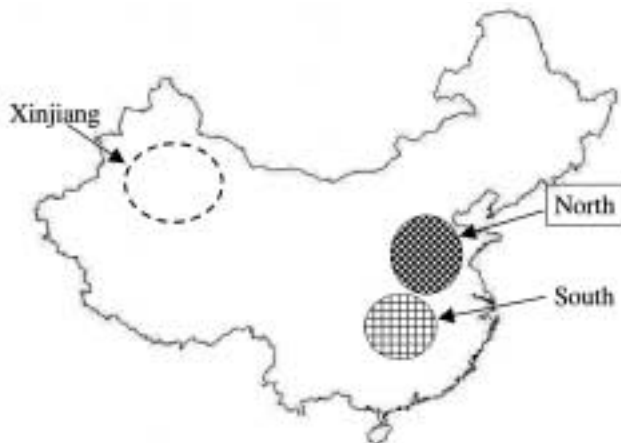


Fig. 1. Major Production Area of GM Cotton

#### (4) Seed Production and Distribution

As for the GM cotton, there are two types of Bt cotton; one is developed by Monsanto, a multinational firm in the field of biotechnology, and the other is developed by the Chinese Academy of Agricultural Sciences (CAAS). We found there is an intellectual property issue regarding the distribution and propagation of GM cotton seed in China. This

is because the legal protection system for new varieties is still in the development stage in China. While the Monsanto variety is legally permitted in only four provinces, Hebei, Shandong, Henan, and Anhui, the CAAS variety is permitted in almost all cotton-growing provinces.

#### (5) R&D Trends in Biotechnology

Recently China is pouring every kind of resource into R&D in biotechnology. During the last ten years (1990-2000), the number of researchers doubled and research funds increased fourfold (Fig. 2). This rapid growth of research staff and funding shows China's high expectations toward biotechnological development including agriculture. For China agricultural biotechnology seems to give promising answers to their food demand. However, from the viewpoint of food imports, China seems to feel a great threat from increasing imports from various countries. We need to be sensitive to their position in world trade and their regulatory changes in order to understand the context of introducing stricter GMO regulations under the WTO rule.

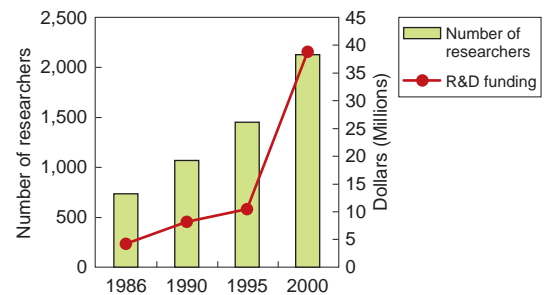


Fig. 2. R&D Trends of Biotechnology in China

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## Understanding Production Development Trends Through Comparative Analysis of Agriculture Reform in the Former Soviet Union

Koichi NOBE

### Introduction to Research Results

At the end of the 1990s, agricultural production in the CIS countries finally stopped their decline, and signs of recovery were observable (Table 1). The occasion for this was a

favorable turn in the overall economic conditions, and what brought this about was the August 1998 economic crisis in Russia. Although having a time lag, the economic crisis devalued the currencies of other CIS countries besides Russia. As a result, the competitiveness of domestic agricultural producers tem-

**Table 1.** Agricultural Production in the CIS Countries, 1992-2000

	1992	1993	1994	1995	1996	1997	1998	1999	2000
Azerbaijan	76	64	56	52	54	51	54	57	64
Armenia	102	97	100.3	105	107	100.6	114	115	112
Belarus	91	95	81	77	79	75	75	69	75
Georgia	87	76	85	96	102	109	98	106	90
Kazakhstan	129	120	95	72	68	67	55	70	67
Kyrgyzstan	95	85	69	68	79	88	91	98	102
Moldova	84	92	70	72	62	70	63	58	56
Russia	91	87	76	70	67	68	59	61	65
Tajikistan	82	79	77	64	59	59	63	65	73
Turkmenistan	91	106	87	88	77	N.A.	N.A.	N.A.	N.A.
Uzbekistan	94	95	88	90	85	90	93	99	102
Ukraine	92	93	78	75	68	67	60	56	61
<b>CIS Average</b>	<b>93</b>	<b>91</b>	<b>78</b>	<b>73</b>	<b>69</b>	<b>70</b>	<b>63</b>	<b>64</b>	<b>68</b>

Source: 10 let SNG, M., 2001, p.22, SNG '99, M., 2000, p.27, *Agro Food East Europe* No.223, pp.11-12.

porarily recovered, promoting import substitution. Further, from 1999 on, world prices for raw materials such as oil and gas increased. This revitalized the CIS countries' economies, which are dependent on raw material exports, increased demand for agricultural products, and accelerated the recovery in agricultural production.

Further, the agricultural reform, which has spanned 10 years, while extremely slow is resolving past problems. For example, the "double monopoly" in the upstream and downstream has weakened. Additionally, agricultural support policies, represented by the preparation of an agricultural finance system, made progress. As a result, more normal conditions for agricultural production were established, and agricultural trade terms also showed improvement.

Since 1999, agricultural production has born profits overall. However, the absolute dominance of domestic products over imported agricultural products/foods has been lost, and the production recovery stage founded on simple import substitution is nearing an end. Further, agricultural product/food imports are once again on the rise. Moreover, the sole primary cause of the favorable economic conditions which were supporting the recovery in agricultural production was the steep rise in international oil and natural gas prices, which

is an extremely unstable thing.

A recovery in agricultural relying solely on an external factor, namely an upturn in the overall economic conditions, is untenable, and improvements in competitive power by modernizing production techniques and facilities are necessary. While the agricultural reforms in the CIS countries had various weak points, there was uniform progress in restructuring the kolkhoz/sovkhoz, modernizations related to land, and preparation of legal systems and frameworks that support market economies. However, with regards to production techniques/facilities, no investments were made in the 1990s, and aging and outdated progressed. At the same time, modernization of production techniques/facilities is strongly required, from the perspective that the agriculture in the CIS countries is being forced out of the former division of labor system among a union of commonwealth states into an international division of labor system. Whether international competitiveness in agriculture can improve in the CIS countries depends on modernizing production techniques/facilities. This process has just begun, and for the present, agricultural production in the CIS countries will repeatedly fluctuate violently due to external factors such as economic trends and weather conditions.

## The Governance Structure of French Official Quality Products: The Treatment of Labeled Broilers by Competition Rules

Fumiaki SUDA

There are always some conflicts between competition policy and quality policy. Such was the case for French labeled broilers (Label Rouge). These broilers are produced with close cooperation of the farmers, feed industries, slaughter industries, packers and so on. The French Ministry of Finance (DGCCRF) accused such cooperation as a barrier to competition.

On the other hand, the French Ministry of Agriculture supported by economists, insisted that coordination among producers is necessary to prevent free riders and to render the commitment credible for the purpose of producing labeled products. These economists defended labeled products by using Transaction Cost Economics which is based on the assumption of "asset specificity" (O.E. Williamson).