Survey on Methods to Reduce Food Loss and Waste for Sports Events

Ministry of Agriculture Forestry and Fisheries (MAFF), JAPAN
The edible portion of FLW generation in Japan

Food loss and waste (FLW)

(1) “The edible portion of FLW”
e.g. over productions, returns, over best before date, leftovers

(2) “The inedible portion of FLW” (By-products)
produced during manufacturing or cooking processes
e.g. fish bones, vegetable peel (inevitably occurs)

The edible portion of FLW generation (FY2016)

Total 6.43 million tons

Businesses (3.52 M tons) + Households (2.91 M tons)
The target for reducing the edible portion of FLW

**[Our Target]**
By 2030, to halve the edible portion of FLW

<table>
<thead>
<tr>
<th>Amount (Businesses) (M tons)</th>
<th>2000 (base year)</th>
<th>2016 (now)</th>
<th>2030 (target year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.47</td>
<td>3.52</td>
<td>2.73</td>
</tr>
</tbody>
</table>

- **Amount (M tons)**
  - 2000 (base year): 5.47 M tons
  - 2016 (now): 3.52 M tons
  - 2030 (target year): 2.73 M tons

**Estimated from data since 2008.**

**Estimated from the regulatory report.**
The edible portion of FLW generation from businesses

- **Restaurants**: 1.33 M tons (38%)
- **Food manufacturers**: 1.37 M tons (39%)
- **Food retailers**: 0.66 M tons (19%)
- **Food wholesalers**: 0.16 M tons (5%)

Total from businesses: 3.52 M tons
How to reduce the FLW (edible) in restaurants

Measures that business operators can take on their own

(1) Serving food in small portions

Measures that business operators and consumers work together to take

(2) Displaying educational posters
(3) Displaying educational POP

Consumers are free to choose their favorite meal from the platter as much as they like.
**Survey Method – 1**

<table>
<thead>
<tr>
<th>The Sports Event</th>
<th>The 2018 Volleyball Women’s World Championships</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement Period</strong></td>
<td>Lunch for 5 days</td>
</tr>
<tr>
<td></td>
<td>from Sep. 29 to Oct. 4, 2018 (excluding Sep. 30)</td>
</tr>
<tr>
<td><strong>Venues</strong></td>
<td>Hotels accommodating participating teams stay (in Yokohama City)</td>
</tr>
<tr>
<td><strong>Food serving method</strong></td>
<td>Buffet style</td>
</tr>
<tr>
<td><strong>Measuring target teams</strong></td>
<td>The Netherlands, Argentina, Germany, Cameroon, Mexico, Japan</td>
</tr>
<tr>
<td><strong>Cooperating parties</strong></td>
<td>Fédération Internationale de Volleyball Association (FIVB)</td>
</tr>
<tr>
<td></td>
<td>The Japan Volleyball Association</td>
</tr>
<tr>
<td></td>
<td>Kanagawa Volleyball Association</td>
</tr>
<tr>
<td></td>
<td>Hotels in Yokohama City</td>
</tr>
<tr>
<td><strong>Measurement implementers</strong></td>
<td>MAFF and Mizuho Information &amp; Research Institute, Inc. (MHIR)</td>
</tr>
</tbody>
</table>
## Survey Method - 2

<table>
<thead>
<tr>
<th>Measurement Date</th>
<th>Championship Schedule</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sat., Sep. 29</td>
<td>The 1st day of the championship</td>
<td>None (BaU)</td>
</tr>
<tr>
<td>Mon., Oct. 1</td>
<td>The 3rd day of the championship</td>
<td>None (BaU)</td>
</tr>
</tbody>
</table>
| Tue., Oct. 2     | Rest date              | The 1st intervention day  
(1) Serving food in small portions |
| Wed., Oct. 3     | The 4th day of the championship | The 2nd intervention day  
(1) Serving food in small portions  
(2) Displaying educational posters |
| Thurs., Oct. 4   | The 5th day of the championship | The 3rd intervention day  
(1) Serving food in small portions  
(2) Displaying educational posters  
(3) Displaying educational POP |
(1) Serving food in small portions

<table>
<thead>
<tr>
<th>Specific Methods</th>
<th>Expected Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut meats into small portions</td>
<td>avoid excessive servings from platter → Reduce leftovers</td>
</tr>
</tbody>
</table>

Before (about 20g/1cut)  

After (about 15g/1cut)
(1) Effect of Serving food in small portions

【Effect】 No clear leftover reduction effect through this method

【Study】
Originally hotels were serving meat dishes after cutting the meat to proper sizes

![Bar chart showing leftover quantity of meat per person](chart)

**Leftover Quantity of meat per Person [g/person]**

<table>
<thead>
<tr>
<th>Date</th>
<th>Quantity [g/person]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 29</td>
<td>4.7</td>
</tr>
<tr>
<td>Oct. 1</td>
<td>3.9</td>
</tr>
<tr>
<td>Oct. 2</td>
<td>2.5</td>
</tr>
<tr>
<td>Oct. 3</td>
<td>4.9</td>
</tr>
<tr>
<td>Oct. 4</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Serving small portion of meat
(2) Displaying educational posters

<table>
<thead>
<tr>
<th>Specific Methods</th>
<th>Expected Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display poster which shows methods to eliminate leftovers near buffet tables</td>
<td>avoid excessive servings from platter →Reduce leftovers</td>
</tr>
</tbody>
</table>

Poster design

Around buffet tables where the poster is displayed
### (3) Displaying educational POP

<table>
<thead>
<tr>
<th>Specific Methods</th>
<th>Expected Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display POP which shows the message of appreciation and social significance of eliminating leftovers on the meal table</td>
<td>Reduce leftovers by eating all meals on one’s plate</td>
</tr>
</tbody>
</table>

The Japanese Government is running a campaign to reduce the amount of leftover food, in an effort to help conserve the global environment.

Ministry of Agriculture, Forestry and Fisheries of Japan

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English design (In addition, we use Spanish design and Japanese design)
(2)(3) Effect of Displaying Educational tools

【Effect】
On and after Oct. 3, education is implemented through posters and POPs, the quantity of leftovers has decreased.

Leftover Quantity per Person
[g/person]

Displaying Educational tools
(Oct.3 poster, Oct.4 poster and POP)
Questionnaire Results (Overview)

【Awareness and Action】
・92% of respondents recognized posters. (N=13)

→33% of them tried not to leave leftovers than usual. (N=12)

・85% of respondents recognized POPs. (N=13)

→36% of them tried not to leave leftovers than usual. (N=11)

【Effective Measures in the Tokyo 2020 Games】
・92% of respondents answered “displaying educational posters and POPs at restaurants”. (N=12)

respondents((N=13) shows 46% players and 54% staff
Displaying the POPs in G20 OSAKA SUMMIT 2019

Restaurant for Delegation
(2019.6.27~6.29)

Restaurant for Press
(2019.6.27~6.30)
Next Efforts

- Improving the effectiveness of educational tools
- Development of educational tools that can be used in other style restaurant (e.g. A la carte meal, Course meal)
- Expand the use of educational tools
- How to reduce dishes left on the platter
Thank you

My name is LOSS-NON.

I am PR character of NO-FOODLOSS PROJECT.

You can check the summary of this project in English on MAFF Website →