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LABORATORY LOCATION/ CENTRAL OFFICE:	FGV Analytical Laboratory, FGV Agri Services Sdn. Bhd. Pusat Penyelidikan Pertanian Tun Razak 26400 Bandar Tun Razak, Jengka, Pahang , 26400, PAHANG MALAYSIA
ACCREDITED SINCE :	04 SEPTEMBER 2025
FIELD(S) OF TESTING:	CHEMICAL

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

CENTRAL LOCATION:	FGV Analytical Laboratory, FGV Agri Services Sdn. Bhd. Pusat Penyelidikan Pertanian Tun Razak 26400 Bandar Tun Razak, Jengka, Pahang , 26400, Pahang
FIELD(S) OF TESTING :	CHEMICAL,

SCOPE OF TESTING : CHEMICAL

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Agricultural Products And Materials Fertiliser	Preparation of Sample	In-house test method based on MS 417 : Part 1 : 1994 (First Revision) as documented in FGVLAB-LTM-A01
	Moisture	In-house test method based on MS 417 : Part 2 : 1994 (First Revision) as documented in FGVLAB-LTM-A02
	Ash Content	In-house test method based on MS 417 : Part 2 : 1994 (First Revision) as documented in FGVLAB-LTM-A03

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Ammoniacal-Nitrogen	In-house test method based on MS 417: Part 3 : 1994 (First Revision), as documented in FGVLAB-LTM-A04
	Urea-Nitrogen	In-house test method based on MS 417 : Part 3 : 1994 (First Revision) as documented in FGVLAB-LTM-A05
	Nitrate-Nitrogen	In-house test method based on MS 417 : Part 3 : 1994 (First Revision) as documented in FGVLAB-LTM-A06
	Total Nitrogen	In-house test method based on MS 417 : Part 3 : 1994 (First Revision) as documented in FGVLAB-LTM-A07
	Total Phosphorus	In-house test method based on MS 417 : Part 4 : 1994 (First Revision) as documented in FGVLAB-LTM-A08
	Water-soluble Phosphorus	In-house test method based on MS 417 : Part 4 : 1994 (First Revision) as documented in FGVLAB-LTM-A09
	Particle Size Distribution	In-house test method based on MS 417 : Part 2 : 1994 (First Revision) as documented in FGVLAB-LTM-A11
	Potassium	In-house test method based on MS 417 : Part 5 : 1994 (First Revision) as documented in FGVLAB-LTM-A12
	Citric acid-soluble phosphorus	In-house test method based on MS 417 : Part 4 : 1994 (First Revision) as documented in FGVLAB-LTM-A10
	Magnesium	In-house test method based on MS 417 : Part 6 : 1994 (First Revision) as documented in FGVLAB-LTM-A13
	Boron	In-house test method based on MS 417 : Part 7 : 1994 (First Revision) (Carmine) as documented in FGVLAB-LTM-A14
	Calcium Oxide	In-house test method based on MS 417 : Part 8 : 1994 (First Revision) as documented in FGVLAB-LTM-A16

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	Sulfate	In-house test method based on MS 417 : Part 8 : 1994 (First Revision) as documented in FGVLAB-LTM-A17
	Chloride	In-house test method based on MS 417 : Part 8 : 1994 (First Revision) as documented in FGVLAB-LTM-A18
	Copper, Zinc, Manganese, Iron	In-house test method based on MS 1.107 : 1976 (First Revision) as documented in FGVLAB-LTM-A19
	pH	In-house test method based on MS 49 : 1994 & APHA 4500H^+-B 18th Edition 1992 as documented in FGVLAB-LTM-A20
Agricultural Products And Materials Organic Fertiliser	Organic Matter and Organic Carbon Contents	MS 417 : Part 8 : 1997 (FGVLAB – LTM – A21)
	Total Nitrogen	MS 677 : Part 111 : 1980 (FGVLAB – LTM – A22)
Agricultural Products And Materials Plant Materials	Preparation of Sample	In-house test method based on ? MS 677 : PART. 0 – 1 : 1980 ? MS 677 : PART. III : 1980 ? MS 677 : PART. II : 1980 as documented in (FGVLAB – LTM – C001)
	Ash Content	In-house test method based on MS 417 : PART. II : 1994 as documented in (FGVLAB – LTM – C002)
	Total Nitrogen A. Reference Method	MS 677 : PART. III: 1980 (FGVLAB – LTM – C003A)
	Total Nitrogen	In-house test method based on DUMAS Method as documented in (FGVLAB – LTM – C003B)
	Phosphorus	In-house test method based on MS 677: PART. IV: 1980 as documented in (FGVLAB – LTM – C004)
	Potassium	In-house test method based on MS 677 : PART. V : 1980 as documented in (FGVLAB – LTM – C005)
	Magnesium	MS 677 : PART. VII:1980 (FGVLAB – LTM – C006)
	Calcium	MS 677 : PART. VI: 1980 (FGVLAB – LTM – C007)

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	Boron	In-house test method based on MS 417 : PART. VII : 1994 as documented in (FGVLAB – LTM – C008)
Agricultural Products And Materials Oil Palm Leaves	Total Nitrogen Phosphorus Potassium Magnesium Calcium Boron	In-house method based on FOSS Near Infrared Spectroscopy, NIRS DS 2500 as documented in FGVLAB-LTM-C009
Agricultural Products And Materials Compost	Moisture	In-house test method based on (Part 5 : Soil Analysis Procedure : 1989 Wageningen Agricultural University) as documented in (FGVLAB – LTM – E001)
	pH	In-house test method based on MS 678 : Part I : 1980 as documented in (FGVLAB – LTM – E002)
	Total Nitrogen A. Reference Method	MS 677 : Part III : 1980 (FGVLAB – LTM – E003A)
	Total Nitrogen	In-house test method based on DUMAS Method as documented in (FGVLAB – LTM – E003B)
	Organic Matter and Organic Carbon Contents	MS 417 : Part 8 :1997 (FGVLAB – LTM – E004)
	Phosphorus	In-house test method based on MS 677 : Part IV : 1980 as documented in (FGVLAB – LTM – E005)
	Potassium	In-house test method based on MS 677 : Part V : 1980 as documented in (FGVLAB – LTM – E006)
	Magnesium	MS 677 : Part VII : 1980 (FGVLAB – LTM – E007)
	Calcium	MS 677 : Part VI : 1980 (FGVLAB – LTM – E008)
Agricultural Products And Materials Soil	Moisture	In-house test method based on Part 1 : Soil Analysis Procedure : 1997, Wageningen Agricultural University as documented in (FGVLAB – LTM – D001)
	pH	MS 678 : Pt. I : 1980 (FGVLAB– LTM– D002)
	Conductivity	MS 678 : Pt. VI : 1980 (FGVLAB– LTM– D032)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Exchangeable Cation (Na)	In-house test method based AAS (MS 678 : Part IV : 1980) as documented in (FGVLAB– LTM – D004)
	Cation Exchange Capacity - CEC	In-house test method based on MS 678 : Part V : 1980 as documented in (FGVLAB – LTM – D005)
	Total Nitrogen A. Reference Method	MS 678 : Pt.II : 1980 (FGVLAB – LTM – D006A)
	Total Nitrogen	In-house test method based on DUMAS Method as documented in (FGVLAB – LTM – D006B)
	Exchangeable Cation (K,Ca, Mg)	MS 678 : Part IV : 1980 (FGVLAB – LTM – D004)
	Total Phosphorus	In-house test method based on MS 678 : PART. VIII : 1980 as documented in (FGVLAB – LTM – D007)
	Acid Fluoride Soluble Phosphorus (Available Phosphorus)	In-house test method based on PART 1 : Soil Analysis Procedure : 1997, Wageningen Agricultural University as documented in (FGVLAB – LTM – D008)
	Organic Carbon (Governing Method)	MS 678: Pt. III : 1980 (FGVLAB – LTM – D009)
	Organic Carbon	In-house test method based on DUMAS Method as documented in (FGVLAB – LTM – D009A)
Environmental Monitoring Palm Oil & Rubber Mill Effluent	Biochemical Oxygen Demand A. Reference Method	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B01A)
	B. Alternative Method	DOE Method (1985) : 3rd Edition 2011 (Alternative Method) (Ref: FGVLAB-LTM-B01B)
	Chemical Oxygen Demand A. Reference Method	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B02A)
	B. Alternative Method	DOE Method (1985) : 3rd Edition 2011 (Alternative Method) (Ref: FGVLAB-LTM-B02B)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Total Nitrogen A. Reference Method	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B03A)
	B. Alternative Method	DOE Method (1985) : 3rd Edition 2011 (Alternative Method) (Ref: FGVLAB-LTM-B03B)
	Ammoniacal Nitrogen A. Reference Method	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B04A)
	B. Alternative Method	DOE Method (1985) : 3rd Edition 2011 (Alternative Method) (Ref: FGVLAB-LTM-B04B)
	Total Solids	APHA 2540 B, 21st Edition 2005 (Ref: FGVLAB-LTM-B05A)
	Suspended Solids A. Reference Method	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B06A)
	B. Alternative Method	DOE Method (1985) : 3rd Edition 2011 (Alternative Method) (Ref: FGVLAB-LTM-B06B)
	C. Reference Method (Raw Palm Oil Mill Effluent)	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B06C)
	Oil & Grease A. Treated Effluent (Reference Method)	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B07A)

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	B. Raw Palm Oil Mill Effluent (Reference Method)	DOE Method (1985) : 3rd Edition 2011 (Reference Method) (Ref: FGVLAB-LTM-B07B)
	pH	APHA 4500 H^+ B 21st Edition 2005 (Ref: FGVLAB-LTM-B08)
Environmental Monitoring Water And Wastewater	Turbidity	A. APHA METHOD 2130 B 21st Edition 2005 (FGVLAB – LTM – B24A) B. HACH Method 8195 (FGVLAB – LTM – B24B)
	Colour	A. APHA METHOD 2120 B 21st Edition 2005 (FGVLAB – LTM – B25A) B. APHA METHOD 2120 F 21st Edition 2005 (FGVLAB – LTM – B25B)
	Temperature	APHA METHOD 2550 B 21st Edition 2005 (FGVLAB – LTM – B26)
	Dissolved Oxygen	APHA METHOD 4500O G 21st Edition 2005 (FGVLAB – LTM – B27)
	Volatile Suspended Solid	APHA METHOD 2540 E 21st Edition 2005 (FGVLAB – LTM – B28)
	Oil & Grease	APHA METHOD 5520 D 21st Edition 2005 (FGVLAB – LTM – B29)
	Chemical Oxygen Demand (COD)	APHA METHOD 5520 B 21st Edition 2005 (FGVLAB – LTM – B30)
	Ammoniacal Nitrogen	APHA METHOD 4500NH3 B&C 21st Edition 2005 (FGVLAB – LTM – B31)
	Total Nitrogen	APHA METHOD 4500N_{org} B 21st Edition 2005 (FGVLAB – LTM – B32)
	Conductivity	APHA Method 2510B 21st Edition 2005 (FGVLAB– LTM – B33)
	Free Chlorine	HACH Method 8021 (FGVLAB – LTM – B34)
	Phenol	HACH Method 8047 (FGVLAB – LTM – B35)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Chromium Hexavalent	HACH Method 8023 (FGVLAB – LTM – B36)
	Sulphide	HACH Method 8131 (FGVLAB – LTM – B37)
	Cyanide	HACH Method 8027 (FGVLAB– LTM – B38)
	Hardness	HACH Method 8030 (FGVLAB – LTM – B39)
	Fluoride	HACH Method 8029 (FGVLAB – LTM – B40)
	Formaldehyde	HACH Method 8110 (FGVLAB – LTM – B41)
Water And Wastewater Analysis	Biochemical Oxygen Demand (BOD 5 day)	APHA 5210 B 21st Edition 2005 (Ref: FGVLAB-LTM-B09)
	Sulphate	APHA 4500 $SO4^{2-}$ E 21st Edition 2005 (Ref: FGVLAB-LTM-B10)
	Chloride	APHA 4500 Cl^- B 21st Edition 2005 (Ref: FGVLAB-LTM-B11)
	Alkalinity	APHA 2320 B 21st Edition 2005 (Ref: FGVLAB-LTM-B12)
	pH	APHA 4500 H^+ B 21st Edition 2005 (Ref: FGVLAB-LTM-B08)
	Phosporus	APHA 4500 P.C 21st Edition 2005 (Ref: FGVLAB-LTM-B14)
	Sodium	APHA 3500 Na B 21st Edition 2005 (Ref: FGVLAB-LTM-B15)
	Potassium	APHA 3500 K.B 21st Edition 2005(Ref: FGVLAB-LTM-B16)
	Magnesium	APHA 3500 Mg A/ 3111B 21st Edition 2005 (Ref: FGVLAB-LTM-B17)
	Calcium	APHA 3500 Ca.A / 3111B 21st Edition 2005 (Ref: FGVLAB-LTM-B18)
	Total Dissolved Solids Dried at 180 ºC	APHA 2540 C 21st Edition 2005 (Ref: FGVLAB-LTM-B19)
	Total Suspended Solids Dried at 103–105 ºC	APHA 2540 D 21st Edition 2005 (Ref: FGVLAB-LTM-B20)
	Total Solids	APHA 2540 B 21st Edition 2005 (Ref: FGVLAB-LTM-B05A)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Aluminium , Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Cerium	APHA 3120 B 21st Edition 2005 (Ref: FGVLAB – LTM – B23) USEPA-ICP, Method 200.7 Revision 4.4 (1994)
	Chromium, Cobalt, Copper, Iron, Lead, Lithium , Magnesium, Manganese, Mercury	APHA 3120 B 21st Edition 2005 (Ref: FGVLAB – LTM – B23) USEPA-ICP, Method 200.7 Revision 4.4 (1994)
	Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silica , Silver, Sodium, Strontium Thallium, Tin, Titanium, Vanadium, Zinc	APHA 3120 B 21st Edition 2005 (Ref: FGVLAB – LTM – B23) USEPA-ICP, Method 200.7 Revision 4.4 (1994)
	Preliminary treatment of Samples: Nitric Acid Digestion	APHA 3030 E 21st Edition 2005
	Preliminary treatment of Samples: Nitric Acid-Hydrochloric Acid Digestion	APHA 3030 F 21st Edition 2005
	Preliminary treatment of Samples: Nitric Acid-Sulphuric Acid Digestion	APHA 3030 G 21st Edition 2005
	Nitrate Nitrogen	Ref: (FGVLAB–LTM-B21) APHA Method 4500 NO_3 B 21st Edition 2005
Food Vegetable Oil	3-Monochloro propanediol, (3MCPD) Fatty Acid Esters	In-house method based on Bfr. Wissenchaft, Bfr Method 8 by using GC-MS as documented in FGVLAB - LTM - F001

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Food Edible Oils And Fats	3-chloropropane-1,2-diol (3MCPD) esters 2-chloropropane-1,3-diol (2MCPD) esters Glycidol esters (GE)	AOCS Official Method Cd 29a-13