Production System of Reliable Agricultural Products

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1. Matters required for agricultural products
   - 1.1 Consciousness of consumers
   - 1.2 Supply system of safety food
2. Production of safe agricultural products
   - 2.1 Environmental Friendly Agriculture
   - 2.2 Good Agricultural Practice (GAP)
3. Efforts to build the good relation with the consumer
4. Raising awareness for safe crop production
1. Matters required for agricultural production

- Production and supply of agricultural products to get to consumers confidence
  - Safety of agricultural products is basic quality
  - Relief is important element to get consumer confidence

- Reduction of environmental impact, and conservation
  - Move away from dependent technology of chemical fertilizer and chemical pesticide

- Strengthening the producing area by production of competitive agricultural products
1.1 Consciousness of consumers

National consciousness to the safety of food

Consumers have anxiety in the “stage of production” and the "stage of processing" among the stages from production of food to consumption.

(The opinion poll, the 2003 investigation with which related food safety)
1.2 Supply system of safety food

Taking the food chain approach, and conducting the risk management for the prevention of problem and accidents are indispensable for ensuring food safety.

Source: Prepared by MAFF
Promotion of safe food production system and inspection system based on the regulation

- To check all the agricultural products and control is impossible.
- Strengthen the inspection does not necessarily mean safety improves.
- It is important to disseminate efforts that can voluntarily produce safe products.
2. Production of safe agricultural products

• 2.1 Environmental Friendly Agriculture
  Organic Agriculture products
  Specially Cultivated Agricultural Products
  Environmentally friendly farmer/crop

• 2.2 Good Agricultural Practice (GAP)
2.1 Environmental Friendly Agriculture

Consideration of the environment

Difficulty of implementation

- Organic farming
- Special Cultivation
- Eco-farmer

High
Difficult

Low
Easy
2.1.1 Organic Agriculture products

- Agricultural products which has **not been used chemical fertilizer and chemical pesticide** more than 3 years before harvesting for fruits trees, more than 2 years before sowing or planting for vegetables.

- It must be **certified** by the certification body which authorized by government.
2.1.2 Specially Cultivated Agricultural Products

- Grown in the farm which clearly separated from conventional farming.
- Grown with reduced by 50% or more than local standard of both chemical fertilizers and chemical pesticides.
- Display contents of the cultivation according to the guideline.
2.1.3 Environmentally friendly farmer/crop

- Farmers who do the production method of performing integrally reduction of the use (20%) of chemical fertilizers and chemical pesticides and keeping soil in good condition with utilizing compost. Certified by governor.
- Products by this farmer called “Eco-agricultural products”.

![Image of farmer working in field with equipment and text: 持続性の高い 生産方式による農産物 (エコ農産物) ]
2.2 Good Agricultural Practice (GAP)

Aiming for food safety and get reliability of consumer

Production of safety food
Stable farm management
Ensure reliability
High quality products
Good Agricultural Practices (GAP)

- practices of primary production improving on conventional production and handling methods, to ensure product safety, reducing the negative impact of production systems on the environment, fauna, flora and workers’ health.

--- by FAO definition ---
Cont. (2/6)

Present condition of agricultural products safety

1. Risks are increasing and countermeasure becomes difficult.
2. Need to shift to the agricultural system based on ordinance or standard from the way depending on experience or intuition.
3. Need to get sales advantage and reliance by explanation of clear information to customer.
4. Need to increase of working efficiency and improve farming management by reviewing agricultural work.
5. Need to promote environmental protection and labor safety.

Need to apply Good Agriculture Practice (GAP)
GAP introduction is global trend, and bringing effectiveness below

1. Obviate an accident.
2. Provide safe agricultural products.
3. Reduce cost and improve quality.
4. Improve many sides of agricultural production.
Process Control of Crop Quality

"Guarantee of quality based on result control"

- Own control
- Random inspection after harvesting

"Guarantee of quality based on production process control"

- Check in each stage of production along with rule
- Inspection prescribed the target

- Prevented measure
  - Type: Take the measures after an accident occurred
  - Cannot inspect all products

- Reliable production control system aims at total guarantee
Cont. (5/6)

Example of process control for safe crop production

- Look for non-chemical pesticide
- Priority use of high safety pesticide
- Select proper pesticide
- Use proper pesticide
- Cleaning sprayer
- Record of chemical spray
- Hygienic handling of post harvest
- Target focused pesticide residue test

Check each step
Relation between GAP and Brand

- GAP: The matter which should be implemented by being common, such as usage standard of agricultural chemicals, etc.
- Brand: Features which given on top of the common base.
## 2.2.2 History of GAP in Japan (1/2)

<table>
<thead>
<tr>
<th>Year</th>
<th>The main measures about safe crops</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>Introduction of <strong>GAP</strong> by private sector (supermarket).</td>
<td></td>
</tr>
</tbody>
</table>

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19
<table>
<thead>
<tr>
<th>Year</th>
<th>The main measures about safe crops</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>Issued &quot;Fresh-vegetables advanced hygiene supervision guide (prototype of Japanese version GAP)&quot;</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Guideline on the common base of agricultural process control (GAP).</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>Amendment of the guideline.</td>
<td></td>
</tr>
</tbody>
</table>
2.2.3 Types of GAP in JAPAN

Types and Proportion of GAP

- Prefecture GAP: 38%
- JA group GAP: 34%
- Private sector GAP: 3%
- Nongovernment organization GAP: 3%
- Basic GAP: 6%
- Other GAP: 15%

(Data: MAFF 2014.3)
## Cases of GAP in Japan

<table>
<thead>
<tr>
<th>Type</th>
<th>Management</th>
<th>contents</th>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefecture GAP</td>
<td>Prefecture</td>
<td>GAP by prefectural government to develop to suit circumstances of the region</td>
<td>Third party( in a part)</td>
</tr>
<tr>
<td>JGAP</td>
<td>Japan GAP Foundation</td>
<td>GAP developed by participation of farmers , JA, major retailers etc.</td>
<td>Third party</td>
</tr>
<tr>
<td>JA Group GAP</td>
<td>JA</td>
<td>GAP developed by regional agricultural cooperatives</td>
<td>Third party</td>
</tr>
<tr>
<td>Co-op, Retailer GAP</td>
<td>Co-op Japan, Super-market, etc.</td>
<td>GAP implemented by co-op, supermarket their own</td>
<td>Second party</td>
</tr>
<tr>
<td>GLOBAL GAP</td>
<td>Non-profit organization headquartered in Germany</td>
<td>GAP as trading requirement led by retail in Europe</td>
<td>Third party</td>
</tr>
<tr>
<td>Basic GAP</td>
<td>Individual, organization</td>
<td>GAP focused on easy contents to implement</td>
<td>Internal (by own)</td>
</tr>
</tbody>
</table>
## 2.2.4 Implementation Contents of GAP

<table>
<thead>
<tr>
<th>Items of control points</th>
<th>Guideline</th>
<th>A Prefecture</th>
<th>B Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Safety</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant protection product/Fertilizer</td>
<td>15</td>
<td>38</td>
<td>53</td>
</tr>
<tr>
<td>Pathogenic organisms etc.</td>
<td>3</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Contamination foreign matter</td>
<td>2</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Others</td>
<td>6</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td><strong>Environmentally sustainable agriculture</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water/Soil conservation</td>
<td>7</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Waste management ,recycling</td>
<td>5</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Energy efficiency</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>4</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Workers’ safety and welfare</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workers’ safety</td>
<td>8</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Workers’ welfare</td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm operation, recordkeeping/sales management</td>
<td>9</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>49</td>
<td>50</td>
<td>138</td>
</tr>
</tbody>
</table>

(Data: MAFF 2015.3)
2.2.5 GAP Guideline（1/5）

Necessity of common base

- Various GAP exist in the country, it necessary to establish common base.
- It is necessary to ensure that farmers can carry out effective measure to improve food safety.
- It is necessary to practice in wide area not only food safety but also environmental protection and workers’ safety.
- Establish the GAP guideline regarding common base which include high level efforts.
Structure of the guideline

- Contents of process control
  - Clarify measure which should especially encourage the practice, based on legal system and institutions of food safety, environmental protection and workers’ safety.
  - Organize the practice items for each crops as bellow;
    ① Vegetables  ② Rice  ③ Wheat  ④ Fruits  ⑤ Tea  ⑥ Forage crop  ⑦ Other crops (Soybeans etc. )  ⑧ Other crops (Non-edible crops: Ornamental plants etc. )  ⑨ Mushroom
Items to practice

- **Food safety**
  - Checking of the field condition, hygienic management, checking the labels of agricultural chemicals at the time of use, hygienic management of workers.
  - Countermeasure to reduce mycotoxin (Wheat and Fruits).
  - Hygienic management at the time of processing, and efforts to prevent contamination at the time of harvest and post-harvest.
**Cont. (4/5)**

- **Items to practice (continued)**
  - **Environmental protection**
    - Making cultivation circumstance which pests and diseases hardly occur.
    - Application of fertilizer in line with cultivation standard, use organic materials (such as compost).
    - Killing foreign weed seeds.
    - Proper management of agricultural waste.
    - Prevention measure from damage of birds and wild animals.
Items to practice (continued)

- Workers’ safety
  - Grasp dangerous work.
  - Checking the safety equipments of machinery.
  - Appropriate management of agricultural chemicals / fuel.

- General
  - Protection/Use of intellectual property.
  - Appropriate use of seeds and seedlings of registered varieties.
  - Keeping records and storage of information.
2.2.6 Benefit of practicing GAP (1/2)

- **Improvement of food safety**
  - Reduction of contamination by pathogenic microorganisms of agricultural products.

- **Conservation of environment**
  - Reduction of environmental impact by agricultural chemical and fertilizer.

- **Ensure the safety of workers**
  - Avoidance of accidents during farm work.
Cont. (2/2)

- Improvement of qualities of products
- Improvement and efficiency of farm management
- Strengthen of competitiveness
- Improve reliability from consumer and business partner
  - Utilize the GAP effort on exchange information with stakeholders.
3. In order to build the good relation with consumer

— What is necessity —

For food safety

- Cultivated in accordance with the standard
- Production record is carried out
- Record can be traced

For Belief & Relief

- Production place is known
- Farmer who produced is known
- Production process is known
Method to obtain consumer confidence

Show production process
Method to obtain consumer confidence

Exchange with consumer
Method to obtain consumer confidence

Sell products at direct selling shop by themselves
Method to obtain consumer confidence

Sales promotion
4. Viewpoint of raising awareness for reliable crop production

- Points that motivate producers
  1. Economical motivation
  2. Raise interest about health
  3. Take feasible measure
4.1 Economical motivation

- Present the merits such as cost reduction or increase profits, in the process of crop production or sale.

1. Can reduce production cost
   - Possible to reduce production cost by appropriate use of materials (fertilizer, chemicals)
2. It can be advantageously sale

• Can be sold in their own decision
  - Direct selling
  - Mail order
    Sales by internet

• Contract farming
  - Certified as the special brand of supermarket.
  - Selling to the restaurant under exclusive contract
  - Provide to hospital, school lunch, and corporate dining-room, etc.
4.2 Raise interest about health

Show the health problem of producers own by the chemicals

1. Agricultural-chemicals spraying and exposure
   - Acute toxicity
     - Defense insufficiency, habituation, shortage of knowledge, and the person himself/herself carelessness.
   - Risk of chronic toxicity
4.3 Take feasible measure (1/2)

- Start from feasible efforts

1. The way of gradual approach

- **Internal certification**
  - Check safety by the producer own or internal audit

- **Second party certification**
  - Check safety by the business partner

- **Third party certificate**
  - Check safety by independent organization

Simple measure  
Advanced measure
2. Necessary approach should be chosen

~ Take the measure which the customer asks ~

◆ Direct sales：Confidential relation is important
◆ Sell door to door：Providing of information is important
◆ Supermarket：Customer's request(rule) is important
◆ Export：Certification is necessary

※ With the relationship becomes thinner, is asked to advanced effort.

End
• Problem of safety Agricultural Production
• Distribution system of agricultural products in Japan
• SEICA “Vegetable and Fruite net catalog”
## Problem of safety agricultural production

### Problems and keyword reported by participants (2015)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Keywords collected from the reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institution</td>
<td>Food safety management, Policy, Regulation, Clean agriculture, GAP protocol, Fake pesticide</td>
</tr>
<tr>
<td>Management system</td>
<td>Management system, Administrative procedure, Coordination mechanism</td>
</tr>
<tr>
<td>Certification</td>
<td>Certificates, Certification body</td>
</tr>
<tr>
<td>Budget</td>
<td>Budget, Funds</td>
</tr>
<tr>
<td>Human resource</td>
<td>Human resources, Inspection manpower</td>
</tr>
<tr>
<td>Farming style</td>
<td>Small scale farmer</td>
</tr>
<tr>
<td>Marketing</td>
<td>Food chain, Domestic consumption, International traders, Export markets, Rejection, Marketing channel, Incentive product quality, Market information, Premium markets</td>
</tr>
<tr>
<td>Testing condition</td>
<td>Testing capacity, Laboratory</td>
</tr>
<tr>
<td>Economic efficiency</td>
<td>Benefits, Production costs</td>
</tr>
<tr>
<td>Implementation</td>
<td>Participated activities, Enforcement, Official data</td>
</tr>
<tr>
<td>Knowledge</td>
<td>GAP knowledge, Production technologies</td>
</tr>
<tr>
<td>Awareness</td>
<td>Awareness, Overreliance</td>
</tr>
</tbody>
</table>
Distribution channel of agricultural products (Vegetables)

  - Wholesale dealer
  - Auction, Negotiated selling
  - Selling
    - Wholesale distributor
      - Supermarket, Vegetable shop, etc.
  - Direct sales
  - Home delivery
  - Direct shop, Open market, etc.

- **Trade company**
  - Import

- **Wholesale Market**
  - Selling
    - Retailer, Food service industry
  - Commissioned sale, Buying

- **Consumer**

Source: MAFF
What is SEICA?

- “SEICA” is a system that registers information of producers, cultivation methods, etc. on the website, and widely provide information to distributors, consumers, etc. throughout the country.

Features

- Anyone can freely register, search and brows agricultural product information free of charge.
- The system of public agriculture information service.
SEICA (Cont.)

- System overview

[Diagram showing interactions between Consumer, Producer, and Trader, with processes such as Selling, Buying, Opinion, Request, Search of information, Provision of information, Registration of information, Issue of catalog number, Shipping, Delivery, Label attachment, and Contract, Transaction.]
Registration information and contents

- Item / Variety: Kind of crop, variety, cultivation area, type of cultivation, etc.
- Production field information: Place, cropping type, etc.
- Materials used: Manure/compost, fertilizer, other production materials.
- Pest & disease control: Used pesticide (name, purpose, amount, time of use, etc.)
- Cultivation process: Plowing, sowing, planting, weeding, harvest time, etc.
- Feature of production: Fresh keeping efforts, hygiene and safety efforts, selling point, related photos, etc.

Actual provision of information

http://seica.info/
Benefits for the production area

- Improving the image of the production area by building relation of “face to face” between producer and consumer.
- Accelerating effectiveness to improve and develop of the crop which suitable for needs.
- Chance to develop and expand sales channels.
- Contributing for compliance and improvement of motivation.

Benefits for the marketing

- Possible to develop new production area.
- Able to provide products with added value of information.
- Appeal to consumers.
- Risk management.