



# ANALYTICAL SERVICES

Food Safety Laboratories

Animal Sciences Division

NIAB (PAEC), FAISALABAD

**(ANTIBIOTICS & MYCOTOXINS ANALYSIS)**



Food safety and quality have become increasingly important world-wide in recent years, not only in terms of protecting the health of the consumer, but also to meet requirements for international trade. Threats such as microbial contaminations, heavy metals, radioactivity, residues from pesticides, aflatoxins, veterinary hormonal/drugs in food & their resulting health hazards have made the public quality conscious. It is of increasing concern for regulatory authorities of many developing countries including Pakistan that export foods to the major trading blocks of the developed world. To facilitate such trade and improve food quality nationally, it is necessary to develop awareness among stakeholders involved from 'farm to fork' directly or indirectly for the implementation of international standards for the production of quality-assured foods. Not only production, but also for testing of finished product fit for human consumption.



Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad, a research and development Centre functioning under the auspices of Pakistan Atomic Energy Commission (PAEC), has mandate to conduct research on applied problems in the field of agriculture and biology. Food Safety Laboratories of NIAB have been working on aflatoxins, pesticides and veterinary drug residues in food, feed and environment safety issues for the last 25 years employing advanced nuclear, immunochemical and chromatographic techniques. These laboratories are well-equipped with state-of-the-art instrumentation and validated protocols under different PAEC and IAEA funded National, Regional and Interregional Technical Cooperation and Research programs. The manpower in these laboratories is technically trained from world-renowned food safety laboratories of IAEA Seibersdorf Austria, AFBI Belfast (UK), BVK Turkey, NMISA South Africa, UNBS Uganda, AVA Singapore, BQCLP Thailand,

BVK Turkey, NMISA South Africa, UNBS Uganda, AVA Singapore, BQCLP Thailand, RIKILT Netherlands and BRIN Indonesia. As part of these laboratories, Veterinary Drug Residues (VDR) Laboratories at NIAB are the first ISO/IEC 17025:2005 accredited laboratories of Pakistan (PNAC Lab # 119) offered food analysis for different types of major antibiotic groups and hormone to public and private sectors. These Labs got transition on new version (2017) of ISO/IEC 17025 standard on 4<sup>th</sup> April, 2020 along with scope extension (mycotoxins analysis included). For continuation and scope extension of ISO/IEC 17025 standard, Food Safety Laboratories NIAB has been qualified total 19 Proficiency Testings from Progetto Trieste, Italy and FAPAS® UK.

By virtue of this baseline, Food Safety Labs are pleased to offer antibiotic and mycotoxins analysis in different food and feed matrices to avoid hazardous effects of these contaminants on human health. The detail of tests is given in table below:

### **Antibiotics and Mycotoxins analysis in Food /Feed**

**(100 g / 100 mL sample required for each test)**

Tests Offered	Food / Feed Matrices
Chloramphenicol	Meat, milk, honey, fish, shrimp, sheep/beef casings
Nitrofurans (AOZ, AMOZ, SEM, AHD)	Meat, milk, fish, shrimp, egg, chicken, honey and sheep/beef casings
Quinolone	Meat, egg and sheep/beef casings
Tetracycline	Tissue (liver, kidney, muscle) & honey
Gentamicin	Tissue (liver, kidney, muscle)
Nitroimidazoles	Tissue (fish, shrimp, chicken, casings) and eggs
Growth Hormone (BST)	Bovine plasma & serum
Beta-lactam	Milk & tissue (liver, kidney, muscle)
Total Aflatoxins (B & G), B1	Chicken, Cereals, spices, feed, peanut, milk, meat, vegetable oil
Aflatoxin M1	Milk, milk powder, yogurt, cheese, formula milk
DON & Ochratoxin	Cereals, feed, egg, meat, liver, fish, shrimp, milk, honey, fruit juice
T-2 toxin	Cereals (wheat, barley, rye, corn, oat), feed
Patulin	Fruit juice, milk, feed, egg, tissue, honey
ELISA Facilities for other tests (subject to provision of relevant ELISA Kits) @Rs.2500/- per test	
Training on veterinary drug residues and mycotoxins analysis by ELISA @Rs.2500/- per week	

**Each test cost is Rs. 7,000/-**



**Nuclear Institute for Agriculture & Biology, Faisalabad**  
**Food Safety Labs, Animal Sciences Division**

**Sample Reception Form**  
**(Food Safety Lab. No. 63)**

Customer Name: \_\_\_\_\_

CNIC No. \_\_\_\_\_ Cell No. \_\_\_\_\_

Address: \_\_\_\_\_

Reference No.: \_\_\_\_\_

Sample / Matrix (Species): \_\_\_\_\_

Sampling data: \_\_\_\_\_ Sample Condition: \_\_\_\_\_

Tests required: \_\_\_\_\_

**For official use only**

Sample received by (Name) \_\_\_\_\_

Designation \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Analysis cost (Rs.) \_\_\_\_\_

Mode of payment: (Demand draft / Pay order / Cash): \_\_\_\_\_

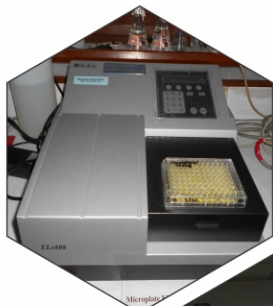
Sample ID allotted (with AS No.): \_\_\_\_\_

Analysis report (Expected date) \_\_\_\_\_

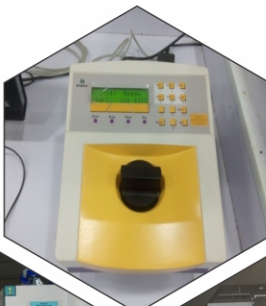
**NOTE:**

1. Request should be in the name of Director NIAB for required analysis / test.
2. Demand draft / Pay order should be in the name of Head LAO, NIAB.
3. Client should have original CNIC (Card) at the time of sample submission at main gate/reception.

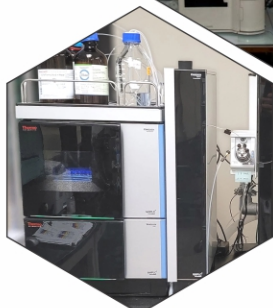
## Analytical Capabilities



**Screening**  
(ELISA, CHARM)



**Quantification**  
(HPLC, GC)



**Confirmation**  
UHPLC-MS/MS

## Contact Information

### Dr. Uzma Maqbool

Deputy Chief Scientist / Director  
Nuclear Institute for Agriculture and Biology,  
P.O. Box 128, Jhang Road, Faisalabad.  
Phone: 041-2654210, 0321-6656806  
Office: +92-41-9201776)  
E-mail: [director@niab.org.pk](mailto:director@niab.org.pk)  
Web: [www.niab.org.pk](http://www.niab.org.pk)

### Mr. M. Ismail Chughtai

Principal Scientist / Group Leader  
Food Safety Group, Animal Sciences Division  
Nuclear Institute for Agriculture & Biology, P.O. Box 128, Jhang Road, Faisalabad.  
Exchange: +92-41-9201751-69 (Ext. 3178) Cell: +92-333-7684068  
E-mail: [nishat\\_dgk@yahoo.com](mailto:nishat_dgk@yahoo.com)

