



THAILAND DAIRY INDUSTRY



***Department of Livestock Development
Thailand***

MAP of SOUTHEAST ASIA





**Thailand is located between
latitude 5 degrees 37 minutes north
and 20 degrees 27 minutes north and
longitude 97 degrees 22 minutes East
to try 105 degrees 37 minutes East**

513,115 km² Area.

47.37 % Agriculture , Forest 33.44 %

1,012,831 million cubic meters rainfall / year.

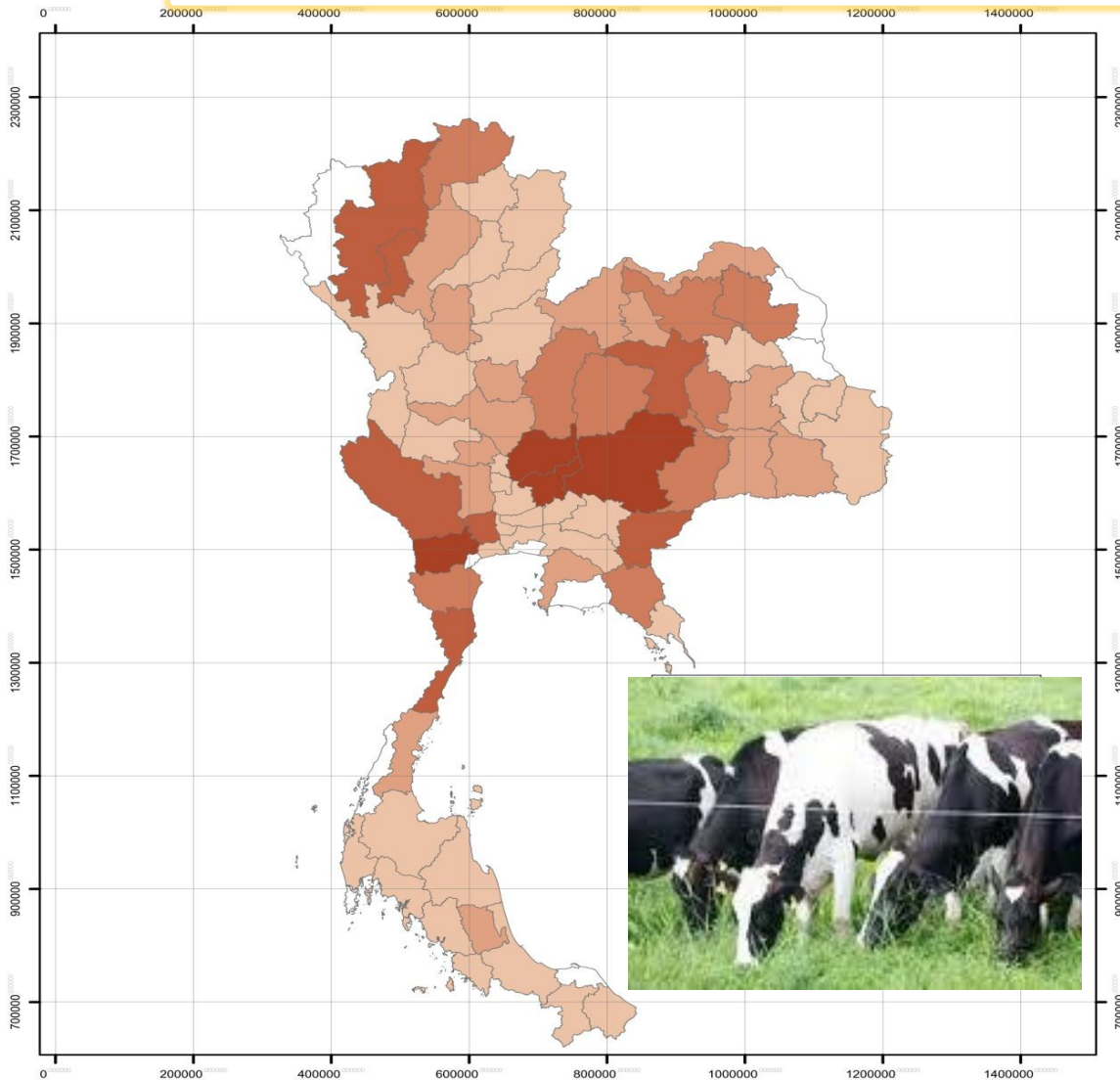
66.7 million. Population

Dairy Cow and Dairy Farm

| Year | Dairy Cattle (heads) | Grow Rate (%) | Dairy Farm (households) |
|------|-------------------------|------------------|----------------------------|
| 2005 | 478,836 | 17.26 | 23,374 |
| 2006 | 410,986 | -14.17 | 20,907 |
| 2007 | 489,593 | 19.13 | 21,230 |
| 2008 | 469,937 | -4.01 | 19,214 |
| 2009 | 483,899 | 2.97 | 17,837 |
| 2010 | 529,572 | 9.44 | 19,863 |
| 2011 | 554,468 | 4.70 | 20,645 |
| 2012 | 556,758 | 2.22 | 20,624 |

Source : DLD

Dairy Cow Density of Thailand on 2010



Highly Density Area

4 Province

1. Saraburi
17.85 %
2. Nakornratchasima 17.20 %
3. Lopburi
11.17 %
4. Ratchaburi
10.03 %

Source: DLD

Dairy Milk Production in Thailand

| Year | Dairy Milk Production (tons) | Grow Rate (%) | Milking Cows (heads) |
|------|------------------------------|---------------|----------------------|
| 2005 | 781,043 | 4.61 | 296,472 |
| 2006 | 759,894 | -2.71 | 310,085 |
| 2007 | 750,779 | -1.20 | 291,965 |
| 2008 | 775,864 | 3.34 | 293,185 |
| 2009 | 882,933 | 13.80 | 293,287 |
| 2010 | 933,310 | 5.71 | 301,071 |
| 2011 | 984,960 | 5.53 | 310,522 |
| 2012 | 1,064,270 | 8.05 | 295,634 |

Source : DLD,OAE

Dairy Milk Price

| Year | Farm Gate Price (Baht/kg.) | Factory Gate Price (Baht/kg.) |
|------|-------------------------------|----------------------------------|
| 2005 | 11.48 | 12.50 |
| 2006 | 11.50 | 12.50 |
| 2007 | 12.91 | 12.50/13.75/14.50 |
| 2008 | 14.56 | 14.50/18.00 |
| 2009 | 15.60 | 16.50 |
| 2010 | 15.43 | 16.50/17.00 |
| 2011 | 15.73 | 18.00 |
| 2012 | 16.88 | 18.00 |

Source : OAE

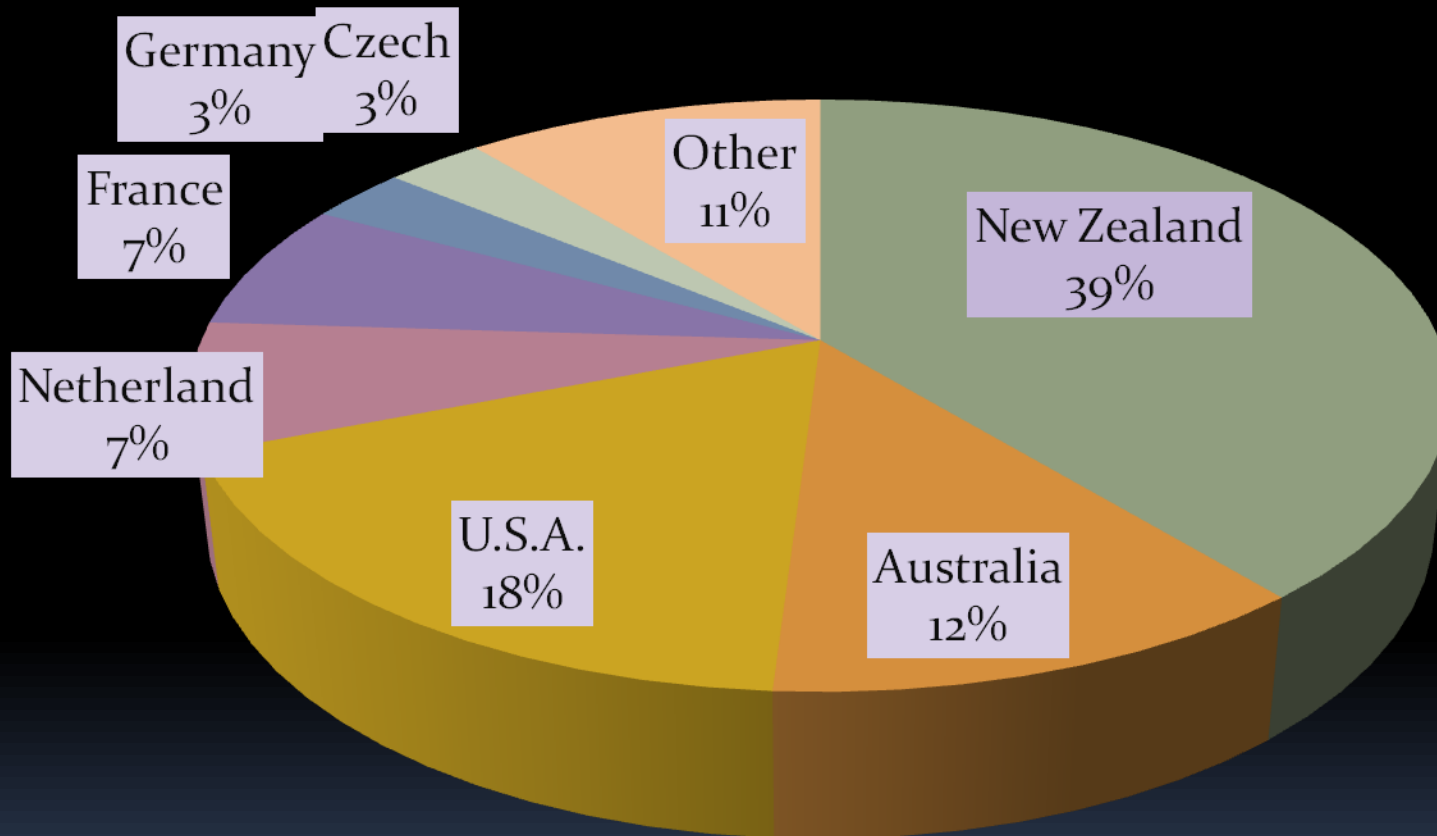
Thai Dairy Product Trade (HS=0402-0406)

Values : Million \$ US.

| Year | Imported values | Exported values | Trade Balance |
|------|-----------------|-----------------|---------------|
| 2005 | 339.089 | 124.287 | -214.802 |
| 2006 | 343.092 | 108.731 | -234.361 |
| 2007 | 464.071 | 131.062 | -333.008 |
| 2008 | 536.463 | 134.910 | -401.553 |
| 2009 | 270.943 | 127.492 | -143.451 |
| 2010 | 457.645 | 139.720 | -317.925 |
| 2011 | 558.151 | 161.454 | -396.697 |
| 2012 | 616.515 | 139.330 | -477.185 |

SOURCE : THAI CUSTOMS

On 2010 , Thailand imported dairy product from



SOURCE : THAI CUSTOMS

Main Imported Dairy Product

Quantity : ton

| Dairy Product | 2007 | 2008 | 2009 | 2010 |
|---------------------|--------|--------|--------|--------|
| Skimmed Milk Powder | 56,940 | 60,666 | 50,117 | 59,357 |
| Whole Milk Powder | 24,450 | 17,442 | 16,577 | 26,529 |
| Whey | 24,802 | 19,311 | 15,821 | 26,534 |

SOURCE : THAI CUSTOMS

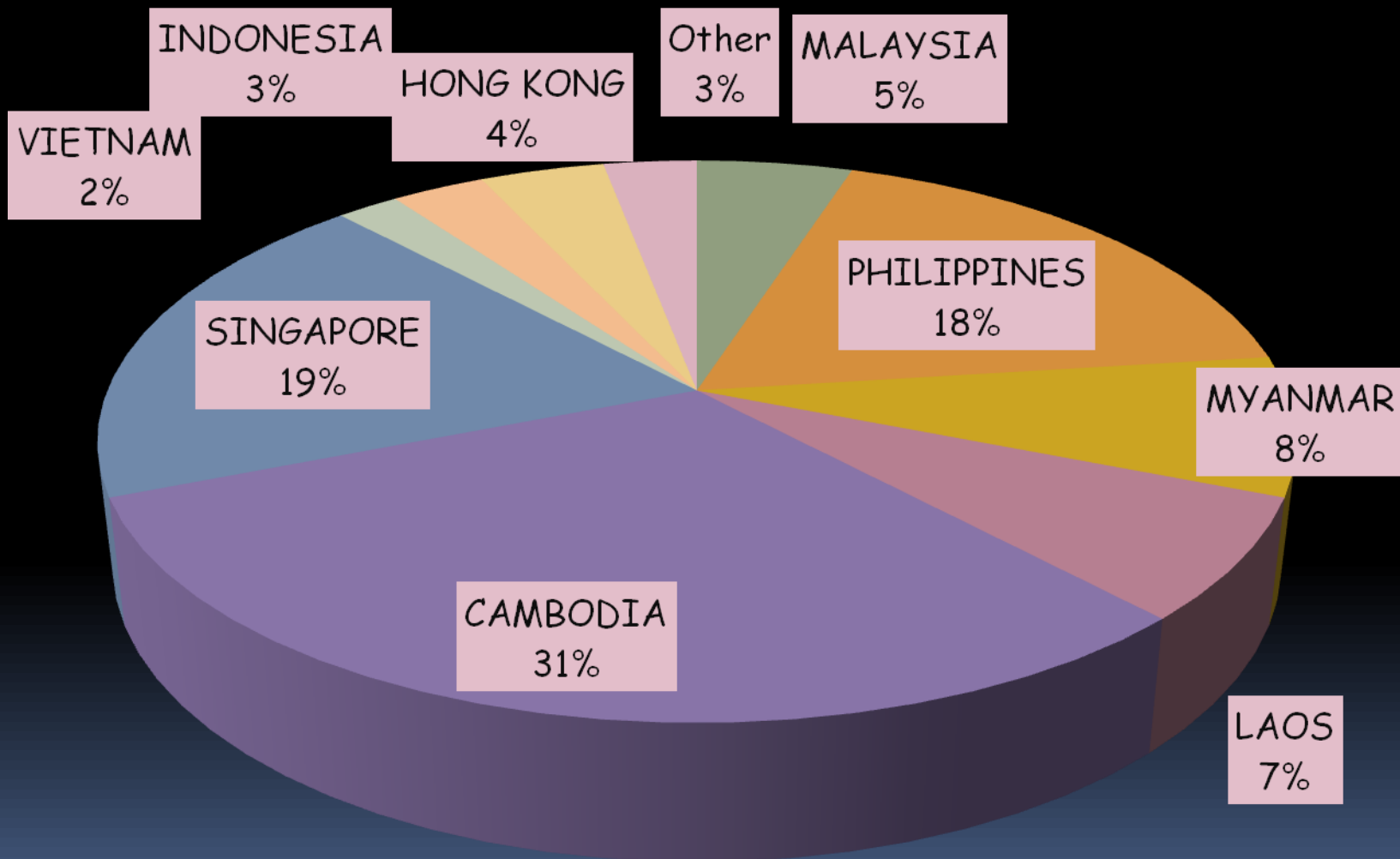
Main Exported dairy Product

Quantity : ton

| Dairy Product | 2008 | 2009 | 2010 |
|---|--------|--------|--------|
| 1. Condensed Milk | 5,045 | 4,008 | 3,672 |
| 2. Sweetened Condensed Milk | 24,128 | 22,319 | 16,998 |
| 3. Milk and cream not concentrated (fat content 1- 6 %) | 23,941 | 18,978 | 14,663 |

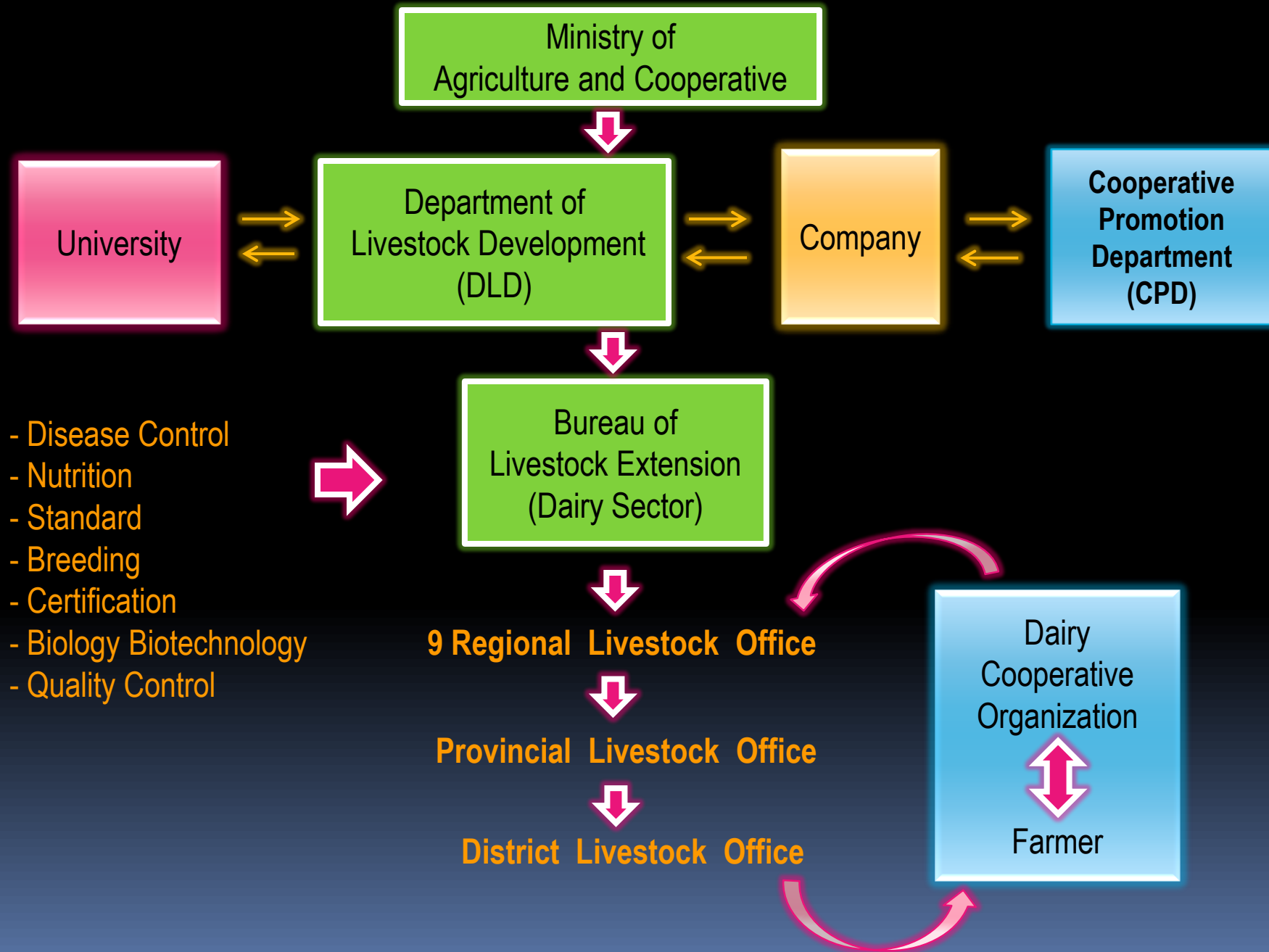
SOURCE : THAI CUSTOMS

On 2010, Thailand exported dairy products to...

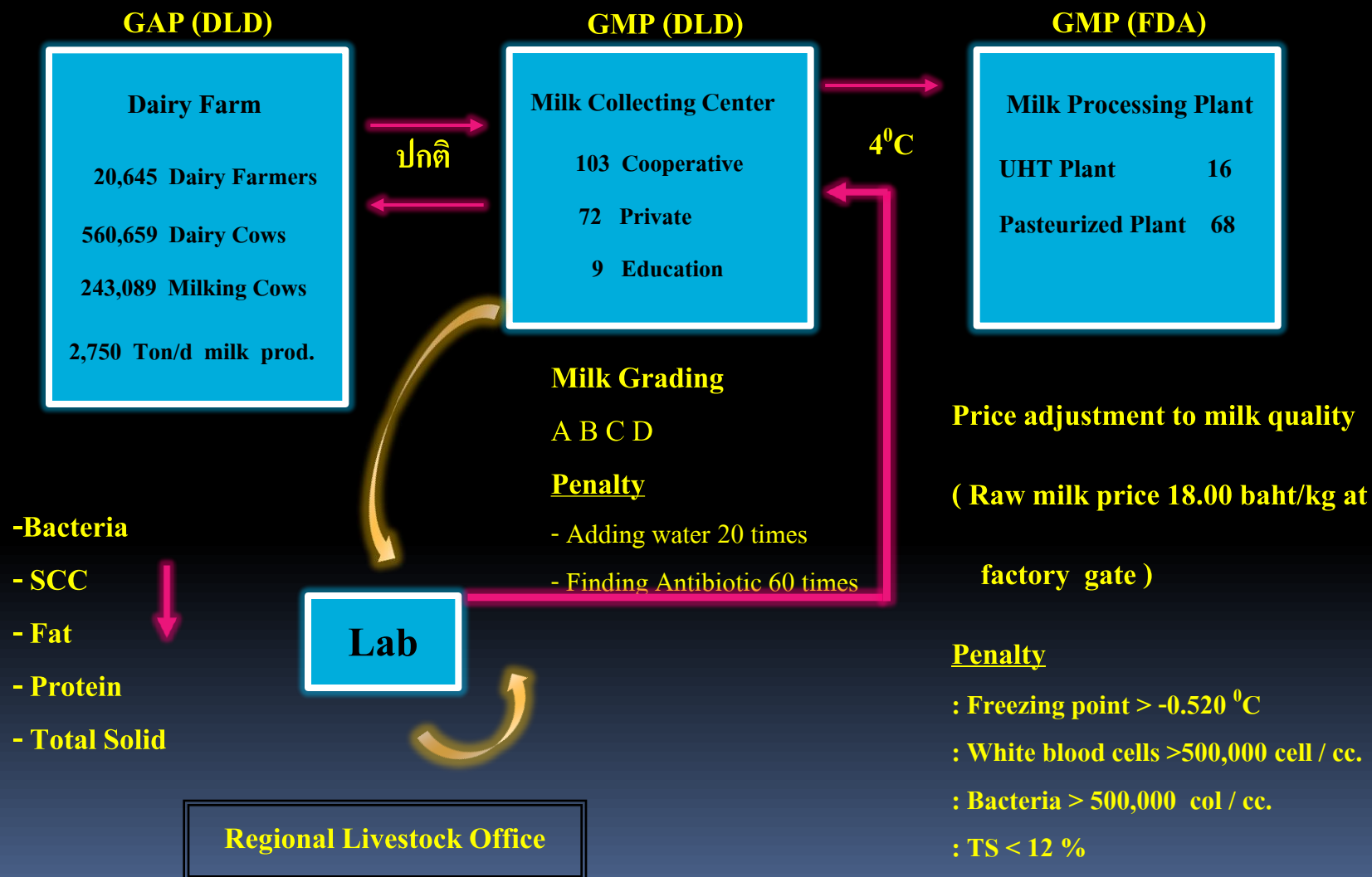


SOURCE : THAI CUSTOMS

ORGANIZATION CHART



Process of Raw Milk Quality Control by Department of Livestock Development 2012



1. Genetic Improvement

Issues and Problem



- Purebred HF resulting in problem of Low conception rate and short Lactation Period .
- Milk production < 4,000 kg/hd/lac

Current approaches for solutions

- Used upgrading natives cows with purebred HF (use AI)
- DLD has produced crossbreed Tropical HF contain 82.5 – 93.75 % HF

2. Research and extension of livestock



Issues and Problem

- Some technology is not suitable for them or requires high capital investment incurring in high cost of production.

Current approaches for solutions

- Has introduced demonstrated farm model for technology transfer to encourage farmers' participation for new technology embedding.



3. Farmers' group related to livestock



Issues and Problem

- Small scale holder, form for away to market .
- They have insufficient capital to improve their farm management and conduct their own cooperatives

Current approaches for solutions

- Government provides funding to help manage dairy cooperatives and support its members. (Soft loan : low interest rate and long term payment)

4. Cattle management



Issues and Problem

- Not enough area to grow pasture or roughages.
- Poor reproductive performance .

Current approaches for solutions

- Contract farming between pasture groups and livestock groups.
- Supplement legume added such as leucaena



5. Utilization of local resources as feed



Issues and Problem

- In dry season, it lacks of pasture. Most of farmers use rice straw to feed cattle

Current approaches for solutions

- Contract farming for raw material feed from nearby factories such as : pineapple shell, corn stem, cassava shell and palm cake
- Silage to preserve feed



Soybean meal + Waste beer + Cassava

6. Health and hygiene management

Issues and Problem

- 20 – 25 % dairy cows are culled due to poor reproductive performance or other health problems

Current approaches for solutions

- Record herd analysis is important to profitable dairying or other milk production record system is recommended.



7. Utilization of animal by-products



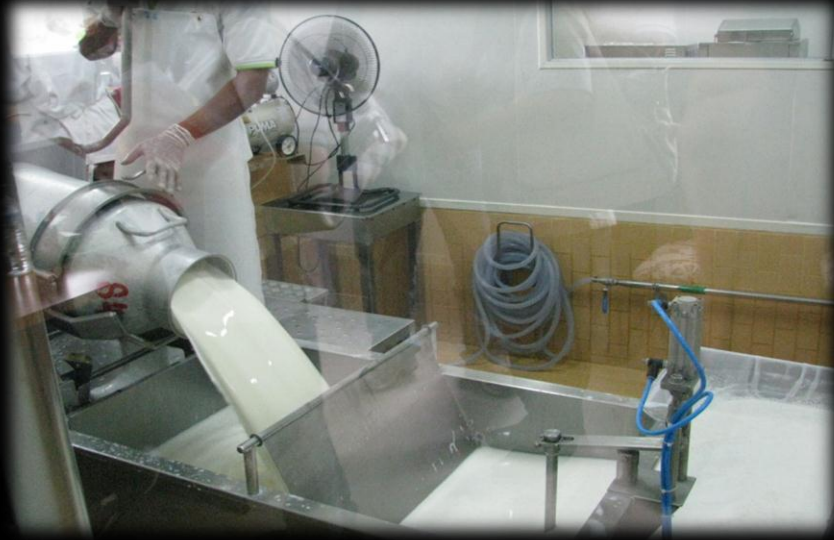
Issues and Problem

- Smell and waste water from farms
- In the past, livestock communities were far away from the cities have expanded.

Current approaches for solutions

- Utilize manure from farms to produce biogas and fertilizer to decrease smell and waste water

8. Quality control of animal products



Issues and Problem

- Every milk delivery is inspected with regard to certain quality parameter

Current approaches for solutions



- Farmer has to check the cow for abnormal milk before starting to milk the cow
- Cooperatives establish the standard for controlling raw milk quality by cutting down the price of low quality products or rejecting products and at the same time increasing price for higher quality products

9. Processing of animal product

Issues and Problem

- Milk production in 2011 was 2750 tons per day
- 97 % producing of ready to drink milk
- 2.8 % was used for cheese production
- 0.2 % was distributed for sales in villages

Current approaches for solutions

- More research and development on new kinds of dairy products



10. Marketing of animal product



Issues and Problem

- Most of farmers sell their primary product to local milk collecting center
- Farmers get a little profit and cannot compete with other brands in the market

Current approaches for solutions

- Promoting dairy products totally produced from fresh milk as high quality product for health
- Increase domestic milk consumption
- Establish local brands (dairy cooperative brand) and sell processed milk directly to local consumers .
- Balancing of demand and supply of raw milk to avoid over production problems



| | | | | | | |
|----------|---|--|--|---|--|--|
| Vision | Strength of farmers for good future of dairy industry | | | | | |
| Strategy | 1. Research and development on dairy farming | | 2. Develop and enhance farmers performance in milk producing | | 3. Promote milk consumption and develop milk product for competition | |
| Mission | 4. Increase efficiency of dairy farmer organization | | 6. Improve database system | | | |
| Goal | 1. Increase milk yield from 12 kg to 15 kg/cow/day | 2.technology transfer to 20,000 farmer | 3.Milk quality meet good standard criteria at least 80 % | 4.Reduce cost for increasing profit at least 10 % | 5.Increase milk consumption from 14 liters to 20 liters/person/ye ar | 6.Establish Dairy Board Office in 2016 |
| KPI | KPI I % Good Agricultural Practice (GAP) farmers | KPI II % processed milk that increasing each year | KPI III % milk consumption in country that increasing each year | KPI IV % increasing farm profit | KPI V % export product that increasing each year | KPI VI 6.Establish Dairy Board Office in 2016 |

