



Assiut University



Aquatic Animal Medicine Unit



Faculty of Veterinary Medicine

Aquatic Animal Medicine Unit (AAMU)

Faculty of Veterinary Medicine - Assiut University

Purpose of establishing the unit: Diagnosis and treatment of aquatic animal diseases according to the international standards

Date of founding the unit: 12/31/2015 in University Council No. (660)

The management Council:

1. Prof. Dr. Madeha H. A. Darwish, Dean of the faculty (Head of the council)
2. Prof. Dr. Ahmad A. Elkamel (Director)
3. Prof. Dr. Mahmoud M. Mahmoud
4. Prof. Dr. Hatem M. Toughan
5. Dr. Ebtsam S. H. Abd Allah
6. Dr. Alamira M. Fouad
7. Mr. Mohamed A. Ahmed

Mission: The Aquatic Animal Medicine Unit, Assiut University, provides distinguished diagnostic, therapeutic, research and educational services for the stakeholders including the investors and researchers in the field of aquaculture and fishes all over Egypt.

Vision: The Aquatic Animal Medicine Unit, Assiut University seeks to be an ISO accredited unit and to provide its services for the stakeholders in Egypt and the Arab world according to the international standards.

Objectives:

1. Provide diagnosis and treatment services for the owners and workers in the field of fish farm, ornamental fish, and aquatic animals.
2. Provide services of identification and classification of pathogens of fish and other aquatic animals using the latest scientific approaches and molecular biology techniques.
3. Provide technical consultation to the public authorities and investors in the field of aquaculture and fish farming in Egypt.
4. Increase the awareness and promote the fish farming and aquaculture in Egypt
5. Help the university in carrying out its research mission, especially in the field of fish and aquatic animals.
6. Conduct world-class scientific research aimed at solving the actual field problems that directly affect fisheries and aquatic life

7. Strengthening scientific and research collaboration with other universities, research institutes, and civil bodies at the national, Arab and international levels.

Beneficiaries:

1. Aquaculture industry and fish owners
2. Egyptian and regional bodies dealing with aquaculture and fish diseases
3. Researchers in the field of aquaculture and fish medicine all over Egypt
4. Investors in ornamental fish and other aquatic pet animals.
5. Investors in the field of aquaculture and fish farming in Egypt
6. General Authority for Fish Resources Development
7. Egyptian universities
8. Regional universities

Infrastructure and Labs:

1. Bacteriology lab with satellite media preparation and sterilization lab
2. Virology Lab
3. Tissue culture lab
4. Mycology lab
5. Molecular biological laboratories including 3 integrated laboratories

Samples received by the unit:

1. All kinds of fish
2. All kinds of aquatic animals
3. Some wild animals such as turtles
4. Microbial and parasitic strains
5. Nucleic acids
6. Tissues
7. Water samples from fish farms and aquaculture facilities

Tests, analysis, and examinations carried out by the unit:

1. Clinical examination of fish and other aquatic organisms
2. Bacteriological examination of fish and other aquatic organisms, isolation of the bacteriological pathogens and their biochemical and molecular identification
3. Viral examination of fish and other aquatic organisms and isolation and identification of strains using tissue culture and molecular techniques.
4. Mycological examination of fish and other aquatic organisms and isolation and identification of pathogenic fungi by using molecular biology methods
5. Parasitological examination of fish and other aquatic organisms and identification of parasites by microscopic examination, morphological characteristics, and molecular approaches.
6. Studying gene expression patterns of fish and other aquatic organisms

7. Water analysis and the main parameters that affect its quality
8. Study of virulence factors and methods of causing disease of pathogens of fish and other aquatic organisms.
9. Finding new strategies and approaches to control diseases and epidemics affecting fish and other aquatic organisms.

Educational services provided by the unit:

1. Training courses in the field of fish farming and aquaculture
2. Training courses in the field of Molecular Biology
3. Educational seminars

Awards and achievements:

1. Best Research lab in Assiut University 2020/2021

Internationally published papers:

1. Fouad A, Soliman H, Abdallah E, Ibrahim S, El-Matbouli M, and Elkamel A. *In-vitro* inhibition of spring viremia of carp virus replication by RNA interference targeting the RNA-dependent RNA polymerase gene. *Journal of Virological Methods* (2019) 263 14-19
2. Walaa Emeish, Hams Elhasany, and Ahmad Elkamel. *Aeromonas* Infections in African Sharptooth Catfish. *Journal of Aquaculture Research and Development* (2018), 09 (09)
3. Abdallah ESH, Mahmoud MM, Abdel-Rahim IR. *Trichosporon jirovecii* infection of red swamp crayfish (*Procambarus clarkii*). *J Fish Dis.* 2018 Nov; 41(11):1719-1732

Thesis and dissertation done at the unit:

1. Expression profiles of immune-related genes of common carp during SVCV infection. Omaina Abd Elrasoul Sayed, Dept. of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Assiut University 2021, Master thesis.
2. Expression profiles of immunity genes in Nile tilapia infected with *Aeromonas hydrophila*. Hams Youssef Abd Elaliam Hassan, Dept. of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Assiut University 2021, Master thesis.
3. A study of canine parvovirus disease: genetic characterization and a novel approach of treatment. Rehab Kamel Sayed, Dept. of Animal Medicine, Faculty of Veterinary Medicine, Assiut University 2021, PhD Dissertation.
4. Repair of Experimentally induced Critical-sized Bone Defect Using Bone Substitutes in Rabbits. Ahmed Abdelrahim Ibrahim Sadek, Dept. of Animal Surgery, Faculty of Veterinary Medicine, Assiut University, 2021. PhD dissertation.

5. Control of Spring Viremia of Carp in Common Carp Using RNA Interference, Alamira Marzouk Fouad Mohamed. Dept. of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Assiut University 2020, PhD dissertation.
6. Bifidobacterium strains isolated from Breast-fed versus Formula- fed infants at Assuit University Children Hospital. Nawal Mohamed Said Abo-Bakr, Dept. of Microbiology and Immunology, Faculty of Medicine, Assiut University 2020, Master thesis.
7. Systemic Effects of Magnesium oxide nanoparticles in Nile tilapia. Mr. Hashem Gamal Saad Noaman, Dept. of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Assiut University 2019, Master thesis.
8. Antibacterial Effects of Magnesium Oxide Nanoparticles in Nile Tilapia. Salah Badran Sallam Mahmoud, Dept. of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Assiut University 2019, Master thesis.
9. Effects of Basil and Bio-Gen Compound on Immunity and Resistance of Nile Tilapia, *Oreochromis niloticus*. Hanan Saad Eldeen Mohamed Ahmed, Dept. of Aquatic Animal Medicine and Management, Faculty of Veterinary Medicine, Assiut University 2019, Master thesis.
10. Comparative Diagnosis of Trypanosomiasis in Camel with Special Reference to Molecular Techniques, Sherif Mahmoud Abd El-Fattah El-Gendy, Dept. of Animal Medicine, Faculty of Veterinary Medicine, Assiut University 2018, PhD Dissertation.