

PRESENTS

JAPANESE OYSTER

Crassostrea gigas

This is an exotic species that was introduced in Mexico in the 1970s and has been an aquaculture staple since 1980. The Japanese oyster is farmed in various regions of the world due to its rapid growth and great tolerance to environmental variations. In Mexico, laboratories rear juveniles that are later transferred to larger production units. Oyster farms produce the third highest volume of seafood in the country (five species total), positioning this industry in fourth place in terms of economic value.

TAXONOMY

Kingdom: Animalia
Phylum: Mollusca
Class: Bivalvia
Order: Ostreoida
Family: Ostreidae
Genus: *Crassostrea*
Species: *C. gigas*
(Thunberg, 1793)

Distribution: This is an introduced species; Mexico's Northern Pacific, Gulf of California, Sonora, Baja California, Baja California Sur, and Sinaloa.

Diet: Filter feeders that feed mainly on microalgae and particulate organic matter.

Reproduction: They are protandric hermaphrodites and reproduce once a year. They typically mature first as males and their sexual development is influenced by external factors such as luminosity, salinity, temperature, and food availability.

THREATS

Susceptible to bacterial and viral diseases.

Harmful algal blooms.

Theft of farming equipment and structures.

REPRODUCTION

Fertilization is external when males and females release sperm and eggs into the water column in a synchronized manner.

50-200 million average number of eggs produced by a female in a single spawning event.

DID YOU KNOW?

38 years has the Cooperativa Unica de Mujeres del Mar been producing oysters in Morúa Estuary in Sonora.

22 years has the Cooperativa Punta Roja been producing Japanese oysters in Morúa Estuary.

21 members are included in both cooperatives; 16 women and 5 men.

513 thousand oysters were produced by both cooperatives in 2020.

SPECIES OF OYSTERS FARMED IN MEXICO

- Japanese oyster** (*Crassostrea gigas*)
Farmed in Baja California Sur, Sonora, Sinaloa, and Nayarit.
- American oyster** (*Crassostrea virginica*)
Mainly in Tamaulipas, Veracruz and Tabasco.
- Cortez oyster** (*Crassostrea corteziensis*)
Native species of the Gulf of California.
- Rock oyster** (*Crassostrea iridescens*)
Baja California Sur.
- Mangrove cupped oyster** (*Crassostrea rhizophorae*)
Collected in coastal areas in the Gulf of Mexico.



47.9 thousand tons of oysters were produced in Mexico in 2016.

JAPANESE OYSTER AQUACULTURE

There are several methodologies for farming Japanese oysters that vary depending on the food source, environmental conditions, and how the product will be sold, whether they are in their shell or just the meat.

Average lifespan: 18 months to reach commercial size.

Characteristics:
Taste: The sweetness and greasy undertones in its taste vary with salinity water temperature and diet.
Texture: Meaty.

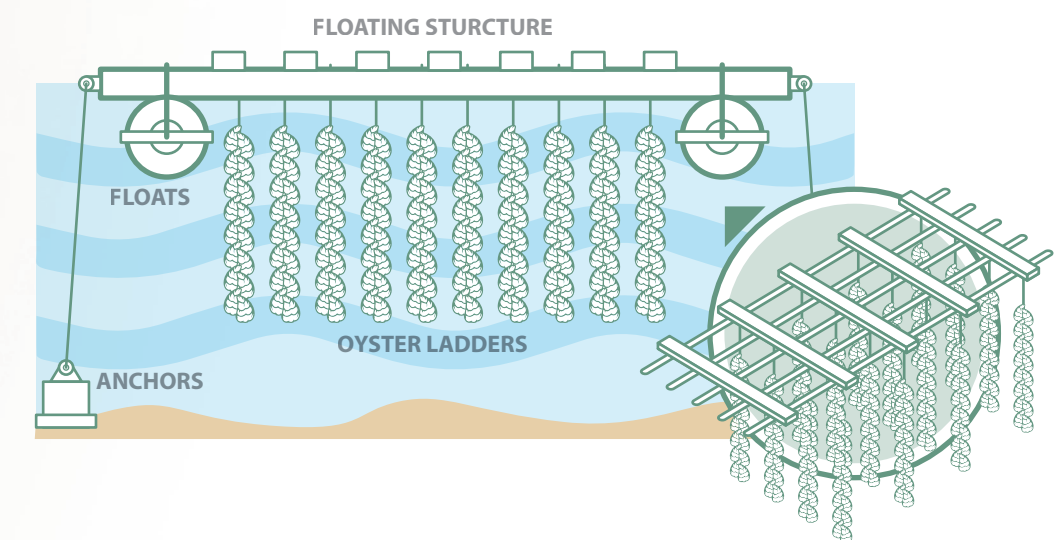
Product presentation: fresh, frozen, whole, frozen half shell, canned, smoked, fresh frozen, and vacuum packed.

Characteristics of the farming area: Estuarine areas with a wide tidal range; from intertidal to depths of 40 m with hard substrates.

AQUACULTURE STRUCTURES

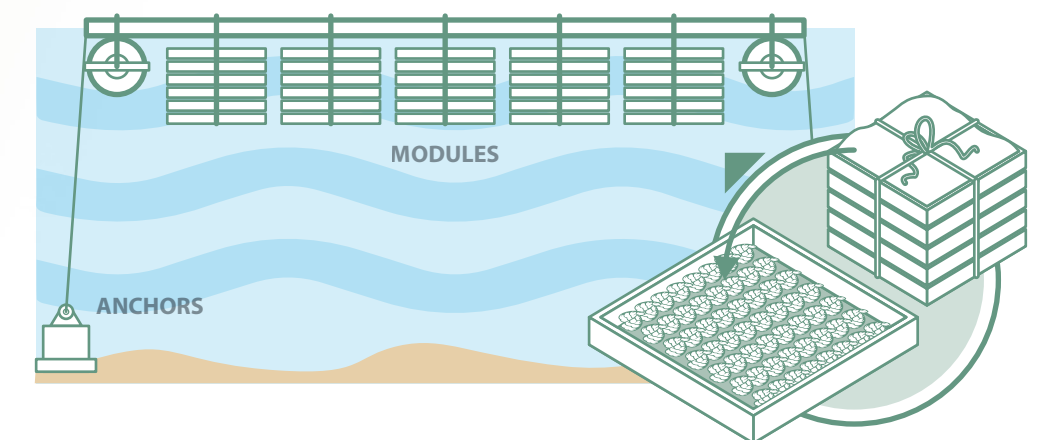
RAFTS AND GROWING RACKS

Floating structures on which a wooden grating or stakes are installed. Oyster ladders are arranged in rows of up to 10 units fixed to the sea floor with ropes tied to anchors or concrete ballasts.



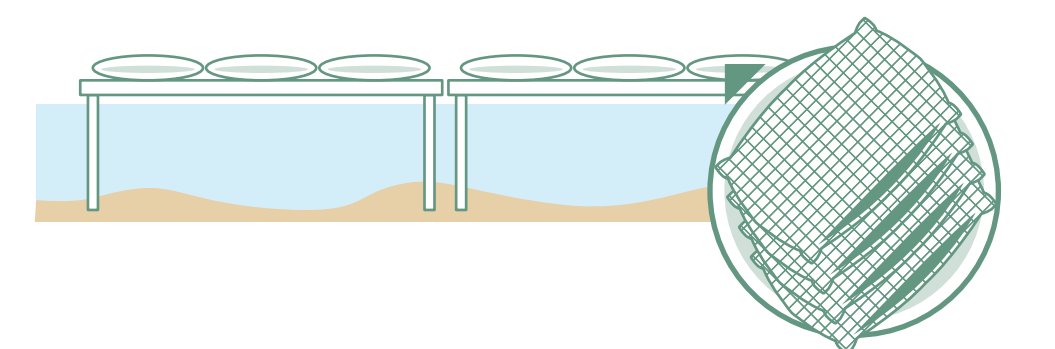
SUSPENDED OYSTER BOXES

Also known as baskets or trays. This system is very versatile, it can be used in sites with depths from 1.5 meters to 30 meters; the buoyancy of the system can be provided by the farming modules themselves or by extra floats.



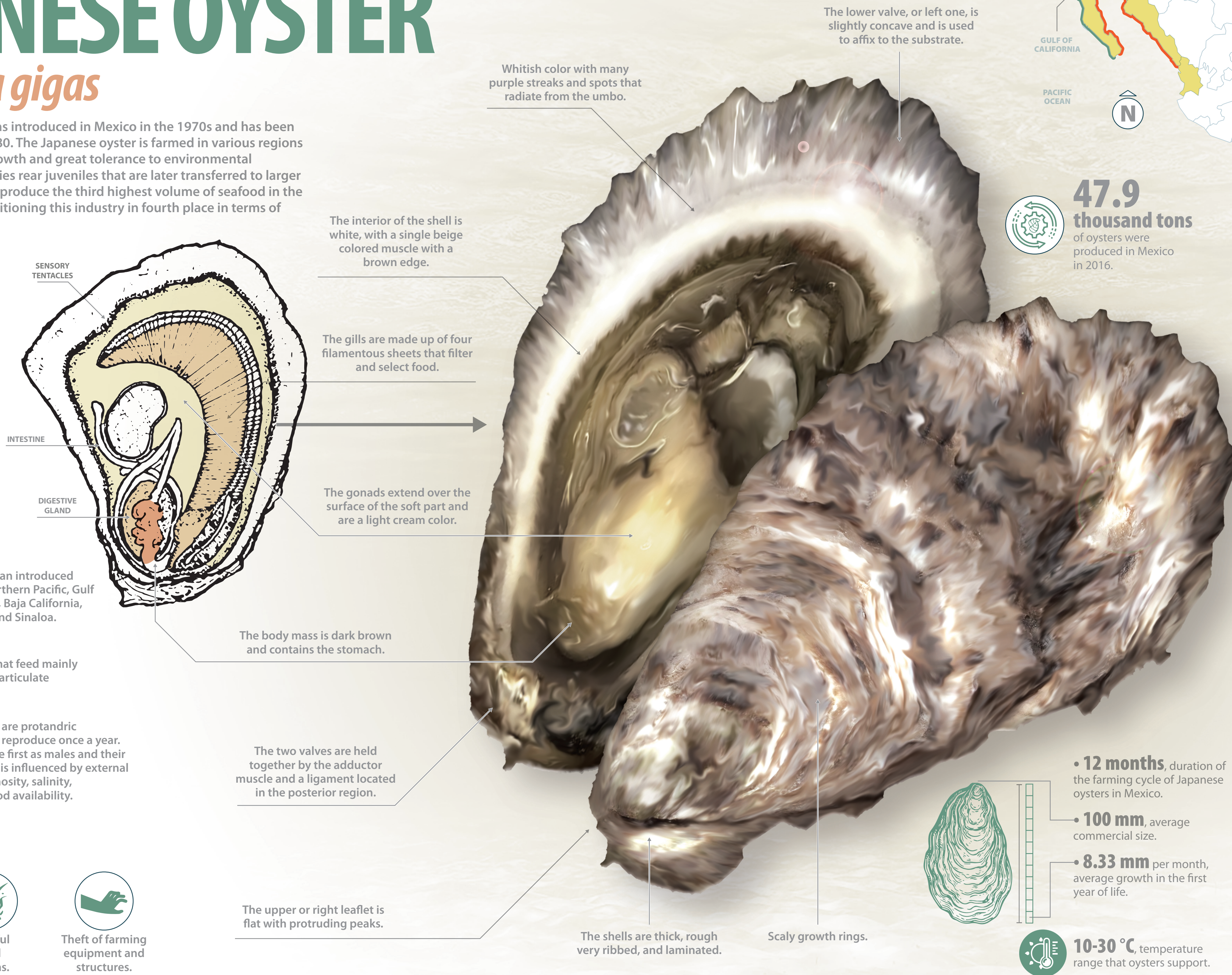
SACKS ON SHELVES

This system is widely used in Europe for this species and has been adapted to regional conditions of intertidal zones with a large tidal range in Mexico.



ANATOMY

Males and females do not have visible external differences. Like most of mollusk species, their body shape is irregular and is protected by a shell composed of two long and uneven valves.



12 months, duration of the farming cycle of Japanese oysters in Mexico.
100 mm, average commercial size.
8.33 mm per month, average growth in the first year of life.
10-30 °C, temperature range that oysters support.

SOURCES:
Baja Shellfish Farms. (2019). Ostión Japonés. Disponible en <https://bajashellfishfarms.com.mx/productos/ostion-japones>
Chávez Villalba, Jorge. (2014). Cultivo de ostión *Crassostrea gigas*: Análisis de 40 años de actividades en México. Hidrobiológica, 24(3), 175-196.
CONAPESCA. (2016). Ostión, la perla de la corona del sector pesquero y acuícola nacional. Comunicado de Prensa. 22 de junio del 2016. Disponible en: <https://www.gob.mx/conapescas/articulos/ostion-la-perla-de-la-corona-del-sector-pesquero-y-acuícola-nacional?i=5>
FAO (2005-2021). Programa de información de especies acuáticas. *Crassostrea gigas*. Texto de Heiko, M.M. Inc. Departamento de Pesca y Acuicultura de la FAO (en línea). Roma.
Instituto Nacional de Pesca. (2012). Acuicultura Ostión japonés. Disponible en <https://www.gob.mx/napesca/acuicultura-y-programas/acuicultura-ostion-japones>
BIOS. (2011). Cultivo Comercial de Ostión Japonés *Crassostrea gigas* en el Estero El Cardón, Municipio de Mulegi, Baja California Sur. 141 pp.
CONAPESCA. Determinación de la talla de semilla de bivalvos para acuicultura. Anexo 4. Disponible en: https://www.gob.mx/cms/uploads/attachment_data/file/130137/ANEX04.pdf

50% of production is consumed in restaurants and beaches.
50% of production is sold in restaurants and hotels in Puerto Peñasco.