ADL

AQUATIC DIAGNOSTIC LABORATORIES

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ADL provides a wide range of testing services to support the fishing and aquaculture industries as well as academia. The center is credited for lifting the ban on shrimp exports from Pakistan to Gulf countries. ADL provides an unparalleled level of excellence in quality testing of seafood as compared to its competitors. Our state-of-the-art laboratory maintains optimum standards in seafood testing, saving you ample time to focus on your business. Lab Testing is an objective evaluation of seafood products against international testing protocols and standards. Moreover, lab testing determines whether products are safe and meet consumers' expectations. It is also a key performance indicator of product sourcing, processing and distribution. Seafood Safety is one of the largest challenges in international trade and consumer safety continues to be a growing concern. With the globalization of the seafood market, multiplicity of seafood products and consumption means, it has become increasingly complex for producers, processors, exporters and importers to update their practices and respect all standards and regulations regarding food safety, quality and traceability.

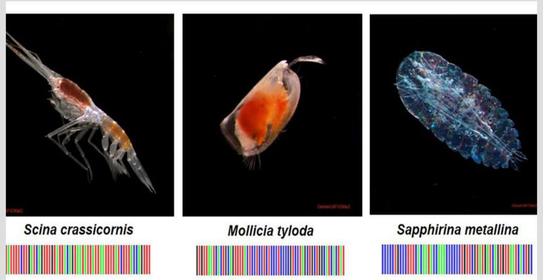
OUR SERVICES

-Commercial Testing
-Consultancy
-Certification (MSC, ASC, Halal Food, Health certificate)
-Business Biodiversity Offset Programme (BBoP)
-Rehabilitation Programme
-Commissioned Research (Industry/Academia)
-Improve (Fortified) & Increase Seafood / SPF Stock (Genetically Modified shrimp stock/Larvae)
-Climate Change

ADL COMPRISES OF FOUR UNITS

- MICROBIOLOGY UNIT
- MOLECULAR UNIT
- HISTOPATHOLOGY UNIT
- BIOCHEMISRTY UNIT

RESEARCH & SERVICES PORTFOLIO



DNA Barcoding of Marine Biodiversity

Pakistani seafood has a significant export potential, to support aquaculture, fisheries and associated aquatic animal industries a widespread diversity of commercially valued products are available. Pakistan should give serious attention to quality management in export of fisheries product into real economic resources. DNA based specie detection, disease diagnosis (DNA Bar coding) are useful to resolve many ambiguities in species identification and monitoring of commercialized seafood concerning seafood safety and provide highly specific detection methods of seafood up to OIE standard.

Mangroves Rehabilitation

Mangrove forest are the breeding ground of marine organisms and protect shorelines from damaging storm and hurricane winds, waves, and floods, to recover mangrove forest. ADL successfully accomplished HEC approved project " sustainable manage mangrove forest to combat desertification, halt and reverse land degradation, halt biodiversity loss"

Study of Harmful Algal Blooms

Harmful algal bloom are responsible for losses to natural recourses and coastal economies and cause shellfish poisoning by the consumptions of marine bio toxic. ADL provide services to identify seasonal variation and causes of harmful algal bloom.

Viral Disease of Penaeid Shrimp

Shrimp aqua culture has been dramatically affected (mass mortality) by many diseases mainly caused by viruses. Diseases caused by the result of a series of linked events involving the interaction between the host environment and the presence of pathogens. The need for rapid and sensitive diagnostic methods has led to the application of modern biotechnology to penaeid shrimp diseases. DNA-based detection methods for the most important viral pathogens (IHHNV, HPV, SMV, TSV, YHV, GAV/LOV, WSSV, MBV, and BP). ADL provide services in identification of all viral diseases in penaeid shrimp.

Mobilization of Marine Fauna Due to Urbanization

BBOP defines biodiversity offsets as measurable conservation outcomes of actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken.

Waste Water Pollution

Coastal waters receive a variety of pollutants, ranging from petroleum wastes to pesticides to excess sediments. Marine waters also receive wastes directly from offshore activities. Sewage brings high microbe concentrations causes human diseases by waterborne pathogens foodborne pathogens found in the tissues of fish and shellfish consumed as seafood. ADL offers analysis of environmental microbial pathogens.

Seafood Safety & Security According to International and Halal Standards

With the globalization of seafood, it has become gradually more important for producers, processors, exporters and importers to adapt all standards and regulations regarding food safety, quality and traceability. International seafood export standards are tough and rigorous and, not meeting to their requirement may lead to banning of seafood products. People generally want to know about the seafood they eat. For example, Is it safe? Is it healthy? Pakistan urgently needs improved sources of nutrition: as the alarming stats support this concern where currently 50 percent of women and children (under five years old) are malnourished, and 44% of children are stunted physically and cognitively (ILO, 2016). Greater fish consumption, particularly among the poor, could help. Fish is a good source of proteins, healthy fats, and essential nutrients, and is highly beneficial for child development and cognition. Evidence from Bangladesh shows that increased fish production can increase domestic fish consumption among the poor, via greater availability in local markets, lower prices, and increased incomes.

Pakistan Fisheries Revitalization

The underlying potential of Pakistan's fisheries and aquatic resources is not reflected in current production, growth, and value. A leading challenge is the serious over-exploitation of marine fisheries stocks due to overcapacity in fishing fleets, illegal fishing methods, and lack of surveillance and licensing. No certification body for Marine Stewardship Certification (MSC) at present exists in Pakistan. Also, Pakistani fish exporters receive relatively low prices because the majority of their product is unprocessed or targeted towards low-value market segments. High-value markets such as the EU, Japan, and the United States are the world's biggest markets for seafood, yet at present, they account for less than 3 percent of Pakistan's export earnings from fisheries. With improvements in quality, recognized through international certification, Pakistan's fisheries could capture a bigger percentage of these markets.

KEY RESEARCHERS

Dr. Safia Mushtaq

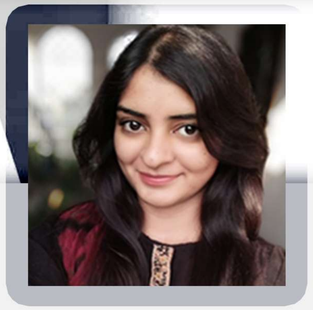
With more than 17 years of experience in established Marine Biology, Aquaculture, Fisheries, R&D organizations, FAO of United Nations. She holds Ph.D. in "Marine Biology". She have been invited by the academic panel of various universities to upgrade curricula as per international requirement. She has reviewed many research papers . She was selected as National Fisheries Expert by FAO and have been invited to play role in policy formulation. She recieved funding for establishing the Aquatic Diagnostic Lab at BU, for the first time in Pakistan. She received certification for ADL from Bureau of veritas for 9001-2015 while accreditation for ISO/IEC 17025 is in processes from Pakistan National Accreditation Council . ADL is in processes of upgradation with a title of "Center of Excellence in Marine Research. She is running ADL as per World Animal Health Organization Standards (OIE) .She has various publications in the area. She has received funding from Hilton Pharma, FDB, Marine Fisheries Department M/o MFD Pakistan, Fisherman Exporter Association , and from HEC; ISULL, SRGP, SIOP.

Dr. Saima Majeed

Dr. Saima is PhD in Marine Molecular Biology. She is serving as "Head of Molecular Unit" at ADL. She has accomplished a remarkable project to remove ban from shrimp export for the first time in Pakistan i.e. "Aquatic Animal Health by molecular identification of shrimp diseases". She also actively involved in mangrove plantation, conservation and creating awareness lectures to preserve mangroves of coastal area. She was actively involved in various molecular biology research projects with strong collaboration of CSL, KIBGE, NNRC of Karachi University. Currently she is working on specie identification of edible crabs through DNA barcoding. She has more than 10 years of professional experience in both private and public sectors. Her primary areas of research includes aquatic animal Genetics, Marine Ecology, diseases identification, Aqua culture and Marine Environment, safety standards, Risk assessment and OH&S management system ISO- 45001:2018, Environmental management system and environmental protection act ISO-14001-2015.

Ms. Zehra Fatima

Ms Zehra Fatima is M. Sc in Microbiology from University of Karachi. She is serving as Scientific Officer in Aquatic Diagnostic Laboratories of BU. She is working in Microbiology Unit to check the seafood borne pathogen as per international standards. She had worked at Agha Khan University Hospital in a clinical laboratory site where she examined patient routine specimen under the guidelines of College of American Pathologist, Joint Commission International and Clinical Laboratory Standard Institute. She also worked at Sahil Medical Centre in a Laboratory department to examine the samples by ELISA (Enzyme linked immunosorbent assay), agglutination and Chemiluminescence techniques (CLIA). She completed internship at PCSIR (Pakistan council of Scientific & industrial research laboratories complex) in a food microbiology section to check the hygiene level of food and water.



Ms. Ayesha Umer

Ms. Ayesha is an M. Phil Scholar and the emerging youngest scientist of Pakistan. She is a certified professional in Human care and use of Laboratory animals. In 2017 she was placed in Food and Marine Resources Research Centre, PCSIR labs complex Karachi as Research Associate. Her area of expertise include nutritional profiling, Advance Bioinformatics software tool Programming and operational handling of HPLC and GC. She has acquired competencies in cell culture techniques, Quality Assurance of Food commodities and products, Advance Analytical Techniques, Development of analytical methods , Lab quality control management system ISO - 17025, Research and development methodology, Halal sea food testing, Biochemical indices of decomposition in sea food products, Antibiotics residue in sea food products. Currently she is associated with Nutritional Profiling of Edible crabs with collaboration of FMRRC, PCSIR labs.

SHRIMP BAN

ADL is Proud to have Lifted the Ban Imposed by Saudi Arab on Shrimp Exports.

Saudi Arabia Bans Shrimp Imports from Pakistan

FOOD SAFETY & HANDLING · ECONOMICS · POST-HARVEST · HEALTH

by Sm Editor
20 Apr 2016 at 1:00 pm

SAUDI ARABIA - Following a report from the World Organisation for Animal Health (OIE) on the detection of white spot in farmed shrimp in Pakistan, the Saudi Food and Drug Authority (SFDA) has placed a ban on shrimp imports from the country.

"The SFDA has notified the inspection authorities for imported food to stop fresh, chilled or frozen shrimp consignments from Pakistan until stabilisation of health conditions," a letter of Saudi Embassy in Islamabad to Foreign Affairs Ministry says.

SAUDI ARABIA BANS SHRIMP IMPORTS FROM PAKISTAN

Reported by: CT Report April 15, 2016

RIYADH: Saudi Arabia has banned shrimp imports from Pakistan, a worrying development for the Marine Fisheries Department (MFD) as other countries may follow suit. Pakistan exported about 2,016 tonnes of seafood (valued at $7.494 million) to Saudi Arabia, including 189 tonnes of shrimp ($2.175m) in 2015.

The country's overall annual fish and fish preparations' exports stand at around 140,000 tonnes, fetching around $350m. The share of shrimp exports is around 12,000 to 14,000 tonnes a year.

The ban came in the wake of information circulated by the World Organisation for Animal Health (OIE) regarding emergence of white spot disease in Pakistani shrimp. However, the MFD suspects misunderstanding as Pakistan has yet to start shrimp farming, and entire catch of shrimp consists of open-sea operations. The MFD believes that the disease only occurs in cultured shrimp as the white spot virus does not infect wild shrimp.

DAWN

Saudi Arabia bans shrimp imports from Pakistan

Aamir Shafaat Khan | April 15, 2016

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