

Aquaculture Innovations and History

Aquaculture · Practice Test · 25 Questions

1. Which ancient civilization is credited with the earliest written record of aquaculture, specifically the 'Fish Culture Classic' by Fan Li?

- A) Ancient Egypt
- B) Ancient China
- C) Ancient Rome
- D) Ancient Mesopotamia

2. In 1853, what significant technological breakthrough in trout artificial fertilization was documented by Joseph Remy and Antoine Gehin in France?

- A) Recirculating Aquaculture Systems
- B) Artificial propagation of salmonids
- C) Offshore cage netting
- D) Automated fish feeders

3. Who is credited with the first successful artificial fertilization of Atlantic salmon eggs in 1763, laying the foundation for modern hatcheries?

- A) Stephen Ludwig Jacobi
- B) Spencer Fullerton Baird
- C) John G. North
- D) Frank Buckland

4. The first commercial successful breeding of which marine species in Japan during the 1930s revolutionized the global molluscan aquaculture industry?

- A) Pacific Oyster
- B) Pearl Oyster
- C) Scallop
- D) Abalone

5. What type of aquaculture system was first pioneered at the Sunndalsøra Research Station in Norway in the 1970s?

- A) Integrated Multi-Trophic Aquaculture
- B) Modern industrial salmon farming
- C) Floating closed-containment systems
- D) Vertical land-based shrimp farming

6. Which US state was the site of the first successful commercial catfish farming operation in the early 1960s, utilizing converted rice paddies?

- A) Mississippi
- B) Florida
- C) Louisiana
- D) Arkansas

7. The first successful mass culture of the brine shrimp Artemia, essential for larval nutrition, was perfected in what decade?

- A) 1930s
- B) 1950s
- C) 1970s
- D) 1990s

8. Which entity developed the first patent for a 'Recirculating Aquaculture System' (RAS) using biological filtration in the 1970s?

- A) The World Bank
- B) The Conservation Fund
- C) The Japanese Fisheries Agency
- D) The Norwegian Institute of Marine Research

9. The discovery of the hormonal induced breeding technique (hypophysation) for carp was first achieved in 1934 by researchers in which country?

- A) Brazil
- B) India
- C) Vietnam
- D) China

10. What is the name of the first genetically modified animal approved for human consumption, a fast-growing salmon variety approved by the FDA in 2015?

- A) AquAdvantage Salmon
- B) Super-Atlantic Salmon
- C) Gen-Trout
- D) Ocean-Plus Salmon

11. In the 1950s, what breakthrough in nutrition allowed for the expansion of trout farming by replacing expensive natural feeds?

- A) Algae-based pellets
- B) Dry compounded pelleted feeds
- C) In-situ plankton fertilization
- D) Synthetic nutrient injections

12. The development of the first successful 'net-pen' system for salmon was pioneered by the brothers Vik and Kjell in which year?

- A) 1958
- B) 1969
- C) 1974
- D) 1981

13. Which country led the first large-scale development of 'Integrated Multi-Trophic Aquaculture' (IMTA) in a commercial maritime setting?

- A) Canada
- B) Chile
- C) Japan
- D) Norway

14. The first successful large-scale commercial production of sea bass (*Dicentrarchus labrax*) occurred in which country during the late 1960s?

- A) Greece
- B) Italy
- C) France
- D) Spain

15. Which invention allowed for the first real-time monitoring of oxygen levels in aquaculture ponds, significantly reducing mass mortality events?

- A) Polarographic oxygen sensor
- B) Fluorescence-based dissolved oxygen meter
- C) Clark-type electrode
- D) Winkler titration kit

16. What was the first commercially significant species to be farmed using 'raceway' technology in the United States?

- A) Rainbow trout
- B) Striped bass
- C) Tilapia
- D) Channel catfish

17. The first reported use of synthetic 'pituitary extract' for spawning fish was documented by Bernardo Houssay in which year?

- A) 1910
- B) 1930
- C) 1950
- D) 1970

18. In the history of shellfish farming, when was the 'long-line' method for mussel cultivation first patented in Spain?

- A) 1940s
- B) 1950s
- C) 1960s
- D) 1970s

19. Which pioneering research center released the first comprehensive mapping of the Atlantic Salmon genome in 2016?

- A) University of Bergen
- B) University of Washington
- C) Genome Canada
- D) CSIRO Australia

20. The 'Ebeling' filter, an early innovation in water treatment for aquaculture, was introduced in the early 20th century to solve what problem?

- A) Ammonia toxicity
- B) High turbidity
- C) Temperature fluctuation
- D) Oxygen depletion

21. What is considered the first 'open ocean' aquaculture site, established in Hawaii in the late 1990s?

- A) Kona Blue
- B) Oceanic Institute
- C) Pacific Marine
- D) Deep Water Farms

22. The first commercial successful breeding of the 'giant freshwater prawn' (*Macrobrachium rosenbergii*) was achieved by Takuji Fujimura in the 1960s in:

- A) Thailand
- B) Hawaii
- C) Indonesia
- D) Malaysia

23. Which technology, first applied to aquaculture in the 1980s, uses DNA sequencing to monitor stock health and genetic diversity?

- A) Microsatellite markers
- B) CRISPR editing
- C) Mass spectrometry
- D) Isotope labeling

24. The 'Vaki' biomass counter, a revolutionary tool for estimating fish weight without handling, was first introduced in what year?

- A) 1986
- B) 1992
- C) 1998
- D) 2005

25. Which discovery in 1991 led to the commercial viability of farming the 'Pacific threadfin' (Moi)?

- A) Larval dietary requirements
- B) Disease-resistant vaccine
- C) Photoperiod control for spawning
- D) RAS water sterilization