QUALITY ASSURANCE AND TESTING CENTER 3 (QUATEST 3)
Head Office:
49 Pasteur, District 1, Nguyen Thai Binh Ward, Ho Chi Minh City, Vietnam
Truong Thanh Son, Acting Director
Phone: ++84 28 3829 4274
Email: tt-son@quatest3.com.vn
Proficiency Testing Department:
Bien Hoa Testing Complex
No. 7, Road 1, Bien Hoa 1 Industrial Zone
Dong Nai Province, VN-71161, Vietnam
Phone: ++84 251 3836 212
Email: ptprovider@quatest3.com.vn

PROFICIENCY TESTING PROVIDER

Valid To: September 30, 2021 Certificate Number: 3477.01

In recognition of the successful completion of the A2LA evaluation process, this proficiency testing provider has been found to meet the ISO/IEC 17043:2010, "Conformity assessment-General Requirements for Proficiency testing". Accreditation is granted to this provider to provide proficiency testing samples in the following programs:

Program Name	**Sample Matrix**	**Techniques Used to Determine Assigned Values / Uncertainty**

1. Chemistry in Food
  1.1 Lipid
  1.2 Protein
  1.3 Total Ash
  1.4 Calcium
  1.5 Lactose
  1.6 Phosphorus
	Food	Assigned values and uncertainties determined by consensus values from participants

2. Nutrients in Liquid Milk
  2.1 Protein
  2.2 Fat
  2.3 Dry matter
	Liquid milk	Assigned values and uncertainties assigned by consensus values from participants

3. Toxins and Residues in Food
  3.1 Heavy metals (Pb, Cd, As, Hg)
  3.2 Mycotoxins (Aflatoxins, Ochratoxin A, Deoxynivalenol, etc.)
  3.3 Antibiotics (Tetracyclines, Chloramphenicol, etc.)
  3.4 β-Agonist (Salbutamol, Clenbuterol, Ractopamine)
	Food and Beverage	Assigned values and uncertainties assigned by consensus values from participants

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty
4. Chemistry in Animal Feedstuff 4.1 Protein 4.2 Fat 4.3 Calcium 4.4 Phosphorus 4.5 Total Ash 4.6 Lysine 4.7 Salbutamol 4.8 Heavy Metals (Pb, Cd, As, Hg) 4.9 Aflatoxins 4.10 Clenbuterol 4.11 Ractopamine	Animal Feedstuff	Assigned values and uncertainties determined by consensus values from participants
5. Chemistry in Fish Sauce 5.1 Nitrogen (N) 5.2 Ammonical nitrogen (N-NH$_3$) 5.3 Sodium Chloride (NaCl) 5.4 Amino acid nitrogen 5.5 Inorganic arsenic 5.6 Total arsenic	Fish Sauce	Assigned values and uncertainties assigned by consensus values from participants
6. Chemistry in Vegetable Oil 18.1 Iodine value 18.2 Peroxide value 18.3 Free fatty acids content (as oleic acid) 18.4 Saponification value	Vegetable Oil	Assigned values and uncertainties assigned by consensus values from participants
7. Chemistry in Fertilizer 6.1 Total nitrogen content 6.2 Available phosphorus content 6.3 Available potassium content 6.4 Silicon content (SiO2) 6.5 Calcium content (Ca) 6.6 Magnesium content (Mg) 6.7 Sulfur content (S) 6.8 Iron content (Fe) 6.9 Zinc content (Zn) 6.10 Copper content (Cu) 6.11 Manganese content (Mn) 6.12 Total organic matter 6.13 Arsenic content (As) 6.14 Cadmium content (Cd) 6.15 Lead content (Pb) 6.16 Nickel content (Ni) 6.17 Chromium content (Cr) 6.18 Mercury content (Hg) 6.19 Humic acid 6.20 Fulvic acid	Fertilizer	Assigned values and uncertainties determined by consensus values from participants

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty

8. Heavy Metals in Soil
  7.1 Arsenic content (As)
  7.2 Cadmium content (Cd)
  7.3 Lead content (Pb)
  7.4 Mercury content (Hg)
	Soil	Assigned values and uncertainties assigned by consensus values from participants

9. Chemistry in Diesel Oil
  8.1 Sulfur content
  8.2 Cetane index
  8.3 Distillation: Initial boiling point (IBP), 10% recovery, 50% recovery, 90% recovery, final boil (EP)
  8.4 Flash point closed cup
  8.5 Kinematic viscosity at 40 °C
  8.6 Pour point
  8.7 Density at 15 °C
	Diesel oil	Assigned values and uncertainties assigned by consensus values from participants

10. Chemistry in Lubricant
  9.1 Kinematic viscosity at 40 °C
  9.2 Kinematic viscosity at 100 °C
  9.3 Viscosity index
  9.4 Flash point open cup
  9.5 Total base number (TBN)
  9.6 Density at 15 °C
	Lubricant	Assigned values and uncertainties assigned by consensus values from participants

11. Chemistry and Mechanic – Physics in Steel
  10.1 Upper yield strength
  10.2 Tensile strength
  10.3 Elongature after fracture
  10.4 Chemical composition: C, Mn, Si, S, P, Cr, Ni, B, V
	Steel	Assigned values and uncertainties assigned by consensus values from participants

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty
12. Physics – Chemistry in Cement 11.1 Compressive strength 3 days 11.2 Compressive strength 28 days 11.3 Water for consistent 11.4 Initial setting time 11.5 Final setting time 11.6 Soundness (Le Chatelier method) 11.7 Sieve 0.09 mm 11.8 Mass density 11.9 Surface fineness (Blaine) 11.10 Insoluble residue content 11.11 SO_3 content 11.12 MgO content 11.13 CaO content 11.14 Soluble Na_2O content 11.15 Soluble K_2O content 11.16 Al_2O_3 content 11.17 Fe_2O_3 content 11.18 SiO_2 content 11.19 Loss on ignition 11.20 Chloride content (Cl-)	Cement	Assigned values and uncertainties determined by consensus values from participants
13. Direct Current (DC) Resistance of 1 km Conductor at 20 ºC	PVC-Coated Electrical Wire	Assigned values and uncertainties assigned by consensus values from participants
14. Microbiology in Food 13.1 Total Aerobic Plate Count (Enumeration) 13.2 *Escherichia coli* (Enumeration) 13.3. *Staphylococcus aureus* / coagulase-positive staphylococci (Enumeration) 13.4 Total Coliforms (Enumeration) 13.5 *Salmonella* (Detection) 13.6 *Listeria moncytogenes* (Detection) 13.7 Yeast and Mold (Enumeration) 13.8 *Vibrio parahaemolyticus* (Detection) 13.9 *Enterobacteriaceae* (Enumeration) 13.10 *Bacillus cereus* (Enumeration) 13.11 *Clostridium perfingens* (Enumeration)	Food (Meat, milk, cereal, aquatic products, nutritious powder, etc.)	Assigned values and uncertainties determined by consensus values from participants

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Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty

15. Microbiology in Water and Beverages
  14.1 Total aerobic plate count (Enumeration)
  14.2 Total Coliforms (Enumeration)
  14.3 *Escherichia coli* (Enumeration)
	Water, Beverages	Assigned values and uncertainties assigned by consensus values from participants

16. Microbiology in Fertilizer
  15.1 *Escherichia coli* (Enumeration)
  15.2 Salmonella (Detection)
  15.3 Nitrogen fixing microorganisms (Enumeration)
  15.4 Phosphate-solubilizing microorganisms (Enumeration)
  15.5 Cellulose-solubilizing microorganism (Enumeration)
	Fertilizer	Assigned values and uncertainties assigned by consensus values from participants

17. Microbiology in Feedstuff
  16.1 *Escherichia coli* (Enumeration)
  16.2 Total Coliforms (Enumeration)
	Feedstuff	Assigned values and uncertainties assigned by consensus values from participants

18. Interlaboratory comparison programs when there are less than 5 participants (usually for 2 laboratories)	Accredited matrices listed	Assigned values and uncertainties come from a reference laboratory, reference material / certified reference material, or the organized PT program

Accredited Proficiency Testing Provider

A2LA has accredited

QUALITY ASSURANCE AND TESTING CENTER 3 (QUATEST 3)

Dong Nai Province, VIETNAM

This accreditation covers the specific proficiency testing schemes listed on the agreed upon Scope of Accreditation. This provider is accredited in accordance with the recognized International Standard ISO/IEC 17043: 2010 *Conformity assessment - General requirements for proficiency testing*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.

Presented this 20th day of November 2017.

President and CEO
For the Accreditation Council
Certificate Number 3477.01
Valid to September 30, 2021

For the proficiency testing schemes to which this accreditation applies, please refer to the provider's Scope of Accreditation.