PIAGAM PELANGGAN

MAKMAL KESIHATAN AWAM VETERINAR KEBANGSAAN

We are committed to providing accurate, transparent, courteous, and efficient scientific analysis services within the following time frame:

Laboratory analysis	Method of Analysis	Turn Around Time (Day)*
Microbiology Unit		
Meat and meat products, Poultry and poultry products, Egg and egg products, Milk and milk products		
Standard Plate Count (ISO/IEC 17025 accredited)	AS 5013.5 : 2016	10
Coliforms and *Escherichia coli*	FDA BAM : 2020, Chap.4	10
***Coagulase-positive Staphylococcus aureus* (ISO/IEC 17025 accredited)**	In house method No: MKAV/M 003 based on AS 5013.12.1 (2004)	10
Yeast & Moulds (ISO/IEC 17025 accredited)	AS 5013.29 : 2009	10
Detection of Salmonella sp. (ISO/IEC 17025 accredited)	In house method No: MKAV/M 005 based on AS 5013.10 (2022) / In house method No: MKAV/M 006 based on AS 5013.10 (2022)	7
Yersinia enterocolitica	FDA BAM: 2017, Chap.8	15
E. coli O157	ISO 16654: 2001	10
Lactic acid bacteria	Compendium of Methods for the Microbiological Examination of Foods: 2001, Fourth Edition	10
Listeria monocytogenes	In house method No: MKAV/M 021 based on USDA FSIS (2019)	10
Campylobacter jejuni	MLG 41.05: 2021	10
Sarkosis	USDA FSIS: 1998, Third Edition	5
Antimicrobial Susceptibility Test (AST)	CLSI M100: 2020	5
Enterobacteriacea	ISO 21528-2: 2017	10
Clostridium perfingens	ISO 7937:2004	10

* Excluding weekends and public holidays

Chemistry Unit		
Products from Food Producing Animal		
Pesticide (Organochlorine) - Meat (Poultry) - Animal fat (Porcine, Bovine, Buffalo, Caprine, Ovine)	In-house method, MKAV/K001 based on Journal of AOAC International, 86(2):412-431 (2003), GC-MS/MS	20
Pesticide (Organochlorine) - Egg	In-house method, MKAV/K002 based on Journal of AOAC International, 86(2):412-431 (2003), GC-MS/MS	20
Nitrite & Nitrate - Edible Bird Nest (EBN)	In-house method, MKAV/K018 based on MS 2509:2015, Ion Chromatography	15
Heavy Metals (Arsenic, Plumbum, Cadmium, Antimony, Mercury) - Edible Bird Nest (EBN)	1) In-house method, MKAV/K004 based on US FDA Elemental Analysis Manual, Version 1.2 (2020), ICP-MS 2) In-house method, MKAV/K024 based on Technical Note PerkinElmer FIAS-100/400 (2004), FIMS	15
Mineral (Ferum, Copper) - Edible Bird Nest (EBN)	In-house method, MKAV/K005 based on BS EN 15621:2017, ICP-OES	15
Species Identification (Porcine DNA, Cattle DNA, Chicken DNA) - Meat and meat products, Poultry and poultry products, Egg and egg products, Milk and milk products	1) In-house method, MKAV/K015 based on Bioscience, Biotechnology and Biochemistry, 71(12):3131-3135 (2007), Real Time PCR 2) In-house method, MKAV/K017 based on Bioscience, Biotechnology and Biochemistry, 71(12):3131-3135 (2007), Conventional PCR	15
Species Identification (Cattle DNA, Buffalo DNA, Goat DNA, Sheep DNA, Chicken DNA) - Meat and meat products, Poultry and poultry products, Egg and egg products, Milk and milk products	In-house method, MKAV/K016 based on Meat Science, 70(1):107-112 (2005), PCR-RFLP	15
Species Identification (Porcine DNA) in Raw Meat (ISO/IEC 17025 accredited)	QIAGEN Mericon Pig Kit (2011), Real Time PCR	15
Fatty acid content - Egg	In-house method, MKAV/K026 based on Poultry Science, 79:1168-1171 (2000), GC-FID	20

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Animal Feed		
Proximate Analysis - Crude Protein	In-house method, MKAV/K008 based on (i) FAO Animal Production and Health Manual (2011), (ii) Elementar Analysensysteme Data Bulletin (2020)	15
Proximate Analysis - Dry Matter	AOAC 934.01, 17th Edition (2000)	
Proximate Analysis - Total Ash	AOAC 942.05, 17th Edition (2000)	
Proximate Analysis - Crude Fat	FOSS AN 310 (2012)	
Proximate Analysis - Crude Fibre	FOSS AN 0306, Revision 3 (2015)	
Proximate Analysis - Gross Energy	In-house method, MKAV/K011 based on FAO Animal Production and Health Manual (2011), Bomb Calorimeter	
Mycotoxin Screening - Total Aflatoxin - Zearalenone - Fumonisin	R-Biopharm RIDASCREEN, ELISA	15
Mycotoxin Confirmation - Aflatoxins (B1, B2, G1, G2)	In-house method, MKAV/K003 based on (i) FAO Animal Production and Health Manual (2011), (ii) Waters Application Note 720002644 (2009), UPLC-FLR	20
Heavy Metals (Arsenic, Plumbum, Cadmium, Antimony, Mercury)	1) In-house method, MKAV/K004 based on US FDA Elemental Analysis Manual, Version 1.2 (2020), ICP-MS 2) In-house method, MKAV/K024 based on Technical Note PerkinElmer FIAS-100/400 (2004), FIMS	15
Mineral (Magnesium, Calcium, Potassium, Phosphorus, Copper, Ferum, Zinc, Manganese, Cobalt, Nickel)	In-house method, MKAV/K005 based on BS EN 15621:2017, ICP-OES	15
Species Identification (Porcine DNA, Cattle DNA, Chicken DNA)	1) In-house method, MKAV/K015 based on Bioscience, Biotechnology and Biochemistry, 71(12):3131-3135 (2007), Real Time PCR 2) In-house method, MKAV/K017 based on Bioscience, Biotechnology and Biochemistry, 71(12):3131-3135 (2007), Conventional PCR	15

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Species Identification (Cattle DNA, Buffalo DNA, Goat DNA, Sheep DNA, Chicken DNA)	In-house method, MKAV/K016 based on Meat Science, 70(1):107-112 (2005), PCR-RFLP	15
Grading (Grain corn) - Moisture content	AOAC 934.01, 17th Edition (2000)	15
Grading (Grain corn) - Test Weight per Bushel	USDA, Chapter 3: Corn (2016)	
Grading (Grain corn) - Heat Damaged Kernels	USDA, Chapter 3: Corn (2016)	
Grading (Grain corn) - Total Damaged Kernels	USDA, Chapter 3: Corn (2016)	
Grading (Grain corn) - Broken Corn Foreign Material (BCFM)	USDA, Chapter 3: Corn (2016)	
VETERINARY DRUG & HORMON UNIT		
Products from Food Producing Animal		
Multidrug Screening (LC-MS/MS) in Eggs	In-house method No: MKAV/C0 48, UPLC-MS/MS based on Waters Application Note (2016)/ LC-MSMS	15
Multidrug Screening (LC-MS/MS) in Tissue - Meat (Poultry) - Kidney (Swine, Bovine, Caprine, Ovine)	In-house method No: MKAV/C 049, UPLC-MS/MS based on SOP USDA (CLG-MRM 1.07), FSIS 2018/ LC-MSMS	15
Chloramphenicol (LC-MS/MS) in Chicken Meat (ISO/IEC 17025 accredited)	In-house method No: MKAV/C 028 based on SOP CSD 301 VI Veterinary Science Division, Belfast, U.K / LC-MSMS	15
Beta-agonist (ELISA) in Liver and Urine (Swine, Bovine, Caprine, Ovine)	Randox, ELISA	20
Beta-agonist (LC-MS/MS) in Liver and Urine (Swine, Bovine, Caprine, Ovine)	In-house method No: MKAV/C 040, UPLC-MS/MS based on SOP CSD 306 v1, Veterinary Science Division, Stoney Road, Stormont, BELFAST, BT4 3SD/ LC-MSMS	25
Nitrofuran AOZ & AMOZ (ELISA) in Liver (Swine, Bovine, Caprine, Ovine)	R-Biopharm RIDASCREEN, ELISA	20

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Nitrofuran metabolites (LC-MS/MS) in Chicken Meat and Eggs (ISO/IEC 17025 accredited in Chicken Meat)	In-house method No: MKAV/C 024 based on SOP BIO 221 V.1. Veterinary Science Division, Belfast, U.K / Journal of Chromatography B. 691 (1997), 87-94 / LC-MS/MS	15
Fluoroquinolone (LC-MS/MS) in Tissue and Eggs - Meat (Poultry) - Kidney (Swine, Bovine, Caprine, Ovine)	In-house method No: MKAV/C 032, UPLC-MS/MS based on Malaysian Journal of Veterinary Research, V2N1:1-15 (2011)/ LC-MSMS	20
Tetracycline (LC-MS/MS) in Tissue and Eggs - Meat (Poultry) - Kidney (Swine, Bovine, Caprine, Ovine)	In-house method No: MKAV/C 038, UPLC-MS/MS based on Journal of Chromatography A 882:109–133 (2000)/ LC-MSMS	20
Macrolide (LC-MS/MS) in Tissue - Meat (Poultry) - Kidney (Swine, Bovine, Caprine, Ovine)	In-house method No: MKAV/C 043, UPLC-MS/MS based on training course by EU DG Trade (2012)/ LC-MSMS	20
Sulphonamide (LC-MS/MS) in Tissue and Eggs - Meat (Poultry) - Kidney (Swine, Bovine, Caprine, Ovine)	In-house method No: MKAV/C 039, UPLC-MS/MS based on SOP LMVUCM/P02-22 – Version 3, Fouregeres (2002)/ LC-MSMS	20
Amphenicol (LC-MS/MS) in Tissue and Eggs - Meat (Poultry) - Kidney (Swine, Bovine, Caprine, Ovine)	In-house method No: MKAV/C 028, UPLC-MS/MS based on SOP CSD 301 VI Veterinary Science Division, Belfast, U.K / LC-MSMS	20
Anticoccidial (LC-MS/MS) in Poultry Meat and Eggs	In-house method No: MKAV/C 050, UPLC-MS/MS based on training course by AFRL, Thailand (2017)/ LC-MSMS	25
Colistin (ELISA) in Chicken Meat	R-Biopharm EuroProxima, ELISA	20
Colistin (LC-MS/MS) in Chicken Meat	In-house method No: MKAV/C 052, UPLC-MS/MS based on training course by AFRL, Thailand (2023)/ LC-MSMS	20

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Animal Feeds (Animal Feed, Animal Drinking Water and Animal Feed Additives)		
Multidrug Screening (LC-MS/MS)	In-house method No: MKAV/VD 006, UPLC-MS/MS	15
Sulphonamides (LC-MS/MS)	In-house method No: MKAV/VD 001, UPLC-MS/MS based on Journal of Food Control 28:192-198 (2012)/ LC-MS/MS	20
Tetracyclines (LC-MS/MS)	In-house method No: MKAV/VD 002, UPLC-MS/MS based on Journal of AOAC International V95N4:1010-1015 (2012)/ LC-MS/MS	20
Amphenicols (LC-MS/MS)	In-house method No: MKAV/VD 003, UPLC-MS/MS based on MDPR Article. Antibiotics (2019)/ LC-MS/MS	20
Macrolides (LC-MS/MS)	In-house method No: MKAV/VD 004, UPLC-MS/MS	20
Beta-agonists (LC-MS/MS)	In-house method No: MKAV/VD 005, UPLC-MS/MS	25
Fluoroquinolones (LC-MS/MS)	In-house method No: MKAV/VD 007, UPLC-MS/MS	20
Nitrofurans (LC-MS/MS)	In-house method No: MKAV/VD 008, UPLC-MS/MS	15
Colistin (LC-MS/MS)	In-house method No: MKAV/VD 009, UPLC-MS/MS based on Food Chemistry 248: 166-172 (2018)/ LC-MS/MS	20
POLLUTION UNIT		
Livestock Wastewater		
pH (ISO/IEC 17025 accredited)	APHA 4500-H^+B, 21st Edition (2005)	10
Biochemical Oxygen Demand (BOD_5) 5 days at 20°C (ISO/IEC 17025 accredited)	APHA 5210 B & APHA 4500-O G, 21st Edition (2005)	

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