

## DAIRY INDUSTRY BOOMS IN CHINA

Much has been said about China. It seems to many that they are buying everything they can get their hands on and are responsible for the high commodity prices we all have to contend with. Recently, I was fortunate to visit this fascinating country to look at their dairy farming and milk processing. The visit was organised by Kingshay and Diana Allen of QNM. This would not have been written without the help of Duncan Forbes (Kingshay Trust), Diana Allen (QNM) and Mike Houghton (Andersons). All four of us shared notes to produce a report, which I have used to assist with the compilation of this article.

Before I go into detail about Chinese milk production, let me set the scene with some facts and figures about the country.

- China is the third largest country by area at 3.7 million square miles
- The population is officially reported as 1.3 billion and has doubled since 1945
- 65% of the population live in rural areas
- Chongqing is the biggest city in the world with 30 million inhabitants
- Shanghai has 17 million; Beijing 12 million; Tianjin 10 million; Chendu 10 million and Harbin 10 million.
- As a comparison, the whole of the U.K. has 60 million inhabitants. Of the Euro 25 countries only France (61 million) and Germany (82.5 million) has more.
- London has 7.5 million and is the most populated city in the European Union.
- China has the same number of babies born in 16 days as the U.K. does in a whole year.
- Every day the Chinese consume 1.6 million pigs and 24 million chickens
- The average wage is £77/month

### Agriculture and the dairy industry

About 10% of China's land is cultivated. During the last ten years China has grown its milk production faster than any other nation has ever done.

	2000	2005	Annual growth rates 2000-2005 (%)
Production (million tonnes)	7.4	24.5	27.2
Cows (000's)	2639	6567	20.0
Yield (tonnes/cow/year)	2.8	3.7	6.0
Number of dairy farms (000's)	404	980	19.4
Cows/farm	6.5	6.7	0.5

Milk price in 2005 was approximately 14.6 p/kg and feed costs were £137/tonne. Latest unconfirmed production figure for 2007 is 35 million tonnes from 14 million cows.

### Types of dairy farm

As you can see from the table above, the vast majority of Chinese dairy farmers have only a few cows. In fact, 97% of dairy farms have less than 20 cows.

### The farms can be placed in three categories.

Small private units of 1-10 cows are very common, but there are also 50-100 cow units in this sector. Each farmer brings his cows to the Village Milk Centre to be milked by a professional milkman. This solves the logistical problems with such small units. State owned farms are typically 800-2000 cows and are more advanced. They make up 8% of the cows.

Large dairy farms owned by privately run dairies are typically 1,000-10,000 cows, very advanced and are usually involved in a joint venture with third parties such as Australian companies. This sector represents about 3% of the cows.

### Subsidies for dairy production

There is Government aid for improving water, electricity, waste treatment, disease control and milking facilities. Some local governments provide 20-30% subsidies for buying high quality cows.

### Farms and milk processors

#### Peasant village

We were privileged to be the first white people to visit a peasant village near Xian. The biggest farm in the village was 0.4 ha and the main crops were wheat and maize. They told us that if they plant the wheat by hand they could harvest 3 weeks early! They have been using a combine for the last 10 years and received £131/tonne for last years crop. The maize is harvested by hand for grain. Although it was a peasant village, the houses have running water, electricity, satellite TV and double glazing. Everyone came out to stare at



Cow transport the Chinese way



Peasant village maize silage



1 of 40 cow units at Mengniu Farm

the "big noses" - a name used to describe foreigners. The impression was of a happy and contented people, and incredibly friendly.

**Yili Farm, Inner Mongolia**

This was 1 of 9 similar farms owned and run by the Yili group, which is state owned and has its own milk processing facility. There are 1700 cows in 46 groups of 50-70 each with one family running each group or Farmlet. There are individual sleeping quarters at each Farmlet but washing and cooking is served by a communal building. The 4 milking parlours are shared and milk yield is 12-15 litres/cow/day. Milk price is 25-27p/litre. All forages are bought in and a typical TMR ration is as follows:

Feed	KGs
Maize silage*	35
Brewers grains	6
Lucerne hay	3
Concentrates	10

\* The maize silage is stem and leaf only. The grain is removed and dried, then fed as part of the concentrate mix with soya, minerals etc.

**Mengniu Milk processor and farms, Inner Mongolia**

This place was impressive. A private company set up only 10 years ago by the ex Vice President of Yili. In Hohhot they now have the biggest UHT factory in the world, processing 2,000 tonnes of milk a day. Total processing from all Mengniu factories is 10,000 tonnes a day. Nearby is one of their five dairy farms. Each one has 10,000 cows averaging 10,000 litres/cow. They are 250 cow units built in an American style and are modern, professionally run farms. At one end of this farm there is a methane unit being built which has a sign proudly proclaiming it to be the biggest project of its kind in the world. There are plans for 10 farms with 10,000 cows each and 1 farm with 30,000 cows.

**Observations**

Increasing affluence is driving demand for dairy products with the government financially supporting greater consumption. The milk price paid to the farmer is similar to ours but the shop price is a lot less. Massive investment has been made in processing capacity and much more is planned. The factories we saw were state of the art that rival the best in the world. Some of the biggest factories were running 25-50% under capacity due to lack of milk supply. There are problems. Insufficient cow numbers and low yields are major problems in the supply chain. Nutrition knowledge is poor, particularly the importance of forage and forage quality. Milk consumption has been historically low due to cost and poor availability. Average annual consumption is 8kg/person but in cities like Beijing it is much higher at 46 kg. If other cities match Beijing an additional 16 million tonnes will be required which is equivalent to the total production of New Zealand. For now, China is importing dairy products from the U.S. EU, Australia and New Zealand. The overriding impression is that they will achieve what they set out to do. Their work ethic is phenomenal and, coupled with increasingly available education, I would not be surprised to see them taking over the USA as the world's major nation.



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