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Experience and regulations on treatment of swill feed in Japan

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● Act on Safety Assurance and Quality Improvement of Feeds and Feed Additives (1953)

[Purpose]

- Ensure the safety and improve the quality of feeds;
- Establish official feed standards and regulations for manufacturing and handling of feeds and feed additives;
- Implement inspections and other measures in accordance with the standards and regulations;
thereby contributing to **the protection of public safety and the stable production of livestock products**

[Scope]

- Feed and feed additives for livestock, honeybees, and aquaculture

[Key components]

- Standards for feed and feed additives, including requirements for ingredients, manufacturing, storage, and labeling;
- Prohibition of the use of feed materials that do not comply with these standards;
- Regulation of harmful substances, including pesticide residues, heavy metals, mycotoxins, and melamine;
- Regulation of the use of antibiotics and control of antibiotic residues in feed;
- Regulation of the use of genetically modified feed materials;
- Restrictions on the use of ruminant-derived proteins and fats; and
- Registration of feed business operators, as well as an official inspection and certification system for feed products

- **Act on Safety Assurance and Quality Improvement of Feeds and Feed Additives (1953)**

Feed: Materials intended to be used for providing nutrition to livestock and other animals

Feed ingredients

Concentrate feed

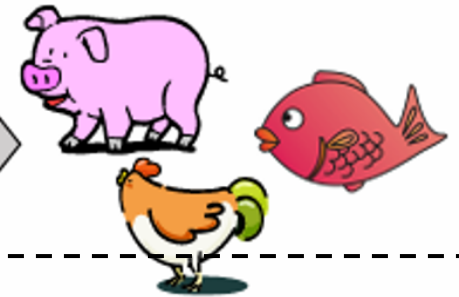
- Crops (maize, wheat, barley, sorghum, feed rice)
- Food by-products (coarse grain, vegetable oil cake)
- **Feed derived from recycled food resources**

Roughage

- Grass feed
- Straw
- Green forage



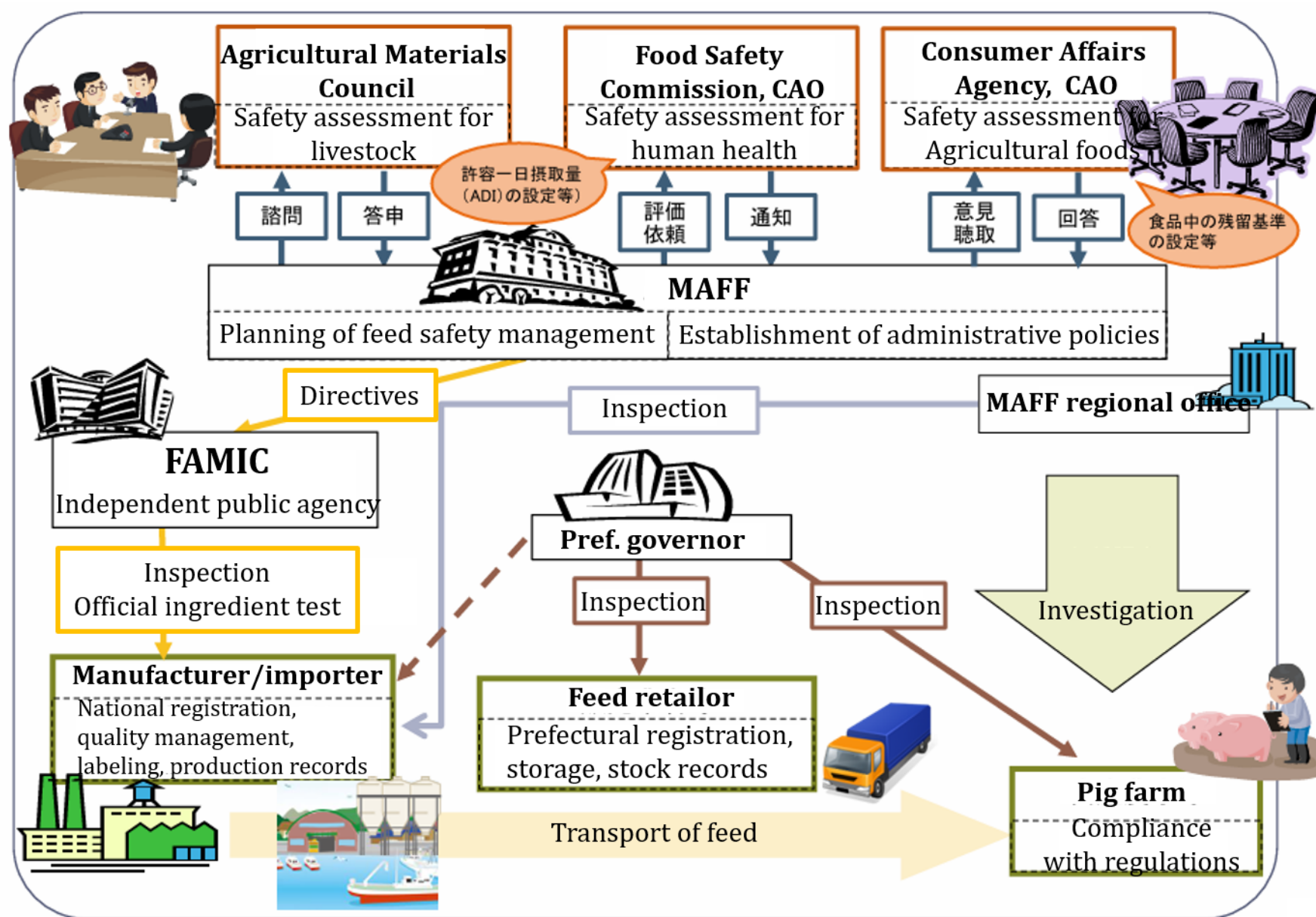
"Eco-feed"



Feed additives

- Preservatives (17 items)
- Nutritious supplements (100 items)
- Absorption enhancer (48 items)

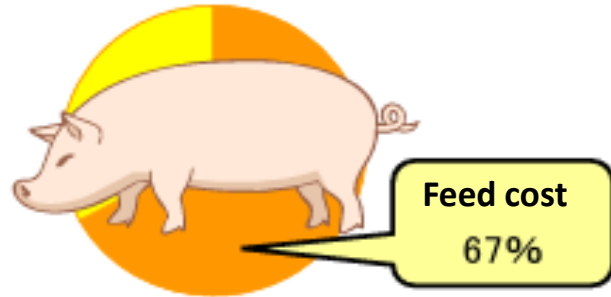
Feed safety monitoring system in Japan



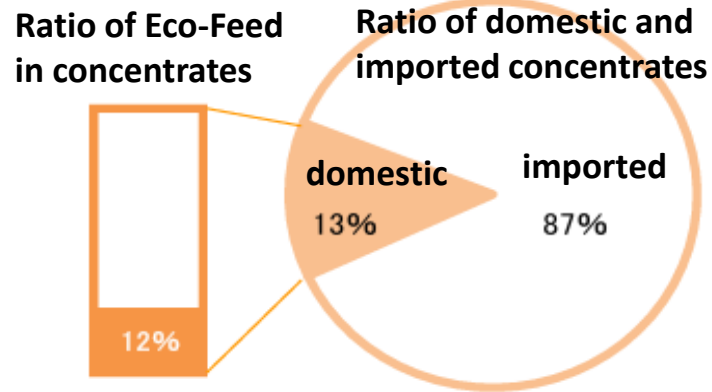
History of food waste-related acts in Japan

Year	Disease event	Waste Management Act	Feeds and Feed Additives Act	Food Recycling Act	Guidelines for Ensuring the Safety of Feed Produced from Food Recycling Resources	Eco-feed Certification System
1953			enforcement			
1954		enforcement				
1971		revised				
1976			amended to include harmful materials, feed additives, manufacturing standards			
2000	FMD					
2001	BSE			enforcement		
2003			amended to include regulations on ruminant-derived proteins and fats			
2004	HPAI		amended to control pesticide residues, heavy metals, mycotoxins, and melamine			
2006					enforcement	
2007				amended to ensure recycling loops		
2009						enforcement
2010	FMD					
2014			amended to strengthen regulations for labelling, registration of feed manufacturers			
2015				amended to clarify the priority of recycling targets		
2018	CSF, ASF					
2021					revised to ensure the feed safety	
2022					amended to include the ministerial approval system	
2023					amended	
2024					amended	

Situation of feed supply for pork production in Japan (MAFF Census, as of 2024)



Total concentrate feed supply



Ingredients

- Grains
- Oil seed meal
- Eco-Feed
- Others

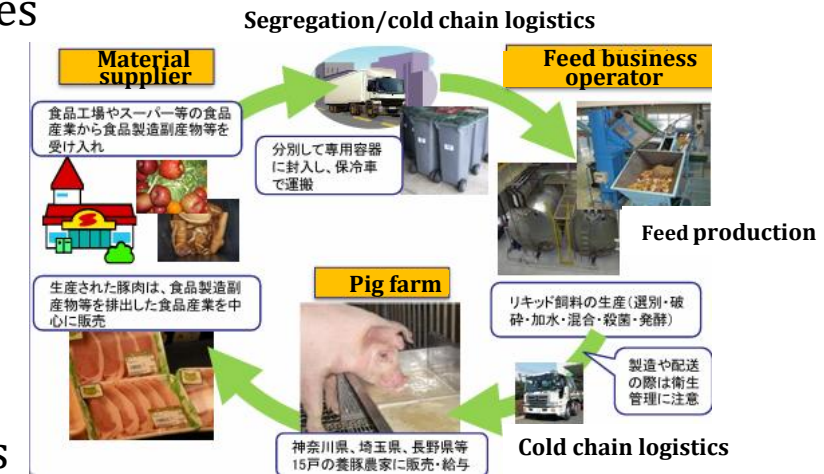
● Act on Promotion of Recycling and Related Activities for Food Resources (Food Recycling Act), 2001

[Purpose]

- Improvement of the shortage of final disposal capacity for waste management
- Securing the effective use of food resources and controlling the generation of food-related waste
- Effective utilization of domestic resources

[Outcomes]

- Reduction of feed costs
- Improvement of livestock productivity and quality of livestock products
- Promotion of branding through new added value from special food resources



Japanese culture has a strong reluctance to waste food products derived from nature such as agricultural products.

● Guidelines for Ensuring the Safety of Feed Produced from Recycled Food Resources (2006)

Food waste: 1,426 tons/year

- a) food that has been discarded either after being provided or without having been provided for consumption
- b) materials obtained incidentally in the course of manufacturing, processing, or preparation of food and that are not suitable for consumption

Swill: materials suitable for use as feed or as feed ingredients
e.g., food processing by-products, surplus food, kitchen waste, leftover 786 tons/year

Feed derived from recycled food resources: feed produced by using food manufacturing by-products, surplus food, food preparation residues, and leftover food either directly as feed or after processing them into feed ingredients.

Types of eco-feed

27%



dry

27%

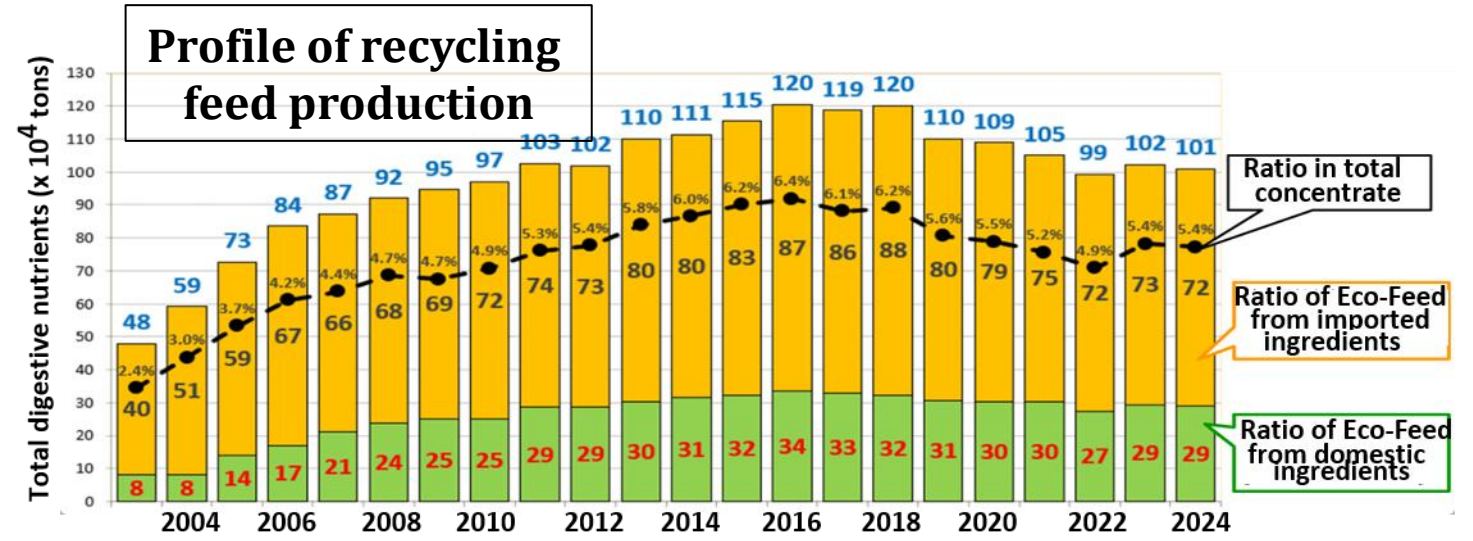


Fermented

83%

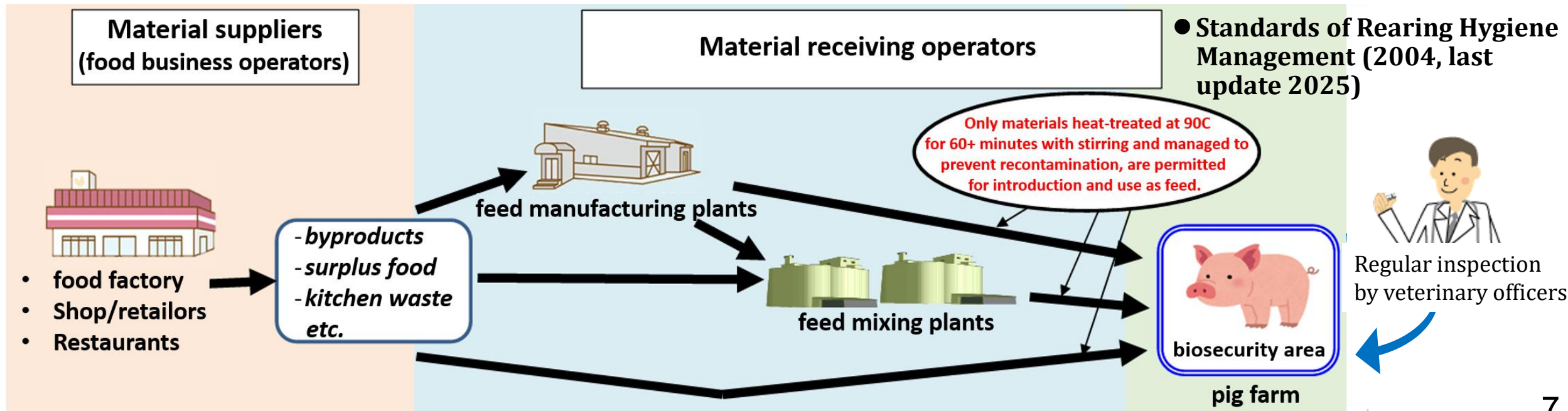


liquid



To further strengthen measures **to prevent outbreaks of ASF** and other diseases, the Ministerial Ordinance on the Specifications and Standards of Feeds and Feed Additives under the Feed Safety Act has required, since **April 1, 2021**, (revised October 3, 2024) that feeds produced using **food recycling resources discharged from facilities handling meat or other related businesses, where contact with meat may have occurred**, as raw materials or ingredients must comply with the following requirements:

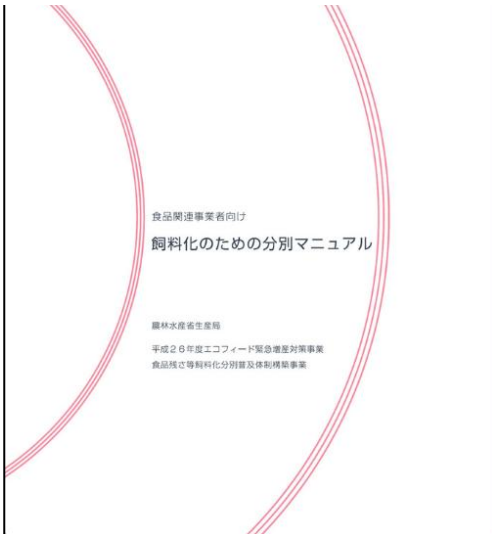
- Heat treatment must be conducted **at 90°C or higher for at least 60 minutes with continuous stirring**, or by an equivalent or more rigorous process
- **Records of the heat treatment** shall be documented and maintained
- Appropriate measures shall be implemented to **prevent recontamination** of the feed **after heat treatment**



● Types of food-derived resources permitted for use at eco-feed manufacturing facilities

Business type of the material supplier	Types of food waste			
	Food manufacturing by-products	Surplus food (stock)	Kitchen waste	Leftover
Food manufacturer	Yes (with ministerial approval)	Yes	No	No
Food wholesaler	Yes	Yes	No	No
Food retailer	No	Yes	Yes	No
Food service	No	No	Yes	Yes

● Manual for the separation of food waste for feed use



● Feed formulation program for pig eco-feed



● Improvement of economical value of pork products

最優秀賞 <有限会社小野養豚>

山口県萩市 ★養豚
パンくず、ピーナッツくず、米ぬか等を原料として、ウェット方式で肥育豚に給与。動物医薬品会社に飼料設計的に飼料の配合割合を修正し、畜産物の品質向上に取り組んでいる。生産肉豚の80%は自社内で精肉加工して「むつみ豚」として販売している。

- * 飼料コスト低減割合: 約44%
- * 原料: パンくず、ピーナッツくず、米ぬか等
- * エコフィード配合割合: 60% (肥)



優秀賞 <株式会社悠牧舎>

群馬県前橋市 ★養豚
パン、ポテトビール、ホエー等を原料として、オランダ式のリキッドフィーディングシステムを取り入れた大規模経営を実施。肥育、繁殖、保育の各生産段階で飼料原料の種類を変え、コンピューターによる衛生的な給与の取組を実施。生産された豚肉は「桜絹豚(さくらきぬぶた)」として販売している。

- * 飼料コスト低減割合: 約59%
- * 原料: パン、ポテトビール、ホエー等
- * エコフィード配合割合: 70% (肥育豚)



- **In response to various social demands, Japan has taken measures from an early stage to utilize food waste safely and effectively.**
- **Under a multi-layered legal framework and rigorous regulatory oversight, Eco-feed produced from recycled food resources is safely and effectively utilized in Japan's pork production.**
- **Eco-feed manufacturers, sellers, and importers are subject to registration and regular inspections under the Feed Safety Act, while farms producing Eco-feed for their own use are subject to annual audits under the Standards of Rearing Hygiene Management.**
- **The production and management standards for Eco-feed are periodically revised based on scientific evidence, taking into account the occurrence and epidemiological situation of relevant animal diseases.**

