



BORANG PERMOHONAN ANALISIS

Syarikat/ Nama					
Alamat			Nama		
Bandar			E-mel		
Poskod		Negeri	Telefon		
Tarikh Permohonan			Tarikh Daftar		
Tarikh Terima Sampel			Tarikh Jangka Siap		

PERKHIDMATAN DIPERLUKAN Kimia Pertanian Kimia Makanan Mikrobiologi Makanan

MAKLUMAT SAMPEL					
No.	Sampel	Tarikh Pembuatan	Jenis Pembungkusan	Cara Pemprosesan	Catatan (Jenama dll.)
Jumlah					

MAKLUMAT ANALISIS

Tujuan Analisis : Pemantauan kualiti Jangka hayat: _____ Lain-lain, _____
 Berat sampel : ≥250g <250g, nyatakan: _____
 Penyimpanan : Suhu bilik Sejuk Sejuk beku _____
 Pemulangan : Tiada Ada, bulatkan : Bekas sampel/ baki sampel _____
 Penyerahan sijil : Emel Ambil sendiri Pos Poslaju (RM10 SM/ RM14 SS)
 Tempoh analisis: Normal (14 hari bekerja) VIP (7 hari bekerja dengan tambahan 40% caj analisis)

MAKLUMAT PEMBAYARAN

Saya bersetuju dengan analisis dan bersetuju membayar sejumlah ; Kaedah bayaran : <input type="checkbox"/> Tunai <input type="checkbox"/> Cek/wang pos <input type="checkbox"/> Online transfer <input type="checkbox"/> Purchase Order (PO)	<input type="checkbox"/> Bayaran analisis : RM _____ <input type="checkbox"/> Poslaju : RM _____ Jumlah bayaran : RM _____	*Nota: Bayaran melalui cek/ wang pos hendaklah dibayar atas nama DANA MAKMAL MARDI di akaun bank CIMB 8002168703

Pemohon : Tandatangan Nama & Tarikh	Penerima : Tandatangan Nama & Tarikh
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SEMAKAN PERMINTAAN (UNTUK KEGUNAAN MARDILab)

Tandakan sekiranya memenuhi keperluan:
 Jenis sampel Kaedah analisis Peralatan Bahan kimia Sumber manusia
 Jumlah sampel mencukupi, _____ Sampel dalam keadaan baik
 Sampel dalam keadaan tidak baik, nyatakan: _____
 Makmal mempunyai kemampuan dan sumber bagi menjalankan analisis sampel yang diminta dan sampel boleh diterima
 Ya Analisis perlu disubkontrakkan: _____
 Tidak _____

<input type="checkbox"/> Borang lengkap <input type="checkbox"/> Borang tidak lengkap	Disemak oleh :
Maklumat tambahan :	Tandatangan Nama Cop

No. Permintaan : _____	No. LIMS/ Lab : MARDILab/ _____ / _____ - _____
No. Permohonan : _____	No. Sijil Analisis : MARDILab/ TC/ _____ - _____

ANALISIS DIPERLUKAN

KIMIA MAKANAN

 Quality Check Shelf-life
Pelabelan Nutrisi (Makanan) - Keperluan Malaysia

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Moisture 135	In-house method D23A/M15 based on AOAC 930.15.
<input type="checkbox"/> Moisture 105	In-house method D23A/M1M based on Malaysian Standard MS 1191:2013.*
<input type="checkbox"/> Ash	In-house method D23A/M17 based on AOAC 942.05.
<input type="checkbox"/> Crude Protein	In-house method D23A/M5P based on ASEAN Manual of Food Analysis 1st Ed. (pg 6).
<input type="checkbox"/> Crude fat	In-house method D23A/M3CFT based on AOAC 991.36
<input type="checkbox"/> Total Fat	In-house method D23A/M22 based on AOAC 989.05 & 932.06.*
<input type="checkbox"/> Carbohydrate	In-house method D23A/M10C refer to Food Act 1983 and Food Regulation 1985, Reg 18B (3-b).
<input type="checkbox"/> Energy	In-house method D23A/M11E refer to Food Act 1983 and Food Regulation 1985, Reg 18B (3-b).
<input type="checkbox"/> Total Sugar	In-house method D23A/M6TS based on AOAC 923.09.
<input type="checkbox"/> Mineral (Na)	In-house method D23A/M28 based on ASEAN Manual of Food Analysis 1st Ed (pg. 41-46, 76-80).*

Pelabelan Nutrisi (Makanan) - Keperluan Asas Luar Negara

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Moisture 135	In-house method D23A/M15 based on AOAC 930.15.
<input type="checkbox"/> Moisture 105	In-house method D23A/M1M based on Malaysian Standard MS 1191:2013.*
<input type="checkbox"/> Ash	In-house method D23A/M17 based on AOAC 942.05.
<input type="checkbox"/> Crude Protein	In-house method D10/M10 based on AOAC Official Method of Analysis; Method 4.2.11 (2001.11).
<input type="checkbox"/> Crude Fat	In-house method D10/M11 refer to Foss Tecator Application Sub Note (ASN 3414).
<input type="checkbox"/> Total Fat	In-house method D23A/M22 based on AOAC 989.05 & 932.06.*
<input type="checkbox"/> Carbohydrate	In-house method D23A/M10C refer to Food Act 1983 and Food Regulation 1985, Reg 18B (3-b).
<input type="checkbox"/> Energy	In-house method D23A/M11E refer to Food Act 1983 and Food Regulation 1985, Reg 18B (3-b).
<input type="checkbox"/> Total Sugar (Titration)	In-house method D23A/M6TS based on AOAC 923.09.
<input type="checkbox"/> Total Sugar (F,G,S,M)	In-house method D23A/M24 based on Malaysian Standard MS 2683:2017.*
<input type="checkbox"/> Mineral	In-house method D23A/M28 based on ASEAN Manual of Food Analysis 1st Ed. (pg 41-46, 76-80).*
<input type="checkbox"/> Total Dietary Fibre	In-house method D23A/M13TDF based on AOAC 985.29.
<input type="checkbox"/> Total Vitamin A Activity	In-house method D23A/M32 based on Food Chemistry journal, Vol. 45 (1992) (pg. 289-296).*
<input type="checkbox"/> Vitamin A (Carotene)	In-house method D23A/M30 based on Food Chemistry Journal, Vol. 95, Issue 2 (2006) (pg. 328-336).*
<input type="checkbox"/> Vitamin B1	In-house method D23A/M35 based on Malaysian Food Composition Database, (pg. 107).*
<input type="checkbox"/> Vitamin B2	In-house method D23A/M35 based on Malaysian Food Composition Database, (pg. 107).*
<input type="checkbox"/> Vitamin C (HPLC)	In-house method D23A/M31 based on Malaysian Journal of Nutrition, Vol. 9, Issue 1 (2003)(pg. 31-9).*
<input type="checkbox"/> Cholesterol	In-house method D23A/M19 based on AOAC 933.08.
<input type="checkbox"/> Fatty Acid Profile	In-house method D23A/M29 based on Gas Chromatography and Lipids, 1st Ed. (1992) (pg. 36-39)*

Serat (Makanan).

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Total Dietary Fibre	In-house method D23A/M13TDF based on AOAC 985.29.
<input type="checkbox"/> Soluble Dietary	In-house method D23A/M35 based on AOAC 985.29.
<input type="checkbox"/> Insoluble Dietary Fibre	In-house method D23A/M35 based on AOAC 985.29.
<input type="checkbox"/> Crude Fibre (Food)	In-house method D23A/M4CFE refer to Foss Tecator Application Sub Note (ASN 3428).

Vitamin

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Total Vitamin A Activity	In-house method D23A/M32 based on Food Chemist -ry journal, Vol. 45, Issue 4 (1992) (pg. 289-296).*
<input type="checkbox"/> Vitamin A (Carotene)	In-house method D23A/M30 based on Food Chemist -ry journal, Vol. 95, Issue 2 (2006) (pg. 329-336).*
<input type="checkbox"/> Vitamin B1	In-house method D23A/M35 based on Malaysian Food Composition Database, (pg. 107).*
<input type="checkbox"/> Vitamin B2	In-house method D23A/M35 based on Malaysian Food Composition Database, (pg. 107).*
<input type="checkbox"/> Vitamin C (HPLC)	In-house method D23A/M31 based on Malaysian Journal of Nutrition, Vol. 9, Issue 1 (2003)(pg. 31-9).*

Gula

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Total Sugar (Titration)	In-house method D23A/M6TS based on AOAC 923.09.
<input type="checkbox"/> Total Sugar (F,G,S,M)	In-house method D23A/M24 based on Malaysian Standard MS 2683:2017.*
<input type="checkbox"/> Total Reducing Sugar (Titration)	In-house method D23A/M20 based on AOAC 923.09.
<input type="checkbox"/> Brix	In-house method D23A/M23 based on HANNA Instruments Refractometer.*
<input type="checkbox"/> HMF	In-house method D23A/M27 based on Chemistry Central Journal, Vol. 12, issue 35 (2018).*
<input type="checkbox"/> Sucrose (calculation)	In-house method D23A/M21 based on AOAC 923.09.

Unsur Utama & Surih (Makanan).

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Phosphorus (P)	In-house method D23A/M28 based on ASEAN Manual of Food Analysis 1st Ed (pg. 41-46,76-80).*
<input type="checkbox"/> Calcium (Ca)	
<input type="checkbox"/> Sodium (Na)	
<input type="checkbox"/> Iron (Fe)	
<input type="checkbox"/> Zinc (Zn)	
<input type="checkbox"/> Aluminium (Al)	
<input type="checkbox"/> Potassium (K)	
<input type="checkbox"/> Magnesium (Mg)	
<input type="checkbox"/> Manganese (Mn)	
<input type="checkbox"/> Copper (Cu)	
<input type="checkbox"/> Boron (B)	
<input type="checkbox"/> Sulphur (S)	

Logam Berat (Makanan)

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Cobalt (Co)	In-house method D23A/M42 based on AOAC 975.03 B(b) & 985.01, 19 th Ed., 2012.*
<input type="checkbox"/> Selenium (Se)	
<input type="checkbox"/> Chromium (Cr)	
<input type="checkbox"/> Nickel (Ni)	
<input type="checkbox"/> Cadmium (Cd)	
<input type="checkbox"/> Lead (Pb)	
<input type="checkbox"/> Arsenic (As)	
<input type="checkbox"/> Molybdenum (Mo)	
<input type="checkbox"/> Mercury (Hg)	

Minyak & Lemak

<i>Fatty Acid Profile</i>	<i>Kaedah Analisis</i>
<i>Analisis</i>	
<input type="checkbox"/> MUFA, PUFA, Saturated & Trans	In-house method D23A/M29 based on Gas Chromatography and Lipids, 1st Ed. (1992) (pg. 36-39).
<input type="checkbox"/> Omega (3,6 & 9)	
<input type="checkbox"/> Peroxide Value	In-house method D23A/M25 based on Application Note Autotitrator, Method ID PV004.*
<input type="checkbox"/> Free fatty Acid	In-house method D23A/M25 based on Application Note Autotitrator, Method ID FFA02.*
<input type="checkbox"/> Cholesterol	In-house method D23A/M10 based on AOAC 933.08

Titriable Acidity

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Acetic	In-house method D23A/M8TA based on AOAC 942.15
<input type="checkbox"/> Malic	
<input type="checkbox"/> Citric	
<input type="checkbox"/> Lactic	
<input type="checkbox"/> Tatric	
<input type="checkbox"/> Oxalic	

Bahan Pengawet

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Benzoic Acid	In-house method D23A/M36 based on Asian Journal of Chemistry, Vol. 24, Issue 11 (pg. 4923-4925).*
<input type="checkbox"/> Sorbic Acid	

Sisa racun Perosak - Organophosphorus

<i>Analisis</i>	<i>Kaedah Analisis</i>
<input type="checkbox"/> Chlorpyrifos	In-house method D23A/M40 based on AOAC 2007.01.*
<input type="checkbox"/> Diazinon	
<input type="checkbox"/> Dichlorvos	
<input type="checkbox"/> Profenofos	
<input type="checkbox"/> Quinalphos	
<input type="checkbox"/> Triazophos	

ANALISIS DIPERLUKAN

Lain-lain

Analisis	Kaedah Analisis
<input type="checkbox"/> pH	In-house method D23A/M9pH based on AOAC 945.27.
<input type="checkbox"/> salt	In-house method D23A/M14SD based on AOAC 976.18, 937.07 & 971.27.
<input type="checkbox"/> Total Soluble Solid	In-house method D23A/M7SS based on AOAC 973.21.
<input type="checkbox"/> Ethanol	In-house method D23A/M18 based on AOAC 984.14.
<input type="checkbox"/> Chlorogenic Acid	In-house method D23A/M41 based on Am. J. Res. Commun., Vol. 1 (2), 78-91.*
<input type="checkbox"/> Caffeine	In-house method D23A/M38 based on JFSTN, Vol. 9 (2016) (pg.74-78).*

MIKROBIOLOGI MAKANAN Quality Check Shelf-life

Analisis	Kaedah Analisis
<input type="checkbox"/> Total Plate Count	In-house method D23B/7(a). based on APHA 2001.
<input type="checkbox"/> Yeast & Mould Count	In-house method D23B/7(b). based on APHA 2001.
<input type="checkbox"/> <i>Staphylococcus aureus</i>	In-house method D23B/7(f3). based on AIFST 1997 and APHA 2001.
<input type="checkbox"/> Presumptive <i>Salmonella</i>	In-house method D23B/7(e). based on AIFST 1997 and APHA 2001.*
<input type="checkbox"/> Coliform	In-house method D23A/7(c3). based on AIFST 1997
<input type="checkbox"/> Coliform & <i>E.coli</i> (Petrifilm)	In-house method D23B/7(m). based on AOAC 999.14
<input type="checkbox"/> Coliform & <i>E.coli</i> (MPN)	In-house method D23B/7(c1). based on APHA 2001.
<input type="checkbox"/> <i>Bacillus cereus</i> Count	In-house method D23B/7(g) based on AIFST 1997*
<input type="checkbox"/> Water Activity (Aw)	In-house method D23B/7(l). based on APHA 2001 and AquaLab 2000.*

KIMIA PERTANIAN**Unsur Utama & Surih (Tanah/ Makanan Ternakan/ Kompos).**

Analisis	Kaedah Analisis
<input type="checkbox"/> Phosphorus (P)	In-house method D10/M24 based on AOAC 975.03 B(b) & 985.01, 19 th Ed., 2012.
<input type="checkbox"/> Calcium (Ca)	
<input type="checkbox"/> Sodium (Na)	
<input type="checkbox"/> Iron (Fe)	
<input type="checkbox"/> Zinc (Zn)	
<input type="checkbox"/> Aluminium (Al)	
<input type="checkbox"/> Potassium (K)	
<input type="checkbox"/> Magnesium (Mg)	
<input type="checkbox"/> Manganese (Mn)	
<input type="checkbox"/> Copper (Cu)	
<input type="checkbox"/> Boron (B)	
<input type="checkbox"/> Sulphur (S)	

Unsur Utama & Surih (Foliar)

Analisis	Kaedah Analisis
<input type="checkbox"/> Phosphorus (P)	In-house method D10/M2 based on AOAC 975.03 B(b) & 985.01, 19 th Ed., 2012.
<input type="checkbox"/> Calcium (Ca)	
<input type="checkbox"/> Sodium (Na)	
<input type="checkbox"/> Iron (Fe)	
<input type="checkbox"/> Zinc (Zn)	
<input type="checkbox"/> Aluminium (Al)	
<input type="checkbox"/> Potassium (K)	
<input type="checkbox"/> Magnesium (Mg)	
<input type="checkbox"/> Manganese (Mn)	
<input type="checkbox"/> Copper (Cu)	
<input type="checkbox"/> Boron (B)	
<input type="checkbox"/> Sulphur (S)	

Unsur Utama & Surih (Baja)

Analisis	Kaedah Analisis
<input type="checkbox"/> Phosphorus (P)	In-house method D10/M9 based on AOAC 975.03 B(b) & 985.01, 19 th Ed., 2012.
<input type="checkbox"/> Calcium (Ca)	
<input type="checkbox"/> Sodium (Na)	
<input type="checkbox"/> Iron (Fe)	
<input type="checkbox"/> Zinc (Zn)	
<input type="checkbox"/> Aluminium (Al)	
<input type="checkbox"/> Potassium (K)	
<input type="checkbox"/> Magnesium (Mg)	
<input type="checkbox"/> Manganese (Mn)	
<input type="checkbox"/> Copper (Cu)	
<input type="checkbox"/> Boron (B)	
<input type="checkbox"/> Sulphur (S)	

Logam Berat (Foliar/ Tanah/ Makanan Ternakan)

Analisis	Kaedah Analisis
<input type="checkbox"/> Cobalt (Co)	In-house method D10/M21 based on AOAC 975.03 B(b) & 985.01, 19 th Ed., 2012.*
<input type="checkbox"/> Selenium (Se)	
<input type="checkbox"/> Chromium (Cr)	
<input type="checkbox"/> Nickel (Ni)	
<input type="checkbox"/> Cadmium (Cd)	
<input type="checkbox"/> Lead (Pb)	
<input type="checkbox"/> Arsenic (As)	
<input type="checkbox"/> Mercury (Hg)	
<input type="checkbox"/> Molybdenum (Mo)	

Logam Berat (Baja)

Analisis	Kaedah Analisis
<input type="checkbox"/> Cobalt (Co)	In-house method D10/M22 based on AOAC 975.03 B(b) & 985.01, 19 th Ed., 2012.*
<input type="checkbox"/> Selenium (Se)	
<input type="checkbox"/> Chromium (Cr)	
<input type="checkbox"/> Nickel (Ni)	
<input type="checkbox"/> Cadmium (Cd)	
<input type="checkbox"/> Lead (Pb)	
<input type="checkbox"/> Arsenic (As)	
<input type="checkbox"/> Mercury (Hg)	
<input type="checkbox"/> Molybdenum (Mo)	

KIMIA PERTANIAN**Tanah**

Analisis	Kaedah Analisis
<input type="checkbox"/> Total Nitrogen & Carbon	In-house method D10/M20 & D10/M41 based on AOAC 993.13.
<input type="checkbox"/> C:N Ratio	In-house method D10/M42 based on AOAC 993.13.
<input type="checkbox"/> NH ₄ ⁺ (Ammonium)	In-house method D10/M36 refer to Manual Makmal Untuk Analisis Tanah dan Tumbuhan.*
<input type="checkbox"/> Loss of Ignition (LOI)	In-house method D10/M19 based on AOAC 942.05.
<input type="checkbox"/> Soluble P	In-house method D10/M33 based on AOAC 985.29.*
<input type="checkbox"/> Conductivity	In-house method D10/M29 based on Eutech PC 2700-meter Instruction Manual.*
<input type="checkbox"/> pH	In-house method D10/M28 based on Mettler Toledo 320 pH meter Instruction Manual.*
<input type="checkbox"/> C.E.C	In-house method D10/M35 based on A textbook of Soil Chemical Analysis P.R. HESSE, p88.*
<input type="checkbox"/> Organic Matter	In-house method D10/M30 based on AOAC 930.15.*
<input type="checkbox"/> Exchangeable Cation	In-house method D10/M34 base on A textbook of Soil Chemical Analysis P.R. HESSE, p88.*
<input type="checkbox"/> Base Saturation	In-house method D10/M44 base on A textbook of Soil Chemical Analysis P.R. HESSE, p88.*
<input type="checkbox"/> Mechanical	In-house method D10/M37 refer to Manual Makmal Untuk Analisis Tanah dan Tumbuhan.*
<input type="checkbox"/> Moisture	In-house method D10/M30 based on AOAC 930.15.

Proksimat (Makanan Ternakan)

Analisis	Kaedah Analisis
<input type="checkbox"/> Ash	In-house method D10/M15 based on AOAC 942.05
<input type="checkbox"/> Moisture	In-house method D10/M14 based on AOAC 930.15.*
<input type="checkbox"/> Crude Protein	In-house method D10/M10 based on AOAC 2001.11 19 th Edition & FOSS Tecator Application Note (AN 300) & FOSS Tecator Application Sub Note (ASN 3401).
<input type="checkbox"/> Crude Fat	In-house method D10/M11 based on FOSS Tecator Application Sub Note (ASN 3414).
<input type="checkbox"/> Crude Fiber	In-house method D10/M12 based on Foss tecator Application Sub Note (ASN 3428)
<input type="checkbox"/> Dry Matter	In-house method D10/M14 based AOAC 930.15

Tenaga (Makanan Ternakan)

Analisis	Kaedah Analisis
<input type="checkbox"/> Calories	In-house method D23A/M11E based on Food Act 1983 & Food Regulation 1985, Reg 18B (3-b).*
<input type="checkbox"/> Gross Energy	In-house method D10/M13 based on IKA operating instructions for C 6000 Isoperibol Bomb Calorimeter.

Serat (Makanan Ternakan)

Analisis	Kaedah Analisis
<input type="checkbox"/> ADF	In-house method D10/M25 based on Foss Tecator Application Sub Note (ASN 3429).*
<input type="checkbox"/> NDF	In-house method D10/M25 based on Foss Tecator Application Sub Note (ASN 3434).*
<input type="checkbox"/> LIGNIN	In-house method D10/M25 based on Foss Tecator Application Sub Note (ASN 3430).*
<input type="checkbox"/> Hemicellulose (NDF-ADF)	In-house method D10/M25 based on Foss Tecator Application Sub Note (ASN 3434) & (ASN 3429).*
<input type="checkbox"/> Cellulose (ADF-LIGNIN)	In-house method D10/M25 based on Foss Tecator Application Sub Note (ASN 3434) & (ASN 3430).*

GC (Screening (Minyak Pati)

Analisis	Kaedah Analisis
<input type="checkbox"/> From raw material	In-house method D10/M39 based on J. Food Sci. Technol., 55 (4) (2018) (pg: 1444-1454).*
<input type="checkbox"/> From oil/ digest	

*Non-accredited

