
Pink
Baroque
Cream
Natural
Natural blue
Natural pink
Natural baroque

local CREATORS' Market

Tiny Lights of the Sea

Kobe Pearls, Hyogo

Look closely through the translucent sheen of any Akoya pearl and you'll see a rainbow of colors—a joint gift from the growers, the oysters, and the sea itself.

Opposite page: Akoya pearls are sorted and processed in Kobe, and then strung before shipping. Those ranked highest are light pink and perfectly round. Non spherical baroque pearls have become popular in recent years for their one-off uniqueness.

Above and opposite page top:
With its convoluted sawtooth shoreline, Tsushima is ideally suited to pearl cultivation.

Right and opposite page, from left:
Prior to cultivation, young oysters grow in mesh bags suspended from these rafts.

The waters of Aso Bay are rich in nutrients that flow from the surrounding hills.

Freshly harvested Akoya pearls show a great variety of shapes and colors.

When cultivation is successful, what began as an implanted core can yield a perfectly spherical pearl—a luminous product of collaboration by people, oysters, and sea.

Harvesting continues in a small hut on the shore. Workers collect the pearls as well as the adductor muscle, which can be eaten. The shells, too, are sorted for use in crafts.

Skilled hands—and some mystery, too

Any tale of pearls and their beauty must start with the sea. Akoya pearls are grown off the island of Tsushima in Nagasaki prefecture, some 120 kilometers from Kyushu. The biodiverse coastline here is ideal for their cultivation. Tsushima ranks along with Uwajima in Shikoku and Ago Bay in Mie as one of the top three pearl-farming regions in Japan.

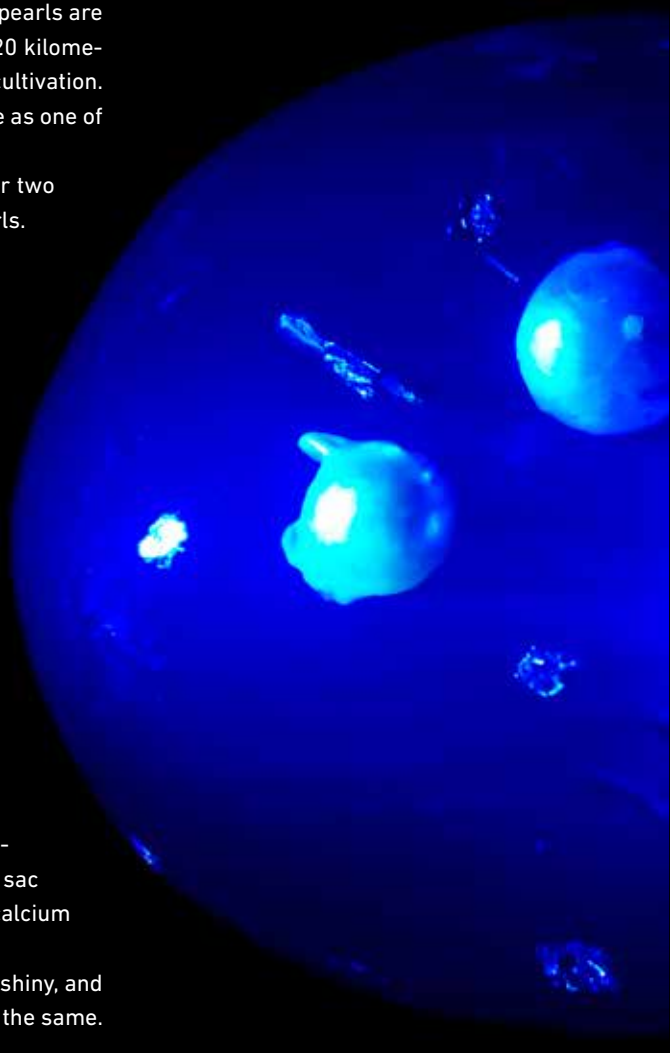
Each year at the end of November, oysters cultivated a year or two earlier are hauled up onto the shore by workers at Kitamura Pearls. With an early-morning start, as many as 50,000 of the shellfish are harvested each day.

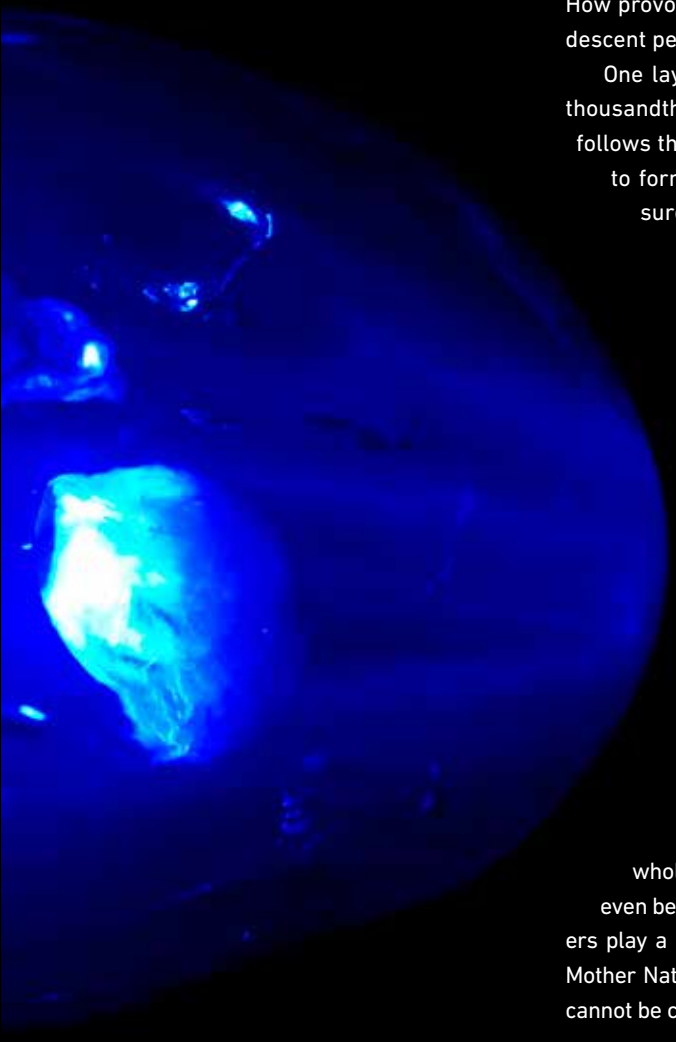
Pearl culture begins with the artificial fertilization of oyster larvae, or spats. After two to three years of growth, the shellfish fry are ready for nucleation—the most critical part of the culturing process.

The nucleus, or what will become the core of the pearl, is a rounded shell fragment about 6 mm in diameter, from an Eastern Asiatic freshwater clam grown in the United States, in Mississippi. With surgical precision, a trained technician uses a special tool to insert the nucleus into the oyster along with a mantle graft. Thus cultivated, the oyster is placed with others in a mesh bag and hung from a raft moored in the ocean. From April to January, they feed off plankton. Proper nutrition for the oyster crop affects the pearl harvest greatly, and oceanic conditions are monitored carefully.

Meanwhile, what is happening inside the shell? First, the grafted mantle divides and wraps itself around the nucleus, creating a sac into which layer upon layer of crystalline nacre, formed mostly of calcium carbonate, is secreted by the oyster to enwrap the core.

The lustrous inside of the shell—mother-of-pearl—is smooth, shiny, and multihued, just like the pearl. Indeed, these materials are one and the same.





Pearl farmers can't know what is transpiring within a nucleated oyster (shown here in a conceptual rendering); they can only trust that it is secreting layer upon layer of nacre to wrap the implanted core. The oyster, in turn, depends on the ocean for its sustenance. Each cultivated pearl evokes the sea's great bounty, time's passage, and the brilliance of life.

How provocative, even mystical, it is to consider that inside and out, the iridescent pearl and the shell that protects it are the very same!

One layer of nacre is 0.2 to 0.5 microns thick. (A single micron is one thousandth of a millimeter.) As the nucleus is six millimeters in diameter, it follows that anywhere from 1,000 to 2,500 layers of nacre are needed just to form a 6.5-millimeter pearl. Such a complex crystalline matrix ensures that each pearl is unique, with its own depth of color and shine.

Not every oyster will produce a pearl. Occasionally the core is spit out into the sea, and some oysters expire before their work is done. Barnacles and sea squirts can attach themselves to the shells, effectively starving the host. Kitamura Pearls regularly checks its growing beds for these parasites, which are removed by hand. The longer an oyster is left to grow, the larger its pearl becomes, but as an aging oyster nears death it secretes a substance that turns the pearl a dull matte white. The timing of the harvest is critical.

In the winter months nacre levels drop, but the thinner layer results in a delicate surface that gives a pearl its special radiance. In the last week or so before harvest, water temperatures are measured, samples from each lot are tested, and decisions are made on the best timing for the haul. Despite these efforts, some 45 to 55 percent of the oysters will have died, their pearls gone lusterless. Colors and shapes vary among the rest of the crop, and not all are spherical.

With so many factors affecting production, it seems a wonder that whole ropes of delicate pink pearls, considered the most precious, can even be possible. While the seasoned skills and exacting standards of growers play a huge role in creating these gems, the real benefactor is of course Mother Nature—and the delicate dance between sea and shell that ultimately cannot be controlled.

The work of pearl stringing. Each set of two adjacent rows will become the left and right sides of a single strand; here the pearls for each side are being matched in size. By long-standing tradition, this work is done next to a north-facing window, where the soft light aids the task of accurately judging color.

A thickness gauge is used to measure pearl size. Those 9 mm or larger are rare and expensive.

Post-harvest finishing in Kobe

The pearl as harvested.

The yellowing has been removed and the shine enhanced.

Blemishes have been removed.

The pearl has been polished and is ready to be strung.

There is a road in Kobe nicknamed Pearl Street, where some 200 companies process, sort, and string the pearls brought in from Japan's three major areas of production. The ropes are batched and sold in lots, then sent out into the world from Kobe Port.

All processing of Akoya pearls is done in Kobe. Yellowing is removed to improve the natural shine, any blemishes are treated, and a final polish is given. Years of training and practice turn each tiny orb into a thing of beauty.

Finally, the pearls are ranked by eye. They are sorted in front of a north-facing window, where the low-angled natural light reveals any scratches as well as shape and color irregularities. Artisans with a practiced eye recognize flaws as slight as a tenth of a millimeter.

A pearl's value is determined after the many steps of post-harvest processing are completed. In the natural world, of course, there is no rank to be assigned to layers of nacre enveloping a kernel of shell. Through repeated sorting and polishing treatments, the pearls' inherent luster and beauty are enhanced—fulfillment of work that began in the ocean several years previously.

While the softly lustrous pink and perfect spherical form of the finest Akoya pearls are a standard that will never change, there is great beauty in the white, blue, gold, and black colors, as well as in the non-spherical baroque specimens. Whether pink or blue, black or cream, each individual orb is a point of light in a tale that whispers quietly of the sea's diverse riches. Listen closely, and another story is sure to begin.