

## 5. Supply chain

### ■ Dairy processing plants in Japan

210,000 dairy farmers with 1.467 million cows produce 7.534 tonnes of milk a year (2011). About 54% is destined to be used for drinking milk, and about 44% is processed to other dairy products such as cheese, butter, skimmed milk powder, ice cream.

As freshness being so important for milk and other dairy products, conventionally they were processed as close as possible to where they were produced.

However, in recent years with improved persterisation and processing technique as well as developed distribution network, some dairy processors are building large plants in the producing area. In 2010, there were 655 raw milk processing plants in the country.

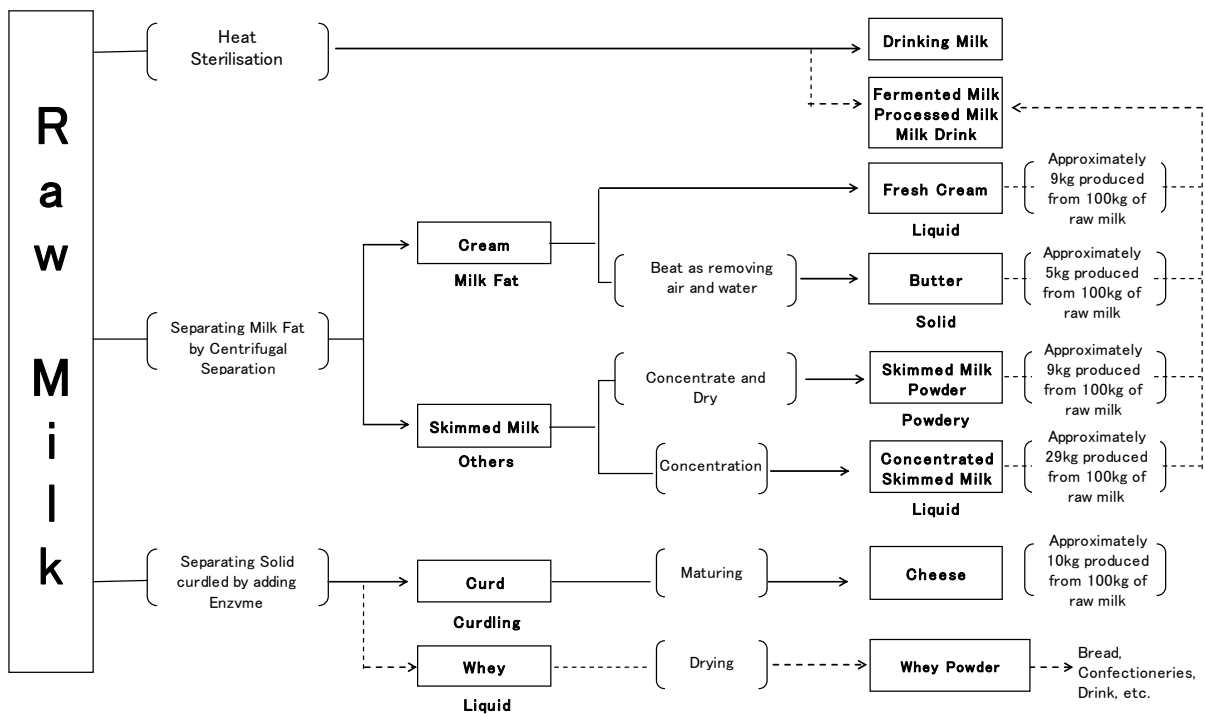
Following the trade liberalisation of dairy products, imports of various products from oversea continue to be increasing, and now the importance of the continuous supply of fresh, safe and reliable milk and dairy products is being recognised by many consumers again. For the future development of Japanese dairy farming and dairy processors, it is undoubtedly important to deepen the working relationship between producers and processors. **table 10 Fig 5**

**Table10: Number of plants and treatment facilities by daily capacity (31/12/2010)**

| National<br>Agricultural<br>Region<br>Prefectures | Total      | Number of Milk Processing Plants (For drinking milk etc. ≥ For other dairy products) |             |           |           |            |            |           |
|---|------------|--|-------------|-----------|-----------|------------|------------|-----------|
|   |            | Subtotal   | 2 t<br>Less | 2 ~<br>4  | 4 ~<br>10 | 10 ~<br>20 | 20 ~<br>40 | 40 t<br>~ |
| <b>Whole Country</b>                              | <b>655</b> | <b>467</b>   | <b>237</b>  | <b>31</b> | <b>31</b> | <b>41</b>  | <b>40</b>  | <b>87</b> |
| (National Agricultural Region)                    |            |  |             |           |           |            |            |           |
| hokkaido  | 111        | 37   | 23          | 3         | 1         | 2          | 1          | 7         |
| tohoku  | 78         | 61   | 32          | 6         | 4         | 7          | 6          | 6         |
| hokuriku  | 51         | 48   | 32          | 3         | 3         | 4          | 4          | 2         |
| kannto  | 127        | 91   | 33          | 6         | 5         | 11         | 7          | 29        |
| toyama  | 33         | 19   | 13          | -         | 1         | -          | 2          | 3         |
| tokai   | 67         | 59   | 30          | 3         | 3         | 6          | 5          | 12        |
| kinki   | 64         | 50   | 28          | 4         | 3         | 1          | 3          | 11        |
| chugoku   | 45         | 39   | 19          | -         | 3         | 5          | 5          | 7         |
| shikoku   | 11         | 11   | 4           | -         | 2         | -          | 2          | 3         |
| kyushu  | 57         | 41   | 16          | 6         | 5         | 4          | 3          | 7         |
| okinawa   | 11         | 11   | 7           | -         | 1         | 1          | 2          | -         |

Resources: Milk Products Statistics by Ministry of Agriculture, Forestry and Fisheries

Fig 5: Manufacturing process of milk and other dairy products



### ■ Distribution of milk and other dairy products

About 98% of raw milk produced by dairy farmers is sold to dairy processors through the milk producer organisations designated by the Minister of Agriculture, Forestry and Fisheries or the governors of prefectures by law. At the factories, purchased raw milk is processed to drinking milk and other dairy products, then sold to wholesalers / retailers or to bread baking factories and drink manufacturers.

During post war period, school lunch was introduced at primary schools, and children started drinking milk. Milk consumption at homes also started to grow, and its main distribution was through door step delivery by specialist milk retailers.

From around 1965, supermarkets were established especially in urban areas, and they started selling milk. Around 1975, convenience stores, which are open for 24 hours, have also joined in the milk sales competition, resulting the declining share of specialist milk retailers. **table 12**

About 50% of milk containers were glass bottles in 1976, but cartons were introduced and spread rapidly. In 2011 only 8% of containers were glass bottles, instead cartons have increased to 85%.

As these figures show, the increased sales at supermarkets and convenience stores are very much linked to the increase of cartons usage. **Fig 6 table 11**

Fig. 6: Distribution of Milk and other dairy products

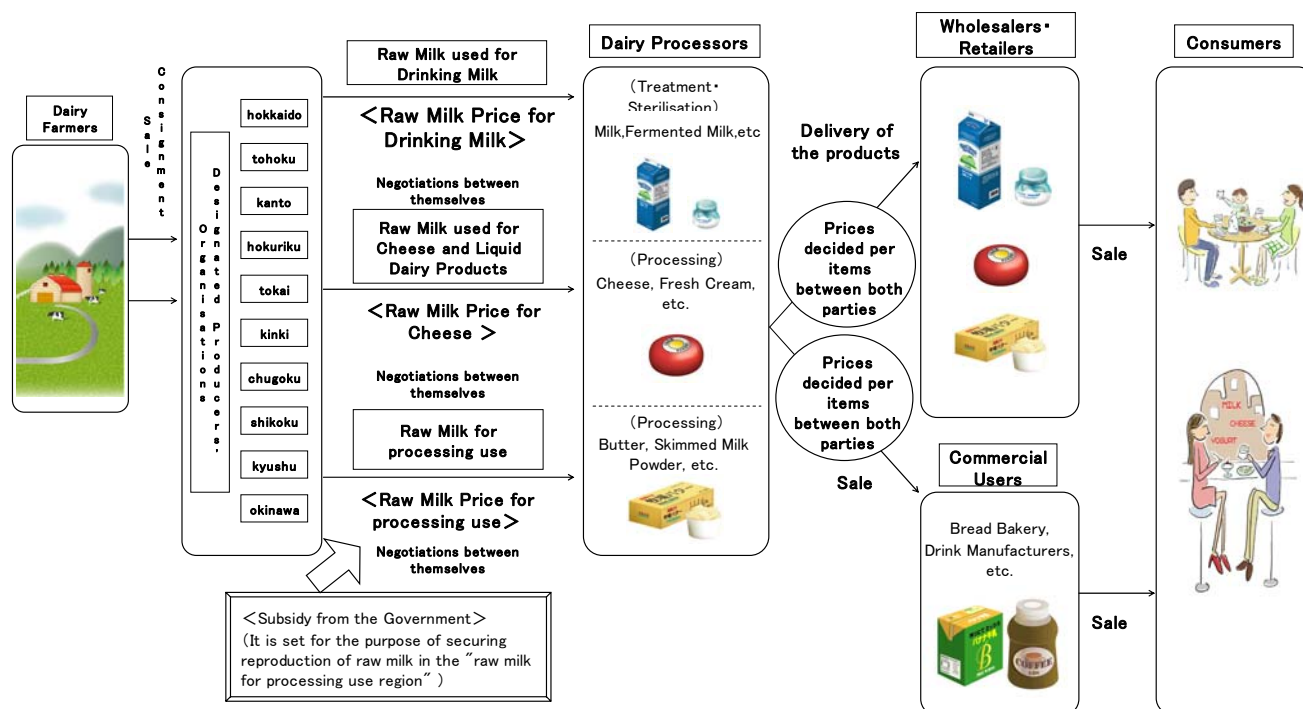


Table 11: Amount of milk production by containers

Unit : kl

|      | total   | Glass bottle    |            | Polyethylene coated paper |            | others |
|------|---------|-----------------|------------|---------------------------|------------|--------|
|      |         | less than 500ml | over 500ml | less than 500ml           | over 500ml |        |
| 1976 | 220,808 | 95,863          | 2,437      | 16,203                    | 102,222    | 4,083  |
| 2010 | 269,517 | 15,959          | 5,696      | 42,009                    | 185,630    | 20,223 |

Resources: Milk products Statistics, Ministry of Agriculture, Forestry and Fisheries.

**Table 12: Change of Specialised Milk Retailer numbers**

| Year | Shop Numbers | Employees | Per Shop         |                  |
|------|--------------|-----------|------------------|------------------|
|      |              |           | Employee Numbers | Monthly turnover |
| 1961 | 7,514        | 36,228    | 4.8              | 512,400          |
| 1963 | 9,751        | 41,707    | 4.3              | 577,000          |
| 1965 | 15,360       | 60,283    | 3.9              | 564,300          |
| 1967 | 17,912       | 67,875    | 3.8              | 661,600          |
| 1969 | 19,540       | 71,429    | 3.7              | 721,100          |
| 1971 | 20,104       | 69,919    | 3.5              | 804,297          |
| 1973 | 20,971       | 66,452    | 3.2              | 973,467          |
| 1975 | 21,008       | 59,938    | 2.9              | 1,195,957        |
| 1978 | 19,410       | 52,195    | 2.7              | 1,393,096        |
| 1981 | 17,905       | 46,069    | 2.6              | 1,496,844        |
| 1984 | 15,003       | 39,327    | 2.6              | 1,773,262        |
| 1987 | 14,252       | 37,533    | 2.6              | 1,767,921        |
| 1991 | 12,995       | 33,931    | 2.6              | 2,042,446        |
| 1994 | 11,435       | 32,268    | 2.8              | 2,198,870        |
| 1997 | 10,982       | 34,528    | 3.1              | 2,381,071        |
| 1999 | 10,058       | 36,760    | 3.7              | 2,223,156        |
| 2002 | 10,326       | 40,443    | 3.9              | 2,077,910        |
| 2007 | 9,045        | 38,110    | 4.2              | 2,221,476        |

Resources: Commercial Statistics by Ministry of Economy, Trade and Industry