AQUACULTURE I

14. WEEK

RECENT ADVANCES IN AQUACULTURE

WEEKLY TOPICS

WEEK	TOPICS
1. WEEK	WHAT IS AQUACULTURE?
2. WEEK	IMPORTANCE OF AQUACULTURE
3. WEEK	AQUACULTURE: ANIMAL PROTEIN
4. WEEK	HISTORY OF AQUACULTURE
5. WEEK	ORGANISATION OF AQUACULTURE
6. WEEK	CHARACTERISTICS OF AQUACULTURE
7. WEEK	POND CULTURE
8. WEEK	IN STATIC FRESHWATER PONDS
9. WEEK	IN BRACKISH-WATER PONDS
10. WEEK	RUNNING WATER CULTURE
11. WEEK	CULTURE IN RE-CIRCULATORY SYSTEMS (RAS)
12. WEEK	AQUACULTURE IN RACEWAYS, CAGES, AND ENCLOSURES
13. WEEK	MONOCULTURE AND POLYCULTURE
14. WEEK	RECENT ADVANCES IN AQUACULTURE

- Subasinghe et. al. (2003), Aquaculture faces many challenges over the next decade, notably, combating diseases and epizootics, broodstock improvement and domestication, development of appropriate feeds and feeding mechanisms, hatchery and grow-out technology, as well as water-quality management.
- These all present considerable scope for biotechnological and other technology interventions. Aquaculture biotechnology can be described as the scientific application of biological concepts that enhance the productivity and economic viability of its various industrial sectors (Liao and Chao, 1997).

Liao, I.C. and N.H. Chao. 1997. Developments in aquaculture biotechnology in Taiwan. J. Mar. Biotechnol. 5: 16–23.

Subasinghe, R. P., Curry, D., McGladdery, S. E., & Bartley, D. (2003). Recent technological innovations in aquaculture. FAO Fisheries Circular, 886, 85.

- Recent Advances in Aquaculture
- The success of the previous volumes in this series attests to the buoyancy of the current expansion of the aquaculture industry, and the importance which it is beginning to achieve in the rural economies of many developed countries as well as those less favoured. In the last volume, emphasis was given to certain specialist areas which had become more important as the industry had acquired a more sophisti cated scientific base. This emphasis is continued, but in each of the chapters of the present volume there are, we believe, many data of general significance to the farmer and the project manager as well as to the professional aquaculture scientist. David Alderman, of the English Ministry of Agriculture, Fisheries and Food Laboratories, at Weymouth, Dorset, provides a very detailed and deeply researched review of therapy of fish diseases. This subject is import ant in environmental and human health terms as well as in relation to the fish themselves, and is an area where all farmers, and their professional veterinary advisers, require considerable knowledge if they are to ensure the reputation of the industry and its produce.

Muir, J. F., & Roberts, R. J. (Eds.). (2012). Recent advances in aquaculture (Vol. 3). Springer Science & Business Media.

https://www.springer.com/gp/book/9789401197458

- Current Status and Development Trends of Aquaculture in the Asian Region
- The past 20 years have seen Asian2 aquaculture evolve from a traditional practice to a science-based activity and grow into a significant food production sector, contributing more to national economies and providing better livelihoods for rural and farming families. Aquaculture used to be regarded as an infant in comparison with crop and livestock husbandry and capture fisheries. It has since matured into a better-organized economic sector characterized by more state patronage but also a stronger private-sector participation, in most parts of Asia. Asia dominates the world in aquaculture production and the sector is extremely diversified in species, technologies and farming systems employed. Many governments place priority on aquaculture development, however there are various threats and constraints to its growth. Asia's contribution to total world production in 1997, following the International Standard Statistical Classification for Aquatic Animals And Plants (ISSCAAP) grouping, was: finfish -89 percent; crustaceans (marine) - 80 percent; freshwater crustaceans - 94 percent; molluscs - 88 percent; aquatic plants - 98 percent, and miscellaneous animals and products - 99 percent. The region provides 91 percent of global aquaculture production. In 1997, the combined aquaculture production was 32.63 million mt valued at US$41.95 billion, an increase of 144 percent and 117 percent in weight and value, respectively compared to 1988. Aquaculture production in the region has been growing at a rate nearly five times faster than landings from capture fisheries, and its share of total fisheries landings in the region increased from 32 percent to 50 percent between 1988 and 1997.

http://www.fao.org/docrep/003/ab412e/ab412e16.htm

- Current Status and Development Trends of Aquaculture in the Asian Region
- The two major influences on Asian aquaculture development policy are the recent broadening from technical and economic objectives towards social objectives for aquaculture development that include poverty alleviation, livelihood development and food security, and the links made between sustainable aquaculture practices and trade. An increasing recognition of the importance of small-scale, socially oriented aquaculture is happening, and recent initiatives have been made at the regional level to focus governments and regional organizations on this issue. The role of the fish farmer is changing from merely raising fish to being a part of a chain for the production and delivery of safe, high quality products to the consumer. The link made to production practices and their impact on the environment, on one hand, and trade, on the other hand, has been reflected in recent regional and national programmes.

http://www.fao.org/docrep/003/ab412e/ab412e16.htm

- The Global Aquaculture Summit 2017

- FAO and GLOBEFISH will participate in the annual Global Aquaculture Summit organized by the China Aquatic Products Processing and Marketing Alliance (CAPPMA) and the U.S. Soybean Export Council (USSEC) to discuss the challenges and opportunities for sustainable aquaculture production and consumption.
- Aquaculture is probably the fastest growing food-producing sector. It now accounts for over 50 percent of the world's fish that is used for food.

http://www.fao.org/in-action/globefish/news-events/details-news/en/c/897130/

- Fish is a vital source of animal proteins and healthy long-chain omega-3 fats, while also supplying other nutrients such as iodine, vitamin D and calcium. With the world population expected to reach nine billion by 2050, the aquaculture sector will play a key role in ensuring food and nutrition security as the increased demand will challenge fish production over coming decades.

http://www.fao.org/in-action/globefish/news-events/details-news/en/c/897130/

References

- Regional Review On Status And Trends In Aquaculture Development In Europe – 2015, Fao Fisheries And Aquaculture Circular No. 1135/1 Fiaa/C1135/1 (En)
- The State Of World Fisheries And Aquaculture 2016, Fao. 2016
- Advances In Aquaculture Hatchery Technology 2013, Woodhead Publishing Series In Food Science, Technology And Nutrition: Number 242
- Aquaculture: An Introductory Text, 2005, Robert R. Stickney
- Aquaculture Farming Aquatic Animals And Plants,2012, John S. Lucas