

# High-level Measures to Ensure Meat Safety

In order to ensure the provision of safe beef to consumers, Japan has established a stringent system of inspections and checks that cover the production, treatment, processing and distribution of beef.

## BSE Prevention Measures in Japan

Japan maintains the following stringent regulations and inspections as a measure against BSE.

### Thorough removal of infection sources through legislation

#### 1 Prohibition of the use of Meat and Bone Meal (MBM)

As of October 2001, the use of Meat and Bone Meal, thought to be one source of BSE infection, was prohibited by law. Currently only grains such as rice straw, wheat and corn are used as cattle feed.

#### 2 Compulsory removal and incineration of Specified Risk Materials (SRMs)

As 2001 the Ministry of Health, Labor and Welfare implemented the removal and incineration of cattle heads, (excluding the tongue and cheek flesh), spinal cords, vertebral column and distal ileum of cattle in slaughterhouses.

### Strictest standards in the world for BSE inspections

From October 2001, all cattle became subject to BSE inspections. In May 2005, the age of cattle subject to BSE inspections was lowered to 21 months and has been recognized as the most stringent inspections in the world in comparison to global standards.

#### 1 Inspections and guidance at breeding and fattening farms

Inspectors with veterinary qualifications from prefectural livestock hygiene service centers periodically visit breeding farms (farms that raise calves to 8-9 months old) and fattening farms (farms that raise calves purchased at cattle sales to maturity from between 18-20 months) to conduct inspections and offer guidance and evaluations, including BSE inspections, are carried out on cattle at risk of BSE.

#### 2 Slaughterhouse inspections

Cattle taken to the slaughterhouses are subject to stringent inspections by inspectors from meat inspection centers and only carcasses that pass can be further processed. At the slaughterhouse, screening tests are carried out on all cattle in order to weed out all the BSE risk cattle. Samples of accumulations of prions and medulla oblongata are taken for testing with the enzyme-linked immunosorbent assay, (\*1ELIZA method). In the event of a positive result, further tests are carried out using (\*2Western Blot tests) or (\*3Immunohistochemistry tests). Cattle that show a positive specialists, are incinerated while specific parts are kept for research purposes. result to these tests and are given a definite diagnosis following discussions by a council of national specialists, are incinerated while specific parts are kept for research purposes.

#### \*1 The ELIZA Method

The ELIZA Method is used to treat sample prions taken from the medulla oblongata with protein breaking enzymes. Any remaining abnormal prion proteins are then extracted and concentrated. A reagent that will react to the abnormal prion proteins is then added to produce a colorimetric reaction and the concentration of the color measured. As results are available in as little as six hours, this method is currently used all around the world. It is effective as a screening test to detect risk cattle from the large number of subjects and is used as a means of diagnosis to proceed to more accurate tests in the event of a positive result.

#### \*2 Western Blot tests

Up until the point of concentrating abnormal prion proteins, this test is identical to the ELIZA method. Proteins are then separated by electric charge, transferred onto a membrane and checked for an immune response. This is determined by the occurrence of a colorimetric reaction, protein transferal and shape of the band. It is said that the process generally requires approximately 12 hours.

#### \*3 Immunohistochemistry tests

Immunohistochemistry tests generally require more than two days and are a method of detecting BSE by adding reagents that will react with BSE abnormal prion proteins to create a colorimetric reaction. In order to achieve a more accurate diagnosis, they are commonly used in unison with Western Blot tests however are not common practice in the EU.

### Establishment of a traceability system

Japan has established a traceability system providing records of production and distribution from the time of birth of all domestic cattle right up until the time it is supplied to the consumer. This highly transparent system, allowing access to information to any one at any time, enables prompt detection of the source in the event of a problem and protection of the consumer.

Beef traceability Homepage Address:  
<https://www.id.nlbc.go.jp/english/top.html>

#### 1 Individual identification numbers for all cattle

All cattle born in Japan and live cattle imported into Japan are given a clearly identifiable 10 digit individual identification number fixed to the ear of the cattle. In the years to come, this number, together with the cattle, will pass through a variety of distribution channels before reaching the consumer.

#### 2 Cattle database (enacted December 1, 2003)

Individual identification numbers are registered upon submission of data concerning cattle from the producer. Information for each head of cattle including the date of birth, sex, breed, name and address of the owner, fattening method used, ancestry and date of slaughter is recorded and compiled into a database and this data formed into a "Family Register" of the herd.

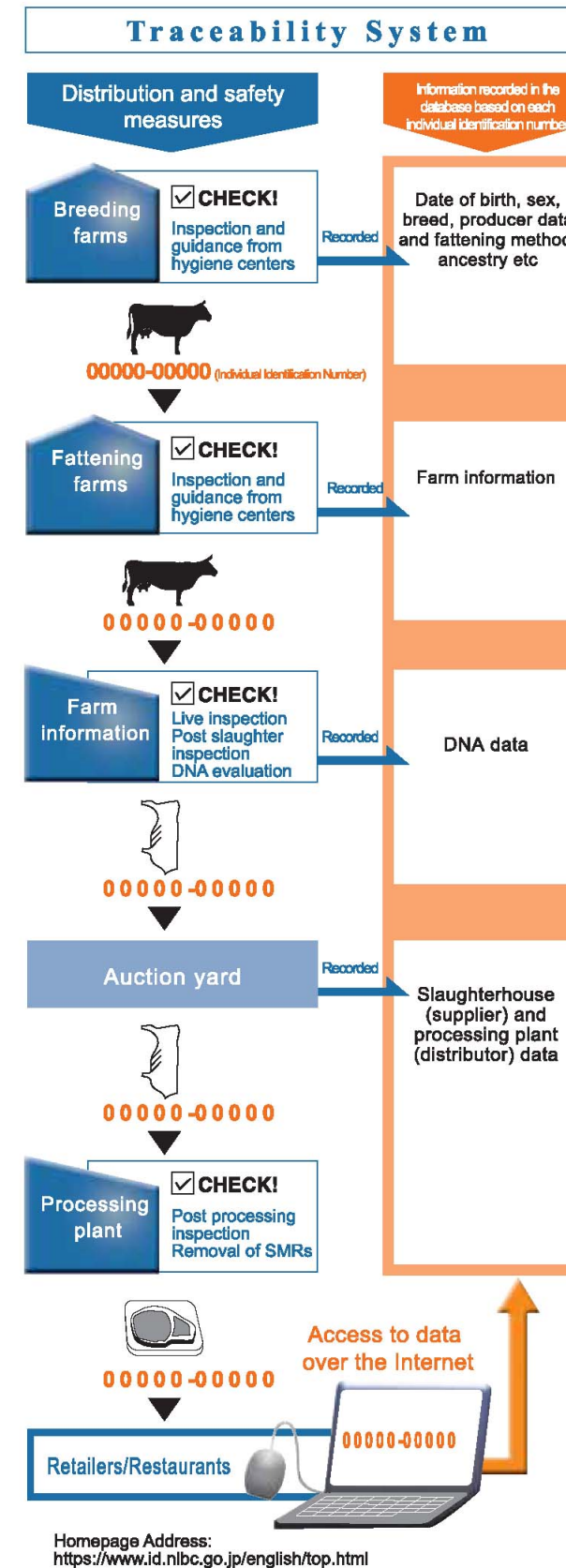
Following initial registration, information is further added to the database from breeding farms, fattening farms, meat wholesale centers and retailers.

#### 3 Display of the identification number and transaction records

Following slaughter, the carcass is processed into cuts and dressed meat and through the distribution process the individual identification number is displayed on the product by each individual distributor and the information of retailers etc. recorded and stored in the database.

#### 4 Access to production and distribution records

By means of step 1-3 above, consumers are able to search for and gain access to production and distribution records over the Internet based on the individual identification number provided on Wagyu meat products.



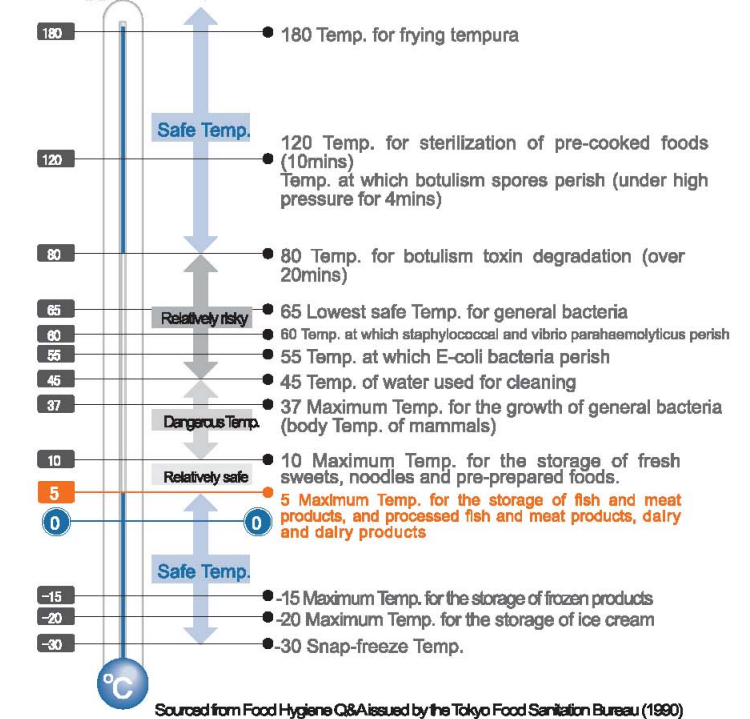
## Freshness management and bacteria control

### Total temperature control to preserve freshness

Temperature control is necessary in order to prevent decay and increases in bacteria. Beef is frozen or refrigerated and is maintained at a low temperature through all the stages of distribution from production, processing, fabrication and retail up until the time it reaches the consumer in what is referred to as a cold chain. For example, even where the meat is cut or packed, it is maintained at a temperature of approximately 0°C. Work rooms are also maintained at low temperatures and work completed quickly. Meat is also distributed in refrigerated transport maintaining total temperature control.

### Safe and risky temperatures for food storage

Meat products should always be stored at a temperature of approximately 0°C.



### Prevention of food poisoning causing bacteria

Cattle, goats and sheep are known to carry enterohemorrhagic Escherichia coli, one bacterium that is known to cause food poisoning and originate from domestic livestock. As one measure to prevent food poisoning, the intestinal tract is ligatured to in order to avoid contamination of meat from the contents of the intestines during meat fabrication at slaughterhouses.