# **Schedule of Accreditation**

issued by

**United Kingdom Accreditation Service** 

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK



1639 Accredited to ISO/IEC 17025:2017

# **Tayside Scientific Services**

Issue No: 064 Issue date: 28 February 2025

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## Testing performed at the above address only

#### DETAIL OF ACCREDITATION

	Type of test/Properties	Standard specifications/
Materials/Products tested	measured/Range of measurement	Equipment/Techniques used
ANIMAL FEEDINGSTUFFS	<u>Chemical Tests</u> * Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Documented In-House Methods identified by method number GAx based on SI 1999, No 1663 'The Feedingstuffs (Sampling and Analysis) Regulations
	*Compositional Analysis, Additives, colourings, preservatives and related contaminants	Development and modification of methods for analysis using Flexible Scope Procedure PFG 1 (HPLC, GC, GC-MS and UV spectroscopy)
	*Determination of Elements	Development and modification of methods for analysis using Flexible Scope Procedure PFG 2 (AAS and ICP-OES)
	*Foreign Body identification	Development and modification of methods for analysis using Flexible Scope Procedure PFG 3 (Light Microscopy)
	*Compositional Analysis, Additives, colourings, preservatives and related contaminants	Development and modification of methods for analysis using Flexible Scope Procedure PFG 4 (Gravimetric, titremetric and other classical wet chemistry technicques)



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ANIMAL FEEDINGSTUFFS (cont'd)	<u>Chemical Tests</u> (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Documented In-House Method identified by method number
	*Aflatoxin B1, B2, G1, G2 and Ochratoxin A	PF099 by HPLC fluorescence with Kobra Cell
	*Deoxynivalenol	PF091 by immunoaffinity column separation and HPLC
	*Zearalenone	PF088 by immunoaffinity column separation and HPLC
	*Ash	GA008 based on EC152/2009
	*Crude Fibre	GA010 based on EC152/2009
	*Moisture	GA002 by oven drying based on EC152/2009
	*Oil (total)	GA004 based on EC152/2009
	*Nitrogen and Protein (by calculation)	PF082 using the Dumas Combustion method
	*Nitrogen and Protein (by calculation)	PF016 using Kjeldahl based on BS ISO 937:2023
	*Vitamins A and E	PF061 using High Performance Liquid Chromatography
	*Cobalt *Copper *Iron *Manganese *Zinc	GA013 using Flame Atomic Absorption Spectrometry
	*Cadmium *Lead	GA012 using Flame Atomic Absorption Spectroscopy
	*Arsenic *Selenium	GA014 using Hydride Generation Atomic Absorption Spectrometry



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FOODS	<u>Chemical Tests</u> (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Methods documented in 'Analytical Methods Manual for VEMS' Association of Public Analysts and identified by method number or Documented In-House Methods identified by method number PFx
Bakery wares e.g. bread, toasted bread, crisp bread and biscuits, potato products e.g. potato chips and crisps	*Acrylamide	PF105 by GC-MS
DAIRY PRODUCTS	*Fat	PF092 by alkaline hydrolysis (Rose Gottlieb method)
Cream	*Acidity (titratable)	F/0251 by titration
	*Fat	F/0216 by Gerber technique
Milk, Liquid	*Acidity (titratable)	VEMS F/0131
	*Antibiotics	PF070 using Delvo kit
	*Fat	F/0008 using Gerber technique
	*Freezing Point	PF008 using Thermistor Cryoscope
	*Total solids	PF057 using Gravimetry
FAT	*Butyric acid	F/0289 by gas chromatography
FATS and OILS	*Peroxide value	F/0009 by titration
	*Fatty acid profile	PF 051 GC/FID (analysis of fatty acids converted to fatty acid methyl esters )
	*Free fatty acids	F/0010 by titration
FISH - FRESH and FROZEN, FISH PRODUCTS and PROCESSED FISH	*Ash	PF012 by muffle furnace



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FOODS (cont'd)	<u>Chemical Tests</u> (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Methods documented in 'Analytical Methods Manual for VEMS' Association of Public Analysts and identified by method number or Documented In-House Methods identified by method number PFx
FISH - FRESH and FROZEN, FISH PRODUCTS and PROCESSED FISH	*Fat *Moisture	PF002 by oven drying and Soxhlet Extraction
	*Histamine	PF117 by HPLC based on ISO 19343:2017
BREAD	*Propionic Acid	PF049 by Gas Chromatography (GC)
HONEY	*Hydroxymethyl furfural	PF046 by HPLC
	*Identification of Pollen Grains	PF045 by light microscopy
	*Moisture	F/0265 by refractometry
SPIRITS	*Apparent and Actual Alcohol	<ol> <li>PF021 by Pycnometry and Obscuration (Reference Method)</li> <li>PF019 by density meter and Obscuration (Primary Method)</li> </ol>
	*Congeners	F/0161 by Gas Chromatogrpahy
MEAT - FRESH and FROZEN MEAT PRODUCTS and PROCESSED MEAT	*Ash	PF012 by muffle furnace
PROCESSED MEAT	*Fat and Moisture	PF002 by oven drying and Soxhlet extraction
	*Nitrogen and crude protein (by calculation)	PF082 by Dumas
	*Nitrogen and protein (by calculation)	PF016 using Kjeldahl based in BS ISO 937:2023
FLESH FOODS and MEAT PRODUCTS	*Total volatile nitrogen	F/0157 by Distillation followed by titration



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
FOODS (cont'd)	<u>Chemical Tests</u> (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Methods documented in 'Analytical Methods Manual for VEMS' Association of Public Analysts and identified by method number or Documented In-House Methods identified by method number PFx
MEAT and MEAT PRODUCTS	*Hydroxyproline	PF011 based on BS 4401:Part 11:1995
FIAH AND FISH PRODUCTS	*Calculation of apparent fish content	PF017 by calculation
SOFT DRINKS	*Acesulfame K Aspartame Benzoic acid Caffeine Saccharin Sorbic acid	PF023 by HPLC
SOYA SAUCE	*3-monochloropropane-1,2-diol	PF100 by gas Chromatography with Mass Spectroscometric detection (GC/MS) based on BS EN 14573:2004
FOODS, General	*Compositional Analysis, Additives, colourings, preservatives and related contaminants	Development and modification of methods for analysis using Flexible Scope Procedure PFG 1 (HPLC, GC, GC-MS and UV spectroscopy)
	*Determination of Elements	Development and modification of methods for analysis using Flexible Scope Procedure PFG 2 (AAS and ICP-OES)
	*Foreign Body identification	Development and modification of methods for analysis using Flexible Scope Procedure PFG 3 (Light Microscopy)
	*Compositional Analysis, Additives, colourings, preservatives and related contaminants	Development and modification of methods for analysis using Flexible Scope Procedure PFG 4 (Gravimetric, titremetric and other classical wet chemistry technicques)



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
FOODS, General (cont'd)	<u>Chemical Tests</u> (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Methods documented in 'Analytical Methods Manual for VEMS' Association of Public Analysts and identified by method number or Documented In-House Methods identified by method number PFx
	*Ash *Moisture	PF012 by gravimetry
	*Arsenic, Total and inorganic	PF107 by Hydride Generation Atomic Absorption
	*Calcium	VEMS F/0183
	*Chloride, *Salt as Sodium Chloride (calculation), *Salt in Aqueous Phase (Calculation)	PF078 using Ion Chromatography
	*Dietary Fibre	PF027 by enzymatic digestion and gravimetry
	*Ethanol	PF058 by GC-FID
	*Fat (total)	PF005 by acid digestion/extraction
	*Aflatoxin B1, B2, G1, G2 and Ochratoxin A	PF099 by HPLC fluorescence with Kobra Cell
	*Deoxynivalenol	PF091 by by immunoaffinity column separation and HPLC
FOODS, Water soluble (soft drinks, sugar confectionery)	*Synthetic Food Colour (Water soluble): Allura Red (E129) Amaranth (E123) Brilliant Blue (BFCF) Carmoisine (E122) Green S Patent Blue (E131) Ponceau 4R (E124) Quinoline Yellow FCF (E104) Red 2G (E128) Sunset yellow (E110) Tartrazine (E102)	PF087 by HPLC-DAD



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
FOODS, General (cont'd)	<u>Chemical Tests</u> (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Methods documented in 'Analytical Methods Manual for VEMS' Association of Public Analysts and identified by method number or Documented In-House Methods identified by method number PFx
FOODS, General	*Zearalenone	PF088 by immunoaffinity column separation and HPLC
	*Allergens, Contaminants and Protein Species	PF069 - Flexible Scope method for performance verification and use of commercial ELISA test kits
	*Gluten	PF116 – by ELISA using the R- Biopharm RIDASCREEN R7001 and R7002 test kits
	*Nitrate and Nitrite	PF033 by HPLC
	*Nitrogen and Protein (by calculation)	PF082 using the Dumas Combustion method
	*Nitrogen and Protein	PF016 using Kjeldahl based on BS ISO 937:2023
	*pH	PF065 based on VEMS F0282
	*Sodium	PF052 by Flame Emission Spectrophotometry
	*Soluble Solids in food	PF 079 using refractometry
	*Sorbic acid	PF050 by HPLC
	*Sugars: (Total and Fructose, Galactose, Glucose, Lactose, Maltose, Sucrose)	PF022 by HPLC with Refractive Index detection
	*Sulphur Dioxide	PF060 using Gravimetric weighing
	*Cadmium and Lead	PF085 using ashing followed by ICP-OES
Foods - except baby foods, infant formulae and dietary foods intended for infants	*Tin	VEMS F/0134 using acid digestion followed by Flame AAS



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FOODS, General (cont'd)	<u>Chemical Tests</u> (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Documented In-House Methods identified by method number PFx
	*Vitamins A and E	PF061 using HPLC
	*Vitamin C	PF074 using HPLC
	*Water activity	PF053 by hygrometer
	*Apparent meat content	PF056 based on APA guidelines
	*Energy value	F/0381 by calculation from analytical data
FOODS (as specified)	Molecular Tests	
MEAT and MEAT PRODUCTS	*Species identification (qualitative) beef pork lamb horse chicken turkey	PF098 using RT-PCR
FISH and FISH PRODUCTS	*Species identification (qualitative)	PF094 using PCR-RFLP and Agilent 2100 Bioanalyser
Animal Feeding Stuffs, Foods and Waters	*Detection and/or determination of DNA sequences for speciation, genetically modified organisms (GMO's), allergens and microorganisms	Development and modification of methods for analysis using Flexible Scope Procedure PFG5 (PCR, qPCR, PCR-RFLP)
DIFFUSION TUBE SAMPLERS	Chemical Tests	Documented In-House Methods
	Nitrogen dioxide	PE002 by spectrophotometry



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
FOODS, General	Microbiological Tests *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Documented In-House Methods identified by method number PMFx based on/incorporating published procedures referenced by BS EN ISO Methods
	Detection:	
	*Campylobacter spp	PMF025 based on ISO 10272- 1:2017 + AMD 1:2023
	*Escherichia coli O157	PMF014 based on BS EN ISO 16654:2001 + A2:2023
	*Listeria monocytogenes	PMF024 based on BS EN ISO 11290-1:2017
	*Salmonella species	PMF009 based on BS EN ISO 6579-1:2017 AMD 1 :2020
	*Shiga Toxin-Producing <i>Escherichia coli</i> (Presumptive)	PMF029 based on CEN ISO/TS 13136:2012 by Multiplex Real-Time PCR using Life Technologies extraction and PCR test kit and Agilent MX3005 analyser
	Enumeration:	
	*Listeria monocytogenes and other Listeria spp	PMF021 based on BS EN ISO 11290-2:2017
	*Yeasts and Moulds	PMF027 based on ISO 21527Parts 1 & 2: 2008
Ready-to-eat prepared foods	*Aerobic Colony Count at 30°C	PMF015 using Plate count agar at 30°C for 48 hours using spiral plating technique
	*Bacillus cereus	PMF011 based on BS EN ISO 7932:2004 AMD 1:2020
	*Clostridium perfringens	PMF008 based on BS EN ISO 15213-2:2023



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FOODS, General (cont'd)	Microbiological Tests (cont'd) *Indicates analysis performed under Food Standards Scotland designation as Official Laboratory in accordance with retained Regulation (EU) 2017/625	Documented In-House Methods identified by method number PMFx based on/incorporating published procedures referenced by BS EN ISO Methods
	Enumeration (cont'd):	
	*Enterobacteriaceae	PMF023 using Pour Plate based on BS EN ISO 21528-2:2017
	*Escherichia coli	PMF004 based on ISO 16649- 2:2001 using surface spread technique
	*Coagulase positive Staphylococci (including <i>Staphylococcus aureus)</i>	PMF006 based onBS EN ISO 6888-1:2021 + AMD 1 :2023
Shellfish	*Escherichia coli	PMF026 using MPN based on ISO 16649-3:2015



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	Methodology meeting the requirements of The Drinking Water
	Testing Specification
<u>piological Tests</u>	
eration:	
coliforms and <i>Escherichia coli</i>	PMW008 based on the Microbiology of Drinking Water (2016):Part 4D using the colilert system
ococci	PMW009 based on the Microbiology of Drinking Water 2012:Part 5B using EnterolertTM
idia and Clostridium	PMW007 based on The Microbiology of Drinking Water Part-6 2021 using membrane filtration
Colony Count at 22 °C and	PMW003 based on the Microbiology of Drinking Water (2020):Part 7A using YEA pour plate
rms and Escherichia coli	PMW008 based on the Microbiology of Drinking Water (2016): Part 4D using the colilert system
Colony Count at 22° and 37°C	PMW003 based on Microbiology of Drinking Waters (2020), Part 7A using YEA pour plate
ococci	PMW009 based on MDW 2012 Part 5B using Enterolert
domonas aeruginosa	PMW010 MPN using Pseudalert at 38ºC based on MDW 2015 Part 8 Method C
	and) Regulations 2014 Private Water Supplies and) Regulations 2017 <u>biological Tests</u> eration: coliforms and <i>Escherichia coli</i> bcoccci lated sulphite-reducing ridia and <i>Clostridium</i> <i>ngens</i>



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WATERS (non regulatory testing) (cont'd)	Microbiological Tests (cont'd)	Documented in house methods based on the Microbiology of Drinking Waters
	Detection of:	
	Campylobacter spp	PMF025 based in ISO 10272- 1:2017 + AMD 1:2023
	<i>Legionella</i> spp	PMW002 based on ISO 11731: 2017 Matrix A & B. Procedure 8, 9, 10
	<u>Molecular Tests</u>	Documented In-House Methods identified by method number PMWx, based on International Standards
Drinking Recreational (man made)	Detection and Quantification of DNA from <i>Legionella pneumophila</i>	PMW011 based on ISO/TS 12869:2019 by Real-Time PCR using filtration, Aquadien DNA Extraction Kit, Bio-Rad iQ Check Test Kit and Agilent MX3005 analyser
	Detection of:	
Drinking	Shiga Toxin-Producing <i>Escherichia coli</i> (Presumptive)	PMF029 based on CEN ISO/TS 13136:2012 by Multiplex Real-Time PCR using Life Technologies extraction and PCR test kit and Agilent MX3005 analyser
END		