Hong Ji

Title: Professor
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- **Education Background:**

  Ph.D.- in Nutritional Sciences (2001-2004)
  Graduate school of Biosphere Science, Hiroshima University, Japan
  (Research student 1999-2001 Laboratory of Aquaculture, Hiroshima University, Japan)
  M.S.- in Feed Sciences (1995-1998)
  College of Animal Science and Technology, Northwest A&F University, China
  B.S. –in Aquaculture (1985-1989)
  Department of Aquaculture, DaLian Fisheries University, China

- **Working Experiences:**

2011.1-present	Professor, College of animal science and technology, Northwest A&F University.
2006.10-present	Principal Investgator, Ankang Fisheries Experimantal and Demonstration Station, Northwest A &F University
2004.4-2010.12	Associate Professor， Professor, College of animal science and technology, Northwest A&F University;
1995.8-2004.3	Lecturer, college of animal science and technology， Northwest A&F University;
1992.9-1995.7	Teaching assistant, College of animal science and technology， Northwest A&F University;
1989.8-1992.7	Aquaculture technician, Wei Chengqu aquatic workstation in Xianyang city of Shaanxi Province;

- **Research Interests:**

  Building of green and healthy aquaculture mode. Aquatic animal nutrition and feed science.

- **Professional Activities:**

Chief expert of the fishery industry technology system in Shaanxi Province. Undertaken more than 20 projects at the national and provincial levels. Author of more than 200 publications, including more than 100 international papers, edited 1 technical book, and participated in the compilation of 1 national 13th Five-Year Plan textbook as deputy editor.

Aquaponic production system: a green pattern combining aquaculture and vegetable cultivation together

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Abstract: Aquaponics is a new integrated farming model that combines fish farming with hydroponic (soil-less plant cultivation) in a symbiotic system. Due to the production of green and healthy aquatic products and vegetables, as well as environmentally friendly and non-polluting aquaculture methods with lower carbon emissions, the aquaponics is rapidly developing worldwide. Aquaponic systems could be divided into three types based on different cultivation methods for vegetables: nutrient film technique, substrate cultivation, and deep-water culture. It is predicted that the global aquaponics market is expected to grow at a compound annual growth rate of 12.10% during the forecast period of 2023-2033. By 2033, the industry's valuation is expected to exceed 2.70732 billion US dollars. The advantages of aquaponics include: 1. water efficiency, 2. climate adaptability, 3. economic feasibility, 4. no chemical pesticides, 5. environmental benefits, etc. On the other hand, Aquaponics industry is also facing challenges, like being lack of standards to which aquaponic goods could be sold with ensured quality, safety, and verification of true aquaponic cultivation, and son on. However, as the demand for sustainable agriculture continues to increase, the prospects for the development of aquaponics are very promising. We ourself also found, by conducting two experiments, that the combination of a recirculating aquaponic system and hydroponic cultivation of vegetables can significantly reduce the levels of nutrients in the system, which is beneficial for maintaining aquaculture water quality, increasing vegetable production, and improving income of practitioners. And the addition of appropriate level of chelated iron is advantageous for the growth, health, and fatty acid composition of mirror carp, also the better growth and chlorophyll levels of lettuce.