

Pearl Standard

2014 Revised Version

Japan Pearl Promotion Society

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1. Definition and Classification

According to the scientific definition, pearls are metabolites found in living mollusks. Pearls are chance formations: a by-product of a physiological response inside living mollusks against the accidental intrusion of microscopic irritants. They are composed of organic compounds, mainly that of nacre (mother of pearl) which is found in the inner shell of the mollusk. Nacre is a substance which consists of concentric layers of calcium carbonate crystals, typically in the form of “aragonite” and the scleroprotein, “conchiolin.” (Note 1).

1.1 Natural pearls

Natural pearls are those which are formed accidentally inside a mollusk without human intervention. They are classified into the following categories according to the mechanism by which they are produced and a set of characteristic features.

1.1.1 Whole round natural pearls

Pearls accidentally formed in a pearl sac of living mollusks without human intervention; the entire surface of which is completely covered in nacre. (Note 2)

1.1.2 Blister natural pearls

Pearls accidentally formed in a pearl sac of a living mollusk without human intervention. During the process of formation, the pearl perforates the mantle of the mollusk and becomes attached to the inner surface of the shell forming a blister as its surface becomes covered in nacre.

1.1.3 Natural blisters

Blisters formed accidentally on the inner surface of the shell of a mollusk without human intervention. Such blisters are formed either when a foreign body intrudes into the space between the mantle and the inner surface of the nacreous shell, or as a result of the natural action of a mollusk to repair its shell if it becomes damaged (bored) by parasites etc. The internal structure of such pearls may be hollow, or consist of nacreous compositions.

1.2 Cultured pearls

These are pearls formed in living mollusks through natural processes which are stimulated by man-made techniques. In this case, human intervention merely provides

an occasion for the formation of a pearl; however, the pearl resulting from such activity is classified as a natural product. Cultured pearls fall into the following categories according to the mechanism by which they are formed and a set of characteristic features.

1.2.1 Whole round cultured pearls

Pearls formed in a pearl sac of living mollusks through natural processes stimulated by man-made techniques; such interventions merely provide an opportunity for a pearl sac to form. Whole round cultured pearls are classified into the following categories according to whether or not bead nuclei are used. **(Note 2)**

1.2.2 (1) Bead nucleated cultured pearls

Pearls formed in a pearl sac of living mollusks by insertion of a nucleus (or two or more nuclei). Bead nuclei are produced by the physical processes of cutting and polishing freshwater mussel shells into spherical shapes, onto which a piece (or pieces) of living, epithelial tissue is attached. After insertion, the nucleus becomes entirely covered with the nacre secreted by the host mollusk. **(Note 3)**

1.2.2 (2) Non-bead nucleated cultured pearls

Pearls formed in a pearl sac of living mollusks by insertion of a piece (or pieces) of living epithelial tissue without a bead. Their structure is composed entirely of the nacre secreted by the host mollusks.

1.2.3 Blister cultured pearls

Pearls formed on the inner surface of mollusk shells without human intervention. They occur when whole, round cultured pearls in a pearl sac perforate the mantle of the mollusk and become attached to the inner surface of the shell, forming a blister as its surface becomes covered in nacre.

1.2.4 Hankei cultured pearls (Cultured blisters)

Pearls formed on the inner surface of the shell of living mollusks through the insertion of a half or three-quarter shaped nucleus (or nuclei). The entire surface of the nucleus becomes covered with nacre secreted by the host mollusks. Such pearls receive the title *hankei* irrespective of whether the nucleus remains after cultivation or is removed and replaced by a different substance. Pearls which are cut, or ground into half or three-quarter shapes from whole round natural or cultured pearls, however, are excluded from this category.

1.3 Imitation pearls

Artificial products formed not through the action of living mollusks, but by manufacturing processes to imitate the appearance, color and other aesthetic features of natural or cultured pearls. Irrespective of whether they incorporate materials which share the same physical or chemical properties of natural or cultured pearls, they must still be considered imitation pearls. They can be classified according to the method by which they are manufactured.

1.3.1 Artificially made imitation pearls

These are artificial products formed not in mollusks, but by processes of manufacture to imitate the appearance, color and other features of natural or cultured pearls, using materials such as shell, bead nucleus, glass, plastics, fish scale etc. Irrespective of whether they incorporate the same materials found in natural or cultured pearls, and even if their surface is covered with the same nacre found in natural or cultured pearls, they must still be considered imitation.

1.3.2 Shell modified imitation pearls

Pearls formed from the curved part of a snail shell shaped by processes of cutting, grinding, polishing and stuffing similar to those used in finishing *Hankei* cultured pearls. A part of the nacre in the shell imitates natural or cultured pearls by being cut, shaped and polished into the shape of a pearl.

2. Terminology and description

The terminology and description of natural, cultured and imitation pearls has been developed in accordance with the definitions and classifications laid out in Section 1. The following section provides a list of standard names and descriptions which should be used. In order to prevent obfuscation or misuse, these terms must not be abbreviated.

2.1 Natural pearls

Natural pearls are so called when they fulfill the criteria laid out in Section 1.1. Pearls which do not match the above definition of natural pearls, must not be identified or described by this term.

2.1.1 “Real”, “Precious”, “Orient” and “Oriental”

The description “real”, “precious”, “Orient” and “Oriental” must not be ascribed to anything other than natural pearls. Similarly, the term “true” should not be applied to cultured pearls as this usage may lead to misunderstanding that the intention is to achieve the status of Natural pearls. **(Note 4)**

2.1.2 “Seed”, “poppy” and “dust”

The terms “seed”, “poppy” and “dust” must only be applied to tiny natural pearls which are produced according to the definition described in 1.1. **(Note 5)**

2.1.3 Blister natural pearls

In accordance with the criteria set out in 1.1.2, the term “blister natural pearls” must not be applied to pearls other than those formed accidentally without human intervention on the surface of a mollusk shell.

2.1.4 Natural blisters

In accordance with the criteria set out in 1.1.3, the term “natural blisters” must not be applied to blisters other than those which have naturally formed as a protuberance on the inner surface of a mollusk shell without human intervention.

2.1.5 “Conch pearl”, “Horse conch pearls” and “Melo pearls”

The terms “Conch pearl”, “Horse conch pearl” and “Melo pearl” must not be applied to pearls other than those which fulfill the criteria for natural pearls, formed accidentally in Queen Conch, Horse Conch and Melo melo mollusks without human intervention.

2.2 Cultured pearls

Cultured pearls must correspond to the definition and characteristics as described in Section 1.2. Pearls which do not fulfil the criteria for definition as cultured pearls may not be termed or described as so.

2.2.1 “Cultured” and “cultivated”

Cultured pearls must be distinguished by the standard terms “cultured”, “cultivated” or the equivalent in non-English languages, such as “Zuchtperlen” (German). Such names must not be applied to pearls other than those that fulfil the criteria for cultured pearls.

2.2.2 “Keshi”

Saltwater cultured pearls without a bead nucleus which have formed as a by-product during the harvest of cultured pearls must be described by the Japanese word, “Keshi.” The term “cultured” must be added after “Keshi” to clearly identify them as by-products of the saltwater pearl culturing process. It is recommended also to identify such pearls by their mother oyster species, such as “Akoya Keshi cultured pearl”, “Shirocho (Silver/Gold lipped) Keshi cultured pearl” and “Kurocho (Black lipped) Keshi cultured pearl” for example. (**Note 6**)

2.2.3 Blister cultured pearls

Blister cultured pearls may be described as such if they fulfil the criteria for “Blister cultured pearls” established in Section 1.2.2. Pearls formed on the inner surface of mollusk shells through processes which are not a product of deliberate human culturing techniques may not be referred to by this name.

2.2.4 *Hankei* cultured pearls (cultured blisters)

Hankei cultured pearls (cultured blisters) are given this name when they fulfil the criteria for definition established in Section 1.2.3. Such pearls must be identified by their mother oyster species, such as “Akoya *Hankei* cultured pearl”, “Shirocho (Silver/Gold lipped) *Hankei* cultured pearl”, “Kurocho (Black lipped) *Hankei* cultured pearl”, “Mabé *Hankei* cultured pearl” and “Awabi (abalone) *Hankei* cultured pearl” for example. Pearls which have been cut or ground from whole round, natural and cultured pearls into half or three-quarter shapes must not be described as “*Hankei* cultured pearls. (**Note 7**)

2.3 Imitation pearls

Imitation pearls are termed and described as such when they correspond to the definition in Section 1.3. Imitation pearls may not use any of the same expressions or terms applied to natural or cultured pearls (Section 1.1 and 1.2). In the case of such pearls, it is a mandatory requirement to apply the terms, “imitation”, “simulated”, “artificial” or “man-made” before or after to clarify their status as imitation pearls.

2.3.1 Artificially made imitation pearls

Artificially made imitation pearls which correspond to the definition in 1.3.1 must clearly be identified as such by use of the term “imitation.”

2.3.2 Shell modified imitation pearls

Shell modified imitation pearls as described in 1.3.2 must clearly be identified as such by using the term “imitation.”

2.3.3 “Semi-cultured”, “half-cultured”, “part cultured” and “premature”

Descriptions which use any terms applied to cultured pearls, such as “semi-cultured”, “half-cultured”, “part cultured” and “premature” must not be used for imitation pearls, which are manufactured by covering the surface of a bead nucleus or other materials with artificial coatings (plastics, lacquer etc.). Such pearls must clearly be termed and described as “imitation pearls”.

3. Terminology according to species and origin

3.1 Description according to species

Natural and cultured pearls are identified by mother oyster species. Their provenance may be clarified by a certificate stating their place of origin, or by using appropriate scientific techniques to establish their identity.

3.1.1 Seawater natural and cultured pearls

Seawater natural and cultured pearls are described by their Japanese mother oysters name (written in Japanese Katakana characters). In the commercial sector, mother oyster names are abbreviated as follows:

Akoyagai→Akoya, Shirochogai→Shirocho, Kurochogai→Kurocho (Note 8)

The following is a representative list of standard names used for both natural and cultured seawater pearls. For cultured pearls, however, the word “cultured” is often omitted, except in the case of “Keshi cultured pearls.”

Seawater natural pearls

- Conch natural pearl
- Horse conch natural pearl
- Melo natural pearl
- Abalone natural pearl
- Akoya natural pearl
- Shirocho (Silver/Gold lipped) natural pearl
- Kurocho (Black lipped) natural pearl
- Mabé natural pearl

Seawater cultured pearls

- Akoya pearl (or Akoya cultured pearl)
- Akoya *Hankei* pearl (or Akoya *Hankei* cultured pearl)
- Akoya Keshi cultured pearl
- Shirocho pearl (or Shirocho cultured pearl)
- Shirocho *Hankei* pearl (or Shirocho *Hankei* cultured pearl)
- Shirocho Keshi cultured pearl
- Kurocho pearl (or Kurocho cultured pearl)
- Kurocho *Hankei* pearl (Kurocho *Hankei* cultured pearl)
- Kurocho Keshi cultured pearl
- Mabé pearl (Mabé cultured pearl)

Mabé *Hankei* pearl (Mabé *Hankei* cultured pearl)
Awabi pearl (Awabi cultured pearl)
Awabi *Hankei* pearl (Awabi *Hankei* cultured pearl)

3.1.2 Freshwater natural and cultured pearls

Freshwater natural and cultured pearls are not referred to by species of mother mussels for the following reasons:

- 1) There are too many mussel species capable of producing natural and cultured pearls making it difficult to remember and usefully differentiate them.
- 2) Mussels are widely referred to by common regional names, making it difficult to identify their species.
- 3) In pearl culturing, pieces of mantle tissue may be sourced from mussel species different from that into which it is transplanted, making the determination of species ambiguous.
- 4) Hybrid species, such as the Ikehogai (*Hyriopsis schlegelii*) and Triangle mussel (*Hyriopsis cumingii*) are often used for culturing freshwater pearls.

3.2 .Description according to place of origin

In terming and describing both seawater and freshwater natural and cultured pearls, it is not obligatory to specify place of origin. However, places of origin are often attributed to pearls to distinguish them from regions where the same species is used. Examples include: Persian Gulf natural pearl, Japanese Akoya cultured pearl, Tahitian Black lipped cultured pearl, American freshwater natural pearl, and Peruvian Western winged natural pearl.

4. Cultured pearl quality standards

When handling cultured pearls as commercial products, their commodity value and quality standard must be specified. These specifications are applied to both loose (undrilled, half-drilled, drilled-through, three-quarter, and *Hankei*) and stranded cultured pearls (threaded and/or finished strands with clasps) produced by all species of mother oyster.

4.1 Commodity standards

The commodity standard of cultured pearls is determined by the size, weight, length of a strand (if applicable), and quantity in which they are produced.

4.1.1 Size

The standard measure for a pearl's size is denoted in millimeters (mm).

The size of Akoya cultured pearl can be quickly sorted by sieves with holes that differ by half millimeter intervals. During sorting, pearls are sifted and those that remain are identified as the maximum size, and those a half millimeter larger (Example: 7.5mm X 8.0mm).

In the case of Silver lipped and Black lipped cultured pearls, the process to determine their size varies according to whether they are stranded, loose, or loose pearls as a lot.

Stranded: the diameter of the stringing hole is measured with the strand in a vertical direction, enabling the minimum and maximum size range of pearls to be determined by 0.1mm intervals (Example: 10.3mm X 12.7mm).

Loose pearl: both maximum and minimum sizes are determined by 0.1mm intervals (Example: 15.4mm X 15,8mm).

Loose pearls as a lot: pearls are sifted with sieves which differ by 1mm intervals and the size of pearls that remain in the sieve, and those that are 1mm larger are identified (Example: 12mm X 13mm).

4.1.2 Weight

The weight of a pearl is measured by units of Momme (1 Momme = 3.75g) for both stranded and loose pearls.

4.1.3 Length of a strand

The length of a strand is measured by units of inch, or centimeter. In the case of Silver lipped and Black lipped strands, length is measured up to one decimal place.

4.1.4 Quantity

The quantity of stranded pearls is determined by the total number of strands. Loose pearls are counted according to whether they are grouped in pieces, pairs or sets.

4.2 *Quality standards*

The quality of cultured pearls varies and also differs according to whether they are bead nucleated, non-bead nucleated, or *Hankei* cultured pearls. All cultured pearls should adhere to the following quality standards. **(Note 9)**

4.2.1 Bead nucleated cultured pearls

1. Pearls should possess a good luster, which has not been affected by build-up of prismatic layers and/or organic substances.
2. Pearls should possess a sufficient enough nacre thickness, ensuring that nuclei are not visible through the nacre.
3. Blemishes should not be severe enough to damage the structure and overall integrity of the pearl.
4. There should be no cracking in the nucleus or nacre.
5. Tinting, dyeing and coloring processes should be applied appropriately according to methods that preserve overall quality.
6. Treatments should not be excessive or affect the overall quality of the pearl.
7. Any staining should be minimized: ensure suitable clean work surface for example.
8. There should be no breaking or peeling of the nacre.

4.2.2 Non-nucleated cultured pearls

1. Pearls should possess a good luster which has not been affected by build-up of prismatic layers and/or organic substances.
2. Nacre should be uniformly thick, without evidence of hollow cavities inside the pearl.
3. Blemishes should not be severe enough to damage the structure and overall integrity of the pearl.
4. There should be no cracking in the nacre
5. Tinting, dyeing and coloring processes should be applied appropriately according to methods that preserve overall quality.
6. Treatments should not be excessive or affect the overall quality of the pearl.
7. Any staining should be minimized: ensure suitable clean work surface, for example.
8. There should be no breaking or peeling of the nacre.

4.2.3 *Hankei* cultured pearls

1. Pearls should possess a good luster, which has not been affected by build-up of prismatic layers and/or organic substances.
2. Nacre should be uniformly thick, with a smooth wrinkle-free surface.
3. Blemishes should not be severe enough to damage the structure and overall integrity of the pearl.
4. Treatments should not be excessive or affect the overall quality of the pearl with no evidence of uneven dyeing or color variations.
5. There should be no visible damages, such as lid removal, or cracks and breakages in the nacre.

5. Pearl treatments

Pearl treatments are classified as any physical and/or chemical action used on cultured pearls to change their appearance or quality in a way that differs from their original characteristics. Color changes, for instance, are a good example. All treatments should be disclosed to merchants and buyers. **(Note 10, 11)**

5.1 Treatments (Note 12)

1. Thermal processing

Removal of unfavorable colors and/or improvement of luster by heating.

2. Mae-shori

Preliminary treatment to provide effective stain removal for Akoya cultured pearls. Pearls are soaked in water or organic solvents at room or warm temperatures.

(Note 13)

3. Bleaching

Removal of organic matter, stains (stain removal) or pigments (whitening) found in natural and cultured pearls to alter and stabilize their color.

4. Tinting

Slight color alterations of Akoya cultured pearls made by adding reddish dyes.

(Note 14)

5. Dyeing

Color changes to the pearl to produce a different color by using natural or synthetic dyes.

6. Coloration

Color changes made not by dyes but by use of chemical reagents. **(Note 15)**

7. Irradiation

Color changes made by irradiating a pearl with gamma rays. **(Note 15, 16)**

6. Care of pearls

(Note 17)

6.1 Routine care

1. Natural and cultured pearls should always be handled with care.
2. When natural and cultured pearls are worn, cosmetics should always be applied before, not after dressing.
3. Natural and cultured pearls should not be worn when undertaking heavy, manual work.
4. After wear, natural and cultured pearls should be cleaned with a soft cloth.
5. When not worn for extended periods, natural and cultured pearls should be regularly maintained by wiping with a soft cloth.
6. When storing natural and cultured pearls, they should be kept separate from other jewelry items to avoid scratches caused by contact with hard metals or objects.

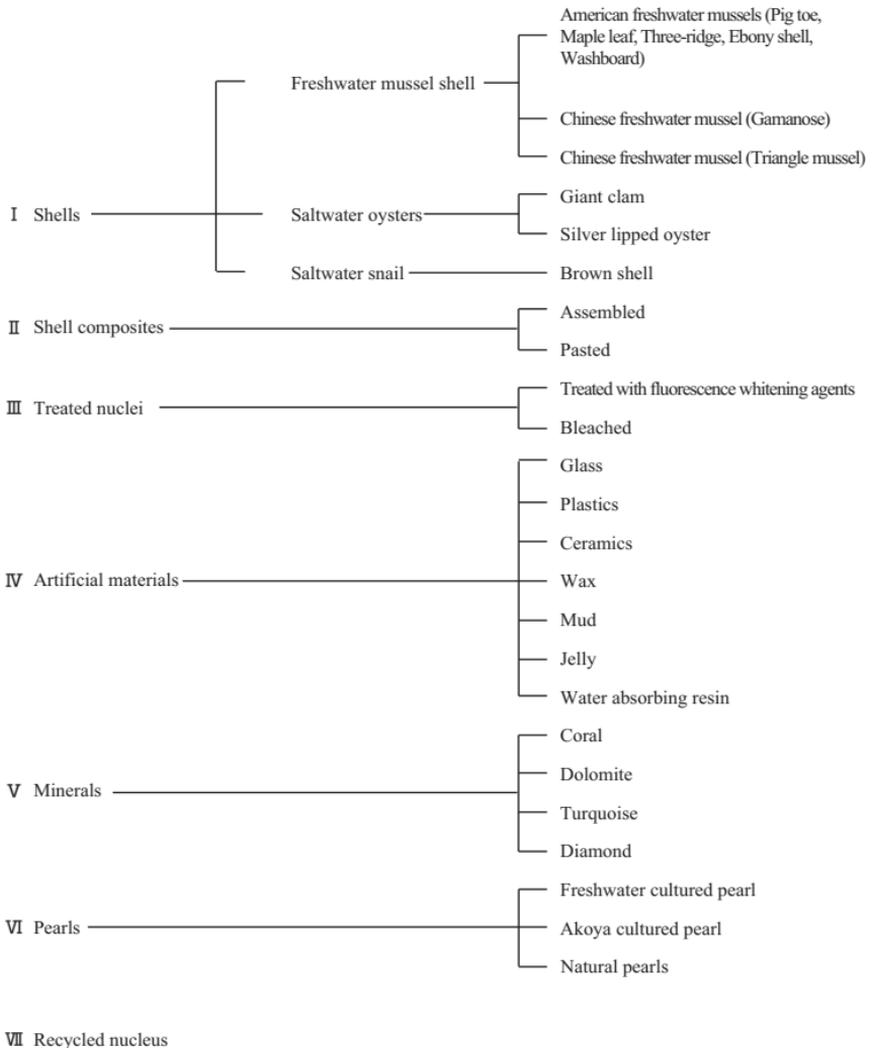
6.2 Special care

In addition to routine maintenance, the following special attention should be given to natural and cultured pearls to preserve their original appearance.

1. Natural and cultured pearls should not be exposed to strong natural, artificial or display lights for extended periods as this will lead to fading of the color over time.
2. Natural and cultured pearls should be kept away from acids, and other organic solvents.
3. Natural and cultured pearls should never be subject to ultrasonic cleaning.

7. References

Various kinds of bead nuclei



Notes

1. In Europe and America, there is still a persistent opinion that “pearls” refer only to natural pearls. On the other hand, in pearl culturing countries it is commonly viewed that the term “pearl” should not only be applied to natural pearls, since the word itself encompasses a broad field, under which cultured pearls ought to be included. As a result there is a big difference between Europe and America, and pearl culturing countries. In Japan, for example, after the invention of culturing techniques, cultured pearls were incontrovertibly considered “pearls.” Therefore, the term “pearl” without “cultured” is generally used by associations, companies, and so forth, so as to clearly distinguish it in merchandise descriptions. However, in order to avoid controversy abroad, it is desirable to indicate that these are “cultured pearls” when exported to foreign countries. It must also be pointed out that although metabolites formed in Queen Conch (*Strombus gigas*), Horse conch (*Pleurolepta gigantea*), and Melo (*Melo melo*) mollusk, etc. do not possess nacre, they are classified as an exception to be recognized as pearls.

2. The meaning of “whole round” as used here denotes not a roundness in shape, but implies that the whole surface of the pearl is covered with nacre.

3. In Japan, the material used for a nucleus is restricted only to freshwater mussel shells, whereas many countries and gemological laboratories outside of Japan, permit the use of all nuclei so long as the nacre is formed on its surface inside a pearl sac. At present, however, there are no global standards applied to nuclei, with various types, such as bleached nuclei, nuclei treated with fluorescence whitening agents, nuclei made of Giant clams, and glued nuclei, etc. appearing on the market. (see Reference).

4. Use of the term “natural” with “pearl” indicates only true natural pearls, therefore the word “natural” should not be applied to cultured pearls. However, where pearls have non-treated natural colors, the term “natural” may be used to describe the color, such as “natural color golden pearl” for example.

5. Since tiny pearls without a nucleus were all originally called “Keshi”, “seed”, “poppy” and “dust”, the CIBJO (World Jewellery Confederation) has distinguished the terms “seed”, “poppy” and “dust” for natural pearls, and the term “Keshi” for cultured pearls.

6. In the past, Keshi was a Japanese word indicating a very small natural pearl from an Akoya oyster. Since the invention of cultured pearls, however, many Keshi pearls were obtained as a by-product of pearl culturing, and subsequently used as jewelry items. At one time, Keshi were cultured by inserting only a piece of mantle tissue into the body of an Akoya oyster. It is unclear however as to whether Keshi are formed naturally, or arise as a result of a process where a piece of mantle tissue separates from the nucleus to form a small pearl without a nucleus. In any case, Keshi, whether they be natural or cultured, have the same structure as natural pearls, so both natural and cultured Keshi used to be handled together as one category of merchandise. In later times, the larger sized Silver and Black lipped cultured pearls without nuclei which were produced as a by-product of pearl culturing, were also called Keshi. CIBJO has changed the definition of Keshi from “a Japanese trade name meaning small seawater pearls without a nucleus formed as a by-product of pearl cultivation” to “a trade term that designates a non-beaded cultured pearl formed accidentally or intentionally by human intervention in marine pearl oysters.” The term “cultured” is needed to identify Keshi as by-products of pearl culturing: - “Akoya Keshi cultured pearls” and “Silver lipped Keshi cultured pearl!” for example should be the correct terms used. As Keshi refers only to pearls without a nucleus which are collected during the cultured pearl harvest, if the nucleus is removed by other methods from a nucleated cultured pearl, the resulting pearl without a nucleus cannot be called Keshi.

7. Although *Hankei* cultured pearls are sometimes also called “Han-en cultured pearls” or “*Hankei* (radius) cultured pearls” the unified term “*Hankei*” is used since pearls cultured by this method are not always hemi-spherical. Among *Hankei* cultured pearls, the Mabé variety is so famous that in some countries *Hankei* cultured pearls, even if they originate from different pearl oyster species, are sometimes referred to as “Mabé.” In most cases, the original nucleus of a *Hankei* cultured pearl is removed after harvesting and the hollow is filled in with other materials, such as plastics. A lid, usually made of pearl oyster shell nacre, is put over the plastic material. Therefore, *Hankei* cultured pearls are called “composite” or “assembled” pearls.

8. “Shirocho” and “Kurocho” are sometimes written in Chinese characters. “Shirocho” pearls are often called “South Sea pearls,” and “Kurocho” pearls are often described as “Tahitian pearl” or “Tahitian cultured pearl.”

9. Quality standards are based on the rules for pearl export inspection established by the Japan Government Pearl Inspection Office. No further grading factors have yet been outlined.

10. The process and treatment of pearls are defined as follows.

Process: To complete pearls into finished products by sorting, drilling, polishing, necklace making etc.

Treatment: To enhance or alter pearl characteristics, especially the color and luster, by physical and/or chemical methods.

11. The Board of Directors of the Japan Pearl Promotion Society agreed guidelines for the disclosure of treatments in 1994, as follows:

Disclosures for pearls

○ Enhancement

Enhancement is a method to improve the latent beauty that pearls naturally possess. If pearls do not possess a latent beauty, enhancements will have no real effect on the pearl color or appearance. Even though pearls are enhanced under the same conditions, different results are obtained for each individual pearl. Enhancement techniques thus far only include tinting. Tinted pearls are: bleached pearls, pearls slightly dyed (colored).

○ Treatment

Treatment is a method to alter the color and appearance of pearls artificially by chemical and/or physical methods, irrespective of the original properties that the pearls possess.

- Treated black pearls (Black A type): chemical color changes of Akoya and Kurocho pearls (by osmic acid and silver treatment)
- Irradiated black pearls (Black B type): Color changed from black to grey(blue) by irradiation
- Dyed blue pearls (Black C type): treated with blue dyestuff
- Combined black pearls (Black D type): treated by B and C types
- Dyed golden pearls: treated with yellow dyestuff

According to these guidelines, “tinting” is classified as an enhancement, and thus, in the first edition there was no stipulated requirement to disclose this. However, as it was later pointed out that the difference between enhancement and treatment is ambiguous, there has since been a requirement for all individual treatments, including tinting, to be disclosed.

12. The Japan Pearl Promotion Society has identified the following as treatments: heat thermal processing, *Mae-shori*, bleaching, tinting, dyeing, coloring, and irradiation. PS treatment, coating with resin, and application of fluorescence whitening agents are not considered by the Japan Pearl Promotion Society to be treatments.

13. Organic solvents should not contain any chemicals such as bleaching agents.

14. Treatment on Akoya cultured pearl classed as *Mae-shori*, include bleaching treatments, and treatments without tinting, called “*Mu-choshoku*” (non-tinting).

15. During the time in which pearl export inspections were carried out by the Japanese Government, silver salt treated black pearls and irradiated blue-black pearls were written in short hand as, STB (Scientifically Treated Black).

16. Gamma-ray irradiation is widely used for sterilizing wrapping materials, treating injection and surgical instruments, and for the prevention of pests in potatoes and onions. Since the radio activity that remains after treatment is minimal, it does not need to be a cause for concern. In regards to the export of irradiated cultured pearls, the Japan Pearl Exporters’ Association testifies to the safety of these products and, by way of precaution, tests such pearls by measuring any potentially leftover radioactivity with Geiger counter if requested by the exporter.

17. The care of pearls is based on the assumption that pearls have not already deteriorated through age. As the pearl is a bio-mineral made from living mollusks, degradation by aging is unavoidable.

