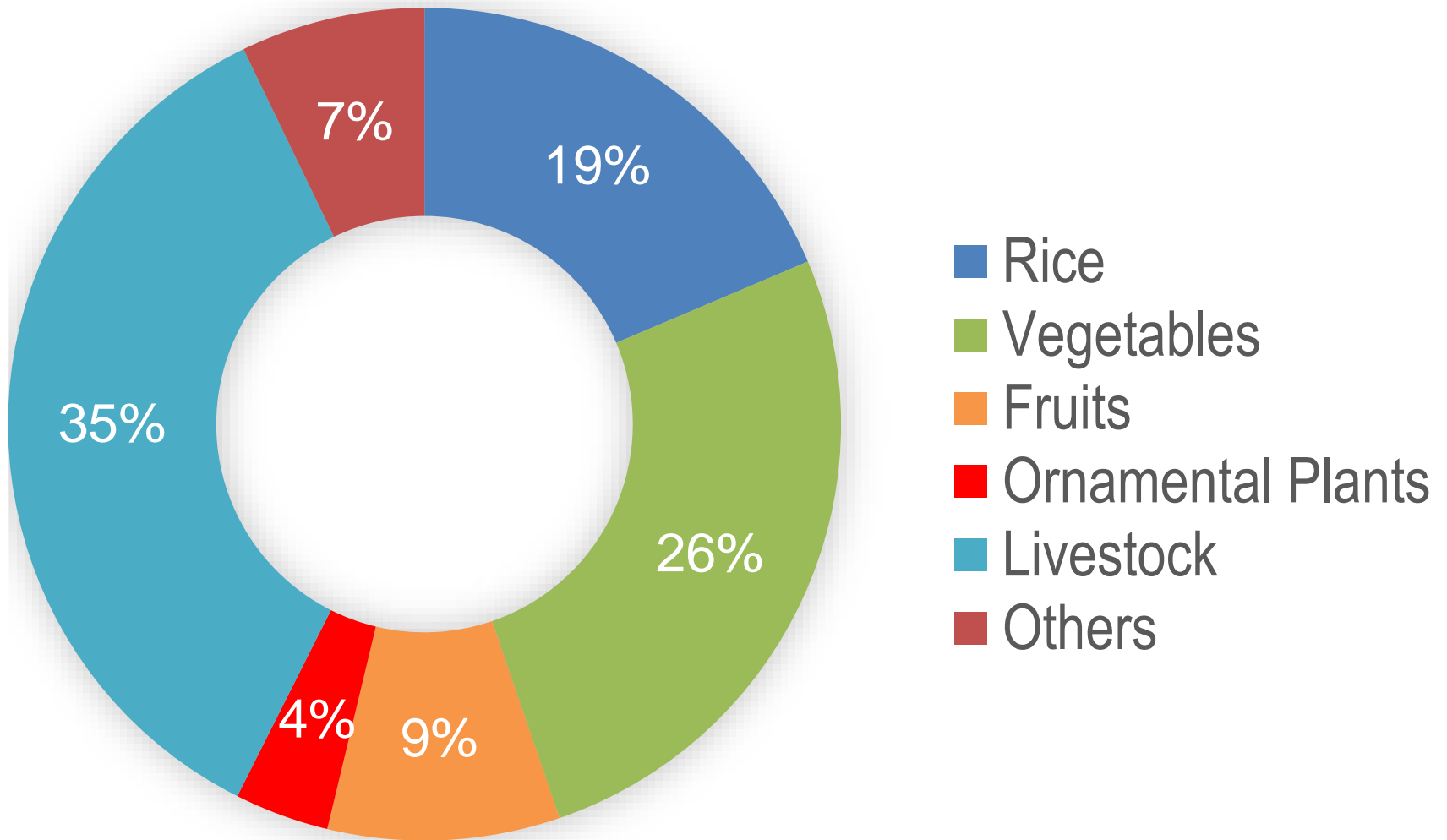


The overview of horticulture and research in Japan

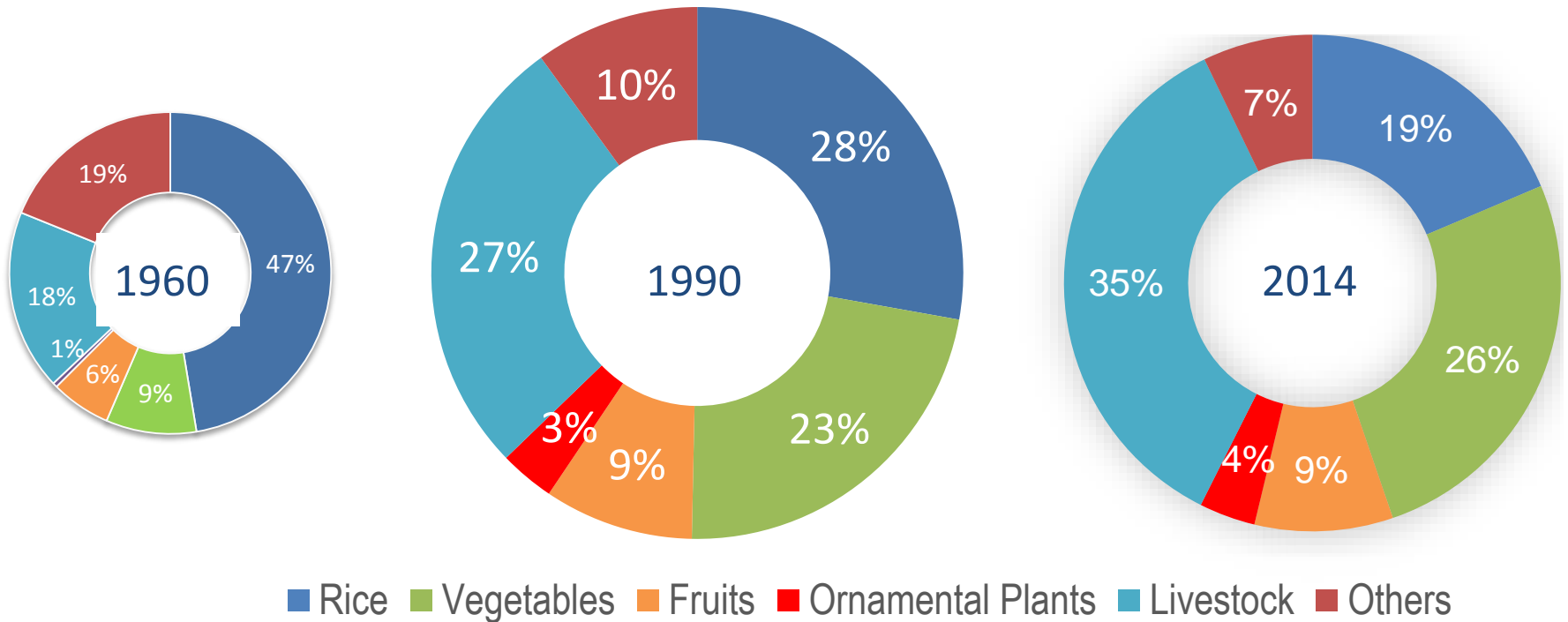
Outline

1. Horticulture in Japan – present and past
2. The importance of product quality in Japanese market
3. Safe and Secure – after East Japan Earthquake
4. Globalization of Japanese horticulture
 1. Japanese cuisine as UNESCO intangible heritage
 2. Tokyo Olympic
 3. Plant Factory

The agriculture output of Japan 2017



Growth till 1990 and decline after 1990

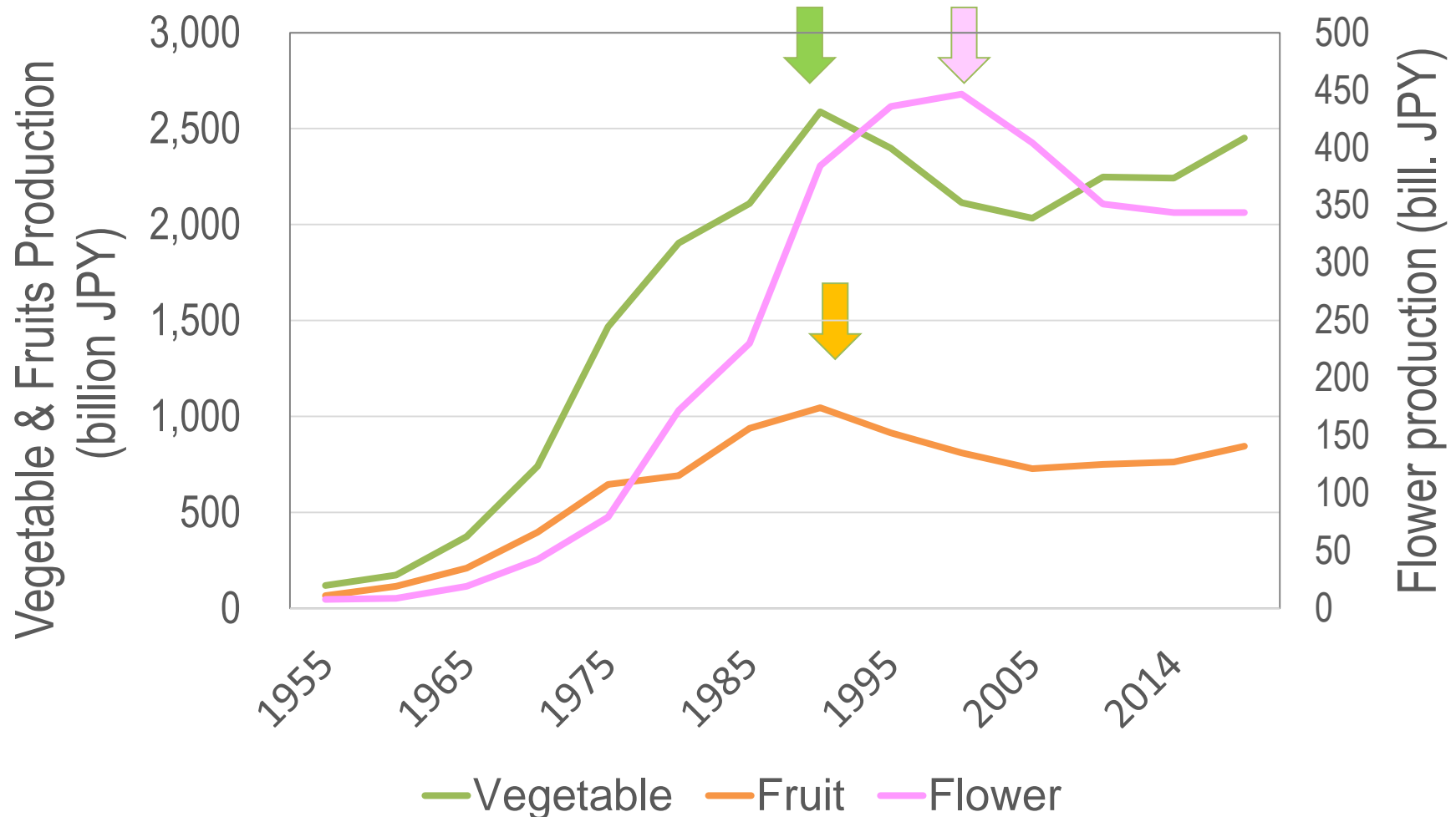


Japanese agriculture has developed rapidly after 1960

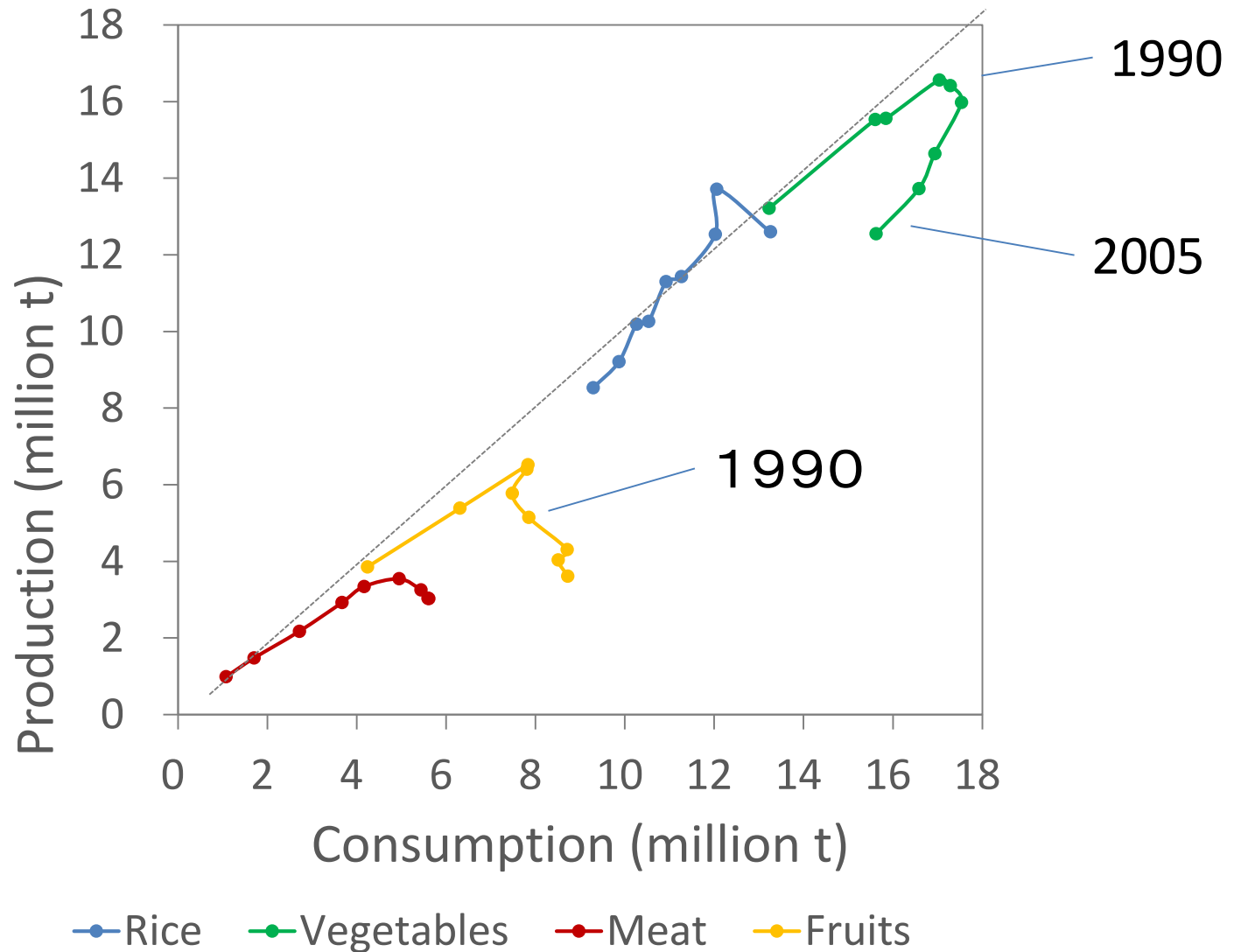
Year	1960	1990	2017
Total (bil.JPY)	1,915	11,493	9,379
% of Hort.	17%	35%	39%

Ornamental plants have reached their peak later

Vegetables and fruits reached their peak contribution in 1990, whereas ornamental plants reached in 2000.

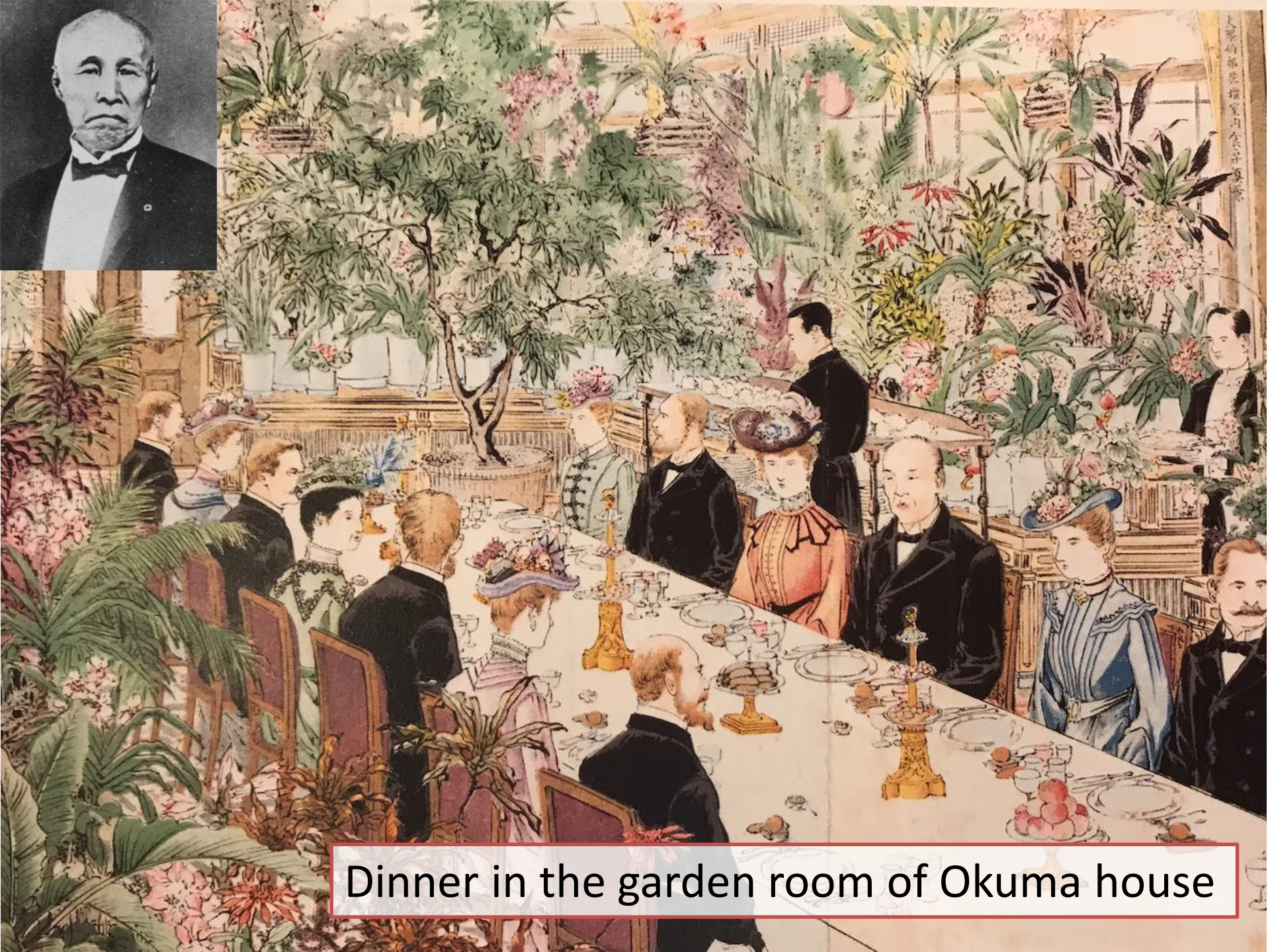


Production-consumption relationship changes from 1965 to 2005



Horticulture in Japan from past to present





Dinner in the garden room of Okuma house

Gardening in Edo period (1603 – 1868)



(C) Tokyo Metropolitan Foundation for History and Culture

Variegated Camelia flowers



砂摺燕葉井出
底青絞車牡丹
度咲



千艸園

深切柳芝舟葉
紺ルリ鳩花笠
武田菱咲分八重



掬後園



Iris flowers in Horikiri, Edo



琉球ユリニ似テ
淡紅色香氣
アリ根モ小ナレ
食用トナスニ堪
タリ



ヤノユリ
鹿児百合



北絹

織成黃絹，孰投機，即是天孫雲錦衣。往日南溪延壽客中，金胡蝶化仙飛。



輪汾

秋菊叢中風色新，花開怪見月成輪。霜前昨夜醉天酒，笑伴顏不負人。

五

朽葉實盛

花發東籬九月天，庭閒處處擲金錢。操心獨抱老兵勢，風送晚香斜日前。

信濃紅

遠出信州千里來，非紅非

紫，万枝堆

百花謝盡

傲霜後獨

自同羣爭





100 different varieties are grafted onto a single rootstock plant
百種接分菊



Chrysanthemum flower at Shinju Gyoen National Garden



Fuji apple

Shine Muscat



Mulching and drip irrigation system for Satsuma mandarin orange production



Strawberry





Eustoma



Breeding of *Eustoma* (native to North America)

Eustoma flower
at Texas, USA



Genetically modified blue Flowers of carnation and rose



Blue carnation
'Moondust' in 1997

Blue rose
'Applause' in 2009
by Suntory

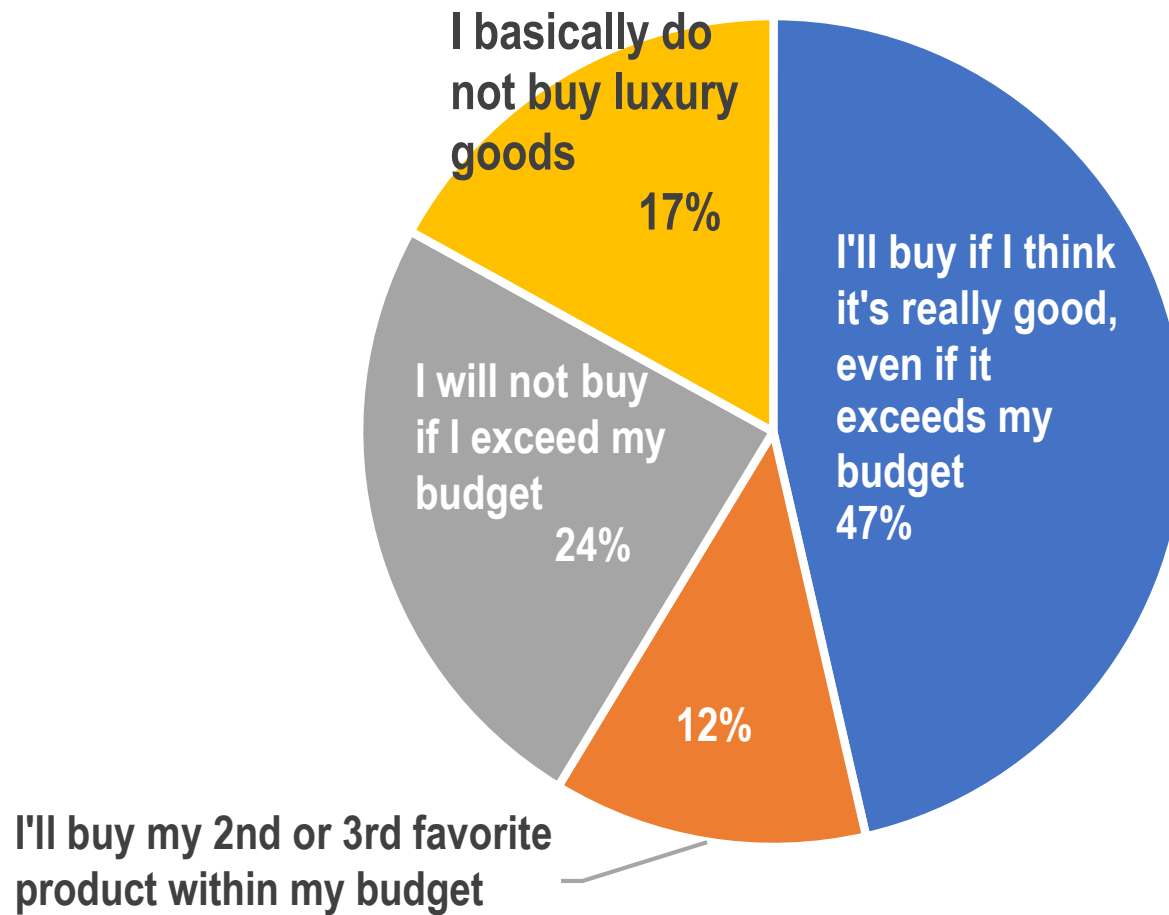




2.THE IMPORTANCE OF PRODUCT QUALITY IN JAPANESE MARKET

Good and bad
aspects

50% says they tend to buy a high quality product even if it exceed their budget



Consumers decision on buying a luxury item

Why do Japanese people prefer high quality products?

- Quality management of industrial products -

Q: What kind of image do you have for products of Japan, Korea, China?

Rank	Japan	Korea	China
1	High Tech	Hight Tech	Simple
2	Trustworthy	Popular	Popular
3	Functional	Trustworthy Cool	Familiar
9	Popular		
15	Cool		

Hofstede's cultural dimensions theory

Factor analysis showed four main factors that characterize cultures

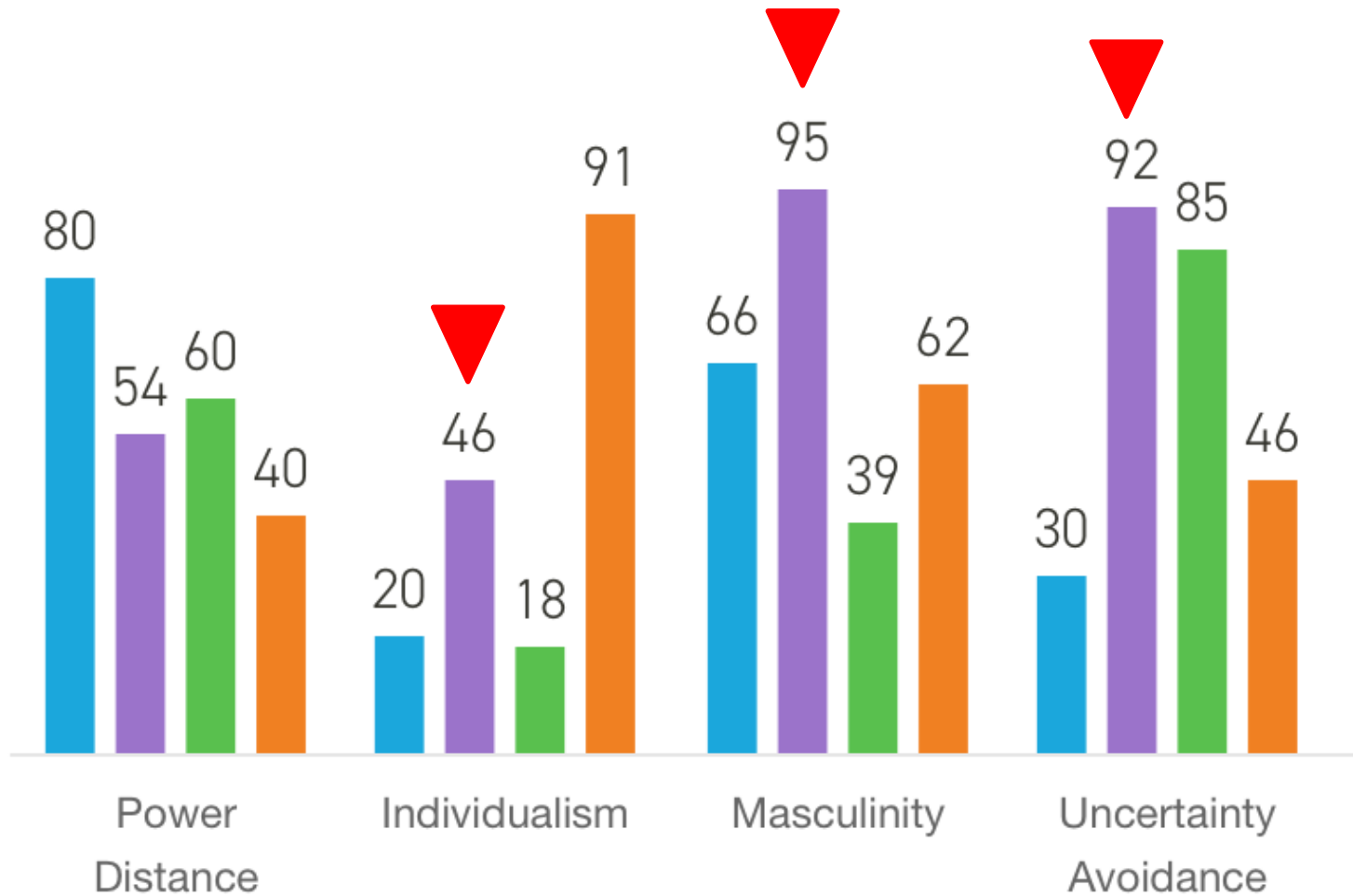
- Power distance
- Individualism - collectivism
- Masculinity
- Uncertainty avoidance

China

Japan

South Korea

United States



Enkawa's research on Japanese culture and quality

- Strong tendency to avoid uncertainty



1. High risk of natural disaster in Japan is probably associated with this characteristics.
2. Uncertainty is the thread or risk in life
3. People feel anxious about something.
4. Low quality products/service will make people uncertain.

Additional factors

- High competition (masculinity)
- Relatively high individualism as compared with other Asian countries.

Joy and Enthusiasm is the motivation for creating high quality outputs

- Bottom-up culture rather than top-down culture.

Culture develops without strategic policies

After the East japan earthquake and Nuclear power station disaster

3. SECURITY AND SAFETY

The consumers demand for the quality became apparent after 1980's

Nutritional
value

• 1960's



Quality

• 1980's

Safe and
secure

• 2000's



Food properties

EASY



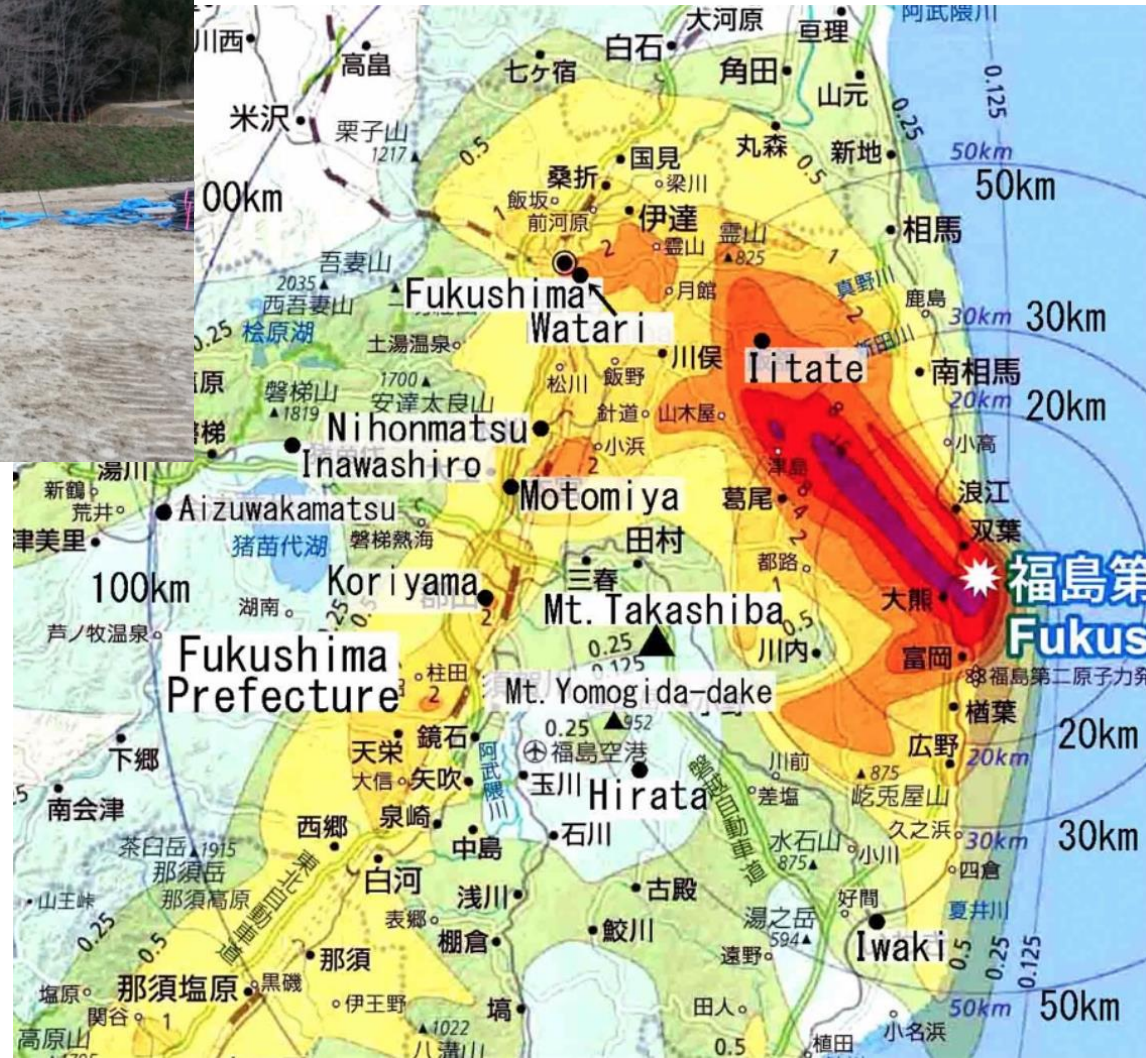
DIFFICULT
to know
before
purchase

- | | |
|---|------------------|
| <ul style="list-style-type: none">• Color• Shape• Weight | Search goods |
| <ul style="list-style-type: none">• Taste• Flavor• Texture• Nutritional value | Experience goods |
| <ul style="list-style-type: none">• Function• Safety• Organic• Produced area• etc | Credence goods |

East Japan Earthquake 2011.3.11



Iitate



Food
poisoning

Radioactivity

Table 3 Perceived risk of beef related hazards

	男性	女性	20代	30代	40代	50代	60代	全体	回答率 (%)
腸管出血性大腸菌	3.68 ₂₃₄₅₆₇	3.87 [*] ₂₃₄₅₆₇	3.73 ₃₄₅₆₇	3.70 ^e ₃₄₅₆₇	3.72 ₃₄₅₆₇	3.75 ₃₄₅₆₇	3.97 ^e ₃₄₅₆₇	3.78 ₂₃₄₅₆₇	87.4
サルモネラ属菌	3.54 ₁₃₄₅₆₇	3.70 [*] ₁₇	3.56 ^e ₄₅₆₇	3.53 ^e ₄₆₇	3.56 ^e ₇	3.60 ^e ₅₇	3.82 ^{abcd} ₅₇	3.62 ₁₃₄₅₆₇	85.7
カンピロバクター	3.37 ₁₂₅₇	3.60 [*] ₁₇	3.39 ^e ₁₇	3.33 ^e ₁₇	3.43 ^e ₁	3.51 ^e ₁₇	3.73 ^{abcd} ₁₅₇	3.48 ₁₂₇	67.0
牛海綿状脳症 (BSE)	3.23 ₁₂₇	3.64 [*] ₁₇	3.27 ^{cde} ₁₂₇	3.21 ^{cde} ₁₂₅₇	3.47 ^{ab} ₁₇	3.48 ^{ab} ₁₇	3.70 ^{abc} ₁₅₇	3.44 ₁₂₇	86.2
放射性物質	3.22 ₁₂₃₇	3.59 [*] ₁₇	3.30 ^e ₁₂₇	3.41 ₁₄₇	3.42 ₁₇	3.39 ₁₂	3.50 ^a ₁₂₃₄	3.41 ₁₂₇	87.6
動物医薬品の残留	3.29 ₁₂₇	3.58 [*] ₁₇	3.28 ^{de} ₁₂₇	3.23 ^{cde} ₁₂₇	3.45 ^{be} ₁₇	3.48 ^{abe} ₁₇	3.68 ^{abcd} ₁₇	3.43 ₁₂₇	78.3
クローン牛	2.90 ₁₂₃₄₅₆	3.40 [*] ₁₂₃₄₅₆	2.85 ^{cde} ₁₂₃₄₅₆	3.00 ^{cde} ₁₂₃₄₅₆	3.22 ^{ab} ₁₂₄₆	3.24 ^{ab} ₁₂₃₄₆	3.37 ^{ab} ₁₂₃₄₆	3.15 ₁₂₃₄₅₆	76.8

	Below the provisional regulation values			undetectable		
	0 %	10- 90%	100%	0 %	10- 90%	100%
Do you think there is a risk of radiation	4.0	3.5	3.0	3.8	3.6	3.2
Total exposure does not exceed 1 mSv even if you continue to eat 200 g of beef daily for 1 year with 500 Bq cesium detected	0.10	0.16	0.20	0.10	0.17	0.17
Food businesses should do their best to eliminate food health hazards	4.64	4.47	4.42	4.53	4.44	4.49
I try to buy something produced as far from Fukushima as possible	4.19	3.60	2.82	3.79	3.81	3.19
Even if I take a small amount of radioactive substances, the damage is small, so I do not worry	2.54	3.15	3.70	2.92	3.01	3.40

4. 'GALAPAGOSIFICATION' AND GLOBALIZATION

- High quality \neq good sales
- Excessively large fruits \Rightarrow expensive \Rightarrow young people will not buy \Rightarrow market shrinks
- Globalization and 'Galapagosification'

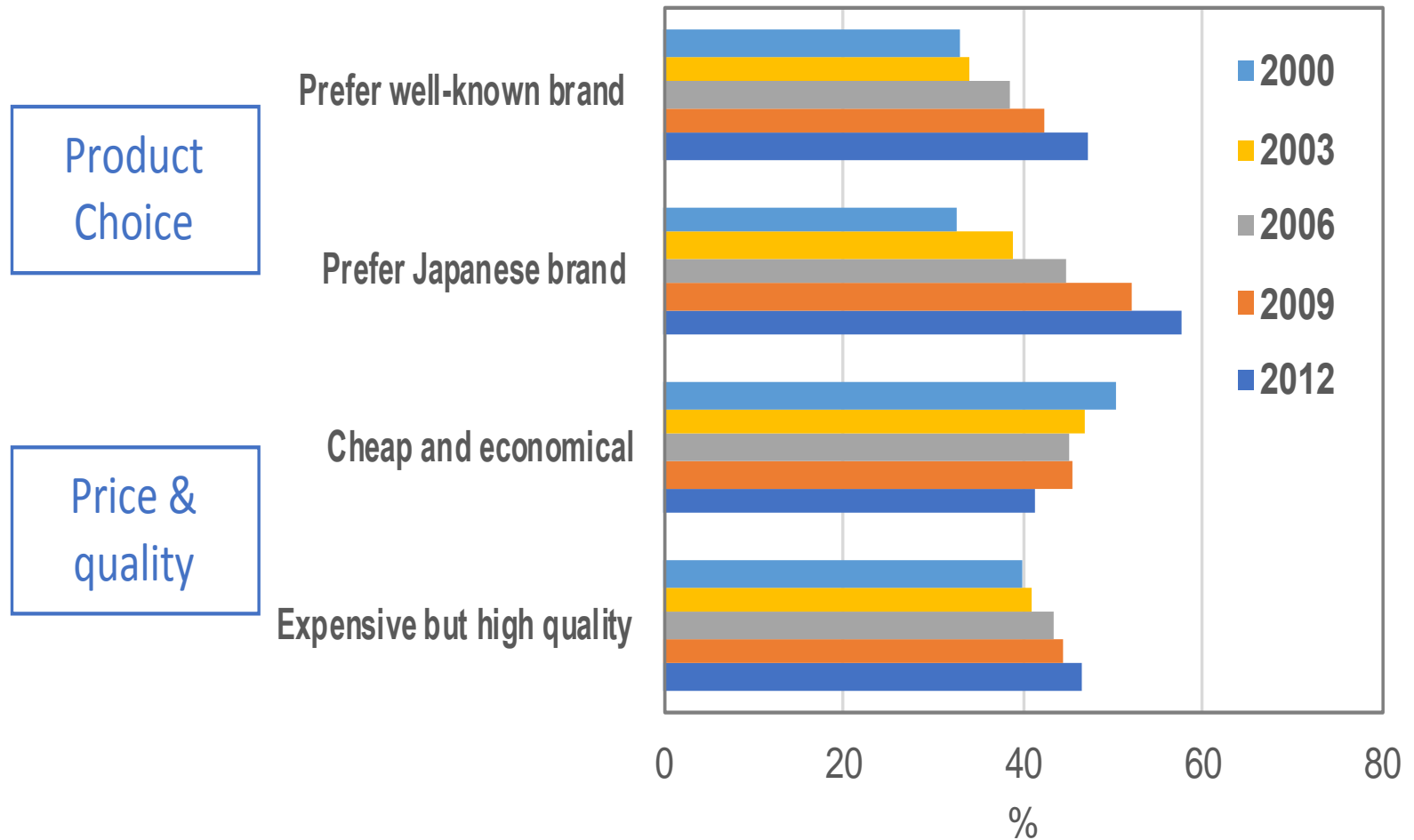


Low Cost

High
Quality

Affective
Design

The importance of high quality in Japanese market



Consumers preference to “high quality” products is becoming stronger in 2000’s



Japanese Cuisine

UNESCO » Culture » Intangible Heritage » Lists »

Washoku, traditional dietary cultures of the Japanese, notably for the celebration of New Year

Elements inscribed

> Browse the Lists

Dive into intangible
cultural heritage!

Nomination
file No. 00869

- Nomination form: [English](#)/[French](#)
- Consent of communities: [Japanese/English](#)
- ICH inventory: [English](#)

Decision

Inscription: [8.COM 8.17](#)

Periodic reporting

The report on the

Washoku, traditional dietary cultures of the Japanese, notably for the celebration of New Year

Japan

Inscribed in 2013 ([8.COM](#)) on the Representative List of the Intangible Cultural Heritage of Humanity

Washoku is a social practice based on a set of skills, knowledge, practice and traditions related to the production, processing, preparation and consumption of food. It is associated with an essential spirit of respect for nature that is closely related to the sustainable use of natural resources.

The basic knowledge and the social and cultural characteristics associated with Washoku are typically seen during New Year celebrations. The Japanese make various preparations to welcome the deities of the incoming year, pounding rice cakes and preparing special meals and beautifully decorated dishes using fresh ingredients, each of which has a symbolic meaning. These dishes are served on special tableware and shared by family members or collectively among communities. The practice favours the consumption of various natural, locally sourced ingredients such as rice, fish, vegetables and edible wild plants. The basic knowledge and skills related to Washoku, such as the proper seasoning of home cooking, are passed down in the home at shared mealtimes. Grassroots groups, schoolteachers and



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Tokyo Olympic



TOKYO 2020



TOKYO 2020

PARALYMPIC GAMES





The Japanese Society for Horticultural Science

- JSHS established in 1923 : 2,250 member
- IHC1995 in Kyoto
- The 100th anniversary of JSHS in 2023.
- AHC 2023 in Tokyo.
- 7th International Symposium on Persimmon in Nara, 11-15 October 2020
- IHC2026 in Kyoto