

Chinese Simmental



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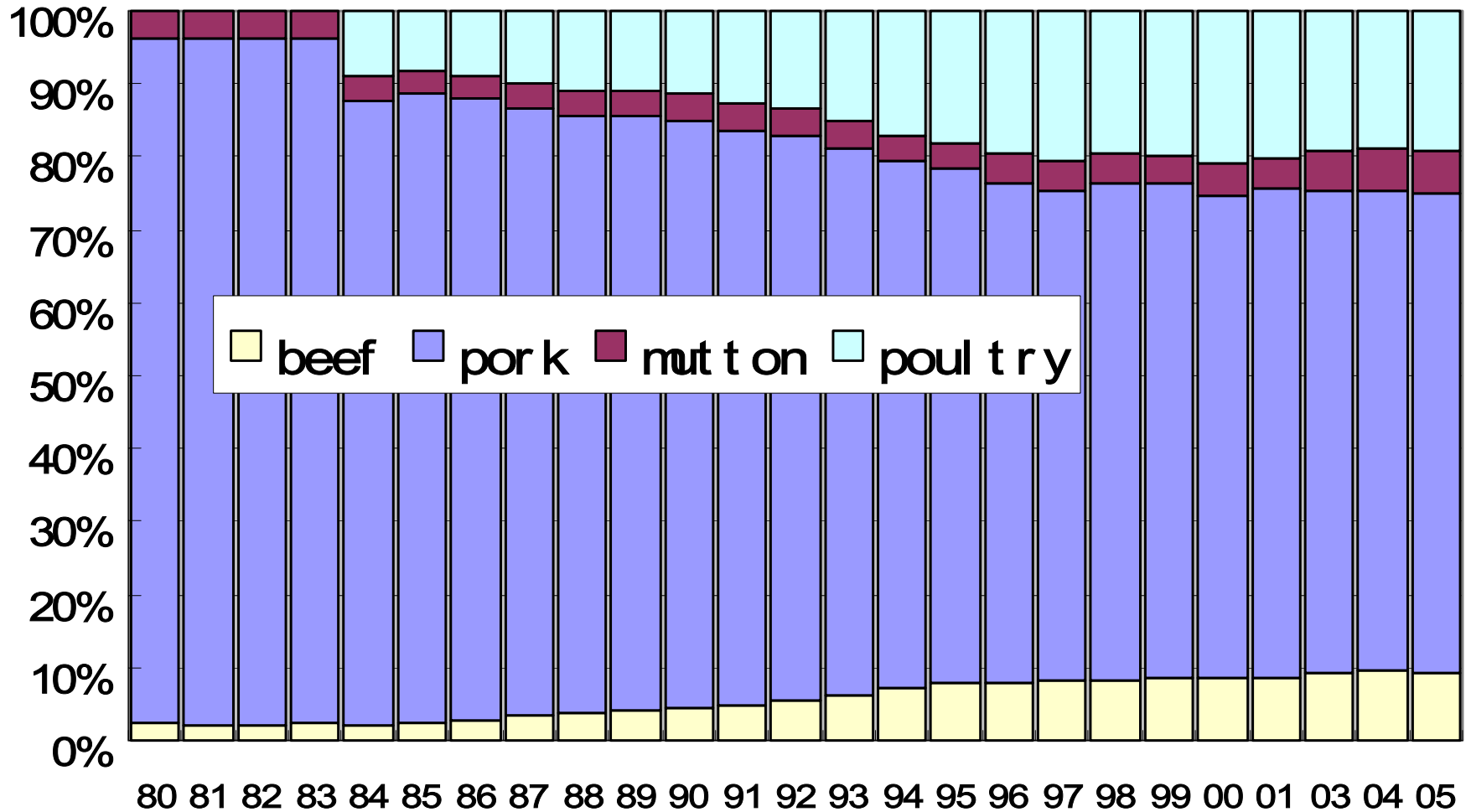
Some statistics

Beef production in 1982, 1997 and 2005

(million tons)

	1982	1997	2005	2005: 1982
China	0.266	4.409	7.371	≈28
World total	46.995	48.368	63.61	≈1.4
As of world total	0.57%	9.28%	11.58%	≈20

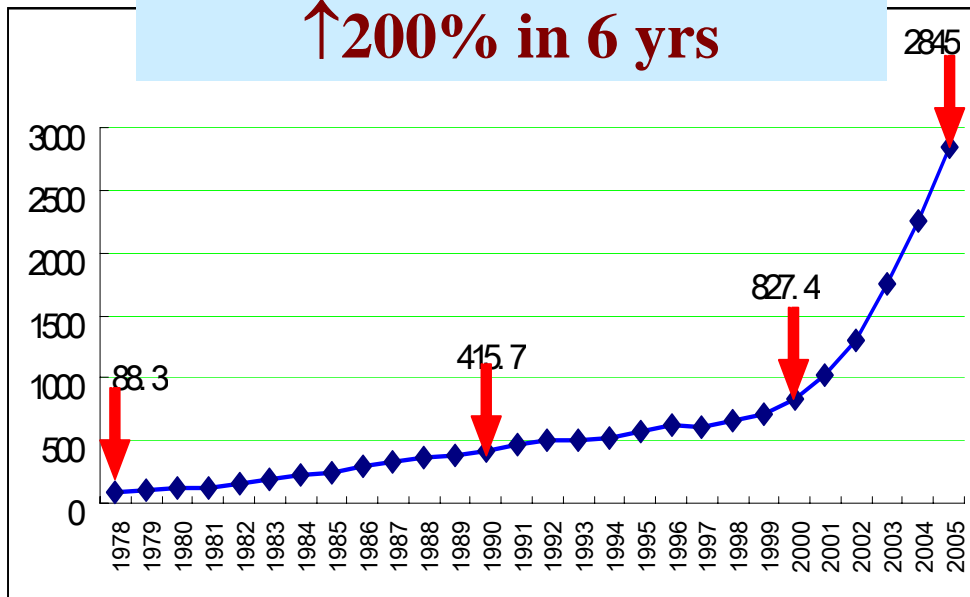
Trend of meat production proportion in China during 1980-2005



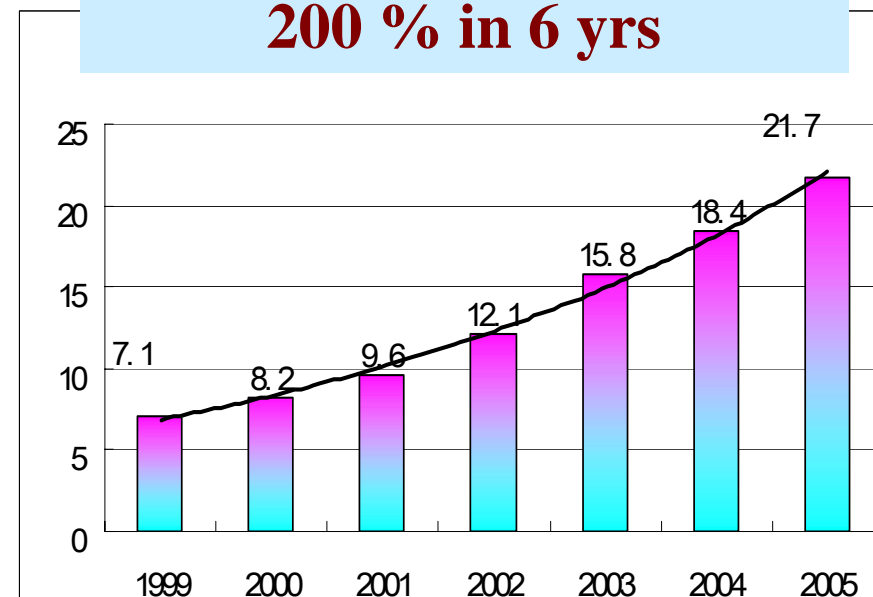
Rapid development of dairy industry in China

- The increasing speed for milk consumption and production were ~ 20% annually since 1999.
- The integration of dairy industry is accomplishing.

Total milk production
↑200% in 6 yrs

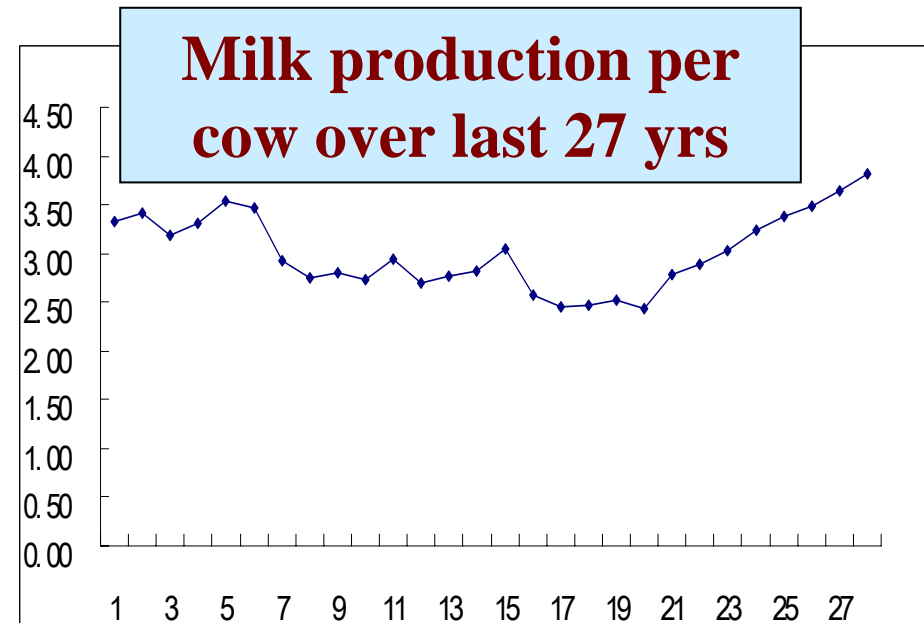
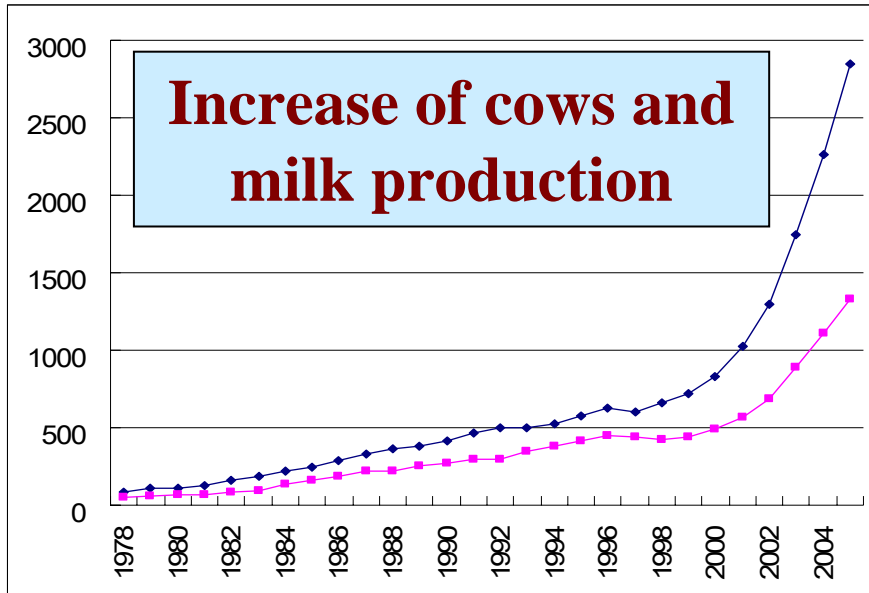


Annual consumption ↑
200 % in 6 yrs



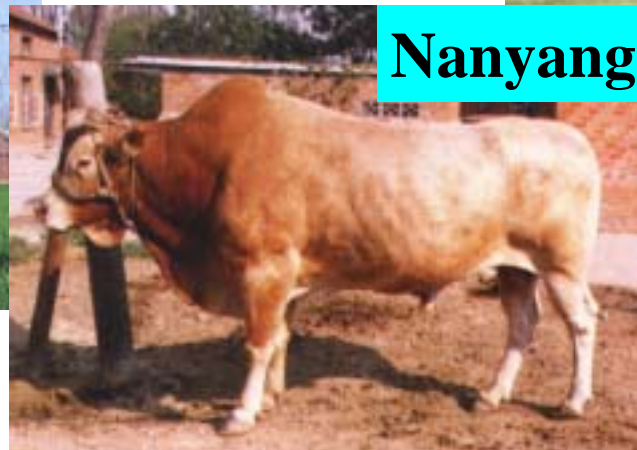
Issues in Chinese cattle industry

- Development was much due to the increase of population, and with population \uparrow profit \downarrow .
- Elite genetics and development of genetic improving system were warranted.



Rich genetic resources of cattle in China

- 1986, breeds of domestic animal and poultry in China
 - 28 domestic cattle breeds
 - Most famous 5 breeds
 - Three main types
 - ~138 million in total



Source: Modern beef production, Chen Y, 1999

Rich cattle genetic resources in China

- Huge amount of variations among chinese domestic cattle breeds



Source: Modern beef production, Chen Y, 1999

Common Characteristics of local cattle breeds

- **Strong points**

- Strong shoulder-plowing in the field
- Calving ease, no reproductive problems
- Rich in beef flavor
- Good in marbling after fattening
- Low maintaining needs
- Well adapted to environments: climate, feed, geographic conditions etc.

- **Weakness**

- Thin and narrow in the rear part of the body
- Low in growth rate and milk production
- Small rib-eye area
- Large variation exists within breeds



Imported breeds

- In 1974, Hereford was the first foreign breed imported to China
- Totally 28 breeds of cattle had imported to China
- In 2005, 138 million in total.
- ~ 90% of chinese cattle are non-dairy cattle, in which ~20% are crossbred,
- Simmental is most popular foreign breeds in China



Un-matured cattle production system

- Small house hold style cow-calf & different type of “feedlot ”



Un-matured cattle production system

- Breeding stock are usually in government owned unit
- Commercial stock are local yellow cattle or their crossbred with imported beef or dual purpose cattle
 - 24 mo, 500~600kg, dress rate about 60%, carcass weight about 330 kg
- Pure-bred beef seed stocks - mainly imported
- Systematic breeding program was warranted.



Special structure frame

- **Small house hold feeding style (>80% cow population)**

- Large population involved in providing live cattle – **more care!**
- Low homogeneity of the output: turn-off age, genetic make-up, body condition
- Experiences of intensive feeding and management can be hardly applied

- **China is the 2nd largest country owning pasture land, however, only about 2% beef produced from those pasture area**

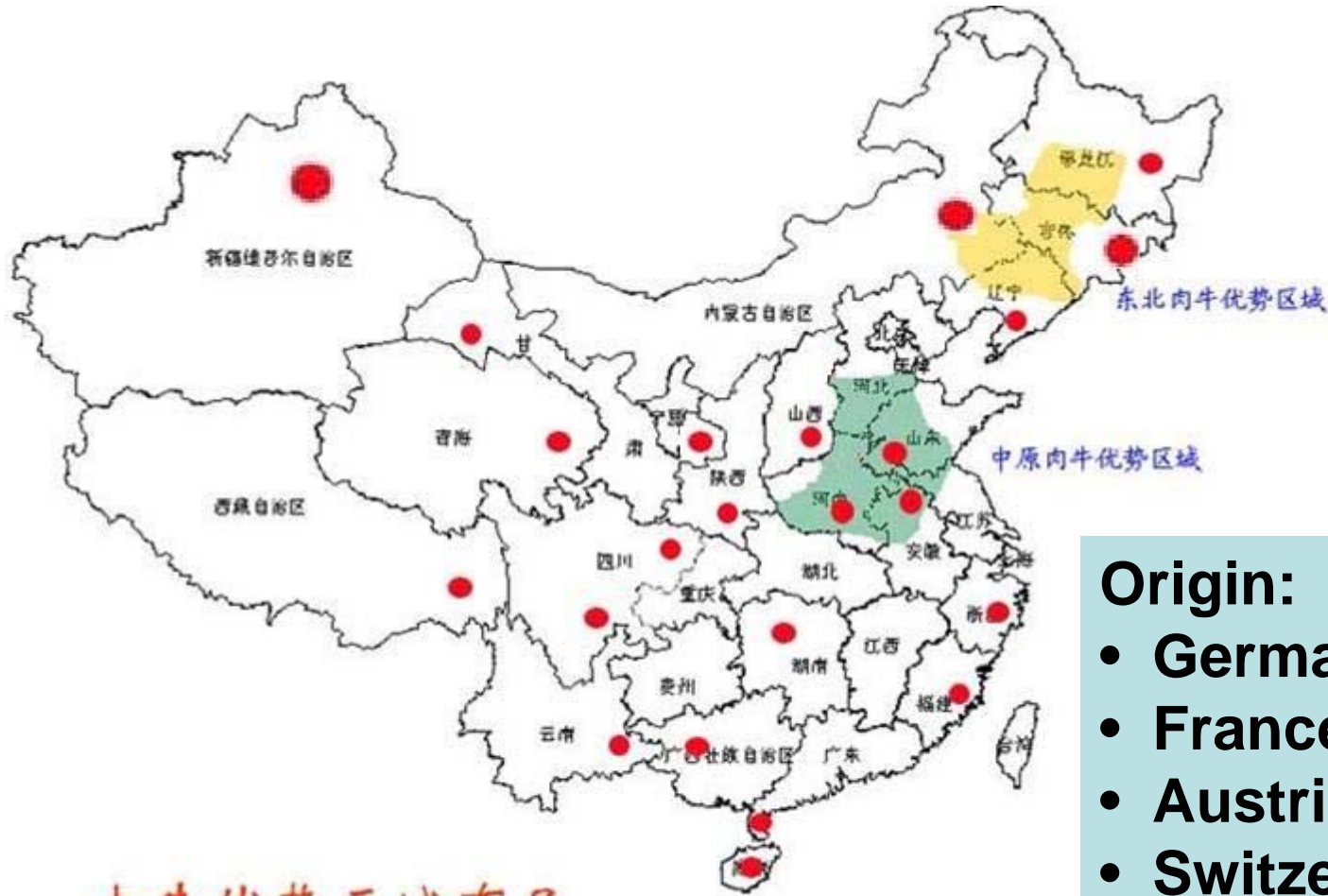


Cattle “industry” in China

- Abundant genetic resources
- Unbalanced development of the industry chain
 - Un-matured production system
 - Special structure frame
- Low general acceptance of high quality cattle products: milk, meat

Chinese Cattle Industry is under development!

Distribution of crossbred Simmental



肉牛优势区域布局示意图

- 22 / 31
- Provinces
- <3000 m
- 30000
- 6 million

Origin:

- Germany
- France
- Austria
- Switzerland
- Russia
- **Canada, Australia**

Chinese Simmental Breeding Association

- **Founded in 1981**
- **Led by researchers in Animal Science Institute, CAAS**
- **With all state owned farms having simmental as members**



**Establishing the gene chain of Nuclear
herd → multipliers → commercial
crossbred animals**



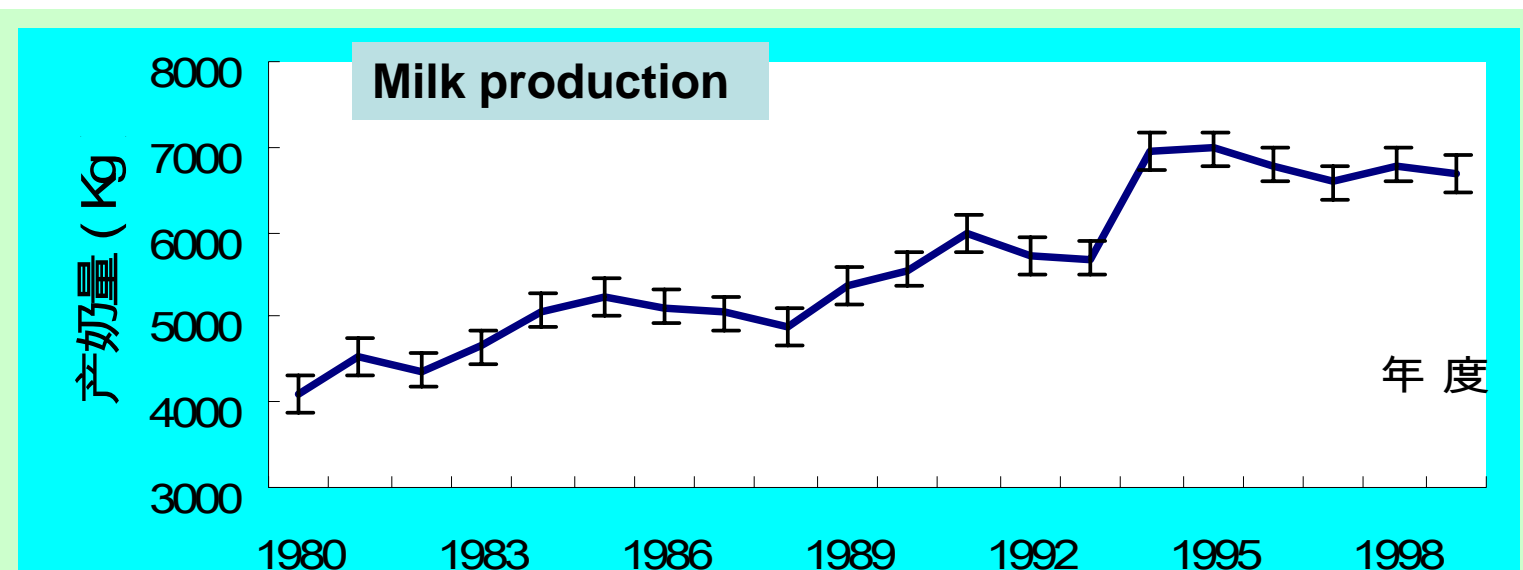
Integration of imported resources into **Chinese Simmental**

- Merge into Chinese Simmental by the breeding goal of dual purpose
 - Selection Index
 - Open Nuclear Breeding System, 7 purebred farms
 - Type classification
 - BLUP, lactation curve.....
 - Official approved as Chinese Simmental in 2002.

$$TPI = \left(3 \times \frac{PDM}{232} + \frac{PDF}{9.25} + \frac{PDT}{0.056} + \frac{PDW}{15} \right) \times 50$$

PDM, PDF, PDT, PDW : milk, fat, type, body_weight

Genetic Changes of nuclear herds



Sub-lines of Chinese Simmental

- **Agricultural area**



Sub-lines of Chinese Simmental

- **Semi-Agricultural area**



Sub-lines of Chinese Simmental

- Pasture area



Sub-lines of Chinese Simmental

- Mountain area



Future developments

- Develop new lines in Southern China



Future developments

- Upgrade the current genetics



Future developments

- **Crossbred animal demonstrate the economical importance of the dual purposes of Simmental**



Beijing Welcome You!

