

Development of Animal Welfare Livestock in Japan

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Abstract

The word “welfare” originally came from the word “well” that means satisfaction (for both humans and non-human animals) and “fare” that means state of living. Therefore, farm animal welfare could be understood as a satisfying state of living in which humans ensure that the needs of farm animals is fulfilled.

Farm animal welfare means that animals are free from stress and carry on healthy lives while they are being cared for by their farmers, and that humans receive healing from the animals in return. It is defined as a status in which humans and farm animals can live well symbiotically while providing satisfaction interactively.

So, Farm Animal Welfare is defined as a term for “a healthy life free from stress and fulfilling the behavioral demands in the period of breeding process to the end of the domestic animal’s final death.”

Production needs to pay appropriate attention to farm animals, the production system that breeds livestock such as “raising farm animals in the status that greatly satisfies the needs of farm animals” and people also receive safe and high quality “welfare food” from such animals into products. It is defined as a “Welfare Symbiotic System” in which people and livestock are interdependent and it provides the therapeutic effect that reduces human stress.

Moreover, in order to realize the value of these two welfare products (food and therapy services) produced through the “Welfare Symbiotic System”, it needs the engagement from the production stage but it also needs to collaborate with the distribution industry, the food processing industry and restaurants with the diverse people including consumers, who has the same focus on the lifestyle that pays great attention to AW, developing a new socially conscious network and market that combines production and lifestyle activities is essential⁽¹⁾.

The concept of the Japanese style of AW emphasized on the supply of AW products, AW food and AW therapeutic products and the importance of interdependency equals symbiotic between humans and animals and it is different from the Western AW concept, which already has the evaluation standard for the production system for the AW products and food supply chain.

The basic philosophy of AW is that “livestock is not a thing” and it is a “sentient being”, and livestock products are “food of life” rather than simply “food” and “welfare food” system is “eating life”; and AW livestock system is a food production practice but it is the way to excuse the therapy that humans receive from communicating with animals.

Key words: Farm Animal Welfare, Cultural History of Animal Food, Food Supply Chain

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1. Cultural History of Animal Food in Japan and the Formation Process of Agriculture and Livestock Industry

Table 1 History of Animal Protection, Killing and Eating prohibition in Japan (Ancient – Medieval - Early Modern – Modern-Present Times)

(Created by Yoichi Matsuki)

Era	Year	Law	Notes
Ancient Times according Chronicles of Japan(720)	675	The first Law prohibiting a meat diet (Emperor Tenmu)	Rituals by The Mahayana Buddhism of the Centralization State by the Reformation of The Great Ban on meat from April to the end of September for cattle, horses, dogs, monkeys, and chickens (with the promotion of usamema cultivation during the rice farming period) Deer and boar meat of major hunting beasts excluded
	691	Law prohibiting a meat diet (Emperor Mochi)	No meat in the imperial palace
	722	Law prohibiting killing living things , a decree for the release of caged animals (Emperor Motomasa)	Burying bones and meat scattered on the street. Drinking and slaughtering is prohibited.
	730	Law prohibiting killing living things (Emperor Seimu)	Ban the capture and slaughter of deer boar
	737	Law prohibiting slaughtering cattle and horses (Emperor Seimu)	Prohibiting drinking and eating meat
	741	Law prohibiting slaughtering cattle and horses (Emperor Seimu)	Prohibiting killing cattle and horses for farming
	743	Law prohibiting killing living things (Emperor Seimu)	49 days ban slaughter and ban omnivores mixed with meat fish
	749	Law prohibiting a meat diet (Emperor Seimu)	In whole country
	752	Law prohibiting killing living things (Emperor Takaken: Daughter of Emperor Seimu)	It is also prohibited to catch fish. Rice rations to fishermen
	758	Law prohibiting killing living things (Emperor Hyorchi)	Permanent ban the donation of deer and wild boar to the Emperor
	759	Law prohibiting killing living things (Emperor Junnin)	Abstain from killing people
	764	Law prohibiting killing living things (Emperor Hyorchi)	Prohibiting hunting and fishing by using hawks, dogs and cormorants
	766	Law prohibiting killing living things (Emperor Kiyonori)	rohibiting hunting and fishing by using hawks, dogs and cormorants No donation of meat or fish
	770	Law prohibiting a meat diet (Emperor Shotoku)	Ban on spicy meat and liquor on 7 th every monthin Japan
	775	Law prohibiting killing living things (Emperor Kwangren)	Prohibiting slaughtering on Emperor's birthday October 13
Medieval times	791	Law prohibiting killing living things (Emperor Takeshi)	Prohibiting killing cows and enshrined Chinese gods
	801	Law prohibiting killing living things (Emperor Takeshi)	Prohibiting killing cows and enshrined god
	812	Law prohibiting killing living things (Emperor Saga)	No killing spree in two villages around the temple
	841	Law prohibiting killing living things (Any tomorrow's emperor)	No killing spree in two villages around the temple
	881	Release Order Decree for the release of caged animals (Emperor Yang Cheng)	A life pond was built all over the country.
	927	"Deferred" order set up, Monoimi" purification order" (Emperor Daigo)	Provisions of "injury consciousness" of carnivores Foods that ate six animals (horses, cows, sheep, dogs, pigs, chickens) should be used for three days (refrain from eating and drinking and purifying yourself). deer excluded.
	1114	Law prohibiting birds breeding (Emperor of the White River)	Small birds and hawks banned from being bred in Kyoto
	1127	Law prohibiting killing living things in the whole country (Emperor Takanori)	Abandonment of fishnets
	1130	Law prohibiting hunting (Emperor Takanori)	
	1188	Law prohibiting killing living things in the whole country (Emperor Gotoba)	
	1191	Law prohibiting killing living things (Emperor Gotoba)	No killing spree in two villages around the temple
	1195	Law halting falconry (Yoritomo Minamoto)	
1212	Law prohibiting falconry (Yoritomo Minamoto)		
1231	Law prohibiting killing living things (Emperor Gohorikawa)	No killing spree in two villages around the temple	
1261	Law prohibiting killing living things (Prince Sotoku)	Prohibiting killing living things during 8,14,15,23,29,30 days a month and equinoctial week	
Early modern times	1587	Ban on Christianity Law prohibiting slaughtering cow and horses (Hideyoshi Toyotomi)	Because Christian missionary Xavier and others spread the Western food culture of beef food, The Tokugawa Shogunate took an anti-carnivorous policy.
	1612	Law prohibiting eating beef and horse meat. Law prohibiting buying and selling natural lye horses (Hidetada Tokugawa)	
	1685	Law prohibiting cruelty to all living things, Decree of mercy of living things (Tsunayoshi Tokugawa)	Protection of dogs, prohibition of abandoned children and abandoned horses prohibiting falconry
Modern times	1871	Lifting of the Ban on Eating Meat in the Imperial Palace (Meiji Government)	Abolition of the Ban on Carnivorous Meat in The Imperial Cuisine of the Emperor, Who Controls Rice Rituals → Westernization
	1918	Act on The Protection and Hunting of Birds and Animals (Taisho Government)	
Present times	1972	Enactment of laws on the protection and management of animals (Legislation for The Diet)	
	1999	Changed the name of the Act on the Protection and Management of Animals	

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The Japanese diet is based on a long tradition of rice as a staple. The history of full-scale consumption of livestock products is short and it was introduced only half a century ago after the end of World War II. The livestock products were introduced as a result of the advancement of the post-war livestock industry and were added to the traditional Japanese diet which was mainly made of cereals such as rice, soybeans and fish. The “Japanese diet” is considered to be a good nutritional balance and it has received great attention from the world.

In Japanese society, the general perception that there was no animal food has deep roots. Therefore, when discussing AW, the dietary difference between the Western societies which is a carnivorous culture is more emphasized than necessary.

However, in response to the world of the 21st century, which is transforming into the era of AW Livestock Revolution, the livestock industry and livestock breeding in modern Japan are beginning to be questioned.

This paper will explore and understand the historical process of how the livestock products, as a conflicting existence to rice, were positioned in the way they are in the Japanese food culture, the current status of factory farming and the characteristic of AW production system that was developed as a solution to factory farming.

1) The Conversion to the Modern Western Carnivorous Culture from Ancient Carnivorous Prohibition and Medieval Rice Centered Culture

It was similar also in Japan that the eating habits in the primitive age of the human race mainly hunted wild animal meat and fish meat or collected wild fruits. Rice farming began in the late Jomon period and the Yayoi period, and rice became the center of the diet eaten with the animal meat of wild boars (pigs) and deer. The combination of rice and animal / fish meats became common.

In the Japan's ancient class society, the Ritsuryo Law and Political System deified the Emperor and placed the Emperor in the center of administration. The Emperor acted as the priest and controlled the ritual of rice farming and the Emperor maintained its authority over rice farming which was the economical foundation for the Yamato Imperial Court and recommended the dietary practice of eating rice. The rice farming was the center of the farming in the Japanese ancient nation and the eating habit and production of seafood, birds and mountain animal were shared by other Asian countries and the Emperor did not avoid the carnivorous food. In

ancient times when hunting had an important role, rice and meat were not contradictory beings, and the Emperor hunting animals was seen as a way to show off the military power and produce medicines as well as it was a symbolic way to promote culling of nuisance wild animals and the pre-production of the good work⁽²⁾. The biggest reason of meat-eating ban was the transmission of Buddhism. The Emperor and the aristocrats and the ruler class followed the Buddhism teachings: “prohibiting slaughtering and carnivorous eating.” This was due to the enactment and implementation of laws and regulations based on ideas from an early stage.

The Taika Reformation formed the Rule of Law, the Emperor centered legal and political system and according to the “Nihon Shoki (the oldest chronicles of Japan)”, which recorded its development, Emperor Tenmu, who was keen to learn the Mahayana Buddhism, issued the first “carnivorous ban” in 675 AD (Table1(3)(4)(5)(6)). There are five types of cattle, cows, horses, dogs, monkeys and chickens, were banned for consumption. However, it was not exactly the forbidden of eating meat, because deer and wild boars, the most important animals for hunting that time, were excluded from the ban. The ban was also limited to be-tween the periods of April through September 30, thus the limiting of sake and meat consumption policy during the rice farming period could be also a way to promote the rice farming.

From ancient times, the Middle Ages through the early modern age, based on Buddhist thinking, many of the “Slaughter Prohibition Decree” or “The Slaughter Ban of Cow and Horse” were issued (Table1). Moreover, the Buddhism thinking “prohibition of carnivorous” was born based on the Shinto's “Kegare” (uncleanness or impurity) thinking, as a means to avoid natural disasters.

In the Early Modern era when the Samurai ruled the nation, Catholic Christianity, which was introduced in the middle of the 16th century, was initially allowed to propagate and preach in the country. In 1587, however, Toyotomi Hideyoshi issued an edict of prohibition of Christianity. This led to the issuing “The Slaughter Ban of Cows and Horses”. The reason for the ban was to attempt to cease the Christianity from spreading beef consumption. The Tokugawa Shogunate succeeded the “The Slaughter Ban of Cows and Horses”. The idea of the prohibiting slaughtering, eating meat and Shinto's “Kegare” was further enforced. In 1685, Tsunayoshi Tokugawa (known also as the dog general) issued a decree of “Mercy of Living Things Decree” and practiced the protection of dogs, and also preventing abandonment

of cows and horses. The idea of “taking care of the living things and free the life” which is in Buddhism thinking advanced the enactment of laws such as “Law Prohibiting Falconry”. This is the final stage of the carnivorous denial in Japan that has been repeated since the ancient time, and rice farming and diet were emphases in the country’s food culture.

As you can see, the Tokugawa ruling system in the Edo period in the early modern time was a society that placed a particular high importance on rice. Not only the Shogun family and wealthy merchants but the Edo common people also denied carnivorism on the surface, however people secretly traded and ate deer or wild hog meat, calling them by secret codes, in order to cure sickness or maintain health⁽⁷⁾.

However, in the mid-18th century of the Tokugawa period, Yoshimune Tokugawa, who lifted the ban on hawk hunting, introduced white cattle from India and he started free-range raising in the Mineokamaki (current Kamogawa-city, Chiba Prefecture). The “White Cow Dairy”, which is similar to modern dairy cow produced butter and dairy products for the Shogun. The surplus of the production was sold to common people in Edo city. This can be said that this is the birth of the dairy industry in Japan. Although the history of horse breeding in Japan is long, Yoshimune introduced foreign species for the first time from the Netherlands and began breeding horses. In the later carnivorous denial period, the livestock farming started and was accepted largely in the country.

2) Transition of diversified farming with livestock in Pre-war era

Buddhism (as the Combination of Shinto and Buddhism) in which the Emperor Family started believing during the 8th century, had been given privilege and special protection under the Tokugawa Shogunate era that lasted for 265 years. However, under the Declaration of the Restoration of Imperial Rule by the Meiji Emperor in 1868, the “Order of Separation of God and Buddhism” was promulgated to make Shinto a national religion, and the abolition of Buddha was promulgated. The Buddhist thinking of “prohibiting killing and meat eating” and other Buddhist policies were discarded in order to advance modernization and westernization.

In other words, the Meiji government set three things as pillars to build new modern country:

“Bunmeikaika” (westernization), “Fukoku Kyohei”

(enriching the country, strengthening the military) and “Shokusan Kogyo” (encouragement of new industry) were often used as specific slogans in order to achieve this goal.

Westernization of food culture was one of the strategic plans and the animal meat consumption ban by the Emperor’s family and the Imperial Palace’s cuisine was removed in 1871. In addition, the Buddhist Monk’s Standard was abolished and the carnivorism was openly allowed to have weakened the religious authority of monks⁽⁸⁾.

Thus, it can be said that the coexistence of the rice and meat was unconditionally integrated in the Japanese diet in the Meiji era. In order to secure financial resources of the Meiji government, it was essential to reform the land system, such as the revision of land taxes and the division of public-private land, and the policy on encouragement of agriculture was taken as a pillar of Shokusan Kogyo⁽⁹⁾. In addition, in the planning process of the encouragement of agriculture, the backwardness of livestock was pointed out compared with the Western agriculture, and how to reform the “non-livestock” of the Japanese agriculture became the priority issue. Therefore, the new government researched the European farming and invited German scholars in order to construct the policy of the large agricultural and pastoral farming of the Western Europe style.

However, researchers such as Max Fesca disagreed the introduction of such Western farming methods into Japan and recommended peasant farming instead. Most of the large agricultural and pastoral farms led by the Meiji government failed in the developing process. Moreover, the land was forcefully divided into public and private uses so that a long-standing practice on common land by village communities became restricted. It weakened the feeding production, so the road to peasant livestock farming was closed⁽¹⁰⁾.

Diversified farming with livestock in Pre-war era raised cattle and horses only as a draft animal and a manure livestock and not as food source. In peasant small-scale livestock farming, the majority of cattle and horses were kept in the same house where the farmer’s families lived. On the other hand, the large agricultural and pastoral farms in Japan were provided a variety of wild local grasses⁽¹¹⁾ during the Non-western Pasture era.

From the Meiji Emperor Period (1868-1912) to the Taisho Emperor Period (1912-1926) and the Showa Emperor Pre-War Period (1926-1945), the mainstream of

the complex agricultural management was the combination of rice and silkworm cocoons. The Showa depression damaged the sericulture, and later livestock agriculture was transformed. In rural areas, small-scale peasant livestock farming under pre-war parasitic landowner system and wealthy land own farmer livestock farming was encouraged, but they remained traditional; self-sufficient cattle and horse breeding (a draft animal and a manure livestock). In order for the commercial production management of dairy, meats and eggs to grow in full-scale, we had to wait for the Showa Period (1945-1988), a post-war democratic country (Table 2: The changes in the number of farmers who owned cattle and poultry).

In addition, the colony Taiwan (1895-1945) and Manchuria (1905-1945) was transferred into feed supply countries that Japan depended on to sustain the poultry and the milking industry. Sweet potatoes and leftovers were fed into the pig farming which expanded as urban agriculture businesses. Under such conditions, small scaled multiple farming of "rice and livestock" also became increasing more and more⁽¹²⁾. However, the poultry was typically backyard farming and hens were not confined in battery cages, which you see in the modern factory farming.

As mentioned above, in the self-sufficiency livestock farming, farm animals lived in the same housing systems as their farmers. It was customary to "free range livestock in the village community." In addition, the idea of carnivorous prohibition was supported because until the early modern age the ruler class believed Buddhism and "Kegare" of Shintoism. Though such restrictions were relaxed later, farmers still had a traditional view towards animals. On the other hand, the market economy of livestock products expanded, and the variety of eating habits has progressed. In the modern livestock farming, there may be unconscious understanding which ensures the freedom of livestock and avoid stress, which is different from the modern scientific based understanding of animal welfare.

2. Post-war Logics of Diversified Farming with Livestock and The Introduction of Western-Style Factory Livestock System by the Basic Law of Agriculture

Japan changed to a democratic nation from the Emperor - Landowner regime by the end of World War II which developed a full-fledged agricultural and livestock industry in a capitalist society.

The Logics of farming with livestock in the pre-war period were taken up again as a way of modernizing and rationalizing agriculture in Japan. The theory of German agricultural management was introduced as a model of farming with livestock and crop rotation systems which came from European agriculture. However, after analyzing the actual conditions of agriculture in Japan, the comparative studies of Japanese traditional farming techniques in the Meiji era, the crop rotation farming system from Europe were expanded. They evaluated the efficiency of the Japanese paddy field-dairy farming management positively.

In the 10 years post-war, with a rapid development of the cultivating machines, the promotion of the diversified farming management changed the draft and manure animals to livestock as food. These diversified farming with livestock had two different types, of which one was the Small-scale diversified farming with livestock and rice, of which another type was also the professional Larger-scale livestock farming that depends on imported feed. In addition, in the late 1940s, about 4 million small poultry farmers that kept only 10 self-sufficient hens disappeared (Table-2) In the late 1950s, larger layer hen farms were increasing and in the 1970s, large companies with more than 10,000 birds were developed and the battery cage factory farms became dominant. The pig farming sector was also converting to intensive manufacturing farming that depends on imported feed. A small farmer of less than 1.5 hectares introduced the pig farming sector as a new source of income, and "small-scale diversified farming with livestock and rice" progressed. In the 1970s, the non-agricultural companies started pig farming as a means to earn more profit. The competition of these profit-driven businesses became more intense and corporations started running such operations. The dairy sector, which was a model case of agricultural diversified management, also increased its dependence on imported feed. From the late 1970s, the conversion to feed farming for dairy, from rice farming changed farming from a diversified management form to a specialized corporation farming⁽¹³⁾.

In the 1950s, GHQ (General Headquarters) started aggressively exporting their own country's surplus agricultural produce, including wheat, soy and corn, which were used for concentrated feed. The Japanese government continued to import tariff-free cheap feed even after its independence and it developed Basic Law of Agriculture to promote and support the improvement of poultry, pig and dairy farming which completely relied on imported concentrated feed. The characteristic of the

Table 2 Farm Households Raising Livestock or Chickens and Livestock or Chickens Raised (1877-2005)

Year	Beef cattle		Milk cows		Horses		Pigs		Layers 2)		Broilers		
	Raiser households (1)	Number	Raiser households	Number	Cows kept for milk	Raiser households	Number	Raiser households	Number	Raiser households	Number (1,000)	Raiser households	Number (1,000)
1877	...	1,076,004	...	...	...	...	1,249,632	...	...	...	...	...	...
1887	...	1,020,509	...	...	5,808	...	1,537,606	...	41,904	...	...	...	...
1912	...	1,399,498	5,668	...	53,259	...	1,581,743	...	308,970	2,948,223	20,255	...	...
1926	1,181,750	1,465,149	17,406	...	69,434	1,141,915	1,486,453	352,604	621,466	3,474,686	38,510	...	...
1945	...	2,079,354	...	239,391	...	855,717	1,120,857	132,391	205,905	...	17,978	...	...
1950	1,985,748	2,251,955	133,024	198,128	112,801	905,324	1,071,131	458,647	607,632	3,754,242	16,545	...	...
1955	2,279,630	2,636,490	253,850	421,110	216,616	778,110	927,260	527,900	825,160	4,507,500	45,715	...	...
1960	2,031,450	2,339,690	410,420	823,500	382,610	562,720	672,660	799,120	1,917,580	3,838,600	52,153	...	...
1965	1,434,580	1,885,810	381,600	1,288,950	633,770	260,190	321,840	701,560	3,975,960	3,243,000	120,197	20,490	18,279
1970	901,600	1,789,000	307,600	1,804,000	884,900	108,560	137,209	444,500	6,335,000	1,703,000	169,789	17,630	53,742
1975	473,600	1,857,000	160,100	1,787,000	910,000	35,550	42,900	223,400	7,684,000	509,800	154,504	11,540	87,659
1985	298,100	2,587,000	82,400	2,111,000	1,101,000	9,320	23,000	83,100	10,718,000	124,100	177,477	7,025	150,215
1989	246,100	2,651,000	66,700	2,031,000	1,066,000	6,540	22,200	50,200	11,866,000	95,200	190,616	5,833	153,006
1995	169,700	2,965,000	44,300	1,951,000	1,034,000	...	...	18,800	10,250,000	7,860	193,854	3,853	119,682
2000	116,500	2,823,000	33,600	1,764,000	991,800	...	...	11,700	9,806,000	5,330	187,382	3,082	108,410
2005	89,600	2,747,000	27,700	1,655,000	910,100	...	...	...	...	...	...	2,652	102,520

(1) As of February 1 of the year. However until 1940, as of the end of December.

(2) Until 1896 and from 1945 through 1972, excluding Okinawa Prefecture.

(3) From 1945 through 1961, excluding Amami islands.

(4) Object of survey: Milking traders until 1923, including farm households beginning 1924. For categories other than "Milk cows".

the object of survey unknown until 1926. Raising farm households and other farming organizations from 1941 through 1947 and for 1950, 1956, 1957 and 1959, farm households and other raisers beginning 1960, raising farm households, other farming organizations and non-farming households for 1949, and raising farm households (but for 1953, raising farm households and other farming organizations for "Layers") from 1951 through 1955 and for 1958.

1) From 1908 through 1918, total of beef cattle and milk cows. Until 1960, classification is "Draft and beef cattle".

2) Including breeding fowls. Until 1963, including broilers.

From 1993 through 1996, excluding raiser households with less than 300 adult hens. Beginning 1997, excluding those with less than 1,000 adult hens.

Source: Statistics Department, Minister's Secretariat, Ministry of Agriculture, Forestry and Fisheries.

law was to enhance the selective expansion of agriculture.

As mentioned above, since the 60s, the administration of the Basic Law promoted the selective sectors of enlargement of livestock, in particular, factory farming to achieve high productivity and efficiency. With the goal of a factory farming system in mind, Japan learned breeding technology, management of machinery and facilities from Europe and the United States. As a result, the promotion of the livestock technology research and the nationwide extension system were developed by following the policy. The characteristic of this policy was that livestock were treated exactly as “materials” that had high productivity and efficiency. The policy and agricultural industry in Japan started growing crops and animals with the absence of thinking them as “living things”.

In the scientific field that supported this development, livestock researchers focused on the “translating” of Western studies and slipped from their minds the idea that animals are “sentient beings”. In addition, in the study that analyzes the rationality of livestock farming in a socio-scientific analysis, researchers did not think that “livestock has personality and they are subject to be loved” but rather “livestock is necessary items for agriculture” and the old Japanese farmers’ view of livestock like that was totally forgotten. The European view of livestock “if there is no livestock, there is no agriculture” was replaced with the old Japanese ideas⁽¹⁴⁾. And it still continues to exist in farming and/or animal welfare studies.

The old Japanese farmers’ technology that has been developed since the modern era observes the growth process of all living things around the farming, including pests, pathogenic microorganisms and wild animals. It does not see them as “harmful and to be extinct”, it creates the technologies to coexist with a variety of organisms instead.

Since the Basic Law of Agriculture promoted the use of chemical fertilizers and chemical pesticides in order to achieve increased revenues, environmental activism against pollution has been active. Food safety movement initiated by consumers occurred, and a direct supply chain system with agricultural producers and consumers was developed. Along with this movement, the organic farming system has been getting more attention since the 1970s and the old Japanese farmers’ technology has been re-evaluated. However, as such citizens’ movement focused on appropriate pricing and food safety, the recognition of the conservation of the biodiversity and animal welfare has still been rather disregarded.

3. Formation of Livestock Integration and AW Policy in Japan

After the World War II, small-scale diversified farming with livestock and rice in the late 1940s grew to larger scale and professional livestock farming gradually in the 1960s. The intensive specialized livestock management moved away from land management business and introduced the factory farming system from Europe and the United States which restricted the animal freedom of movement in order to achieve high productivity and efficiency.

Factory farming changed the distribution market, and the expansion of supply and demand has led to a new economy structure. From the pre-war to the 1940s, the traditional livestock distribution system of domestic livestock dealers (predecessor BAKURO horse dealer) dominated the market. In the 1950s, the wholesale and the Nokyo (Japan Agricultural Cooperatives) system moved to the integrated supply system. In the 1960s, integration of feed and meat companies initiated the industry and since the 1970s total integration distribution supply chain was structured by the big general trading companies⁽¹⁵⁾.

Non-agricultural capitals in the country advancing the integration from the 1980s, these companies expanded to overseas to develop importing systems and companies that accepted free-trading systems started buying farms or food processing companies in the United States, Australia and so on to directly manage them⁽¹⁶⁾. It is questioned how these global companies are responding to the global AW livestock standards currently underway.

On the other hand, family businesses that didn’t join the integration system movement of non-agricultural companies is making their way to specialize their own unique livestock farming (small business farming).

In 2015 agricultural census (Table-3), in the divisions of small and medium livestock, hen, broiler and pig farming, farmers (family-run) account for 70% to 80%. However, despite the overwhelming number of domestic animal owners, such as companies (including off-the-farm integration), the number of kept livestock is as low as 16% to 36%, and the size of the breeding is relatively small. Such small business farming has pioneered a distribution route “SANCHOKU System” different from the non-agricultural integration system, especially the direct distribution system with consumer groups (it can be called Producer-Consumer Integration).

Since the 1980s, animal welfare production gained global attention in the EU countries, such as the UK, as a

Table 3 Number of Management Entities Raising Commercial Livestock ,Livestock Amount (2010-2015Census)

Livestock by kind	Dairy Cow		Beef Cattle		Pig		Hen		Broiler	
	Raising Managent Entities	Number	Raising Managent Entities	Number	Raising Managent Entities	Number	Raising Managent Entities	Number	Shipped Managemant Entities	Shipped number
Year	Entities	1,000	Entities	1,000	Entities	1,000	Entities	100	Entities	100
2010	22,781	1,558,359	66,759	2,496,002	4,873	7,925,683	4,914	1,495,138	2,142	5,581,113
2015	18,186	1,403,278	50,974	2,288,824	3,673	7,881,616	4,181	1,514,816	1,808	6,085,260
Family Management Entities in 2015	96	85	97	67	70	28	78	16	81	36
Organized Management Entities in 2015	4	15	3	33	30	72	22	84	19	64

way to deal with the food safety issue such as BSE (Bovine Spongiform Encephalopathy). In 2002, the Food Safety Agency (EFSA) was established in the EU, the EU Commission and member states provided scientific opinions on food safety. There are eight scientific sub-committees that forms the small committee of Animal Health and Welfare Issues. The committee has issued constant scientific recommendations on livestock welfare issues in relation to BSE. In addition, the BSE infected cattle were confirmed in Japan in 2001, and the Food Safety Basic Law was enacted in 2003. However, a scientific committee to analyze risks on livestock welfare, such as the one in the EU, has not been implemented yet in Japan. The Japanese Government's food safety policy has no concept of livestock welfare⁽¹⁷⁾.

The law relating to the protection of animals after the war, "the Act on the Protection and Management of Animals" was established in 1973. In 1999, the Act changed the name to "the Act on the Loving Protection and Management of Animals". Since then, there have been repeated revisions, mainly for targeted companion animals, cats and dogs, and there are no legal standards for farm animal welfare. The Livestock Technology Association, which is an external organization of the Ministry of Agriculture, Forestry and Fisheries, was created in 2005-2006 in conjunction with researchers' and animal protectionists' activities to promote livestock welfare. The Ministry of Agriculture, Forestry and Fisheries and the Ministry of the Environment led "The Working Group to Discuss Animal Welfare Livestock Management" and in the fiscal 2007, it changed the name to "Japanese-Style Animal Welfare Supporting Management Promotion Project". By fiscal 2011, the "Guidelines for Livestock Husbandry in Response to the Idea of Animal Welfare" was established which is the husbandry guideline according to each species of animals.

In 2010, the Ministry of Agriculture, Forestry and Fisheries held the OIE Liaison Council (an exchange of views with industry, technical researchers, academic scholastic experts, consumers, etc.) met twice that year. OIE originally draft comments from Japan submitted the comments on OIE and the "Guidelines for Livestock Husbandry in Response to the Idea of Animal Welfare" was modified in line with the OIE revised standards. There is, however, a limit to the administrative policy of livestock welfare without a legal foundation. It is necessary for private companies and civil activism in Japan to stand up and grow in order to respond to global animal welfare standards.

4. Current Stages of AW Livestock Production in Japan

1) Current status of AW Livestock Industry: Characteristics of the Livestock Technology Association questionnaire

In Japanese society, consumers, food companies, researchers, government and producers have little interest and awareness concerning farm animal welfare. The table 4 indicates how much the producers know about "The Guidelines for Livestock Husbandry in Response to the Idea of Animal Welfare" made by Livestock Technology Association which is a semi-governmental guideline for managing livestock in response to the idea of animal welfare.

More than seventy percent of large livestock farmers answered, "I don't know the AW guideline". More than half of small and medium size livestock farmers know about the guidelines. However, there are relatively many broiler farmers who don't know the guidelines and most of poultry farmers are prone to being uninterested in improving the welfare of animals. This questionnaire shows the contradiction between the high ratio of farmers who answered that they would like to change the facility to improve animal welfare and their low

Table 4 revised 20191120 Livestock raising farmers' Opinions about AW Guidelines made by Livestock Technology Association (LTA)
From questionnaire in 2015 by LTA; National Dairy Cooperative Federation (506 farms surveyed), National Beefcattle Advancement Fund Association (758farms surveyed), Japan Pork Producers Association (428farms surveyed), Japan Poultry Association (398farms surveyed), Japan Chicken Association (995farms surveyed)

Opinions \ Farmers	Dairy Cow	Beef	Pig	Hen	Broiler	Average
I don't know the AW Guideline	77%	72%	47%	38%	64%	60%
I will emphasize the AW Guideline	72%	65%	63%	59%	58%	63%

awareness in the necessity of animal welfare.

In the large livestock sector, there are specific requirements to reduce stress on livestock, such as pasturing, tethering, dehorning, tail docking and castration. In dairy farming, the farmer rate of "no pasturing" is 73%, and the rate of "tethering" is 73%. The rate of "dehorning" is 86% (and the rate for no anesthesia is 85%). Dairy farmers who do not practice tail-docking is 91%. In beef cattle, the rate of "no pasturing" is 35 % and the rate of "group rearing" for breeding cattle is 43% and for fattening cattle 80%. The rate of "dehorning" is 60%, "no tail docking" is 94% and "castrated" is 87%.

In the pig farming, 88% of farmers use gestation stalls, while 64% are farmers who using teeth clipping for piglets. "Castration of piglet" is conducted by 95% of the farmers, 82% conduct "tail docking on pig-lets". Farmers who places playful equipment is 69%.

In layer hen farmers most of them use cages, the number of hens raised in the cage is 48% of the "two bird cages", "five to six birds" is 27%. 90% does not place "sand bathing area", "nest box" and "perches". "Beak trimming" is 84% (rate of "broiler" farmers not beak trimming is 93%). At 66% of farmers is "force molting" (81% fasting). In cage-free farms, 80% uses "nest boxes and perches". 49% installed sand bathing which is slightly lower than expected.

The target of the survey is mainly livestock family farms, and we can see factory farming systems even in small scale corporate family farms which are established nationwide. However, the large-scale integration system run by non-agricultural companies and their supply chains have dominated the livestock market and their animal welfare practices are not fully understood yet.

2) Consumer Movement for The Improvement of Life and Initiatives for Livestock Welfare

Since the 1960s, the consumer movement has grown with Japan's rapid economic growth, creating a new economic system called the Co-op Direct Chain "SANCHOKU", which pays attention to environmental pollution or food safety. Consumers can assess each stage of the food chain which is called the direct production partnership "TEIKEI". The non-profit business concluded an agreement with farmers to realize farming methods that meet consumer needs and set reasonable prices to ensure production costs and revenues for agricultural management. The Community Life Cooperative "SEIKYO", a consumer group, organized several union members in neighboring regions as "purchasing groups". The member group "HAN" was a living economic unit that systematically buys ordinary food and other food products together every week. The inspection site that constitutes the Co-op Commodity Committee had the role of performing safety and quality assessment on a daily basis. It was also a civil movement unit that took up issues to be solved and acted upon. As an improvement in farming stage to make food safety more reliable, the traditional "old Japanese farmers' technology" mentioned above was reviewed in order to provide reduced pesticide and reduced chemical fertilizer, non-GM and antibiotic-free products. As a result, organic farming based on the principle of "biodiversity conservation" leads to the safety of human food and farm animal welfare.

The Public Certification System for Organic Agriculture is based on "The Japan Agricultural and Forestry Standard for Organic Agricultural Products (2000)" which was amended by "the Japan Agricultural and Forestry Standards Act (1950)" and also by the Act on "The Standardization of Agricultural and Forestry Supplies and the Appropriateness of Quality Labeling (1999)". In 2006, due to the widespread awareness of

organic farming, the Act on the “Promotion of Organic Agriculture” was enacted and the basic philosophy of promoting cooperation with consumers was particularly important.

The reality of organic farming is not yet accurately understood, but organic certified farmers (3,815 in 2010) added non-JAS organic farmers (7,865 in 2010) making a voluntary effort to partner directly with consumers rose up to 12,000 organic farmers in total. It is also said that the percentage of organic certified product consumption is 2 % in the agricultural products. From this it can be said that the producer and the consumer network market is larger than we assume.

“The Japanese Standard for Organic Livestock Products” was established in 2005 in response to Codex’s Organic Livestock Guidelines. The guidelines address that maintaining and improving the natural functions of agriculture, and that livestock production should include the physiological and behavioral requirements of animals, with safe feed, and produced environmentally friendly as much as possible to avoid the use of veterinary medicines.

Despite the establishment of such a public organic farming and livestock certification system, the integration of small livestock family farms and non-agricultural companies which uses intensified factory livestock farming system makes very little effort in animal welfare management. There are only about 10-plus JAS certified organic livestock farms in the whole country.

The pillars of the current consumer organic farming movement are concentrated in providing “safe food” for people. Co-op takes their customers to the farms who supply their food, so they can experience “contact with a domestic animal”. This has actually played an important role, but consumers do not have even basic knowledge about livestock husbandry, thus the attempt to meet the animals only limits the temporary “petting” experience. In the 1990s, the “group organization HAN”, which was the basic place of Co-op union activities, was dismantled and converted into an individual home delivery system, so that has really weak-ened the sense of community.

The structural changes in the general Co-op consumer movement have not necessarily led to the livestock welfare movement. On the other hand, the organic agri-products specialized distribution entities (Daichi wo Mamorukai, Radix etc.) and the direct supplier farms (Yonezawa-go Ranch, Akikawa Bokujo etc.)⁽¹⁸⁾ have

recognized the importance of farm animal welfare as a solution to food safety, this has played an important role.

5. Issues and Prospects for Farm Animal Welfare Society in Japan

1) Citizen led Changes in Farm Animal Welfare

Many animal protection groups in Japan have mainly contributed to the protection and the improvement of the breeding environment of dogs and cats, but interest in the protection of livestock remains low.

The civil movement on livestock welfare was organized by agricultural economics researchers, animal protection groups, consumer groups, farmers’ associations, and the several symposiums that have been held and mentioned below.

In December 2001, a university professor from the United States and experts from the World Animal Protection Association (WSPA) were invited to the symposium of “Think of the Health and Welfare of Farm Animals” Then the group of researchers who organized the symposium conducted research on organic livestock farms in the UK in cooperation with the WSPA headquarters. At that time, the awareness of the welfare problem for farm animals was still low. Since that time, the dialogue with International NGOs (Eurogroup for Animals, ICFAW; International Coalition for Farm Animal Welfare) on animal welfare has started and continued on. This symposium was triggered by Japan Farm Animal Welfare Initiative JFAWI founded on June 22, 2002, a study group on agriculture and animal welfare. JFAWI invited managers and experts from organic livestock farms in the UK. It also held a series of international symposiums as shown in column. The term of Farm Animal Welfare was rarely used at the time in Japan. The welfare problem of the animals used in experiments, companion animals or wild animals had received more attention. JFAWI requested measures to promote animal welfare to Ministry of Agriculture, Forestry and Fisheries, Japan Veterinary Association, and livestock organizations. But most of them regarded the issues as having nothing to do with them, thus their awareness for farm animal welfare was very low.

It was very important, as the first step, to share information and to educate the government and the people concerned with livestock about the current state of the animal welfare in the EU countries, the United States and OIE.

【Column】 Changes in Symposium Activities of the Society for Agriculture and Animal Welfare

Japan Farm Animal Welfare Initiative JFAWI

2002 "Organic Livestock and Animal Welfare in Japan and the EU - Toward environmentally and animal-friendly livestock"

2004 "Foodex Forum; Food Safety, Security and Health",

2004 "An Attempt Beyond the WTO - Connecting Food Safety, Animal Welfare, and Biodiversity"

2005 Emergency Workshop "Food Anxiety Across Borders and Livestock Disease BSE and Bird Flu - OIE's Global Animal Welfare Standards Determine in May -"

2006 "EU Strategies of Livestock Health and Welfare Impact on Japan"

2009 "The World is Moving: Reform in Farm animal Welfare; Part I: Network Formation for The Health and Welfare of Livestock, Part II East Asia Challenge - Korea, Taiwan, China and Japan"

Since then, the event of symposium and other events has been suspended due to the outbreak of foot-and-mouth disease in 2010 and the Great East Japan Earthquake in 2011, but the members of the research group have been supporting these emergencies.

2013 "Veterinarian Training Seminar on Livestock Welfare" 1st: Feb.1 Tokyo, 2nd Hokkaido, 3rd cancelled in Miyazaki because of Foot and Mouth Disease

2013 "Seminar on Poultry Welfare"

2014 "Symposium on The Consumption and Distribution System of Livestock Welfare Food"

2014 Establishment of a study group on Agriculture and Animal Welfare in Hokkaido

⇒ "May 2016 Animal Welfare Livestock Association established

JFAWI disbanded in 2016

⇒ "Animal Welfare Food Community Japan AWFCJ established in May 2016

JFAWI is a voluntary organization run by animal welfare specialists, including researchers and animal protection activists, agricultural organizations, Co-op staff, and organic distributors. Communication with the government, the Veterinarian Association, and the livestock farmers' groups was achieved gradually and the information about animal welfare was shared among stakeholders. Due to the effects of this collaboration, we were also able to establish "The Guidelines" mentioned above (JFAWI researchers were appointed as members of the development committee). One main JFAWI expert passed away and that was the major reason for the dissolution of the organization in 2016, but the administration and other initiatives for live-stock welfare, such as farmers, food companies are already in place and ready to go. By then, companies and individual consumers had already realized animal welfare business and animal welfare lifestyle. Following the events, Animal Welfare Food Community Japan (AWFCJ) was established in May 2016.

AWFCJ is not a certification issuing body or a food business company, but it is a group of producers, food companies, consumers, animal protection activists and researchers who are concerned about farm animal

welfare. In order to objectively assess animal welfare, animal protection activists, researchers and experts are working together with the view to improve animal welfare. It is a policy to make our own target levels for the self-analysis of the realistic animal welfare and the improvement plan of the member farms. Thinking that the scientific evaluation of animal welfare standards is still being developing globally, AWFCJ is currently trying to collect data and introduce the highest level of indicators from international AW standards.

2) The Problem of The Evolution of Livestock Welfare Business and Individual Lifestyle Values

Animal Welfare Livestock is a production system that "breeds livestock in a state of life with high behavioral demand satisfaction", and by doing so, people can receive not only safe and high-quality livestock food but also "healing power". Farm animal welfare system is defined as a "welfare symbiotic system" in which people and livestock are interdependent and animals give a therapeutic "healing power" to reduce human stress. The current challenge for the FAW in Japanese society is to develop products that fulfill two concepts "Animal Welfare Food" and "Healing Therapeutic Products."

A country like Japan that imports agricultural and food

products under the conditions of expanding trade liberalization, the development of the supply and demand chain of “welfare foods” has to face the fierce competition with the animal welfare business of the large global corporations.

However, the supplier farm of animal welfare product of “Healing Power” has a regionally limited characteristic as it needs to be at the livestock farm site.

In this paper, it is understood that the scientific evaluation on animal welfare applied to the current OIE standards, EU standards, and other private standards are incomplete and empirical improvements in the farms are required in the future; plus animal welfare science is in the process of development.

Therefore, the paper further explores the following three propositions: (1) establishment of animal welfare business philosophy at farms for farms, (2) animal welfare chain development by food companies, (3) development of animal welfare chains, which are directly linked to small business farming and consumer entities.

① Establishment of animal welfare business philosophy at animal welfare farms.

We will not deal with the specific problems in Japan described earlier in this paper.

First, based on the global animal welfare principle, Five Freedoms (five freedoms of animals), to analyze and evaluate the current breeding conditions in accordance with scientific standards, clarify improvements and resolve them systematically.

Second, to expose the breeding situation and improvement plan to food companies and end consumers,

Third, farms contribute to the development of animal welfare standard. We record the improvement demonstrated by farms,

Fourth, farmers provide animal welfare knowledge and animal welfare technology to educate animal handlers at farms,

Fifth, farmers make an effort to establish a lifestyle based on the “healing power” given by raising animals.

The AWFCJ has announced that member farms have created a three-year plan to improve

② Animal welfare chain development by food companies.

Most Japanese food companies (distribution companies, food processing companies, eating out companies, etc.) lack knowledge and business strategies about animal welfare.

Supermarkets and convenience stores have not

implemented sales strategies for “animal welfare foods”. The AWFCJ member Oisix La Daichi (internet retailer Oisix + Daichi wo Mamorukai + Radish-boya), Pal System Co-op, Toto Co-op and animal welfare farms (includes a AWFCJ member farm) has already collaborated to provide consumers the direct-production chain. The financial base is mainly made by the union expense investment of the members, and management at each stage of the chain is done according to the food safety guideline. There are few developments in restaurants and other eating-out companies that use animal welfare ingredients, but consumer eating demands for animal welfare products are increasing.

As described above, there are two types of food industries trading animal welfare food in Japan.

One of them is food giant companies that need to develop livestock integration in Japan and overseas; and another type is a consumer-producer direct chain that has a direct link between producers and consumers. The former will be forced to launch global “animal welfare business” as competition with other multinational companies such as BBAFW. This sort of push will make corporations come up with animal welfare businesses and change their current factory production systems to match overseas standards. The shift to animal welfare production systems in Japanese integration farms are situation, because the industry lacks animal welfare awareness. The challenge in the very near future is to come up with a new business strategy in line with animal welfare.

③ Development of animal welfare chain directly linked to small business farms and consumer entities.

In the 21st century, a new distribution revolution is underway through the IT revolution. In response to the era of competition between the internet shopping companies with home delivery and the traditional store retailers (trading companies, distributors → stores such as supermarkets and convenience stores), the management strategy of small business family farms is being questioned. Looking at the current management trend of small business farming, they tend to focus only on the production management and sales of “food”. They seem to lack the other animal welfare value which is the value to raise and sell a “living thing”. Once this value is evaluated as a value of the products “Healing Products (therapeutic service)”, the supply system will change dramatically. Animal welfare cannot be

achieved only at the farm level, the food companies and consumer also need to recognize the importance of animal welfare. It is essential that there is recognition of animal welfare value in the life-style of consumers as well as breeders, and the sharing of animal welfare values is a requirement in the business philosophy and lifestyle of food industrial engaged persons. Consumers' interest is focused on the safety and security of food.

In the 21st century, in the world's animal welfare reforms, consumers will buy another animal welfare value product, so that "Healing Power (Therapy Service)" will change and improve our lifestyle.

The FAW has advanced by Co-op and other food entities that also have union members as their consumers. The following issues and information can be considered:

First, launching the animal welfare Education Project for staff and board members, and renewed our awareness of the safety of livestock food. It's about promoting welfare products as a new product to consumers.

The second is to work on the animal welfare food business with the small enterprise farmer.

Third, encourage members to transform into a new lifestyle, and also provide "healing power therapy service" as another product at farms where they supply welfare food.

Fourth, jointly improve the animal welfare evaluation standards in every food process in the production chain. For that, have consumers and farms establish such standards and formulate scientific and more desirable animal welfare evaluation standards.

Fifth, increase the animal welfare food purchase as a new product among the consumer groups, and increase the investment of consumer union members into the animal welfare business fund.

As described above, since the consumer-producer direct animal welfare chain provides daily food and regionally is limited, sustained purchasing from consumers is expected. A combined chain of two commodities, Welfare Food and Healing Power Therapy Services, are expected to be more likely to survive in the competitive landscape of trade liberalization.

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日本における家畜福祉畜産の展開

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Animal Welfare (動物福祉、本稿では以降の叙述では略称 AW を用いる) の Welfare (一般的訳語: 福祉) の語源的意味は、“(人間も動物も) 満たされて Wel, 生きている fare” と捉えられるので、Farm Animal Welfare を「家畜が最終的な死を迎えるまでの飼育過程において、ストレスから自由で、行動要求が満たされた健康的な生活ができる状態」を表す用語として定義する。

そして、アニマルウェルフェア畜産 (家畜福祉畜産) とは、家畜をそのような「行動要求満足度の高い生活状態で飼育する」生産システムであるとともに、そのことによって人も家畜から安全で質の高い「ウェルフェア食品」と人間のストレスを軽減するセラピー効果のある「癒し力」をも与えられるという、人と家畜とが相互依存する“ウェルフェア共生システム”と定義する。

しかも、“ウェルフェア共生システム”で生産されるこれら 2 つのウェルフェア商品 (食品とセラピーサービス) の価値を実現するためには、生産段階に従事する人たちだけでなく、流通業、食品加工業、レストラン等の飲食業に従事する人たちと共に、かつ最終消費者である多様な人々がアニマルウェルフェアを重視するライフスタイルをめざして、生産活動と生活活動を結びつけるあらたな市場社会的ネットワークであるアニマルウェルフェア フードシステムの開発が不可欠である⁽¹⁾。

以上のような日本型 AW コンセプトは、AW 畜産による AW 食品の供給と共に AW セラピーサービスの供給、人間と動物の相互依存関係=共生システムに意義を置いており、AW 畜産“物”の生産システムと食べ物供給チェーンに評価基準を置いて推進する欧米型の AW 概念とは異なる。

AW の基本理念は、“家畜は物ではない”=“感受性のある生命存在”であり、畜産物は“食物”というより“食命”ともいえるのであり、ウェルフェアフードシステムとはまさに“いのちの食べ方”であり、AW 家畜飼育は食料生産と同時に動物とのコミュニケーションから人間が受け取る“癒し力”を実現することである。

キーワード：家畜福祉，動物食文化史，フードチェーン