SCOPE OF ACCREDITATION TO ISO/IEC 17043:2010

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 1.7 Saturated fat 1.8 Total carbonhydrate 1.9 Sodium 1.10 Energy 1.11 Moisture 1.12 Acid-insoluble ash 1.13 Water-insoluble ash	Food and Beverage	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

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty
3. Toxins and Residues in Food 3.1 Heavy metals (Pb, Cd, As, Hg, Cu, Zn, Sb, etc.) 3.2 Mycotoxins (Aflatoxins, Ochratoxin A, Deoxynivalenol, etc.) 3.3 Antibiotics (Tetracyclines, Chloramphenicol, etc.) 3.4 β-Agonist (Salbutamol, Clenbuterol, Ractopamine) 3.5 Pesticide residues (Carbaryl, Carbofuran, Tebuconazole) 3.6 Food additives (Nitrite, nitrate) 3.7 Other residues (Malachite Green, Leucomalachite Green)	Food and Beverage	Assigned values and uncertainties assigned by consensus values from participants
4. Chemistry in Animal Feedstuff 4.1 Protein 4.2 Fat 4.3 Calcium 4.4 Phosphorus 4.5 Total Ash 4.6 Amino acids (Lysine, Methionine, Threonine) 4.7 Salbutamol 4.8 Heavy Metals (Pb, Cd, As, Hg) 4.9 Aflatoxins 4.10 Clenbuterol 4.11 Ractopamine 4.12 HCl-insoluble ash 4.13 Crude fiber 4.14 Moisture	Animal Feedstuff	Assigned values and uncertainties determined by consensus values from participants
5. Chemistry in 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 Acid (as acetic acid)	Sauce (Fish sauce, soy sauce)	Assigned values and uncertainties assigned by consensus values from participants
6. Chemistry in Vegetable Oil 6.1 Iodine value 6.2 Peroxide value 6.3 Free fatty acids content (as oleic acid) 6.4 Saponification value	Vegetable Oil	Assigned values and uncertainties assigned by consensus values from participants

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty
7. Chemistry in Wine 7.1 Ethanol at 20 °C 7.2 Methanol 7.3 Aldehydes (Chromatography, Titration) 7.4 Esters (Chromatography, Titration) 7.5 Furfural	Wine, Spirit Liquid	Assigned values and uncertainties assigned by consensus values from participants
8. Chemistry in Fertilizer 8.1 Total nitrogen content 8.2 Available phosphorus content 8.3 Available potassium content 8.4 Silicon content (SiO2) 8.5 Calcium content (Ca) 8.6 Magnesium content (Mg) 8.7 Sulfur content (S) 8.8 Iron content (Fe) 8.9 Zinc content (Zn) 8.10 Copper content (Cu) 8.11 Manganese content (Mn) 8.12 Total organic matter 8.13 Arsenic content (As) 8.14 Cadmium content (Cd) 8.15 Lead content (Pb) 8.16 Nickel content (Ni) 8.17 Chromium content (Cr) 8.18 Mercury content (Hg) 8.19 Humic acid 8.20 Fulvic acid 8.21 Moisture 8.22 Soluble sodium 8.23 Biuret 8.24 Free acids (as P_2O_5 and as H_2SO_4) 8.25 Water-soluble boron 8.26 Acid-soluble boron 8.27 Cobalt content (Co) 8.28 Molybdenum content (Mo) 8.29 pH 8.30 Density	Fertilizer	Assigned values and uncertainties determined by consensus values from participants

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty
9. Heavy Metals in Soil 9.1 Arsenic content (As) 9.2 Cadmium content (Cd) 9.3 Lead content (Pb) 9.4 Mercury content (Hg) 9.5 Copper content (Cu) 9.6 Zinc content (Zn)	Soil	Assigned values and uncertainties assigned by consensus values from participants
10. Chemistry in Diesel Oil 10.1 Sulfur content 10.2 Cetane index 10.3 Distillation: Initial boiling point (IBP), 10% recovery, 50% recovery, 90% recovery, final boil (EP) 10.4 Flash point closed cup 10.5 Kinematic viscosity at 40 °C 10.6 Pour point 10.7 Density at 15 °C	Diesel oil	Assigned values and uncertainties assigned by consensus values from participants
11. Chemistry in Lubricant 11.1 Kinematic viscosity at 40 °C 11.2 Kinematic viscosity at 100 °C 11.3 Viscosity index 11.4 Flash point open cup 11.5 Total base number (TBN) 11.6 Density at 15 °C	Lubricant	Assigned values and uncertainties assigned by consensus values from participants
12. Hard coal 12.1 Ash 12.2 Volatile matter 12.3 Sulfur 12.4 Calories 12.5 Fixed carbon 12.6 Moisture (dry in air and dry with nitrogen)	Coal and Coke	Assigned values and uncertainties assigned by consensus values from participants
13. Food contact materials 13.1 Heavy metals in aqueous extract (Pb, Cd, Hg, etc.)	Food contact materials (paper, plastic, metal, etc.)	Assigned values and uncertainties assigned by consensus values from participants
14. Chemistry and Mechanic – Physics in Steel 14.1 Upper yield strength 14.2 Tensile strength 14.3 Elongature after fracture 14.4 Chemical composition: C, Mn, Si, S, P, Cr, Ni, B, V 14.5 Hardness (Vicker, Rockwell (HRB)	Steel	Assigned values and uncertainties assigned by consensus values from participants

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty
15. Physics – Chemistry in Cement 15.1 Compressive strength 3 days 15.2 Compressive strength 28 days 15.3 Water for consistent 15.4 Initial setting time 15.5 Final setting time 15.6 Soundness (Le Chatelier method) 15.7 Sieve 0.09 mm 15.8 Mass density 15.9 Surface fineness (Blaine) 15.10 Insoluble residue content 15.11 SO_3 content 15.12 MgO content 15.13 CaO content 15.14 Soluble Na_2O content 15.15 Soluble K_2O content 15.16 Al_2O_3 content 15.17 Fe_2O_3 content 15.18 SiO_2 content 15.19 Loss on ignition 15.20 Chloride content (Cl-) 15.21 Autoclave expansion	Cement	Assigned values and uncertainties determined by consensus values from participants
16. Physics in Concrete 16.1 Density 16.2 Compressive strength	Concrete	Assigned values and uncertainties assigned by consensus values from participants
17. Direct Current (DC) Resistance of 1 km Conductor at 20 ^{o}C	PVC-Coated Electrical Wire	Assigned values and uncertainties assigned by consensus values from participants
18. Microbiology in Food 18.1 Total Aerobic Plate Count (Enumeration) 18.2 *Escherichia coli* (Enumeration) 18.3. *Staphylococcus aureus* / coagulase-positive staphylococci (Enumeration) 18.4 Total Coliforms (Enumeration) 18.5 *Salmonella* (Detection) 18.6 *Listeria moncytogenes* (Detection) 18.7 Yeast and Mold (Enumeration) 18.8 *Vibrio parahaemolyticus* (Detection) 18.9 *Enterobacteriaceae* (Enumeration) 18.10 *Bacillus cereus* (Enumeration) 18.11 *Clostridium perfingens* (Enumeration)	Food (Meat, milk, cereal, aquatic products, nutritious powder, etc.)	Assigned values and uncertainties determined by consensus values from participants

Program Name	Sample Matrix	Techniques Used to Determine Assigned Values / Uncertainty
19. Microbiology in Water and Beverages 19.1 Total aerobic plate count (Enumeration) 19.2 Total Coliforms (Enumeration) 19.3 *Escherichia coli* (Enumeration) 19.4 Enterococci (Enumeration) 19.5 Fecal Coliforms (Enumeration) 19.6 Positive coagulase Staphylococci (Enumeration) 19.7 Yeast and moulds (Enumeration)	Water, Beverages	Assigned values and uncertainties assigned by consensus values from participants
20. Microbiology in Fertilizer 20.1 *Escherichia coli* (Enumeration) 20.2 Salmonella (Detection) 20.3 Nitrogen fixing microorganisms (Enumeration) 20.4 Phosphate-solubilizing microorganisms (Enumeration) 20.5 Cellulose-solubilizing microorganism (Enumeration)	Fertilizer	Assigned values and uncertainties assigned by consensus values from participants
21. Microbiology in Feedstuff 21.1 *Escherichia coli* (Enumeration) 21.2 Total Coliforms (Enumeration)	Feedstuff	Assigned values and uncertainties assigned by consensus values from participants
22. 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.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3477.01
Valid to September 30, 2021
Revised on February 3, 2020

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