Current status of trade in cultured shrimps

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Summary: Shrimp culture is an attractive sector of aquaculture business, in view of the high profits and quick turnover. The vast majority of cultured shrimp production occurs in Asian countries. The author details the levels of production, consumption and trade of cultured shrimps since 1991 in and between the major producing countries.

A decline in production has been registered in some countries in recent years, due to mass mortality caused by a number of diseases (particularly 'white spot' disease). Efforts to overcome these problems have met with only partial success.

KEYWORDS: Aquatic animals – Asia – Cultured shrimps – Trade.

PRODUCTION OF CULTURED SHRIMPS

Over the past decade, the large profits to be earned from shrimp culture, together with the rapid turnover of this industry, have made this one of the most successful growth areas of aquaculture. However, the occurrence of mass mortality in cultured shrimp in recent years has resulted in a decline of production in several main production areas.

The volume of world-wide cultured shrimp production between 1991 and 1994 is shown in Table I. The eastern hemisphere produces approximately 80% of the world total of farm-raised shrimps.

Thailand maintained its position as the largest producer of cultured shrimps in the world throughout this period. In 1994, production reached 225,000 metric tonnes, approximately 30% of the total world production of cultured shrimps.

Shrimp production in the People's Republic of China – formerly the leading producer in the world – has decreased very significantly since 1991, due to disease outbreaks causing mass mortality. Substantial losses were incurred in 1993, due to acute mass mortality possibly caused by the viral agent of 'white spot' disease (1, 6).

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This resulted in a decline of cultured shrimp production from 140,000 metric tonnes in 1992 to 30,000 metric tonnes in 1993 (1, 6). Although remedial action has been taken by the Chinese government, this has met with little success: annual production rose to only 35,000 metric tonnes in 1994.

Indonesia and Ecuador are important shrimp-producing areas, but significant losses also occurred among cultured shrimps in these two areas, due to outbreaks of white spot disease, vibriosis and Taura syndrome (5).

In India and Vietnam, shrimp culture is a relatively new activity, and production in these countries steadily increased between 1991 and 1994. In 1995, however, production of cultured shrimps in India significantly decreased due to an outbreak of white spot disease. Annual shrimp production in India is estimated at less than 30,000 metric tonnes, and more than 60% of cultured ponds lay empty in 1995.

The shrimp culture industry in Taipei China (8) and the Philippines has also suffered from disease outbreaks. Although a major effort has been made in the development of treatments for shrimp diseases, production of cultured shrimps in these countries has shown only a very slow increase.

Of the various species of cultured shrimps, the giant tiger prawn (*Penaeus monodon*) accounts for approximately 60% of production, while western white shrimp (*P. vannamei*) accounts for a further 15%. The other important cultured species include *P. chinensis, P. japonicus, P. penicillatus, P. merguiensis* and *P. indicus* (together totalling 24% of world production [6]).
MARKET FOR CULTURED SHRIMPS

Japan is the biggest market for farm-raised shrimps, accounting for 40% of world consumption. The majority of cultured shrimps consumed in Japan are produced domestically or imported from other countries in Asia, especially South-East Asia. *P. japonicus* has always been the most preferred and expensive species on the Japanese market. Due to a disease outbreak, however, the production of cultured *P. japonicus* from Taipei China, the People’s Republic of China and Japan has recently been unable to satisfy demand (2, 3, 4, 7).

The United States of America (USA) constitutes the second largest market (30%) for farm-raised shrimps. Cultured western white shrimps dominate the market in the USA, accounting for 75% of the production of white shrimps in the western hemisphere, while 10-20% of farm-raised shrimps consumed in the USA are derived from the eastern hemisphere (especially South-East Asia).

Europe is the third largest market for cultured shrimps. Mediterranean countries (e.g. Spain, France and Italy) consume a significant quantity of farm-raised shrimps. Recently, however, Northern European consumers have developed a taste for Asian cultured shrimps.

TRADE IN SHRIMP BROODSTOCK AND LARVAE

*P. monodon* is the most important cultured species in the eastern hemisphere. Distribution of this species occurs naturally from the Indian Ocean to the South China Sea. However, most broodstock in these areas are caught between Phuket (Thailand), Langkawi (Malaysia) and Aceh (Indonesia). Broodstock caught in these areas are currently distributed throughout the *P. monodon* culture areas. In contrast, trade in *P. monodon* larvae is very rare in Asian countries due to transportation difficulties.

*P. japonicus* is distributed throughout the Indian Ocean, the South China Sea and the Sea of Japan. The major fishing area for this species is the South China Sea, especially near the coast of Taipei China. Broodstock for larval production caught in this area are then transported to Taipei China, the People’s Republic of China and Japan.

Transportation of larvae or juvenile *P. japonicus* from Taipei China or the People’s Republic of China to Japan was frequent prior to 1993. Due to an outbreak of white spot disease and the occurrence of mass mortality, however, this activity was prohibited or strictly controlled in 1994 and 1995. As the number of shrimp culture areas grows, there may be a significant increase in international trade in live shrimps in the future. Production of ‘specific pathogen-free’ larvae will help reduce the risk of losses due to trade.

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SITUATION ACTUELLE DU COMMERCE DES CREVETTES D'ÉLEVAGE. – S.N. Chen.


Ces dernières années, la production a reculé dans certains pays en raison de la mortalité en masse due à plusieurs maladies (notamment la maladie des taches blanches). Malheureusement, les mesures mises en œuvre pour remédier à ces problèmes n'ont encore donné que peu de résultats satisfaisants.

MOTS-CLÉS: Animaux aquatiques – Asie – Crevettes d'élevage – Echanges.

*SITUACIÓN ACTUAL DEL COMERCIO DE CAMARONES DE VIVERO. – S.N. Chen.

Resumen: El cultivo de camarones constituye un subsector atractivo en el campo de la acuicultura, habida cuenta de su elevada rentabilidad y de la rápida renovación de las poblaciones. La producción de camarones de vivero se localiza fundamentalmente en países asiáticos. El autor expone en detalle los niveles de producción, de consumo y de movimiento comercial de los camarones de vivero desde 1991.

En los últimos años se ha registrado en ciertos países una caída de la producción, a causa de la mortalidad masiva provocada por diversas enfermedades (en especial la enfermedad de las manchas blancas). Los esfuerzos realizados por superar estos problemas se han visto sólo parcialmente coronados por el éxito.

PALABRAS CLAVE: Animales acuáticos – Asia – Camarones de vivero – Comercio.
REFERENCES


