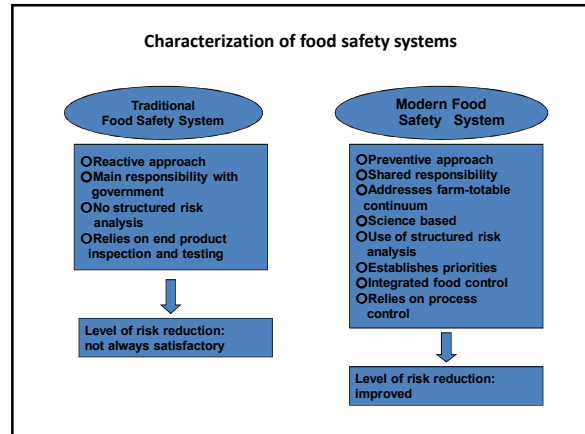


APEC Scientific seminar workshop on Food Safety Risk Benefit Analysis  
22-24 Nov 2011

## Food poisoning Measures for raw meat.

ISO/FSSC22000/HACCP Certification Registry  
AUDIS Corporation  
Chief Audit Officer  
Emi Saito

1



**The main cause of food poisoning bacteria by eating raw meat be a problem**

- **Campylobacter**
  - Most incidents of bacterial food poisoning most since 2003
  - Food poisoning bacteria
  - Often caused by eating raw meat like chicken and beef liver
- **Enterohemorrhagic E. coli**
  - in severity concomitant increase hemolytic uremic syndrome with encephalopathy may result in death
  - enterohemorrhagic E. coli food poisoning in the years 2003-2009 Case was found to cause the food is all related to meat
- **Salmonella**
  - Main symptoms of acute gastroenteritis due to food poisoning, sometimes lead to death
  - Widely distributed in meat and other animal's intestinal tract is contaminated

食安委提供 3

### Reports of enterohemorrhagic Escherichia coli infection

| 年次   | 報告数   | 有症者   |          |
|------|-------|-------|----------|
|      |       | 有症者数  | 有症者割合(%) |
| 2000 | 3,648 | 2,265 | 62.1     |
| 2001 | 4,435 | 2,943 | 66.4     |
| 2002 | 3,183 | 1,994 | 62.6     |
| 2003 | 2,999 | 1,623 | 54.1     |
| 2004 | 3,764 | 2,551 | 67.8     |
| 2005 | 3,589 | 2,426 | 67.6     |
| 2006 | 3,922 | 2,515 | 64.1     |
| 2007 | 4,617 | 3,083 | 66.8     |
| 2008 | 4,321 | 2,818 | 65.2     |
| 2009 | 3,889 | 2,607 | 67.0     |

感染症発生動向調査週報 2009, 第35週、p. 15-23.

### Incidence of major serotypes by enterohemorrhagic E. coli food poisoning

| 年    | O157 |     |        | O26 |     |     | O111 |     |     |
|------|------|-----|--------|-----|-----|-----|------|-----|-----|
|      | 件数   | 患者数 | 死者数    | 件数  | 患者数 | 死者数 | 件数   | 患者数 | 死者数 |
|      | 1996 | 87  | 10,322 | 8   | 2   | 7   | 0    | 4   | 76  |
| 1997 | 25   | 211 | 0      | 14  | 14  | 0   | 7    | 7   | 0   |
| 1998 | 13   | 88  | 3      | 1   | 88  | 0   | 2    | 7   | 0   |
| 1999 | 6    | 34  | 0      | 0   | 0   | 0   | 1    | 4   | 0   |
| 2000 | 14   | 110 | 1      | 1   | 1   | 0   | 1    | 2   | 0   |
| 2001 | 24   | 378 | 0      | 0   | 0   | 0   | 0    | 0   | 0   |
| 2002 | 12   | 259 | 9      | 0   | 0   | 0   | 0    | 0   | 0   |
| 2003 | 10   | 39  | 1      | 1   | 141 | 0   | 0    | 0   | 0   |
| 2004 | 18   | 70  | 0      | 0   | 0   | 0   | 0    | 0   | 0   |
| 2005 | 24   | 105 | 0      | 0   | 0   | 0   | 0    | 0   | 0   |
| 2006 | 23   | 166 | 0      | 1   | 13  | 0   | 0    | 0   | 0   |
| 2007 | 25   | 928 | 0      | 0   | 0   | 0   | 0    | 0   | 0   |
| 2008 | 17   | 115 | 0      | 0   | 0   | 0   | 0    | 0   | 0   |
| 2009 | 26   | 181 | 0      | 0   | 0   | 0   | 0    | 0   | 0   |
| 2010 | 27   | 358 | 0      | 0   | 0   | 0   | 0    | 0   | 0   |

厚生労働省食中毒統計、腸管出血性大腸菌による食中毒発生状況、病原微生物検出情報より作成

### Cause food & Cause Facility

| Cause food groups | Number | Cause Facility | Number |
|-------------------|--------|----------------|--------|
| Grilled meat etc. | 36     | Restaurant     | 32     |
|                   |        | Home           | 2      |
|                   |        | Other          | 2      |
| Liver             | 18     | Restaurant     | 15     |
|                   |        | Home           | 2      |
|                   |        | Shop           | 1      |
| Eaten raw meat    | 8      | Restaurant     | 3      |
|                   |        | Unknown        | 1      |
| Hamburger/ steak  | 4      | Restaurant     | 3      |
|                   |        | Unknown        | 1      |
| Viscera           | 3      | Restaurant     | 2      |
|                   |        | Unknown        | 1      |
| Other             | 1      | Home           | 1      |
| Unknown           | 69     | Restaurant     | 56     |
|                   |        | Home           | 3      |
|                   |        | Sale shop      | 4      |
|                   |        | Office         | 1      |
|                   |        | School         | 1      |
|                   |        | Hotel          | 1      |
|                   |        | Other          | 1      |
|                   |        | Unknown        | 1      |
|                   |        | Unknown        | 1      |
|                   |        | Unknown        | 2      |
| Total             | 139    |                |        |

食品健康影響評価のためのリスクプロファイル～牛肉を主とする食肉中の腸管出血性大腸菌

## Eaten raw meat (beef) for Background of Food Safety Assessment

食安委提供 7

### Background of this valuation to be eaten raw meat

In The Ministry of Health

Consumers based on health standards for raw consumption of meat, well-known leaders of related businesses in addition, for high risk children and the elderly, enough of meat and liver Prefectures were made through public awareness, such as the heating is carried out

↓

From April through May 2011, caused by eating raw meat is considered Food poisoning incident in enterohemorrhagic E. coli

↓

Food Safety Commission for the Minister of Health, Food Related to setting standards for raw consumption of meat hygiene Law Food and health impact assessment requested (08 July 2011)

食安委提供 8

## Eaten raw meat (beef) in Food and Health Impact Assessment (August 23) Overview

9

### How enterohemorrhagic E. coli Develop when ingested ?

In enterohemorrhagic E. coli food poisoning that occurred in the country After researching a number of bacterial contamination of bacteria in food intake and cause 2 ~ 9cfu (one) had food poisoning cases arising from the ingestion of bacteria

The probability of developing one in the lower fungus is not zero.  
Number of bacteria ingested in food poisoning cases of enterohemorrhagic E. coli

| Cause food           | Number of contaminant | Estimated food intake | Ingestion of bacteria/ People |
|----------------------|-----------------------|-----------------------|-------------------------------|
| Seafood Source Salad | 0.05~0.24cfu (One) /g | 208g<br>72g           | 11~50cfu (One) (Average)      |
| Raw beef liver       | 0.04~0.18cfu (個) /g   | 50g以下                 | 2~9cfu (one)                  |

食安委提供&modified 10

### Salmonella cases?

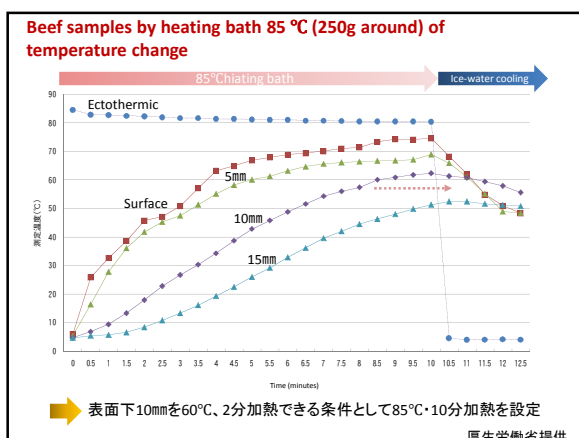
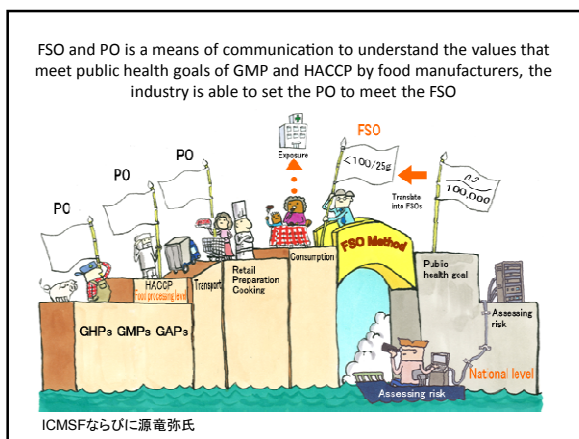
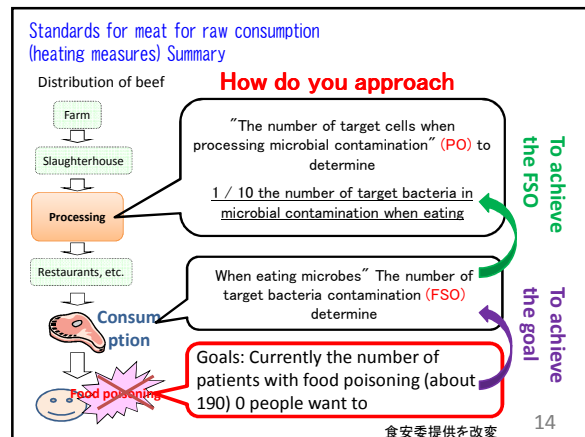
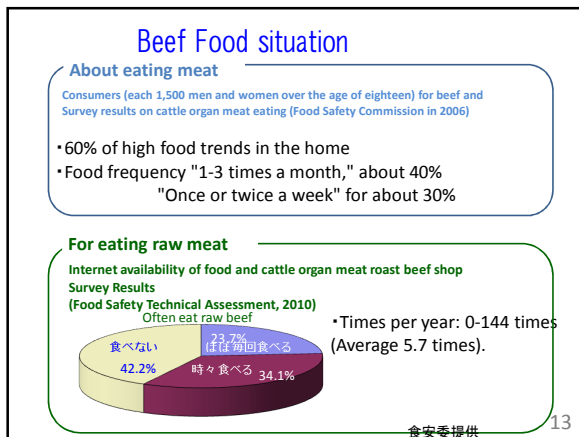
- Cases have been found in a number of bacteria ingested salmonella food poisoning cases, the lowest number of bacteria (about four).
  - Cause Food: Chocolate
  - Probability of occurrence in enterohemorrhagic E. coli and Salmonella are similar
- FAO/WHO Risk assessment

| Dose (Bacterial count) | Probability of occurrence of salmonellosis (1/man) |
|------------------------|--|
| One                    | 1/400  |
| 4                      | 1/101  |
| 10                     | 1/43   |
| 100                    | 1/8  |
| 1,000                  | 1/3  |
| 10,000                 | 1/2  |

11

## Beef Food situation

食安委提供 12



Features of this risk assessment

### Features of this risk assessment

- FSO and PO set at the level of severity, microbiological standards
- Processing standards, but it does not actually heat the edible portion is not  
→Reduction of pathogenic microorganisms simply obtained by heat treatment, can not directly estimate the risk reduction
- Realistically microbiological confirmation is not possible level  
→Instead of indicator bacteria found in the presence of heat, **microbiological testing to ensure that they meet at the PO**
- "MicroorganismStandard" and "process standards" set of management

### Food and Health Impact Assessment Summary

- The goal of microbial contamination of bacteria during eating, as seen from the lowest incidence bacteria count of food poisoning so far is on the safe side
- "The goal of bacteria of microbial contamination during processing" to "target bacteria number of microbial contamination when eating" to 1 / 10 of proper hygiene in the anticipation of substantial safety
- Reproductive parts, parts that are not directly heated "process standards" only "number of target bacteria in microbial contamination during processing," not secured.  
**There must also be examined by a number of samples required microbial**
- When setting up a system of heat processing step is **essential to ensure the validity of the system**

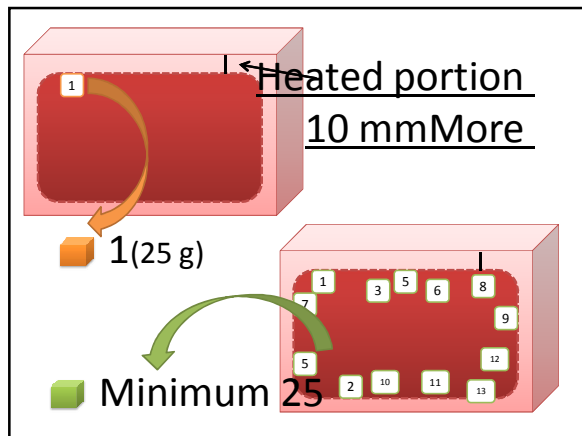
20

"Standards process" only "number of target bacteria in microbial contamination during processing," not secured.

There must also be microbial examined by **a number of samples required**



"The number of target bacteria in microbial contamination during processing (PO) confirmation has been achieved  
**Number of samples is required?**



Thank you for your attention.