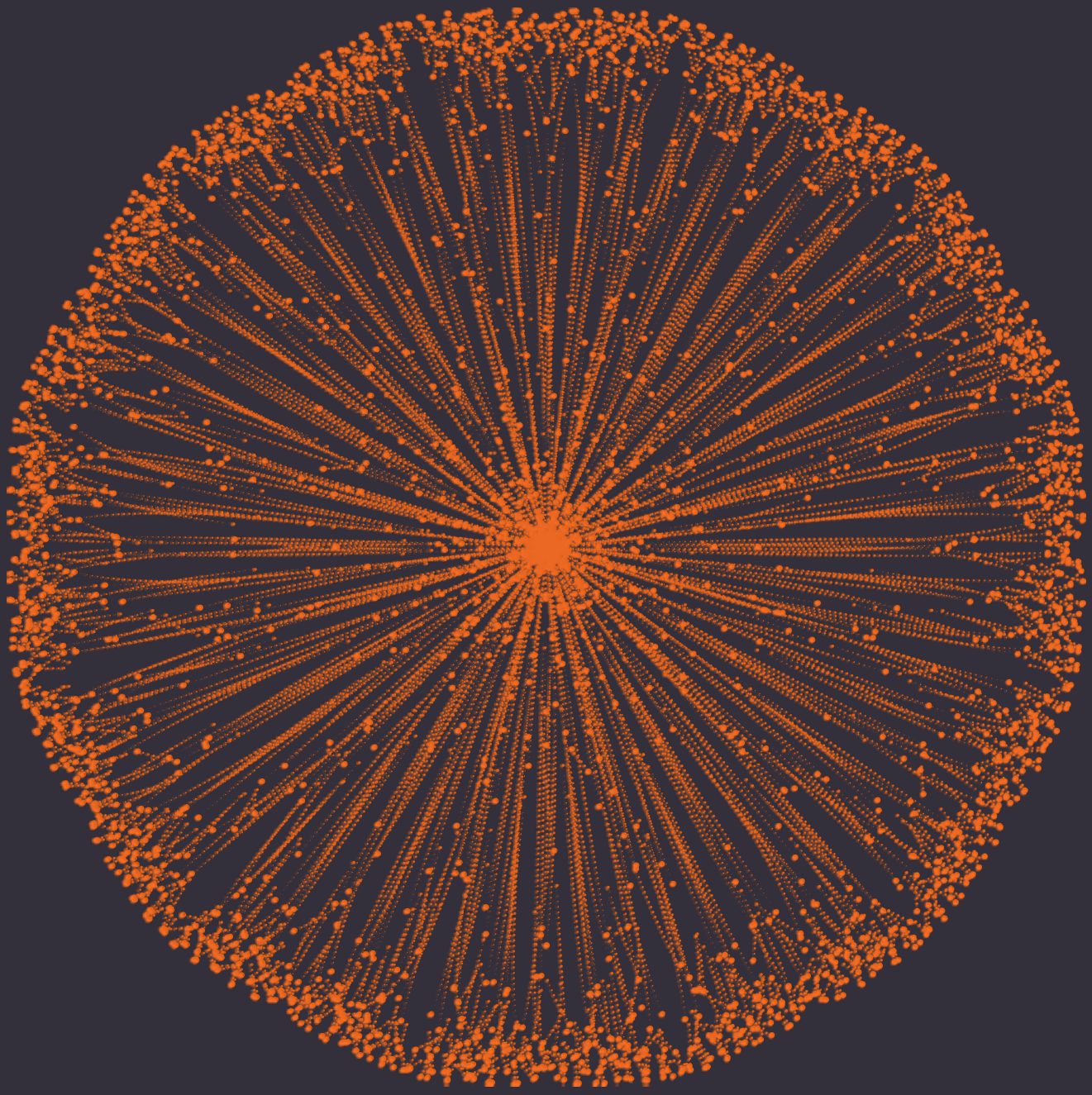
fera

Original thinking... applied



fapas

PROFICIENCY **TESTING.**

2018—2019 PROGRAMME

ISSUE: 2 22.03.18

Fapas
Fera Science Ltd. (Fera)
National Agri-Food Innovation Campus
Sand Hutton
York
YO41 1LZ
UK

Tel: +44 (0)1904 462100
Fax: +44 (0)1904 500440
E-mail: info@fapas.com

fapas.com

© Copyright Fera Science Ltd. (Fera) 2017. All rights reserved.

Contents

Who We Are	4–5
Benefits of Proficiency Testing	6–7
The Customer Journey	8–9
Accredited Schedule of Schemes	10–11
Why Choose Fapas	12–13
What to look forward to in 2018	14–17
Case Studies	18–19
Fapas Consultancy Services	20–21
Genetically Modified Foods (GMO)	22–29
Food Microbiology	30–37
NEW Wine Proficiency Tests	42-43
Food Chemistry	44–59
Water & Environment	60–83
Agent Information	84–85
Part Codes Explained	86–87
Frequently Asked Questions	88–93

Fapas
—
Who we are

Fapas is the leading global provider of proficiency testing schemes, quality control samples and reference materials in the food sector, offering products throughout the year.

Proficiency testing is an independent check of your laboratory procedures providing you with a completely confidential assessment of your capability. Not only does participation in the relevant testing schemes allow you to demonstrate your systems and the technical ability of your staff, it will also help you gain and maintain ISO/17025 accreditation.

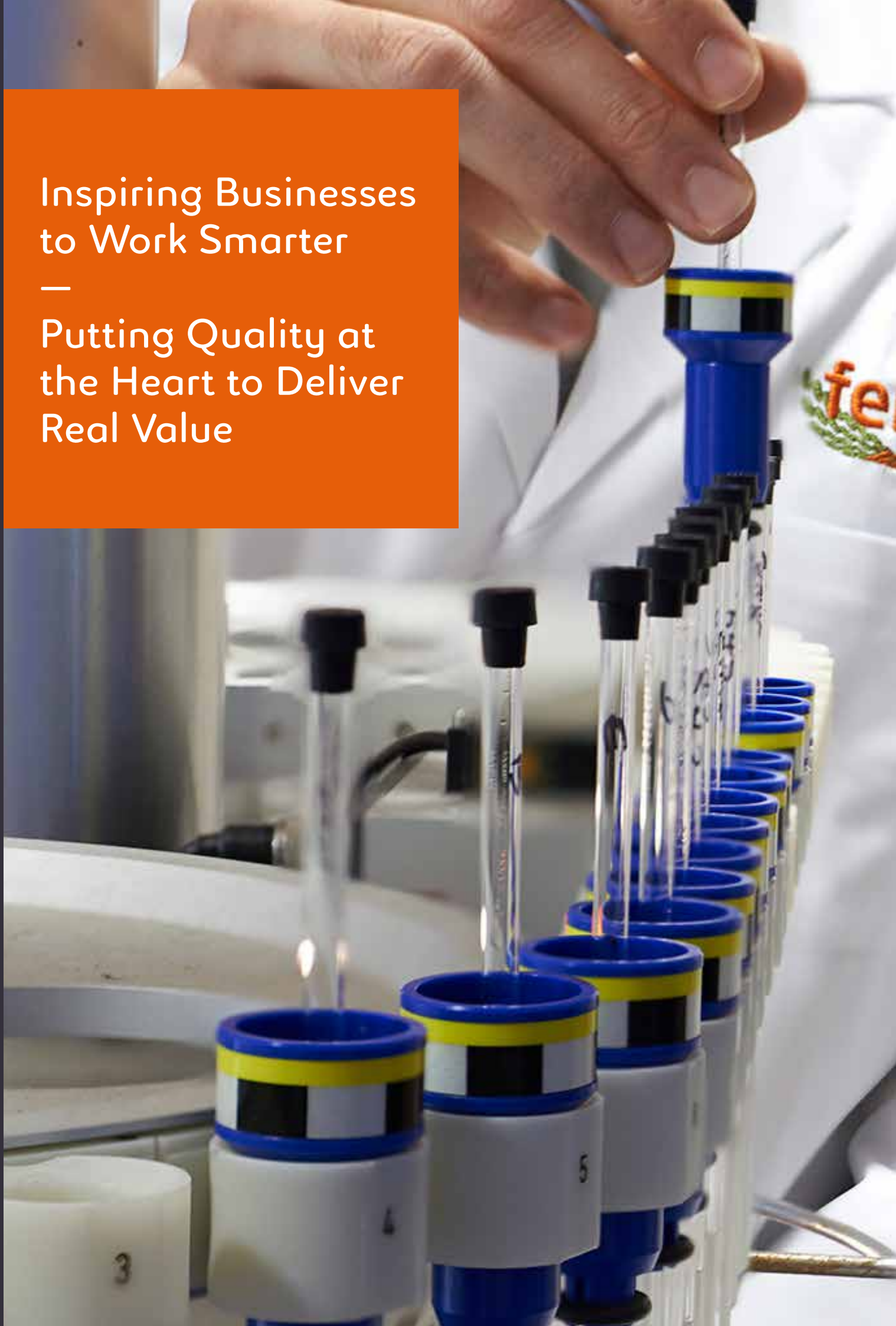
Established in 1990, we are an experienced, accredited provider of proficiency tests for the food and water, environmental chemistry and microbiology sectors. Taking part in our proficiency tests provides you with the confidence in your laboratory equipment, methods and staff, and assurance that you are delivering the quality results required by your customers.

We provide you with a confidential service allowing participation at a level that suits you; there is no minimum number of proficiency tests that you must take part in each year. Our system provides you with comprehensive reports, which receive rigorous statistical analysis, contain method comparisons to provide further insight into your performance and an easy reporting facility via our website.

We also offer quality control samples and reference materials from selected food chemistry proficiency tests which can be purchased easily through our website throughout the year.

Our four Fapas proficiency testing schemes cover food chemistry, food microbiology, GM and water and environmental analysis.

Inspiring Businesses to Work Smarter
—
Putting Quality at the Heart to Deliver Real Value



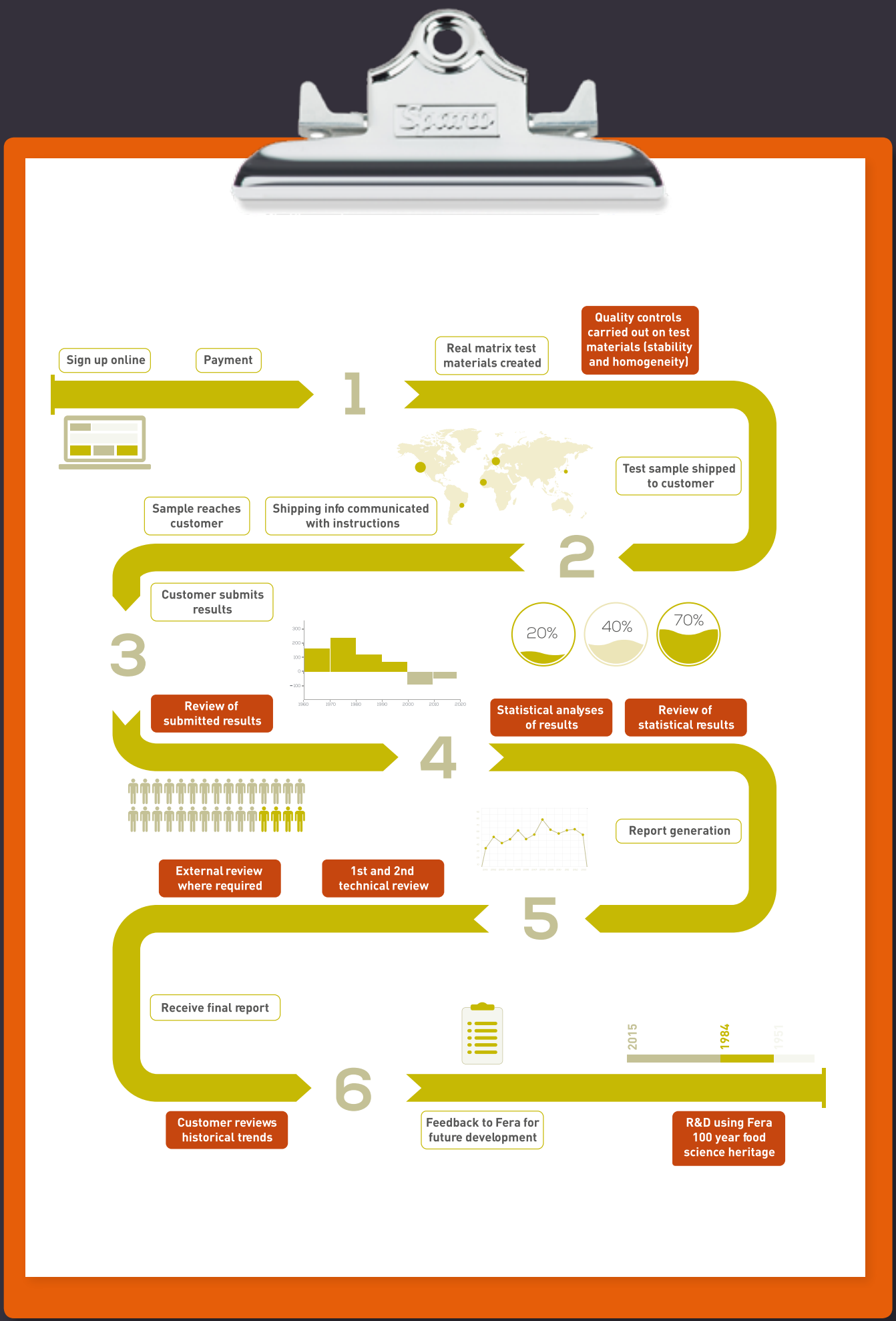
Benefits to proficiency testing (PT)

We understand the challenges you face, this is why we provide tailored proficiency testing solutions that deliver real value, we can also help with the interpretation of your proficiency results. We have been the global leader in proficiency testing for the food and beverage sector for nearly 30 years with over 4,500 customers in over 120 countries. Being part of Fera Science Ltd, we have access to a wealth of expertise underpinned with organising over 400 proficiency tests every year with high levels of participation, giving you the trust you need in robust analytical data to allow you to make evidence based business decisions.

Whilst the rapid development of new technologies and methodologies provide opportunities for you to work smarter technology can also poses a real challenge for laboratories to maintain a quality standard that can be trusted. The use of Proficiency Tests in the context of the assessment of laboratories to the accreditation according to EN ISO/IEC 17025:2005 is therefore regarded as a standard that demonstrates the quality of your test and calibration results and ultimately your products. Proficiency testing is also a vital tool in mitigating business risks, such as; product failure, non-compliance, brand reputation and legal requirements.

It gives you the confidence in your products, supply chain, analytical methods and people. Delivering a comprehensive yet cost effective solution and demonstrating the quality of your testing regime, Fapas can help you meet your regulatory requirements, help you to work smarter and increase confidence in your test system accuracy.

The Fapas Customer Journey


Sign up online
Payment
1
Real matrix test materials created
Quality controls carried out on test materials (stability and homogeneity)
Test sample shipped to customer
Shipping info communicated with instructions
Sample reaches customer
2
Customer submits results
3
20%
40%
70%
Review of submitted results
Statistical analyses of results
Review of statistical results
4
Report generation
External review where required
1st and 2nd technical review
5
Receive final report
2015
1984
1951
6
Customer reviews historical trends
Feedback to Fera for future development
R&D using Fera 100 year food science heritage

With over 400 programmes currently available you can be sure that we have the test for you. We are constantly adding to our product catalogue using customer feedback, market demand, changes in regulation and of course the ever changing market place in which you work. A great example of this is our development and introduction of the new Fipronil PT which we developed as a result of the recent food scare in eggs and egg products.

Water & Environment	
Materials/Products	**Scheme Name/Type of Test/ Properties Measured**
Concentrated solutions	Major inorganic components
	Routine components
	Routine metals
	Non routine metals + non specific inorganics
	Inorganic disinfection by-products
	Trihalomethanes/chlorinated solvents
	Polycyclic Aromatic Hydrocarbons
	OP + triazine pesticides
	OC pesticides
	Urons
	Phenoxyacid herbicides
	BTEX

Food GM	
Materials/products	**Scheme Name/Type of Test/ Properties Measured**
Soya flour	Round up ready
Maize Flour	Specific events as available
Animal Feed	Challenge tests – one or more GM traits in mixed matrices
Mixed flours	
Process/based products	
Tobacco	
Water & Environmental	
Accreditation	

Accredited Schedule

Food Chemistry	
Materials/Products	**Scheme Name/Type of Test/ Properties Measured**
Food Components	
Meats	Acrylamide
Cereals	Allergens
Fish	Organic environmental contaminants
Fruit and vegetables	Mycotoxins
Honey	Dyes
Milk and milk powder	Nitrates and nitrites
Infant food	Metals
Confectionery	Veterinary medicine residues
Nuts, spices and condiments	Pesticide residues
Alcoholic drinks	3-MCPD, 1,3-DCP
Fruit and vegetable juices	Packaging migration
Soft drinks	
Food Components	
Tea and coffee	Proximates
Oils and fats	Sugars and sweeteners
Packaging materials and simulants	Antioxidants
Sugar	Preservatives
Ready meals and snack foods	Colours
Egg	Acidity
Liquid vitamin supplement	Caffeine and theobromine
	Nutritional elements/minerals
	Vitamins
Meat and Fish authenticity	
	Quality indicators
Animal Feeding Stuffs	Proximates, Sugars, Vitamins & Minerals

Food Microbiology	
Materials/Products	**Scheme Name/Type of Test/ Properties Measured**
	Enumeration
Meat	Aerobic plate count
Milk Powder	Bacillus cereus
Rice	*Campylobacter spp*
Flour	*Clostridium perfringens*
Salad	Coagulase positive
Chicken	Staphylococci
Fruit juice	Coliforms
Environmental and sponge swabs	E. coli
	Enterobacteriaceae
	Enterococci
	Lactic acid bacteria
	Pseudomonads
	Yeasts and moulds
	Listeria monocytogenes
	Detection
Meat	*Campylobacter spp*
Fish	*E coli* O157
Milk & Milk powder	*Listeria monocytogenes*
Pepper	*Salmonella spp*
Cocoa powder	*Vibrio parahaemolyticus*
Soft cheese	*Yersinia enterocolitica*
Egg	
Herbs and spices	
Salad	
Animal feed	

Potable water Microbiology/Parasitology	
Materials/Products	**Scheme Name/Type of Test/ Properties Measured**
PBS Suspensions, Water	
	Total Coliform, E coli Colony Count (22°C/3 days) Colony Count (37°C/2 days)
	Enterococci
	Clostridium perfringens
	Ps.aeruginosa
	Legionella spp
	Cryptosporidium
	Giardia
Organism on agar slopes	
	Organism Identification

- Fapas provides certificates as proof of EQA participation and performance for laboratory accreditation purposes.
- Fapas is accredited to ISO/IEC 17043:2010, 'Conformity Assessment-general Requirements for Proficiency Testing' and a UKAS accredited Proficiency Testing Provider, No. 0009.
- Accreditation to ISO/IEC 17043:2010 highlights the superior quality and excellence of Fapas.

Independent Advisory Panel

Fapas participants have access to an independent advisory panel consisting of scientific and technical experts. This ensures professional and ethical conduct of the scheme and participant confidentiality.

Fapas support staff are on hand to offer advice and troubleshoot technical queries. Just get in touch, email **info@fapas.com**

Why choose Fapas Proficiency Testing

Large Database of Users

- A high level of participation means peer group numbers are maximised whilst ensuring availability of data for a wide range of instruments and methods. Fapas enjoys over 4,500 participants every year taking part in our testing regime.

Comprehensive Reports

- Easy submission of results via Fapas SecureWeb at any time as well readily available access to obtain your laboratory number for a proficiency test.
- Z-SCORE REPORTING – With handy tools like the 'ideal' performance chart indicator this will show a tight cluster of scores along the '0' line, so summarising performance compared to the previous cycle, allowing you to identify improvements in quality over time.
- Easy to digest, simple reporting tables enables at-a-glance performance assessment, saving valuable laboratory time.
- Complimentary multi-instrument and interlaboratory reports allow comparative performance assessment of all laboratory systems and multiple connected laboratories, as well as an overview of global performance.

Cost Effective

- Our extensive range of multi-analyte programmes analyte/matrix combinations allows you to reduce the number of individual programmes required, saving both time and money.
- You can participate at a level that suits you; there is no minimum number of proficiency tests that you must take part in each year. This offers greater flexibility, ensuring suitability for laboratories of all sizes and budgets.

Frequency

- Rapid reporting allows early identification of system errors and implementation of any necessary corrective actions with minimum disruption to the laboratory.
- With a turnaround of less than 15 days for most reports, corrective action can be implemented earlier, potentially reducing costly errors with laboratory results.
- Results receive rigorous statistical analysis by PT experts within this time frame.

High Quality Samples

- By using real food samples where possible, Fapas test materialsgive you the best realistic results to simulate true life scenarios.
- Our reference and quality control materials are stable and fully characterised for long term availability to be used for method validation and verification respectively.

Highly Accredited

- Majority of our proficiency tests are accredited by UKAS in compliance with ISO/IEC 17043/2010, proficiency testing provider number 0009.
- Fera Science Ltd is accredited or certified to other internationally recognised standards including ISO 9001:2008.
- Participant certificates provide evidence of participation in a reputable External Quality Assessment (EQA) scheme.

What to look forward to in 2018

We've listened to your feedback and in order to ensure Fapas continues to meet your needs, we've added a number of new proficiency tests to ensure you continue to meet regulatory demands and offer high quality testing across a range of analyte matrix combinations as well as reduce our courier charges and we are passing these savings directly onto you.

Reduced Courier Prices

See below just some of the new proficiency tests Fapas offer for 2018

New Fapas Products

Programme	Product Code	Analytes	Test Material	Start Date
Food Chemistry	FCAL19-CON23	Fish (cod)	Sauce (cooked)	19 Nov 2018
Food Chemistry	FCCM11-CCP49	Aluminium, arsenic (total), lead, cadmium, mercury (total), nickel	Wheat Flour	30 May 2018
Food Chemistry	FCCM12-SEA27	Cadmium, lead, mercury (total)	Seafood: Squid	10 Sep 2018
Food Chemistry	FCCM18-SUP2	Cadmium, chromium, lead, mercury (total)	Food Supplement	06 Dec 2018
Food Chemistry	FCMS1-SEA20	Quarternary Ammonium Compounds (QUATs)	Prawn	27 Nov 2018
Food Chemistry	FCPM2-VEG34	Named pesticides	Cauliflower	05 Feb 2019
Food Chemistry	FCPM2-HON2	Separate pesticide list new PT-separate analyte list for honey	Honey	08 Jan 2019
Food Microbiology	FMOD2-MRP47	Listeria monocytogenes/ Listeria spp.	Dry Cured Meat	02 Jul 2018
Food Microbiology	FMOD2-MRP47	*Campylobacter spp.*	Chicken	26 Nov 2018
Food Microbiology	FMOD11-DRY18	*Escherichia coli*	Soft Cheese	03 Sep 2018
Food Microbiology	FMOE10M-MRP2	*Escherichia coli* (enumeration by MPN)	Beef	03 Sep 2018
Food Microbiology	FMOD2-PRO40	Listeria monocytogenes/ Listeria spp.	Ready to eat Meal (RTE)	29 Oct 2018
Water & Environmental	FWHC1-DRW1	Hexavalent Chromium (Cr VI) Newgroup 18 Hexavalent Chromium to be distributed four times per year	Drinking Water	28 Apr 2018
Water & Environmental	FWPT1-EWW1	New Group 16 Phthalates to be distributed twice per year	Water	19 Jun 2018

Simple Web-Based Approach

Fapas SecureWeb offers easy, direct access for the submission of results and retrieval of reports direct from the Fapas secure server.

- Confidentiality and security is maintained through the use of password protected access.
- Submit current, corrected and future results (normal policies apply), directly into the Fapas database. Receipt of results is confirmed by e-mail.
- Additions and changes to assay details can be made quickly and easily online.
- Requests for new method, instrument and reagent codes can be made online.
- Reports are emailed in PDF format as soon as they are prepared.
- Reports for all historic cycles can be downloaded from the website.
- View, print, or store reports as you wish.
- Update your laboratory's certificate of participation details.
- All that is required is web access, Adobe Reader (for viewing reports) and a valid password to access the system.
- No additional software required.

www.fapas.com

fapas

Fapas Reports

Fapas reports are presented in a comprehensive, user-friendly, format that allows easy interpretation of your analytical performance.

- Statistical breakdown by all methods, your method and, where applicable, your instrument.
- Compare your instrument group, method group and all methods using the histogram.
- Identify trends, biases and precision problems using the visual charts.
- At-a-glance summary page for all parameters in the programme.
- Compare your result with statistically robust consensus means.
- Identify acceptable and poor performance.
- Fit-for-purpose performance indicators.

Laboratory Group Reports

The group reporting facility enables laboratory groups or chains to monitor the performance of satellite sites. Each affiliated laboratory will receive an individual report with the group supervisor also receiving a summary report comparing each laboratory in the network.

Fapas in action
—
Case studies

I need to know if my global supplier network is proficient?

Working with a global product manufacturer, Fapas was able to provide the business with a network-wide Proficiency Testing (PT) Programme with a dedicated Technical Account Manager to work closely with the team to devise tailor-made schemes that were specific to their customer needs. A fully comprehensive overall report was produced for the Main Quality Manager detailing the performance of their laboratories highlighting any trends or issues.

This meant that the customer was given full oversight of the performance of their laboratory network (both internal and external) and could act on the highlighted issues. Additionally, with consultancy from the Fapas Technical Manager, the customer was supported in effectively interpreting the proficiency tests results, allowing them to gain the maximum possible benefit from their investment.

With Fapas managing the fulfilment of the ordering process, this removed any additional time required when registering their laboratories and scheduling the PT schemes.

How can you help me with my testing efforts?

In close collaboration with a national food producer, Fapas were able to interpret their nutritional data, to identify the root cause, eliminate recurring issues, and implement crucial corrective action. With effective problem solving techniques, expertise and a thorough understanding of the information, Fapas were able to break down the complexities of the business problems and get to the root cause by focusing on the potential areas of immediate concern. We made use of Fapas proficiency tests and our consultancy services to compare the fitness-for-purpose of the current nutritional testing methods and highlight any areas of improvement.

The current testing methods were found not to meet the strict requirements of nutritional compliance. To address this issue, Fapas recommended the sustained use of Fapas quality control samples to build an ongoing control chart, providing an effective comparison tool for their analysis efforts. Through the use of these QC samples the producers analysis methods were vastly improved, meeting the criterion required to be compliant and ensuring their foodstuffs were able to stand up to regulatory scrutiny.

We can help you today – email us at
info@fapas.com
Ready to order? visit www.fapas.com

Let Us Help You — Fapas Consultancy Services

Fapas Consulting Services utilise best practice industry standards to deliver both quality and continuous business process improvements, as well as promoting improvement across your laboratory systems. These methodologies, combined with process mapping, functional trending, a variety of analyses, and the use of process metrics and controls, provide a highly effective method for improving processes in quality control.

Fapas has a deep history having authored many peer reviewed publications and technical papers in this area, our consultants apply their expertise and know-how to develop and enhance quality control systems and processes for your testing laboratory. By implementing integrated, efficient and flexible quality processes our clients are able to adjust to rapidly changing marketplaces, reduce delays and enhance customer satisfaction, encouraging collaboration with partners and customers and optimise utilisation of resources. For nearly 30 years, Fapas consultants have provided world class time-proven data-driven process improvements or processes to companies leading to high performance.

The root cause analysis is crucial to increase the speed of solving complex quality issues or, eliminating those intractable problems once and for all. Our remedial services are practical as well as effective and result in tangible results including faster production, higher quality output, increased customer satisfaction, lower cost and better execution. Training is also a cornerstone of our thinking framework by providing the tools to individuals and teams we are helping our customers eliminate problems once and for all.

Our Process

We understand your business, and the regulatory requirements and needs that drive your day to day testing.

Working closely with you we highlight the fundamental challenges within your current testing regime from unresolved recurring issues, to quality improvements. We can also help you to identify equipment failures and corrective action through a deliberate, step-by step process that suspends judgment, organises information, and expertise to break down the complexities of business problems into manageable elements.

Supporting you, we formulate together a manageable solution from which to achieve regulatory compliance, ensuring your results are robust and accurate, as well as being fit for purpose delivering your long term analysis.

See us in action

Our detailed statistical analysis can help you improve your testing ability through marginal gains as well as core improvements.

Fapas bespoke proficiency tests can encompass bespoke reporting requirements, to help you highlight areas of interest within your current testing arrangement. This can prove invaluable when assessing return on investment for ongoing quality control activities.

What makes us different; We only use Real World Samples*

In order to obtain better 'life-like' result we use real food samples and a protocol that has been refined over 25 years, eliminating as much of the unexpected as possible. We use incurred materials in combination with established fortification techniques and extensive stability and homogeneity testing to ensure optimum material production.

Making Our Standard Proficiency Testing service your own

Our Bespoke Proficiency Testing scheme is specifically designed to suit your business requirements when you need it rather than having to work around an existing scheme operational timetable, despatch dates and reporting deadlines.

Promoting the quality and comparability in the measurement of a range of analytes in food and beverage products is essential to ensure quality, customer satisfaction and compliance with government regulations. A wide mixture of tests in food and beverage matrices is available for laboratories.

Genetically Modified Foods (GMO)

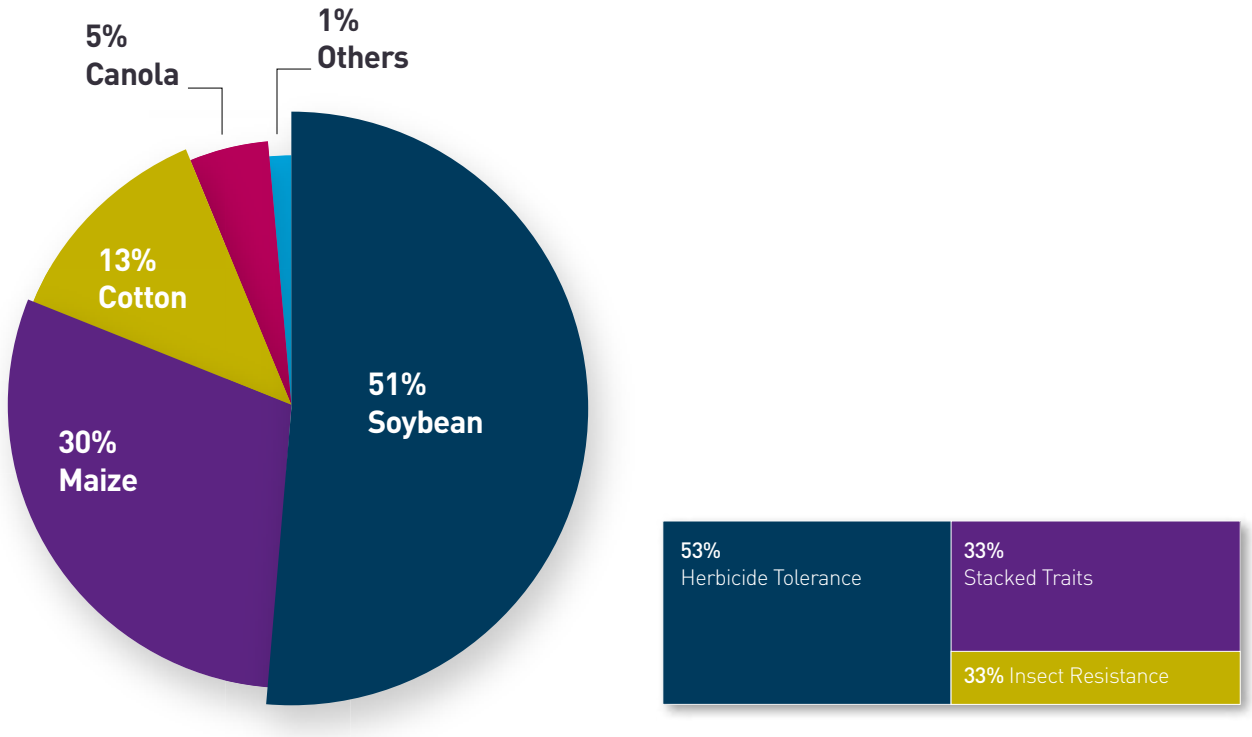
Genetically Modified Foods (GMO)

Genetically modified crops are grown in 28 nations around the world, while nearly three dozen nations prohibit or ban their cultivation. GMO bans received considerable attention in 2015, when a majority of the European Union nations decided to block the cultivation of new GMOs within their borders and Russia issued a ban on both cultivation and imports. Most of the nations that prohibit GMO cultivation still allow GMO products – particularly animal feed – to be imported. The nations of Europe, for example, import 30 million tons of GM grain annually. Many other nations – China, Japan and Canada for example – restrict GMO products, but only until they pass regulatory standards.

Eighteen million farmers in twenty-eight nations around the world — 20 developing countries and 8 industrialized nations — cultivate GMO crops on nearly 450 million acres. 4.94 billion acres have been planted since the first GM crops were approved in 1996.
(Source: www.isaaa.org).

Major Biotech Crops

Herbicide Tolerance is the dominant trait deployed in Soybean, Maize, Canola, Cotton, Sugar Beet and Alfalfa



More than 50% of the genetically engineered crops are soybean; corn (maize) represents 30%; cotton is 13%; canola is 5%. Approximately 53% of the crops are engineered for herbicide tolerance, with another 33% for stacked traits, usually including herbicide tolerance. 14% are insect resistant using the Bt trait.

FACT — Overall, the cultivation of GM crops over the last 18 years has delivered substantial benefits for the environment. Insect-resistant crops have resulted in a 230 million kg decrease in the use of insecticides. Herbicide-tolerant crops have led to reductions in fuel use and CO2 emissions of 6.3 billion litres and 16.8 million metric tons respectively, by supporting no-till farming. Overall, GM crops have produced an environmental benefit of 37%.

(Source: Belgian Research Institute VIB)

In order to protect the quality of food intended for human consumption and animal feed, in 2003 the EU introduced legislation controlling the use of genetically Modified Organisms (GMOs) in food and feed. In light of this there is increasing pressure on laboratories to ensure that reliable and accurate analysis is carried out and ensure compliance with legislative controls.

Soya & Maize – Matrix Combinations in Processed Products

These proficiency tests combine unprocessed matrices where the wholegrains have simply been milled into fine flour and then have undergone a processing step such as cooking or fortification. Each proficiency test will contain two test materials which will each contain a number of GM maize and/or soya events dependent on the test. All these tests include the option of reporting p35S and tNOS and could contain any number of the GM events/materials as indicated.

Soya & Maize – Matrix Combinations in Processed Products Schedule (Jan 2018 – Mar 2019)

GM Event	Product Code	Matrix	Analytes	Quantity	Test Dates
Soya	FGM5-CCP53	mixed flours & processed matrix	Detection and/or Enumeration Bt11 maize MON810 maize TC1507 maize Bt176 maize GA21 maize MON863 maize NK603 maize MIR604 maize MON89034 maize Other GM Event	5g	11 Oct 2018 3 Jan 2019
Maize & Soya	FGM3-CCP53	mixed flours & process matrix	Detection and/or Enumeration Bt11 maize MON810 maize TC1507 maize Bt176 maize GA21 maize MON863 maize NK603 maize MIR604 maize MON89034 maize Roundup Ready (40-3-2) soya MON89788 soya	5g	11 Oct 2018 11 Oct 2018 3 Jan 2019

Soya, Wheat & Maize Unprocessed Products – Matrix Combinations

Soya, Wheat and Maize are used across an extensive range of foodstuffs, including as an individually sold foodstuff. Wheat is found in almost all breads. Soya continues to be used extensively within global animal feeds, resulting in great demand for soya across the global supply chain. This can increase the risk of traceability issues within foodstuffs, requiring your testing to highlight any low quality or potentially missed GM events. The proficiency tests in this category are unprocessed matrices; this means that the wholegrains have simply been milled into fine flour.

All Mixed Event Unprocessed tests include the option of reporting p35S and tNOS and could contain any number of the GM events/ materials given in the relevant list below.

Soya, Wheat & Maize Unprocessed Products – Matrix Combinations Schedule (Jan 2018 – Mar 2019)

GM Event	Product Code	Matrix	Analytes	Quantity	Test Dates
Soya	FGM5-CCP3	100% soya flour	**Detection and/or Identification** Roundup Ready (40-3-2) soya MON89788 soya Other GM event	5g	18 Jan 2018 18 May 2018 18 Jan 2019
Maize & Soya	FGM3-CCP35	mixed flours	**Detection and/or Identification** Bt11 maize MON810 maize TC1507 maize Bt176 maize GA21 maize MON863 maize NK603 maize MIR604 maize MON89034 maize Roundup Ready (40-3-2) soya MON89788 soya Other GM event	5g	15 Feb 2018 6 Jul 2018 7 Nov 2018 11 Oct 2018 3 Jan 2019
Maize	FGM2-CCP2	100% maize flour	**Detection and/or Identification** Bt11 maize MON810 maize TC1507 maize Bt176 maize GA21 maize MON863 maize NK603 maize MIR604 maize MON89034 maize Other GM Event	5g	12 Apr 2018 17 Aug 2018
Wheat	FGM5-CCP49	100% wheat flour	**Detection and/or Identification** Bt11 maize MON810 maize TC1507 maize Bt176 maize GA21 maize MON863 maize NK603 maize MIR604 maize MON89034 maize Other GM Event Roundup Ready (40-3-2) soya, MON89788 soya Other GM event	5g	7 Nov 2018

Mixed Event – Processed Matrix

Domestic animals continue to make important contributions to global food supply and, as a result, animal feeds have become an increasingly critical component of the integrated food chain. Livestock products account for about 30 percent of the global value of agriculture and, 19 percent of the value of food production provide 34 percent of protein and 16 percent of the energy consumed in human diets. Meeting consumer demand for more meat, milk, eggs and other livestock products is dependent to a major extent on the availability of regular supplies of appropriate, cost-effective and safe animal feeds.

Global demand for meat products will increase by 58 percent between 1995 and 2020. Consumption of meat will rise from 233 million tonnes in 2000 to a possible 300 million tonnes by 2020; milk consumption will increase from 568 to 700 million tonnes by 2020, and there will be an estimated 30 percent increase in egg production.

Within this proficiency test your testing capability for GM Maize & Soya events are evaluated. This gives you the ability to test & report for a full range of genetically modified varieties. These matrices look at animal feed and baked products which are a much more complicated matrix than a simple flour, containing a number of different ingredients and passing through a processing stage. These tests include the option of reporting p35S and tNOS and could contain any number of the GM events mentioned.

Soya, Wheat & Maize Processed Products Matrix Combinations Schedule (Jan 2018 – Mar 2019)

GM Event	Product Code	Matrix	Analytes	Quantity	Test Dates
Soya & Maize	FGM5-CCP3	Animal feed	**Detection and/or Identification** Bt11 maize MON810 maize TC1507 maize Bt176 maize GA21 maize MON863 maize NK603 maize MIR604 maize MON89034 maize Other GM Event Roundup Ready (40-3-2) soya MON89788 soya Other GM event	5g	7 Mar 2018 20 Mar 2019
Soya & Maize	FGM3-PRO1	Baked product	**Detection and/or Identification** Bt11 maize MON810 maize TC1507 maize Bt176 maize GA21 maize MON863 maize NK603 maize MIR604 maize MON89034 maize Other GM Event Roundup Ready (40-3-2) soya MON89788 soya Other GM event	5g	14 Jun 2018

Tobacco Matrix

Tobacco is widely consumed which can result in a large demand across the global supply chain. Adding extra strain to an already stretched and complex supply chain requiring your testing abilities to protect the consumer from low quality tobacco as well as any GE plant material that may not be highlighted by producers. The Cauliflower mosaic virus (CaMV) 35S promoter (p35S) and Agrobacterium tumefaciens (tNOS) are commonly used targets for detection of genetically modified organisms (GMOs). There are currently over 20 reported detection methods, targeting different regions of the p35S promoter and Agrobacterium tumefaciens tNOS DNA sequence elements for the detection of genetically engineered (GE) crop plant material.

Tobacco Schedule (Jan 2018 – Mar 2019)

GM Event	Product Code	Matrix	Analytes	Quantity	Test Dates
Tobacco	FGM4-TOB3	Tobacco	35S Promoter (Qualitative) 35S Promoter (Quantitative) NOS Terminator (Qualitative) NOS Terminator (Quantitative)	3 x 5g (excluding calibration standards)	18 May 2018

Food Microbiology

Food Microbiology

A sample of food that is contaminated with pathogens or high levels of hygiene indicator organisms presents a potential hazard to peoples' health. There are many reasons why contamination may occur, such as a process failure, deviation from standard practices, cross-contamination or human error. Occasionally, the laboratory result may provide the only indication that something has gone wrong. Our proficiency test samples are real food samples with target organisms for detection or enumeration. Our test materials are designed to simulate real laboratory samples with varying levels of target organisms and background flora, they provide challenging, high quality and innovative proficiency tests. Food matrices include beef, chicken, fish, soft cheese, milk powder, salad, rice, etc.

In addition we have environmental swabs for detection and enumeration. Target organisms include pathogens, indicator micro-organisms and spoilage organisms. We have a flexible programme of 10 distributions a year, where samples are sent by courier worldwide in a controlled environment with detailed instructions. Results from each proficiency test receive rigorous statistical analysis, ensuring you have clear feedback on your performance. Comprehensive reports give information on microbiological methods used by other participants.

Food Microbiology Test Highlights

We've listened to your feedback and in order to ensure Fapas continues to meet your needs we've added a number of new proficiency tests to ensure you continue to meet regulatory demands and offer high quality testing across a range of analyte matrix combinations and reduced our courier charges.

See below just some of the new proficiency tests Fapas offer for 2018

New Fapas Products

Programme	Product Code	Analytes	Test Material	Start Date
Food Microbiology	FMOE10M-MRP2	*Escherichia coli* (enumeration by MPN)	Beef	03 Sep 2018
Food Microbiology	FMOD2-SEA28	Listeria monocytogenes, Listeria spp.	Smoked Fish	01 Oct 2018
Food Microbiology	FMOD2-MRP47	Listeria monocytogenes/ Listeria spp.	Dry Cured Meat	02 Jul 2018
Food Microbiology	FMOE17-MRP14	*Campylobacter spp.*	Chicken	26 Nov 2018
Food Microbiology	FMOD11-DRY18	*Escherichia coli*	Soft Cheese	03 Sep 2018
Food Microbiology	FMOD2-PRO40	Listeria monocytogenes/ Listeria spp.	Ready to eat Meal (RTE)	29 Oct 2018

Greater Value – we now offer some multiple organism per matrix

Increased Frequency – giving customers greater flexibility

Reduced Courier Prices

Food Microbiology Schedule (Jan 2018 – Mar 2019)

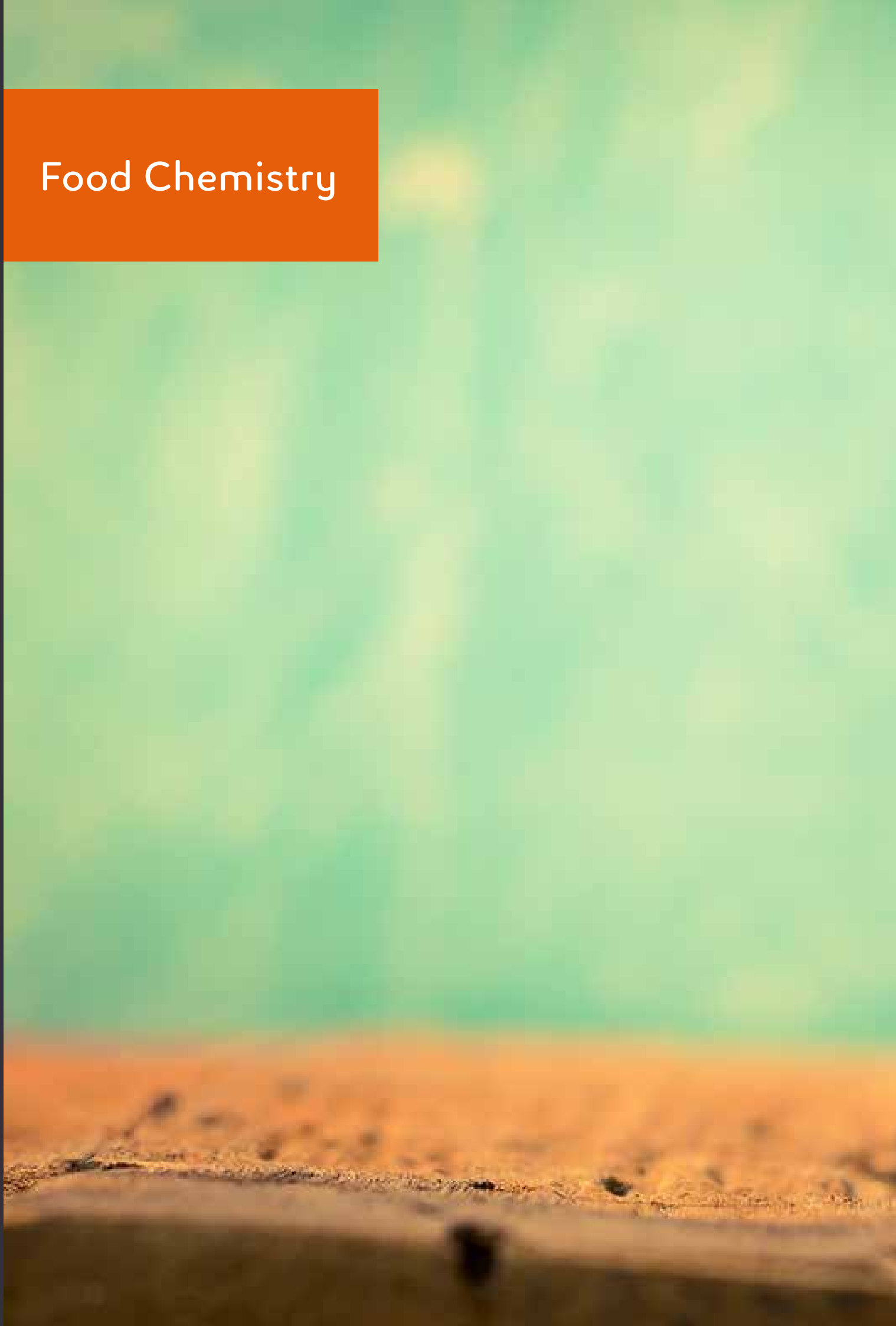
Product Code	Matrix	Analytes	Quantity	Test Dates
Detection				
The incidence of foodborne diseases has increased over the years and resulted in major public health problem globally. Foodborne pathogens can be found in various foods and it is important to detect them to provide safe food supply and to prevent foodborne diseases. These qualitative proficiency tests focus on the detection of the pathogens specified. With these proficiency tests your detection ability will be evaluated allowing you to identify areas of improvement from which to provide highly credible, repeatable results. Fapas microbiology test materials make use of real food matrices with background flora as seen in real-world samples. This allows your testing laboratories to be challenged as they would within their routine analysis.				
FMOD11-MRP2	Beef	Escherichia coli O157:H7 (Detection)	equivalent to 2 x 25g	4 Jun 18 29 Oct 18
FMOD11-VEG61	Salad	Escherichia coli O157:H7 (Detection)	equivalent to 2 x 25g	26 Mar 18 25 Mar 19
FMOD11-VEG71	Sprouting Seeds & Lettuce	Escherichia coli O157:H7 (Detection)	equivalent to 2 x 25g	26 Nov 18
FMOD17-DRY14	Milk Powder	Campylobacter spp. (Detection)	equivalent to 2 x 25g	2 Jul 18
FMOD17-MRP14	Chicken	Campylobacter spp. (Detection)	equivalent to 2 x 25g	30 Apr 18 29 Oct 18
FMOD20-INF10	Infant Formula	Cronobacter (Enterobacter) sakazakii (Detection)	equivalent to 2 x 10g	26 Feb 18
FMOD21-SEA11	Fish	Vibrio parahaemolyticus (Detection)	equivalent to 2 x 25g	26 Feb 18 1 Oct 18 25 Feb 19
FMOD2-DRY14	Milk Powder	Listeria monocytogenes/Listeria spp. (Detection)	equivalent to 2 x 25g	26 Mar 18
FMOD2-DRY18	Soft Cheese	Listeria monocytogenes/Listeria spp. (Detection)	equivalent to 2 x 25g	30 Apr 18
FMOD2-MRP14	Chicken	Listeria monocytogenes/Listeria spp. (Detection)	equivalent to 2 x 25g	4 Jun 18 26 Nov 18
FMOD2-MRP2	Beef	Listeria monocytogenes/Listeria spp. (Detection)	equivalent to 2 x 25g	29 Jan 18
FMOD2-UNF11	Sponge Swab	Listeria monocytogenes/Listeria spp. (Detection)	N/A	26 Feb 18
FMOD7-AFE1	Animal Feed	Salmonella spp. (Detection)	equivalent to 2 x 25g	2 Jul 18
FMOD7-CON2	Chocolate	Salmonella spp. (Detection)	equivalent to 2 x 25g	29 Jan 18
FMOD7-CON3	Chocolate Powder	Salmonella spp. (Detection)	equivalent to 2 x 25g	1 Oct 18
FMOD7-DRY14	Milk Powder	Salmonella spp. (Detection)	equivalent to 2 x 25g	29 Jan 18 3 Sep 18 25 Mar 19
FMOD7-EGG3	Dried Egg	Salmonella spp. (Detection)	equivalent to 2 x 25g	26 Mar 18
FMOD7-MRP14	Chicken	Salmonella spp. (Detection)	equivalent to 2 x 25g	26 Feb 18 3 Sep 18 28 Jan 19
FMOD7-MRP2	Beef	Salmonella spp. (Detection)	equivalent to 2 x 25g	29 Oct 18
FMOD7-SPI11	Ground Pepper	Salmonella spp. (Detection)	equivalent to 2 x 25g	26 Nov 18
FMOD7-UNF11	Sponge Swab	Salmonella spp. (Detection)	N/A	26 Feb 18 25 Feb 19
FMOD7-VEG47	Herbs	Salmonella spp. (Detection)	equivalent to 2 x 25g	2 Jul 18
FMOD7-VEG61	Salad	Salmonella spp. (Detection)	equivalent to 2 x 25g	4 Jun 18

Product Code	Matrix	Analytes	Quantity	Test Dates
FMOD7-VEG71	Sprouting Seeds & Lettuce	Salmonella spp. (Detection)	equivalent to 2 x 25g	30 Apr 18
FMOD2-MRP47	Dry Cured Meat	Listeria monocytogenes/Listeria spp.	equivalent to 2 x 25g	02 Jul 2018
FMOD11-DRY18	Soft Cheese	*Escherichia coli*	equivalent to 2 x 25g	03 Sep 2018
FMOD2-PRO40	Ready to eat Meal (RTE)	Listeria monocytogenes/ Listeria spp.	equivalent to 2 x 25g	29 Oct 2018
FMOD2-SEA28	Smoked Fish	*Listeria monocytogenes, Listeria spp.*	equivalent to 2 x 25g	01 Oct 2018

Product Code	Matrix	Analytes	Quantity	Test Dates
Enumeration				
These tests will allow quantitative enumeration of mesophilic bacteria and fungi that may grow under aerobic conditions. The tests are designed primarily to determine whether a substance or preparation complies with an established specification for microbiological quality.				
FMOE10M-MRP2	Beef	*Escherichia coli* (enumeration by MPN)	equivalent to 10g	03 Sep 2018
FMOE17-MRP14	Chicken	*Campylobacter spp.*	equivalent to 10g	26 Nov 2018
FMOE10-DRY14	Milk Powder	Escherichia coli (Enumeration)	equivalent to 10g	29 Oct 18
FMOE10-MRP2	Beef	Escherichia coli (Enumeration)	equivalent to 10g	30 Apr 18 1 Oct 18
FMOE12-CCP22	Cooked Rice	Bacillus cereus (Enumeration)	equivalent to 10g	29 Jan 18 3 Sept 18 28 Jan 19
FMOE13-DRY14	Milk Powder	Bacillus cereus & Aerobic Plate Count (Enumeration)	equivalent to 10g	30 Apr 18 25 Feb 19
FMOE13-MRP2	Beef	Bacillus cereus & Aerobic Plate Count (Enumeration)	equivalent to 10g	26 Feb 18 25 Feb 19
FMOE14-DRY14	Milk Powder	Coagulase Positive Staphylococci (Enumeration)	equivalent to 10g	4 Jun 18
				29 Oct 18
FMOE14-MRP2	Beef	Coagulase Positive Staphylococci (Enumeration)	equivalent to 10g	29 Jan 18 2 Jul 18 28 Jan 19
FMOE15-CCP28	Flour	Yeasts & Moulds (Enumeration)	equivalent to 10g	26 Mar 18 2 Jul 18 26 Nov 18 25 Feb 19
FMOE15-MRP2	Beef	Yeasts & Moulds (Enumeration)	equivalent to 10g	4 Jun 18
FMOE16-DRN17	Fruit Juice	Yeasts (Enumeration)	equivalent to 10ml	1 Oct 18
FMOE18-DRY14	Milk Powder	Coliforms (Enumeration)	equivalent to 10g	26 Feb 18 3 Sep 18 25 Feb 19
FMOE18-MRP2	Beef	Coliforms (Enumeration)	equivalent to 10g	2 Jul 18
FMOE19-MRP2	Beef	Enterococci (Enumeration)	equivalent to 10g	30 Apr 18
FMOE1-MRP2	Beef	Lactic acid bacteria (Enumeration)	equivalent to 10g	1 Oct 18
FMOE2-MRP14	Chicken	Listeria monocytogenes (Enumeration)	equivalent to 10g	26 Mar 18
				1 Oct 18
				25 Mar 19
FMOE2-SEA25	Smoked Fish Product	Listeria monocytogenes (Enumeration)	equivalent to 10g	3 Sep 18
FMOE3-DRY14	Milk Powder	Enterobacteriaceae (Enumeration)	equivalent to 10g	4 Jun 18
FMOE3-MRP2	Beef	Enterobacteriaceae (Enumeration)	equivalent to 10g	29 Jan 18
FMOE3-VEG61	Salad	Enterobacteriaceae (Enumeration)	equivalent to 10g	3 Sep 18
FMOE4-MRP2	Beef	Enterobacteriaceae, Coliforms & Escherichia coli (Enumeration)	equivalent to 10g	26 Nov 18
FMOE5-MRP2	Beef	Enterobacteriaceae & Aerobic Plate Count (Enumeration)	equivalent to 10g	26 Mar 18
FMOE6-DRY14	Milk Powder	Clostridium perfringens (Enumeration)	equivalent to 10g	30 Apr 18

Product Code	Matrix	Analytes	Quantity	Test Dates
FMOE6-MRP2	Beef	Clostridium perfringens (Enumeration)	equivalent to 10g	26 Mar 18 29 Oct 18 25 Mar 19
FMOE9-DRY14	Milk Powder	Aerobic Plate Count (Enumeration)	equivalent to 10g	26 Mar 18 3 Sep 18 25 Mar 19
FMOE9-MRP14	Chicken	Aerobic Plate Count (Enumeration)	equivalent to 10g	26 Nov 18
FMOE9-UNF12	Swab	Aerobic Plate Count (Enumeration)	1	4 Jun 18

Food Chemistry



Food Chemistry Challenges

One of the greatest challenges a laboratory faces is defending its analytical results. Laboratories whose results are used for process control may be questioned when the results reported do not have the expected outcome on the process. Proficiency testing is another effective tool that can be used to ensure laboratory results. It is also a necessary component for laboratories that wish to become accredited to the International Organisation for Standardization (ISO) 17025 laboratory management standard, which provides the basis of laboratory accreditation in more than 40 countries, or other recognised laboratory quality assurance standards — all of which require that a proficiency testing programme is in place to check actual laboratory performance of a process.

Laboratories that produce results used to ensure compliance to product specifications may receive even more scrutiny. These laboratories are sometimes challenged by production management who are striving to maximise efficiency, or may be limited by product availability and quality.

For this reason it is critical that a laboratory has programmes in place to help assure the confidence of the laboratory results being produced. Proficiency testing exercises can be used to build a foundation for accurate and precise results, by informing your quality assurance and control programmes for food and beverage products. Basic quality assurance and quality control programmes for food and beverage products can by used to build the foundation for accurate and precise results as well as comprehensive and ongoing training of laboratory personnel, knowledge and skills necessary for laboratory analysis.

Participating in a laboratory proficiency testing helps establish and confirm the accuracy and precision of the laboratory's results not only raises the confidence level of the laboratory and its customers, but answers the larger question, "What good are laboratory results to achieving food safety goals or informing food safety decision-making if they are not reliable?"

Our Food Chemistry covers chemical analysis of real food samples for a wide range of target analytes including: nutritional components, additives, natural contaminants, pesticide and veterinary medicine residues, and packaging chemical migrants.

New Wine Proficiency Tests

Available from 27th March 2018

Testing for 60 analytes across red, white and challenge wines

Fapas New Wine Proficiency Testing Programme helps winery laboratories obtain a true picture of their analytical data quality providing participants with a higher degree of confidence in their measurements. The programme is structured for everyone in the wine industry, from independent wineries to large, multi-site laboratories and has been launched to provide laboratories with an ongoing quality assurance tool for evaluating performance.

Over 60 analytes are included in each testing round – across 3 types of wine (red, white & challenge wine)

Each laboratory can choose to test any or all of the properties, depending on the laboratories' needs and capabilities. Individual reports provide an in-depth look at the testing round, while investigating method dependency in the PT performance.

Fera Science Ltd
Sand Hutton, York, YO41 1LZ

info@fapas.com **+44 (0) 1904 462100**

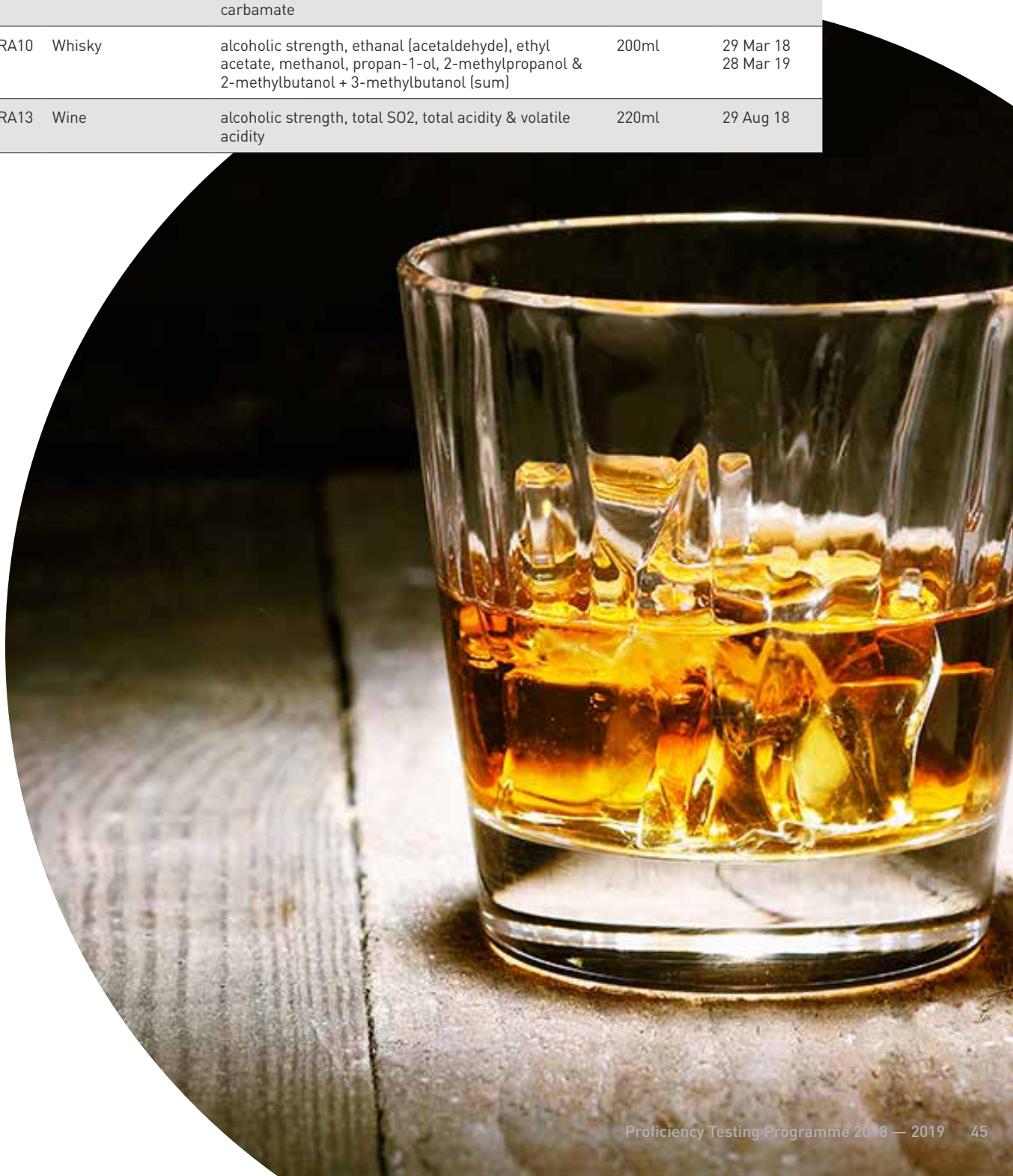
Product Code	Matrix	Analytes	Quantity	Test Dates
Wine				
FCOH5-DRA13	Wine	Volumic Mass at 20°C, Alcoholic Strength (real), Alcoholic Strength (apparent), Methanol, Ethanal (acetaldehyde), 4-Ethyl-Guiacole, 4-Ethyl-Phenol, 2,4,6-Tribromoanisole, 2,4,6-Trichloroanisole, 2-Pyrrolidinone, 1-Vinyl-2-Pyrrolidinone, 1-Vinylimidazole, Total Polyphenol Index, Total Polyphenol (expressed as gallic acid), Carbonic Anhydride, pH, Total Acidity (expressed as tartaric acid), Total Volatile Acidity (expressed as acetic acid), Nitrates (total, ionic), Chloride (expressed as NaCl), Sulphates (total, as K2SO4), Phosphates (total, ionic), Overpressure, Ash, Ash Alkalinity (0.1N HCl) (as CaCO3), Dissolved Oxygen, Turbidity, Filtration Index, Folin-Ciocalteu Index, Colour Intensity, Colour Tone, Total Sugars, Glucose + Fructose (sum), Fructose, Sucrose, Citric Acid, Gluconic Acid, Lactic Acid, Malic Acid, Shikimic Acid, Sorbic Acid, Tartaric Acid, Glycerine, Dry Extract, Sulphur Dioxide (free), Sulphur Dioxide (total), Histamine, Ochratoxin A, Arsenic, Cadmium, Calcium, Copper, Iron, Lead, Lithium, Magnesium, Potassium, Silver, Sodium, Zinc, Isotope Ratio Oxygen-18	4x250ml	27 Mar 18 19 Oct 18 TBC

Food Chemistry

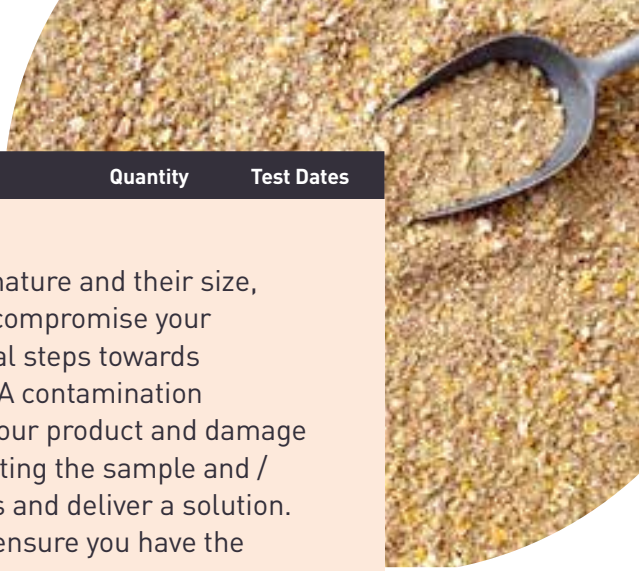
Food Chemistry Schedule (Jan 2018 – Mar 2019)

Product Code	Matrix	Analytes	Quantity	Test Dates
Authenticity				
		There are many reasons why premium food quality safety and traceability screening is important, from combating food fraud to supporting product labelling. Food safety, quality and traceability are of significant importance to everyone involved in the manufacturing and distribution of food products and services. The cost of a product or process failure is measured in more than just money, it can inflict lasting harm to your reputation. We know that businesses rely on our leading safety solutions and expertise to help build their brands and improve food safety, sustainability and operational efficiency while reducing food waste.		
FCAA1-VEG44	Herb (Origanum spp.)	detection of adulteration	3 x 7g	29 Nov 18
FCAA2-MRP22	Lamb	one or more from: beef, chicken, goat or pork	30g	20 Jul 18
FCAA3-MRP14	Chicken	one or more from: beef, lamb, pork or turkey	30g	4 Apr 18
FCAA4-MRP2	Beef	one or more from: chicken, horse, lamb or pork	30g	31 Jan 18 6 Feb 19
FCAC1-MRP2	Beef	pork (DNA)	2 x 30g	16 Apr 18
Labelling Requirements				
		Food standards legislation sets out specific requirements for the labelling, composition and, in some cases, safety parameters for specific high value foodstuffs which are potentially at risk of being misleadingly substituted with lower quality alternatives. Legislation sets requirements for food labels in the UK and aims to ensure food labels are an honest presentation of food. The requirements in place ensure consistency for the industry and for consumers.		
FCFA23-DRN29	Soft Drink	sweeteners: acesulfame-K, aspartame, cyclamate, steviolgly cosides (E960) & saccharin	2 x 150ml	1 Mar 18 20 Mar 19
FCFA2-DRN12	Cola Drink	benzoic acid, caffeine, acesulfame-K & saccharin	150ml	12 Jan 18 11 Jan 19
FCFA3-DRN32	Tonic Water	benzoic acid, quinine, acesulfame-K & aspartame	150ml	7 Nov 18
FCFA4-CON7	Jam	brix, pH, benzoic acid, citric acid & sorbic acid	70g	24 Apr 18
FCFA5-DRN26	Orange Juice	nutritional elements selected from brix, pH, citric acid, fructose, glucose, sucrose, total sugars, calcium, magnesium, phosphorus, sodium & potassium	250ml	5 Sep 18
FCFA7-DRN29	Soft Drink	brix, pH, citric acid, sorbic acid, cyclamate, saccharin & benzoic acid	150ml	13 Jul 18
FCFA8-CON21	Tomato Sauce	brix, pH, total acidity, sodium, chloride & benzoic acid	150g	10 Jan 18 9 Jan 19
FCQH1-HON2	Honey	fructose, glucose, sucrose, hydroxymethylfurfural (HMF), diastase, electrical conductivity, lead (Pb) & pH	100g	11 Dec 18
FCQH2-HON2	Honey	moisture, fructose, glucose, sucrose, hydroxymethylfurfural (HMF) & diastase	100g	26 Jun 18

Product Code	Matrix	Analytes	Quantity	Test Dates
FCQH3-HON2	Honey	moisture, fructose, glucose, sucrose, hydroxymethylfurfural (HMF), diastase, free acid & water-insoluble solids	100g	19 Mar 18 26 Feb 19
FCQO1-OIL22	Olive Oil	peroxide value, acidity, anisidine value & iodine value	100ml	9 Jan 18 16 Jul 18
FCQO1-OIL30	Vegetable Oil	peroxide value, acidity, anisidine value & iodine value	50ml	11 Jun 18
FCQO2-OIL22	Olive Oil	peroxide value, acidity, K232 & K270	100ml	5 Mar 18 4 Sep 18
Alcohol				
FCOH1-DRA2	Beverage	alcohol (ethanol)	2 x 200ml	20 Aug 18
FCOH2-DRA4	Brandy	alcoholic strength, butan-1-ol, ethanal (acetaldehyde), ethyl acetate, methanol, propan-1-ol, 2-methylpropanol & 2-methylbutanol + 3-methylbutanol (sum) & ethyl carbamate	200ml	21 Nov 18
FCOH3-DRA10	Whisky	alcoholic strength, ethanal (acetaldehyde), ethyl acetate, methanol, propan-1-ol, 2-methylpropanol & 2-methylbutanol + 3-methylbutanol (sum)	200ml	29 Mar 18 28 Mar 19
FCOH4-DRA13	Wine	alcoholic strength, total SO2, total acidity & volatile acidity	220ml	29 Aug 18



Product Code	Matrix	Analytes	Quantity	Test Dates
Allergens				
		As the number of people with life-threatening allergies grows and international legislation on allergen management increases, the requirement to demonstrate your allergen testing capabilities becomes more and more important. Testing for food allergens is essential for protecting consumers and verifying the allergen status of food ingredients and products.		
FCAL10-SEA7	Canned Fish	histamine (high level > 50 mg/kg)	145g	28 Mar 18 29 Mar 19
FCAL10-SEA7	Canned Fish	histamine (high level > 50 mg/kg)	145g	1 Nov 18 29 Mar 19
FCAL11-DRY7	Cheese	histamine (low level, < 50 mg/kg)	75g	29 May 18
FCAL11-SEA7	Canned Fish	histamine (low level, < 50 mg/kg)	145g	9 Aug 18
FCAL12-CCP28	Flour	lupin	2 x 20g	15 Mar 18 7 Mar 19
FCAL13-INF13	Infant Soya Formula	milk (BLG)	2 x 20g	11 Jan 18 10 Jan 19
FCAL14-INF6	Infant Breakfast Cereal	milk (casein)	2 x 20g	22 Jun 18
FCAL15-INF13	Infant Soya Formula	milk (casein) & gluten	2 x 20g	22 Feb 18 21 Feb 19
FCAL16-CON2	Chocolate	peanut, peanut protein	2 x 20g	9 Feb 18 8 Feb 19
FCAL16-SPI10	Garlic Powder	peanut, peanut protein	2 x 20g	26 Apr 18
FCAL17-CCP49	Wheat Flour	soya, soya protein	2 x 20g	26 Sep 18
FCAL18-CON7	Jam	sulphites	80g	2 Oct 18
FCAL1-CON2	Chocolate	almond, almond protein	2 x 20g	6 Sep 18
FCAL2-PRO27	Instant Soup Powder	celery, mustard	2 x 20g	8 Jun 18
FCAL3-CON2	Chocolate	contamination (presence/absence) of matrix with one or more from the following list: Almond, Hazelnut, Walnut, Cashew, Pecan nut, Brazil nut, Pistachio nut, Macadamia/Queensland nut, Peanut	50g	29 Nov 18
FCAL19-CON23	Sauce (cooked)	Fish (cod)	3 x 30g	19 Nov 18
FCAL5-PRO10	Cake Mix	egg, egg white protein	2 x 20g	6 Apr 18
FCAL6-CCP37	Oat Based Foodstuff	gluten	2 x 20g	27 Jul 18
FCAL6-DRA1	Beer	gluten	2 x 50ml	23 Oct 18
FCAL6-PRO10	Cake Mix	gluten	2 x 20g	2 May 18
FCAL7-PRO10	Cake Mix	gluten, milk and egg	2 x 30g	12 Jul 18
FCAL7-PRO14	Cooked Biscuit	gluten, milk and egg	30g	25 Jan 18 24 Jan 19
FCAL8-CON2	Chocolate	hazelnut, hazelnut protein	2 x 20g	25 May 18
FCAL9-PRO14	Cooked Biscuit	hazelnut, peanut	50g	15 Mar 18 13 Mar 19
FCAS1-SEA11	Fish	identification of unknown fish (3 samples from a list)	3 x 10g	5 Nov 18

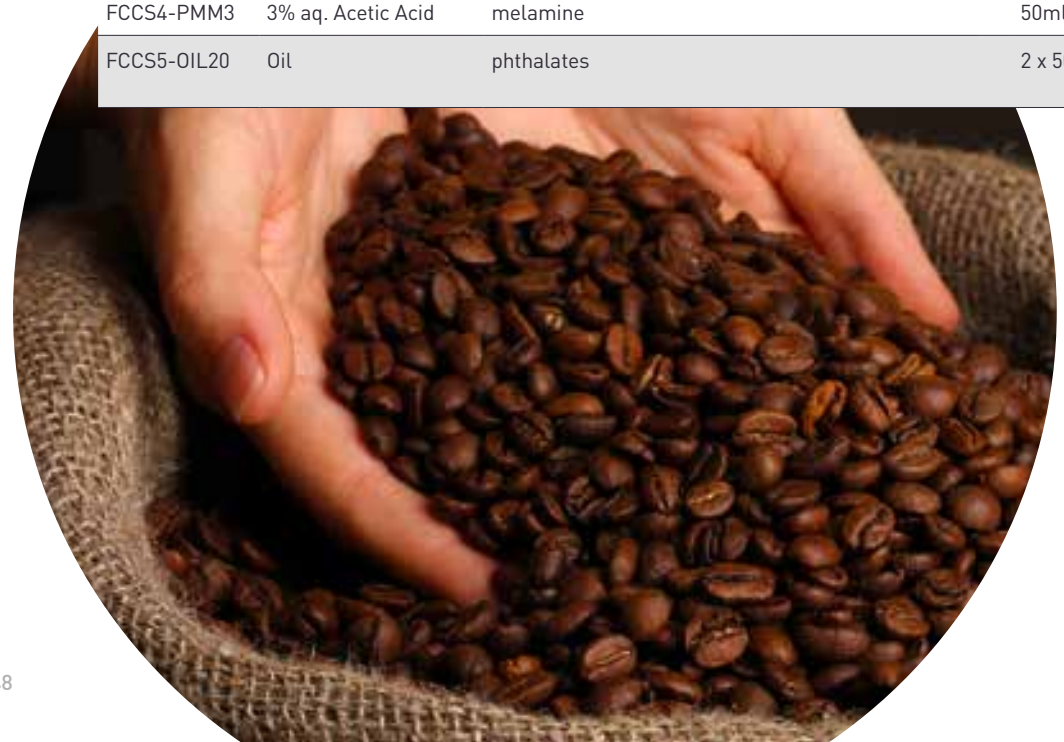


Contaminants

Contamination issues are unpredictable both in terms of their nature and their size, and as such can be costly through lost productivity and hugely compromise your business. Contamination proficiency testing activities are crucial steps towards resolving suspected contamination of products and processes. A contamination problem can potentially threaten the safety & performance of your product and damage your reputation resulting in many resources focusing on inspecting the sample and / or site, to identify the contaminants, searching for their sources and deliver a solution. Proficiency testing is therefore a proactive and positive step to ensure you have the right systems and checks in place.

Product Code	Matrix	Analytes	Quantity	Test Dates
FCCE1-OIL22	Olive Oil	all 16 EU priority PAHs (including PAH4 sum)	30ml	9 May 18
FCCE1-SUP8	Food Supplement (Spirulina)	all 16 EU priority PAHs (including PAH4 sum)	15g	16 Nov 18
FCCE2-FAT7	Cocoa Butter	PAHs (including PAH4 sum)	50g	3 Jul 18
FCCE2-OIL24	Palm Oil	PAHs (including PAH4 sum)	30ml	28 Feb 18 27 Feb 19
FCCE2-SEA25	Smoked Fish Product	PAHs (including PAH4 sum)	50g	10 Sep 18
FCCM10-SPI21	Turmeric	arsenic (total), cadmium & lead (all high levels)	50g	27 Jun 18
FCCM11-CCP49	Wheat Flour	arsenic (total), cadmium & mercury (total) (all natural/ low levels)	50g	30 May 18
FCCM11-SEA7	Canned Fish	arsenic (total), cadmium & mercury (total) (all natural/ low levels)	150g	9 May 18
FCCM12-AFE1	Animal Feed	arsenic (total), cadmium, lead & mercury (total) (all natural/low levels)	50g	28 Nov 18
FCCM12-DRY14	Milk Powder	arsenic (total), cadmium, lead & mercury (total) (all natural/low levels)	50g	5 Jan 18 30 Aug 18 4 Jan 19
FCCM12-SEA27	Squid	arsenic (total), cadmium, lead & mercury (total) (all natural/low levels)	50g	10 Sep 18
FCCM13-MRP27	Offal (Liver)	arsenic (total), cadmium, lead & mercury (total) (all high levels)	50g	18 Jul 18
FCCM15-SEA7	Canned Fish	arsenic (total), cadmium, mercury (total) (all natural levels)	150g	22 Aug 18
FCCM16-OIL12	Edible Oil	arsenic (total), copper, iron & lead (all high levels)	50ml	13 Jun 18
FCCM17-SEA7	Canned Fish	arsenic (total), mercury (total) & methyl mercury (all natural levels)	150g	7 Mar 18
FCCM18-SUP2	Food Supplement	cadmium & lead	50g	6 Dec 18
FCCM19-HON2	Honey	cadmium & lead (all natural/low levels)	50g	21 May 18
FCCM1-VEG68	Soya Flour	aluminium, arsenic (total), cadmium, lead & mercury (total) (all high levels)	50g	24 Oct 18
FCCM20-INF7	Infant Cereal	cadmium, chromium, lead, mercury (total) & selenium (all natural/low levels)	50g	12 Sep 18
FCCM21-DRN17	Fruit Juice	cadmium, iron, lead & tin (all high levels)	50ml	2 Oct 18
FCCM21-FRU51	Grapefruit Purée	cadmium, iron, lead & tin (all high levels)	50g	27 Mar 18
FCCM21-VEG74	Tomato Paste	cadmium, iron, lead & tin (all high levels)	50g	19 Feb 18
FCCM24-VEG79	Vegetable Purée	cadmium, lead, nickel & tin (all high levels)	50g	5 Nov 18
FCCM25-DRA13	Wine	pH, cadmium, copper & lead	50ml	1 Aug 18
FCCM2-INF10	Infant Formula	aluminium, cadmium, chromium, iodine, molybdenum & selenium (all natural/low levels)	50g	18 Apr 18

Product Code	Matrix	Analytes	Quantity	Test Dates
FCCM3-DRN29	Soft Drink	antimony, arsenic (total), cadmium, chromium, copper & zinc (all high levels)	50ml	24 Jan 18
FCCM4-PRO33	Rice Cakes	arsenic (total) & arsenic (inorganic) (natural/low levels)	35g	5 Apr 18
FCCM6-CCP41	Powdered Brown Rice	arsenic (total), arsenic (inorganic), cadmium, lead & mercury (total) (all natural/low levels)	50g	6 Jul 18
FCCM6-SEA6	Canned Crab Meat	arsenic (total), arsenic (inorganic), cadmium, lead & mercury (total) (all natural/low levels)	150g	2 Feb 18
FCCM7-CCP42	Powdered Rice	arsenic (total), arsenic (inorganic), cadmium, lead & mercury (total) (all high levels)	50g	14 Nov 18
FCCO1-PMM13	Nylon Film	overall migration into ethanol by total immersion	6 sheets, each 12 cm x 16 cm	19 Apr 18
FCCO2-PMM16	Plastic Film	overall migration into olive oil by total immersion	33 x 22.5 cm	24 Oct 18
FCCP1-CON15	Soy Sauce	3-MCPD esters, glycidol esters & 2-MCPD esters	40g	21 Mar 18 21 Mar 19
FCCP1-OIL30	Vegetable Oil	3-MCPD esters, glycidol esters & 2-MCPD esters	50ml	12 Sep 18
FCCP1-PRO31	Potato Crisps	3-MCPD esters, glycidol esters & 2-MCPD esters	50g	16 May 18
FCCP3-DRH12	Coffee (instant)	acrylamide	50g	9 Nov 18
FCCP3-PRO2	Biscuit (Cookie)	acrylamide	50g	26 Jul 18
FCCP3-PRO25	French Fries (pre-cooked)	acrylamide	50g	25 Sep 18
FCCP3-PRO31	Potato Crisps	acrylamide	50g	15 Feb 18 12 Feb 19
FCCP3-PRO37	Vegetable Crisps	acrylamide	50g	3 May 18
FCCP4-DRH6	Coffee	furan	50g	8 Jan 18 21 Jan 19
FCCP5-AFE1	Animal Feed	melamine & cyanuric acid	50g	20 Jun 18
FCCP6-DRY14	Milk Powder	melamine & cyanuric acid (low levels, < 5 mg/kg)	50g	11 Oct 18
FCCP7-INF10	Infant Formula	melamine & cyanuric acid (> 5 mg/kg)	50g	14 Mar 18 14 Mar 19
FCCS1-PMM3	3% aq. Acetic Acid	barium, cobalt, copper, iron, lithium, manganese & zinc	50ml	28 Nov 18
FCCS2-PMM4	50% Aqueous Ethanol	bisphenol A	50ml	11 Jul 18
FCCS3-PMM3	3% aq. Acetic Acid	formaldehyde	50ml	14 Sep 18
FCCS4-PMM3	3% aq. Acetic Acid	melamine	50ml	30 May 18
FCCS5-OIL20	Oil	phthalates	2 x 50ml	8 Mar 18 28 Mar 19



Product Code	Matrix	Analytes	Quantity	Test Dates
FCCS6-PMM3	3% aq. Acetic Acid	total primary aromatic amines	>300ml	19 Oct 18
FCFA11-DRN1	Apple Juice	brix, pH, total acidity, total sugars, calcium, potassium, phosphorus & sodium	250ml	1 Feb 18
FCFA11-DRN27	Pineapple Juice	brix, pH, total acidity, total sugars, calcium, potassium, phosphorus & sodium	250ml	11 May 18
FCFA12-DRH11	Coffee (ground) - one regular, one decaffeinated	caffeine (2 test materials supplied, one regular, one decaffeinated)	2 x 30g	24 May 18
FCFA13-DRN12	Cola Drink	caffeine, benzoic acid, total sugars & phosphoric acid (as P2O5)	150ml	18 Oct 18
FCFA14-PRO13	Chocolate Cake Mix	caffeine, sorbic acid, theobromine & total sugars (expressed as sucrose)	50g	27 Jun 18
FCFA17-VEG32	Cabbage Purée	nitrate	70g	12 Jun 18
FCFA17-VEG49	Lettuce Purée	nitrate	70g	21 Aug 18
FCFA17-VEG60	Rocket (rucola) Purée	nitrate	70g	30 Oct 18
FCFA17-VEG70	Spinach Purée	nitrate	70g	10 Dec 18
FCFA18-DRY14	Milk Powder	nitrate as NaNO3 & nitrite as NaNO2	40g	2 Mar 18
FCFA18-MRP23	Meat	nitrate as NaNO3 & nitrite as NaNO2	25g	17 Jan 18 17 May 18 21 Sep 18
FCFA19-CON5	Hot Pepper Sauce	non-permitted colours (illegal dyes) high level, a selection from the following list: Butter Yellow, Orange II, Para Red, Rhodamine B, Sudan (I, II, III, IV), Sudan Black B, Sudan Orange G, Sudan Red B, Sudan Red 7B, Sudan Red G, Toluidine Red	50ml	15 Nov 18
FCFA1-OIL20	Oil	antioxidants: total BHA (E320), total BHT (E321) & propyl gallate (E310)	50ml	19 Sep 18
FCFA20-CON17	Sugar Confectionery (boiled sweets)	colours, a selection from the following list: Allura Red, Brilliant Blue FCF, Carmoisine, Erythrosine, Green S, Indigo Carmine, Patent Blue V, Ponceau 4R, Quinoline Yellow, Sunset Yellow FCF, Tartrazine	50g	19 Jul 18
FCFA20-DRN29	Soft Drink	colours, a selection from the following list: Allura Red, Brilliant Blue FCF, Carmoisine, Erythrosine, Green S, Indigo Carmine, Patent Blue V, Ponceau 4R, Quinoline Yellow, Sunset Yellow FCF, Tartrazine	150ml	10 Aug 18
FCFA22-FRU36	Dried Apple (water/ fruit slurry)	sulphur dioxide	100g	9 Oct 18
FCFA22-FRU37	Dried Apricot (water/ fruit slurry)	sulphur dioxide	100g	30 Jul 18
FCFA22-MRP23	Meat	sulphur dioxide	100g	19 Mar 18 10 Dec 18 4 Mar 19
FCFA22-SEA20	Prawns	sulphur dioxide	100g	29 May 18

Footnotes

Total sugars = that measured by a defined titration method (e.g. Lane-Eynon, Luff-Schoorl, Munson Walker) or, if measured by HPLC, the sum of fructose, glucose, sucrose, lactose, galactose and maltose (NB not all sugars may be present).

Mycotoxins

Mycotoxins are a group of naturally occurring toxic chemicals produced by a range of moulds. These moulds can grow on a range of crops and as they thrive in warm, humid conditions their presence can be used as an indicator of food quality from both field growth and storage conditions.

Aflatoxins are a subset of mycotoxins formed by fungi, most commonly Aspergillus flavus and Aspergillus parasiticus. It is important to control their presence within a range of foodstuffs and feed due to the potentially harmful effects on consumers and/or livestock, when consumed in significant quantities.

Product Code	Matrix	Analytes	Quantity	Test Dates
FCMA1-DRY14	Milk Powder	aflatoxin M1	55g	21 Feb 18 6 Jun 18 4 Oct 18
FCMA2-AFE2	Animal Feed (cereal based)	aflatoxins B & G &/or total	55g	5 Apr 18 17 Oct 18
FCMA2-CCP30	Maize	aflatoxins B & G &/or total	55g	3 Jan 18 23 May 18
FCMA2-CCP43	Rice	aflatoxins B & G &/or total	55g	22 Nov 18
FCMA2-NUT1	Almond (water/nut slurry)	aflatoxins B & G &/or total	100g	8 May 18
FCMA2-NUT14	Pistachio (water/nut slurry)	aflatoxins B & G &/or total	100g	16 Jan 18
FCMA2-NUT6	Hazelnut (water/nut slurry)	aflatoxins B & G &/or total	100g	3 Jul 18
FCMA2-NUT9	Peanut (water/nut slurry)	aflatoxins B & G &/or total	100g	20 Mar 18 25 Sep 18
FCMA2-SPI23	Ginger	aflatoxins B & G &/or total	75g	8 Nov 18
FCME1-CCP47	Rye Flour	ergot alkaloids: contamination of matrix with two or more from ergometrine, ergotamine, ergosine, ergocristine, ergocryptine & ergocornine & their related-inines	55g	14 Mar 18
FCMF1-CCP13	Breakfast Cereal	deoxynivalenol (DON) & zearalenone (ZON)	55g	4 Jan 18
FCMF2-AFE1	Animal Feed	deoxynivalenol (DON), zearalenone (ZON), T-2 & HT-2 toxins & as a sum of T-2 & HT-2 toxins	75g	27 Sep 18
FCMF2-CCP49	Wheat Flour	deoxynivalenol (DON), zearalenone (ZON), T-2 & HT-2 toxins & as a sum of T-2 & HT-2 toxins	75g	14 Nov 18
FCMF2-PRO17	Dried Pasta	deoxynivalenol (DON), zearalenone (ZON), T-2 & HT-2 toxins & as a sum of T-2 & HT-2 toxins	75g	25 Jul 18
FCMF3-CCP32	Maize Flour	FB1 & FB2 and total fumonisins (as a sum of FB1 & FB2)	55g	21 Jun 18
FCMF4-CCP38	Oat Flour	T-2 & HT-2 toxins & as a sum of T-2 & HT-2 toxins	55g	4 Apr 18
FCMF5-CCP32	Maize Flour	trichothecenes: nivalenol, DON, 3 Ac DON, 15 Ac DON, T-2 & HT-2 toxins & as a sum of T-2 & HT-2 toxins	150g	15 Aug 18
FCMF6-INF17	Baby Food (Multigrain)	tropane alkaloids: atropine & scopolamine	30g	10 Oct 18

Product Code	Matrix	Analytes	Quantity	Test Dates
FCMM1-CCP30	Maize	aflatoxin B1 &/or total, DON, ZON & OTA	150g	8 Feb 18
FCMM2-CCP30	Maize	aflatoxin B1, DON, ZON & OTA	150g	31 Oct 18
FCMM3-CCP30	Maize	aflatoxin B1, DON, ZON, OTA, FB1 & FB2 & total fumonisins (as a sum of FB1 & FB2), T-2 & HT-2 toxins & as sum of T-2 & HT-2 toxins	200g	11 Apr 18 2 Aug 18
FCMM4-FRU38	Dried Figs (water/fruit slurry)	aflatoxins B & G &/or total & OTA	150g	14 Aug 18
FCMM4-SPI1	Black Pepper	aflatoxins B & G &/or total & OTA	75g	8 Mar 18
FCMM4-SPI14	Paprika	aflatoxins B & G &/or total & OTA	75g	21 Jun 18
FCMM4-SPI6	Chilli Powder	aflatoxins B & G &/or total & OTA	75g	13 Sep 18
FCMM5-AFE2	Animal Feed (cereal based)	contamination of matrix with two or more from the following list: aflatoxin B1, OTA, ZON, DON, FB1 & FB2 & total fumonisins (as a sum of FB1 & FB2)	200g	7 Dec 18
FCMM6-INF8	Infant Food	contamination of matrix with two or more from the following list: aflatoxins B & G &/or total, OTA, ZON, DON, FB1 & FB2 & total fumonisins (as a sum of FB1 & FB2) -& T-2 & HT-2 toxins & as sum of T-2 & HT-2 toxins	200g	25 Apr 18
FCMM8-CCP28	Flour	ochratoxin A & citrinin	100g	28 Feb 18
FCMO1-AFE1	Animal Feed	ochratoxin A	55g	16 Nov 18
FCMO1-CCP32	Maize Flour	ochratoxin A	55g	18 Oct 18
FCMO1-CCP4	Barley Flour	ochratoxin A	55g	24 May 18
FCMO1-CCP49	Wheat Flour	ochratoxin A	55g	25 Jan 18
FCMO1-DRH18	Instant Coffee	ochratoxin A	55g	6 Sep 18
FCMO1-DRH21	Roasted Coffee	ochratoxin A	55g	30 Nov 18
FCMO1-DRH9	Coffee (green)	ochratoxin A	55g	20 Jul 18
FCMO1-FRU43	Dried Vine Fruit (water/fruit slurry)	ochratoxin A	100g	3 Apr 18
FCMP1-DRN2	Apple Juice (clear)	patulin	50ml	30 Jan 18
FCMP1-DRN3	Apple Juice (cloudy)	patulin	50ml	30 Oct 18
FCMP1-FRU2	Apple Purée	patulin	60g	1 May 18
FCMS1-SEA20	Prawns	disinfection byproducts	50g	27 Nov 18
FCMS2-CCP39	Oats	chlormequat, mepiquat & glyphosate	100g	20 Apr 18
FCMS2-CCP49	Wheat Flour	chlormequat, mepiquat & glyphosate	100g	6 Dec 18
FCMS3-VEG49	Lettuce Purée	dithiocarbamates	90g	18 Sep 18
FCMS4-FRU61	Pineapple Purée	ethephon (single residue)	90g	13 Nov 18

Product Code	Matrix	Analytes	Quantity	Test Dates

Nutritional Analysis

As nutritional legislation increases, the proficiency of laboratories to provide accurate results to food manufacturers for labelling is critical, to help consumers make informed choices about the food they eat. Food Nutritional Analysis is needed to produce your nutrition facts labels. Fapas offers the widest range of analyte/matrix PT combinations for the food sector.

Your results report shows the nutrient values required for Nutrition Facts Labels and compliance with food labelling legislation. This information can also be used as part of your due diligence surveilliance and quality control processes. These include: Calcium, Calories from Fat, Total Calories, Total Carbohydrates, Cholesterol, Trans-fat, Saturated Fat, Total Fat, Dietary Fibre, Iron, Protein, Sodium, Sugars, Vitamins, Potassium. (Ash and Moisture results are also included).

FCNC10-PFO7	Pet Dog Food (dry)	moisture, ash, protein, total oil, crude fibre, starch, total sugars & water activity	150g	3 Oct 18
FCNC11-MRP12	Canned Meat	moisture, ash, total fat, nitrogen & hydroxyproline	150g	4 May 18
				12 Oct 18
FCNC13-PRO2	Biscuit (Cookie)	moisture, ash, total fat, nitrogen & total dietary fibre by AOAC	150g	8 Nov 18
FCNC14-DRY9	Condensed Milk	moisture, ash, total fat, nitrogen & total sugars	150ml	23 May 18
FCNC15-MRP12	Canned Meat	moisture, ash, total fat, nitrogen, sodium & chloride	150g	18 Jan 18 11 Jul 18 17 Jan 19
FCNC15-MRP13	Canned Meat Meal	moisture, ash, total fat, nitrogen, sodium & chloride	150g	22 Mar 18 27 Mar 19
FCNC16-MRP13	Canned Meat Meal	moisture, ash, total fat, nitrogen, sodium, chloride & total sugars	150g	30 Nov 18
FCNC15-PRO12	Cheese & Pasta Meal	moisture, ash, total fat, nitrogen, sodium & chloride	100g	19 Jan 18 18 Jan 19
FCNC15-PRO39	Corn/Maize based Snack Food	moisture, ash, total fat, nitrogen, sodium & chloride	50g	22 Mar 18 21 Mar 19
FCNC15-SEA15	Fish Paste	moisture, ash, total fat, nitrogen, sodium & chloride	150g	26 Apr 18
FCNC17-DRY14	Milk Powder	moisture, ash, total fat, nitrogen, titratable acidity & lactose	50g	2 Nov 18
FCNC19-AFE14	Pig Ration	moisture, ash, total oil, protein, crude fibre, aNDF, vitamin E & zinc	150g	15 Jun 18
FCNC20-AFE7	Dairy Ration	moisture, ash, total oil, protein, crude fibre, iron, magnesium, manganese & selenium	225g	21 Mar 18 20 Mar 19

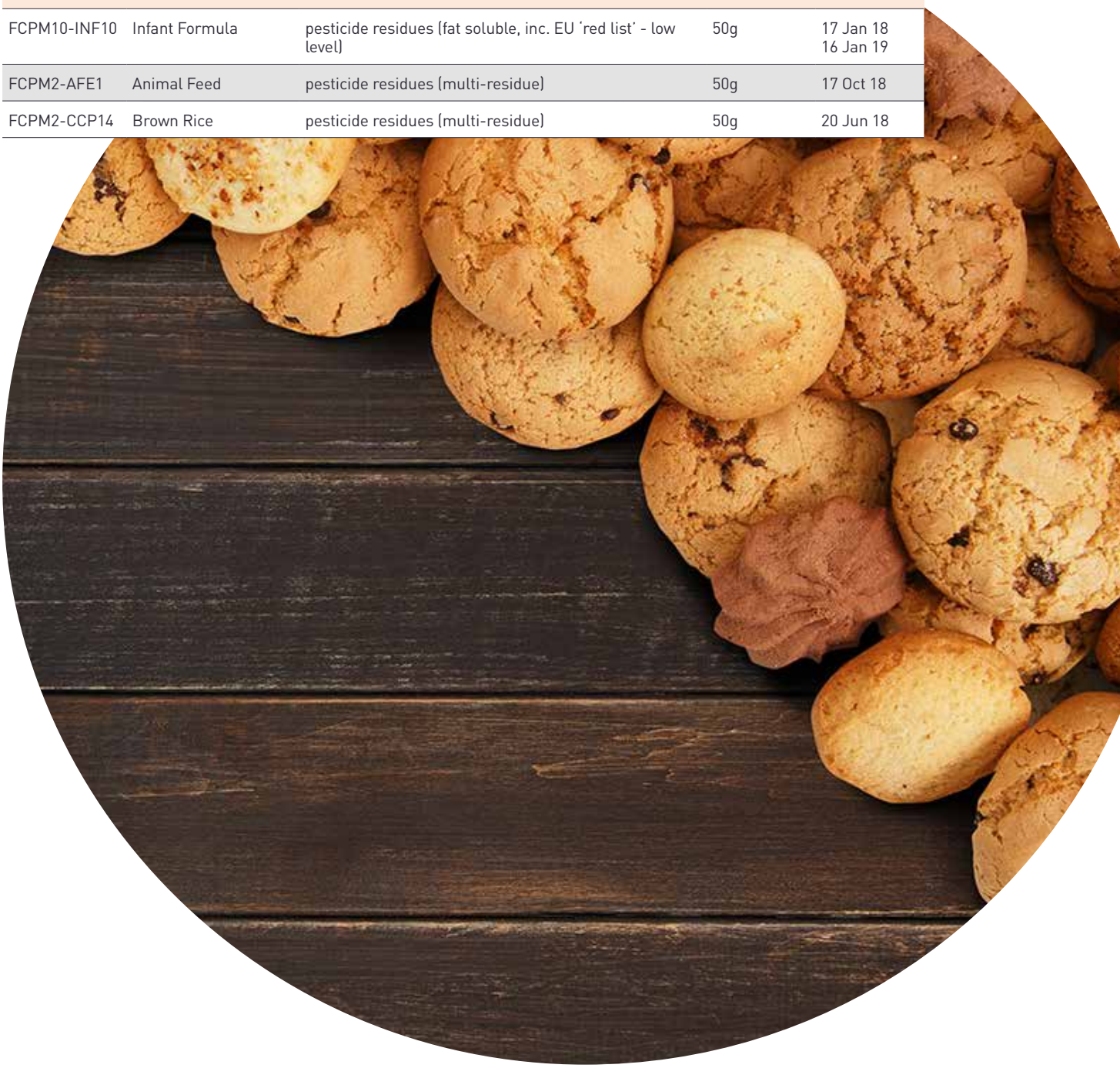
Product Code	Matrix	Analytes	Quantity	Test Dates
FCNC21-AFE16	Poultry Ration	moisture, ash, total oil, protein, crude fibre, starch, total sugars, calcium & phosphorus	225g	7 Dec 18
FCNC23-CON2	Chocolate	moisture, total fat, nitrogen, butyric acid, lactose & sucrose	150g	24 Jul 18
FCNC24-DRY6	Butter	moisture, total fat, non-fat solids, pH & chloride	200g	27 Feb 18 26 Feb 19
FCNC4-CCP15	Cereal	moisture at 130°C, ash, nitrogen & total dietary fibre by AOAC	150g	5 Jul 18
FCNC4-CCP49	Wheat Flour	moisture at 130°C, ash, nitrogen & total dietary fibre by AOAC	150g	16 Feb 18 15 Feb 19
FCNC5-CCP40	Porridge Oats	moisture at 130°C, ash, total fat, nitrogen & total dietary fibre by AOAC	150g	13 Apr 18
FCNC6-PRO9	Breadcrumbs	moisture, ash, nitrogen, starch, sodium & total dietary fibre by AOAC	150g	20 Sep 18
FCNC7-AFE20	Soybean meal	moisture, ash, protein & crude fibre	150g	26 Sep 18
FCNC8-PFO6	Pet Cat Food (wet)	moisture, ash, protein, total oil	150g	6 Nov 18
FCQT1-SEA7	Canned Fish	total volatile basic nitrogen (TVB-N)	150g	16 Mar 18 7 Sep 18 15 Mar 19
FCNC3-DRY15	Milkshake Powder	fructose, galactose, glucose, lactose, maltose & sucrose	50g	28 Jun 18
Elements				
FCNE1-INF10	Infant Formula	calcium, copper, iodine, iron, magnesium, manganese, phosphorus, potassium, selenium & sodium	50g	9 Mar 18 8 Mar 19
FCNE3-DRY14	Milk Powder	calcium, iodine, magnesium, phosphorus, potassium, selenium & sodium	50g	7 Nov 18
FCNE4-CCP13	Breakfast Cereal	calcium, iron, magnesium, phosphorus, potassium, sodium & zinc	50g	18 Jul 18
FCNE5-AFE17	Premix	calcium, magnesium, manganese, phosphorus, sodium & zinc	150g	24 Jan 18 23 Jan 19
Vitamins				
FCNV2-FRU47	Fruit Purée	vitamin C	100g	26 Jun 18
FCNV4-INF15	Powdered Baby Food	vitamins A, B12, C & E	100g	12 Apr 18
FCNV5-INF10	Infant Formula	vitamins A, C, D3, E & K1	50g	31 May 18
FCNV7-SUP4	Liquid Vitamin Supplement	vitamins B1, B2 (total) & B6	40ml	11 Sep 18
FCNV9-CCP13	Breakfast Cereal	vitamins B1, B2 (total), B6, B12, total niacin & folic acid	100g	14 Feb 18 13 Feb 19

Product Code	Matrix	Analytes	Quantity	Test Dates
Oil & Fats				
		The rancidity of fats and oils is determined by the level of oxidation in a sample. There are various forms of rancidity testing available through the Fapas range of proficiency tests. Testing is important to demonstrate the quality and shelf life of a product. Quality of product is key within an ever more competitive global environment, where consumers have the choice available to them to choose only the best product. Olive oil quality parameters of peroxide value, acidity, anisidine value and iodine value are also tested within this proficiency test in keeping with the International Olive Oil Council requirements. Therefore it is key to have robust and accurate testing capabilities, benchmarked by effective proficiency testing measures, to give both manufacturers and retailers the information they need to provide the best quality products for the consumer. Fapas proficiency tests use original sourced olive oils, allowing participants' quality control foundations to be as comparable as possible to routine tests seen on a day to day basis.		
FCQ01-OIL22	Olive Oil	peroxide value, acidity, anisidine value & iodine value	100ml	9 Jan 18 16 Jul 18 7 Jan 19
FCQ02-OIL22	Olive Oil	peroxide value, acidity, K232 & K270	100ml	5 Mar 18 5 Sep 18 12 Mar 19
FCPM2-OIL34	Olive Oil (virgin)	pesticide residues (multi-residue)	50g	10 Oct 18
FCQ01-OIL30	Vegetable Oil	peroxide value, acidity, anisidine value & iodine value	50ml	11 Jun 18
FCF05-FAT12	Mixed Fat Spread	Total fat, saturates, mono-unsaturates, poly-unsaturates, total trans fatty acids, total omega-3 & total omega-6 series fatty acids, (& possibly individual omega-3 & omega-6 fatty acids)	50g	20 Aug 18
FCF08-FAT12	Mixed Fat Spread	total fat, saturates, mono-unsaturates, poly-unsaturates & total trans fatty acids	50g	1 May 18
FCF06-FAT12	Mixed Fat Spread	total fat, butyric acid & cholesterol	50g	27 Nov 18
FCF08-FAT12	Mixed Fat Spread	total fat, saturates, mono-unsaturates, poly-unsaturates & total trans fatty acids	50g	1 May 18
FCF07-PRO2	Biscuit (Cookie)	total fat, saturates, mono-unsaturates & poly-unsaturates, total trans fatty acids & butyric acid	50g	23 Oct 18
FCF09-INF10	Infant Formula	total fat, saturates, mono-unsaturates, poly-unsaturates, total trans fatty acids (& possibly individual fatty acids: linoleic acid, a-linolenic acid (ALA), ARA & DHA)	50g	18 Apr 18
FCPM10-INF10	Infant Formula	pesticide residues (fat soluble, inc. EU 'red list' - low level)	50g	17 Jan 18
				16 Jan 19
FCF09-INF6	Infant Breakfast Cereal	total fat, saturates, mono-unsaturates, poly-unsaturates, total trans fatty acids (& possibly individual fatty acids: linoleic acid, a-linolenic acid (ALA), ARA & DHA)	50g	5 Oct 18
FCF01-OIL35	Nut Oil	Individual omega-3, omega-6 and omega-9 fatty acids (test material-dependent)	30ml	19 Sep 18

Product Code	Matrix	Analytes	Quantity	Test Dates
Pesticides Residues				
FCPM10-INF10	Infant Formula	pesticide residues (fat soluble, inc. EU 'red list' - low level)	50g	17 Jan 18 16 Jan 19
FCPM2-AFE1	Animal Feed	pesticide residues (multi-residue)	50g	17 Oct 18
FCPM2-CCP14	Brown Rice	pesticide residues (multi-residue)	50g	20 Jun 18

All EU countries are required to monitor food for pesticide residues and to carry out a number of specific surveys each year. Pesticide residues are regulated in many countries and for many commodities, with maximum residue limits set within EU and other legislation. For instance the UK programme ensures all the major components of the UK national diet are sampled (milk, bread, potatoes, fruit and vegetables, cereals and related products, and animal products).

The programme uses a risk-based approach and looks more at those commodities likely to contain residues. Proficiency testing are key to providing an effective benchmark, using real food samples to provide as close to true results as possible, to simulate the routine testing your laboratory will experience on a day-to-day basis.



Product Code	Matrix	Analytes	Quantity	Test Dates
FCPM2-CCP49	Wheat Flour	pesticide residues (multi-residue)	50g	7 Feb 18 16 Aug 18 14 Feb 19
FCPM2-FRU2	Apple Purée	pesticide residues (multi-residue)	90g	13 Mar 18 11 Mar 19
FCPM2-FRU31	Blueberry Purée	pesticide residues (multi-residue)	90g	8 Oct 18
FCPM2-FRU52	Lemon Purée	pesticide residues (multi-residue)	90g	16 Apr 18
FCPM2-FRU55	Mango Purée	pesticide residues (multi-residue)	90g	28 Aug 18
FCPM2-FRU57	Nectarine Purée	pesticide residues (multi-residue)	90g	22 Oct 18
FCPM2-FRU67	Strawberry Purée	pesticide residues (multi-residue)	90g	13 Aug 18
FCPM2-OIL34	Olive Oil (virgin)	pesticide residues (multi-residue)	50g	10 Oct 18
FCPM2-SPI22	Chilli Pepper Purée	pesticide residues (multi-residue)	90g	4 Sep 18
FCPM2-VEG30	Broccoli Purée	pesticide residues (multi-residue)	90g	13 Mar 18
FCPM2-VEG38	Cucumber Purée	pesticide residues (multi-residue)	90g	18 Jun 18
FCPM2-VEG49	Lettuce Purée	pesticide residues (multi-residue)	90g	18 Jun 18
FCPM2-VEG59	Potato Purée	pesticide residues (multi-residue)	90g	6 Feb 18
FCPM2-VEG72	Sweet (Bell) Pepper Purée	pesticide residues (multi-residue)	90g	6 Feb 18
FCPM2-VEG76	Tomato Purée	pesticide residues (multi-residue)	90g	14 May 18
FCPM2-VEG80	Avocado Purée	pesticide residues (multi-residue)	90g	18 Sep 18
FCPM2-VEG81	Celery Purée	pesticide residues (multi-residue)	90g	13 Nov 18
FCPM3-DRH14	Green Tea	pesticide residues from List 5	50g	5 Dec 18
FCPM6-VEG46	Herb Purée	biocides (quaternary ammonium compounds & (per) chlorates)	90g	23 Jul 18
FCPM9-DRY14	Milk Powder	pesticide residues (fat soluble)	50g	25 Jul 18
FCPM9-EGG2	Chicken (Hens) Eggs	pesticide residues (fat soluble)	50g	12 Mar 18 4 Mar 19
FCPM9-FAT2	Animal Fat (Pork)	pesticide residues (fat soluble)	50g	17 Sep 18
FCPM9-SEA18	Oily Fish	pesticide residues (fat soluble)	50g	8 May 18
FCMS1-SEA20	Prawns	disinfection by products	50g	27 Nov 18
FCMS2-CCP39	Oats	chlormequat, mepiquat & glyphosate	100g	20 Apr 18
FCMS2-CCP49	Wheat Flour	chlormequat, mepiquat & glyphosate	100g	6 Dec 18
FCMS3-VEG49	Lettuce Purée	dithiocarbamates	90g	18 Sep 18
FCMS4-FRU61	Pineapple Purée	ethephon (single residue)	90g	13 Nov 18

Product Code	Matrix	Analytes	Quantity	Test Dates
Veterinary Medicines				
The use of veterinary drugs in food-producing animals has the potential to generate residues in animal derived products (meat, milk, eggs and honey) and poses a health hazard to the consumer. There are many factors influencing the occurrence of residues in animal products such as drug's properties and their pharmacokinetic characteristics, physicochemical or biological processes of animals and their products. The most likely reason for drug residues might be due to improper drug usage and failure to keep the withdrawal period. The major public health significances of drug residue are development of antimicrobial drug resistance, hypersensitivity reaction, carcinogenicity, mutagenicity, teratogenicity, and disruption of intestinal normal flora and so are heavily regulated. Proficiency testing will help you ensure you are adhereing to the relevant regulations and guidelines.				
FCVD10-SEA13	Fish Muscle	illegal dyes (veterinary drugs)	20g	5 Jun 18
FCVD11-SEA13	Fish Muscle	malachite green, leucomalachite green & total malachite green	20g	8 Jan 18 14 Jan 19
FCVD12-MRP29	Pig Kidney	nitrofuran metabolites	20g	12 Mar 18
FCVD12-SEA20	Prawns	nitrofuran metabolites	20g	15 Oct 18 19 Feb 19
FCVD13-EGG2	Chicken (Hens) Eggs	nitroimidazoles	20g	7 Aug 18
FCVD14-HON2	Honey	nitroimidazoles & aminoglycosides (streptomycin & dihydrostreptomycin)	40g	20 Nov 18
FCVD15-HON2	Honey	quinolones & fluoroquinolones	20g	24 Jul 18
FCVD15-MRP17	Chicken Muscle	quinolones & fluoroquinolones	20g	5 Feb 18
FCVD15-SEA13	Fish Muscle	quinolones & fluoroquinolones	20g	24 Apr 18
FCVD17-MRP7	Bovine Liver	ß-agonists	20g	22 May 18
FCVD18-DRY4	Bovine Milk	ß-lactams (penicillins & cephalosporins)	25ml	24 Sep 18
FCVD1-SEA13	Fish Muscle	avermectins	25ml	22 May 18
FCVD20-MRP32	Pig Muscle	sulfonamides	20g	27 Feb 18
FCVD21-MRP9	Bovine Urine	synthetic hormones	25ml	25 Jun 18
FCVD22-HON2	Honey	tetracyclines	20g	2 Jan 18
FCVD22-MRP32	Pig Muscle	tetracyclines	20g	10 Jul 18
FCVD22-SEA13	Fish Muscle	tetracyclines	20g	15 Oct 18 7 Jan 19
FCVD2-MRP7	Bovine Liver	avermectins & anthelmintics	40g	28 Aug 18
FCVD3-SEA20	Prawns	chloramphenicol	20g	20 Nov 18
FCVD4-DRY4	Bovine Milk	chloramphenicol & thiamphenicol	25ml	24 Sep 18
FCVD5-HON2	Honey	chloramphenicol, thiamphenicol & florfenicol	20g	9 Apr 18
FCVD5-SEA13	Fish Muscle	chloramphenicol, thiamphenicol & florfenicol	20g	5 Feb 18
FCVD7-EGG2	Chicken (Hens) Eggs	coccidiostats	20g	7 Aug 18
FCVD8-MRP37	Rabbit Muscle	coccidiostats & chloramphenicol - (contaminant levels)	40g	22 Oct 18
FCVD9-MRP7	Bovine Liver	glucocorticoids	20g	4 Dec 18
FCNC25-MRP13	Canned Meat Meal	total fat, saturated fatty acids, protein, total sugars & salt	150g	23 Aug 18
FCNC2-DRN33	Mango Juice	brix, pH, total acidity, total sugars, calcium, magnesium & potassium	250ml	31 Oct 18
FCNC3-DRY15	Milkshake Powder	fructose, galactose, glucose, lactose, maltose & sucrose	50g	28 Jun 18

2018 Water & Environmental Scheme

Water & Environmental Proficiency Scheme

Access to clean, safe water is vital to support life. Ensuring the quality of our water supplies relies upon the analysis performed by laboratories worldwide to prevent potentially harmful chemicals and microorganisms from entering the distribution networks.

The Fapas Water and Environmental Scheme assesses the performance of laboratories in water and environmental testing sectors. The scheme satisfies the UK Drinking Water Inspectorate (DWI) requirements for the Water Supply (Water Quality) Regulation 2016: Regulation 16, Appendix 1 for both chemical and microbiological parameters. Our range of water and environmental proficiency testing schemes provide the opportunity to monitor laboratory quality on a global scale. The programme is extensive and is supported by complementary schemes for water microbiology, parasitology; chemical contamination emergency; taste & odour chemical identification; high salinity water; Legionella; soil chemistry; waste water chemistry; and surface water chemistry. Mainly real drinking water samples for the analysis of inorganics, metals and organics.

Drinking Water Chemistry

Water sources require regular analysis to determine their safety and suitability for a variety of uses, ensuring that the drinking water we consume is free from harmful chemicals and microorganisms. The water comes from a variety of sources: boreholes (from aquifers), rivers and reservoirs. A third of drinking water supplies come from groundwater. Boreholes are usually drilled hundreds of metres into the ground to reach water which has filtered down through the many layers of rock over many years. Two thirds of drinking water comes from rivers and reservoirs, which drain moorland, farmland and urban areas before reaching surface water treatment works where it goes through a number of processes before being piped to customers. To maintain industry leading water quality compliance, regular monitoring of the quality of drinking water is required to ensure full compliance with the stringent standards laid down by the DWI.

Drinking Water Chemistry

Analyte Groups	Product Code	Analytes	Water Type	Concentration Ranges (approx. after dilution)	Volume Supplied (approx)	Test Dates
1 Major Inorganic Components	FWIC1-DRW1	sodium potassium chloride calcium magnesium alkalinity total hardness total phosphorus fluoride sulphate	Real drinking water	5.0 – 50 mg/l 0.3 – 3.0 mg/l 6.0 – 50 mg/l 10 – 150 mg/l 1.0 – 15 mg/l 30 – 300 mg HCO3/l 30 – 130 mg Ca/l 100 – 3000 µg P/l 150 – 1800 µg/l 8.0 – 100 mg/l	1 litre	22 Jan 2018 20 Mar 2018 23 Apr 2018 9 Jul 2018 17 Sep 2018 12 Nov 2018 21 Jan 2019 18 Mar 2019
2 Routine Components	FWRC1-DRW1	nitrite nitrate ammonium TOC PI colour (filtered) SR phosphate pH turbidity conductivity @ 200C	Real drinking water	0.02 – 0.6 mg NO2/l 2.0 – 60 mg NO3/l 0.1 – 0.6 mg NH4/l 0.2 – 5.0 mg/l 0.2 – 5.0 mg/l 0.2 – 20 HAZEN 10 – 1500 µg P/l 6.0 – 10.0 pH units 0.05 – 4.0 NTU 100 – 600 µS/cm @ 200C	1 litre	22 Jan 2018 20 Mar 2018 23 Apr 2018 9 Jul 2018 17 Sep 2018 12 Nov 2018 21 Jan 2019 18 Mar 2019
3 Routine Metals	FWRM1-DRW1	cadmium lead iron manganese aluminium copper zinc nickel chromium	Real drinking water	0.5 – 7.0 µg/l 1.0 – 20 µg/l 20 – 400 µg/l 10 – 75 µg/l 20 – 300 µg/l 50 – 2000 µg/l 50 – 500 µg/l 5.0 – 30 µg/l 5.0 – 50 µg/l	500ml	22 Jan 2018 20 Mar 2018 23 Apr 2018 9 Jul 2018 17 Sep 2018 12 Nov 2018 21 Jan 2019 18 Mar 2019
4 Non-Routine Metals	FWNM1-DRW1	mercury barium boron arsenic selenium antimony silver strontium lithium cobalt vanadium molybdenum tin beryllium	Standard concentrates or standard solutions in ultra-pure water	0.1 – 2.0 µg/l 100 – 1000 µg/l 200 – 1500 µg/l 1.0 – 15 µg/l 1.0 – 15 µg/l 0.5 – 7.5 µg/l 1.0 – 20 µg/l 50 – 500 µg/l 10 – 100 µg/l 3.0 – 30 µg/l 3.0 – 30 µg/l 3.0 – 30 µg/l 1.0 – 100 µg/l 2.0 – 10 µg/l	500ml	22 Jan 2018 23 Apr 2018 9 Jul 2018 12 Nov 2018 18 Mar 2019
5 Inorganic Disinfection By-products	FWID1-DRW1	bromide bromate chlorite chlorate	Standard solution in ultra-pure water	5 – 200 µg/l 1.0 – 20 µg/l 1.0 – 200 µg/l 1.0 – 1000 µg/l	125ml	22 Jan 2018 23 Apr 2018 9 Jul 2018 12 Nov 2018 18 Mar 2019
6 Trihalomethanes / Chlorinated Solvents	FWTR1-DRW1	chloroform dichloromethane bromodichloromethane dibromochloromethane bromoform trichloroethene tetrachloroethene carbon tetrachloride 1,2-dichloroethane 1,2,3-trichlorobenzene 1,2,4-trichlorobenzene 1,3,5-trichlorobenzene hexachlorobutadiene 1,1,1-trichloroethane	Ultra-pure water + spiking concentrate in methanol	2.0 – 100 µg/l 2.0 – 40 µg/l 2.0 – 50 µg/l 2.0 – 50 µg/l 2.0 – 50 µg/l 0.5 – 10 µg/l 0.5 – 10 µg/l 0.5 – 4.0 µg/l 0.5 – 4.0 µg/l 0.1 – 2.0 µg/l 0.1 – 2.0 µg/l 0.1 – 2.0 µg/l 0.01 – 0.15 µg/l 0.1 – 2.0 µg/l	1 litre	12 Feb 2018 21 May 2018 14 Aug 2018 19 Nov 2018 12 Feb 2019

Analyte Groups	Product Code	Analytes	Water Type	Concentration Ranges (approx. after dilution)	Volume Supplied (approx)	Test Dates
7 **Polycyclic Aromatic Hydrocarbons**	FWPC1-DRW1	anthracene fluoranthene benzo (b) fluoranthene benzo (k) fluoranthene, naphthalene benzo (a) pyrene benzo (ghi) perylene indeno (1,2,3-cd) pyrene	Real drinking water + spiking concentrate in methanol	0.005 – 0.05 µg/l 0.01 – 0.10 µg/l 0.003 – 0.050 µg/l 0.003 – 0.050 µg/l 0.005 – 0.050 µg/l 0.002 – 0.020µg/l 0.010 – 0.070 µg/l 0.010 – 0.070 µg/l	1 litre	12 Feb 2018 21 May 2018 14 Aug 2018 19 Nov 2018 12 Feb 2019
8 **OP Pesticides**	FWOP1-DRW1	alachlor azinphos-ethyl azinphos-methyl dichlorvos fenitrothion malathion mevinphos chlorofenvinphos chlorpyrifos diazinon fenthion parathion-ethyl parathion-methyl cypermethrin propetamphos	Real drinking water + spiking concentrate in methanol	0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l	1 litre	12 Feb 2018 21 May 2018 14 Aug 2018 19 Nov 2018 12 Feb 2019
9 **Acid Herbicides**	FWAH1-DRW1	MCPA MCPB 2,4-D dichlorprop dicamba, 2,4-DB bentazone mecoprop propyzamide ioxynil bromoxynil triclopyr clopyralid fluroxypyr 2,3,6-TBA 2,4,5-T dichlobenil bromacil metazachlor propachlor benazolin metaldehyde	Real drinking water + spiking concentrate in methanol	0.01 – 0.15 µg/l 0.01 – 0.15 µg/l	1 litre	3 Apr 2018 8 Oct 2018
10 **OC Pesticides**	FWOC1-DRW1	endrin dieldrin Aldrin p,p´ DDT o,p´-DDT p,p´-DDE o,p´-DDE p,p´-DDD o,p-DDD (TDE) hexachlorocyclohexane (alpha) hexachlorocyclohexane (beta) hexachlorocyclohexane (delta) lindane (gamma HCH) trifluralin alpha endosulphan beta endosulphan Hexachlorobenzene heptachlor heptachlor epoxide (total), pentachlorobenzene pendimethalin	Real drinking water + spiking concentrate in methanol	0.01 – 0.15 µg/l 0.006 – 0.05 µg/l 0.006 – 0.05 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.006 – 0.04 µg/l 0.006 – 0.04 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l	1 litre	15 Jan 2018 3 Apr 2018 8 Oct 2018 5 Feb 2019

Analyte Groups	Product Code	Analytes	Water Type	Concentration Ranges (approx. after dilution)	Volume Supplied (approx)	Test Dates
11 **BTEX**	FWBT1-DRW1	benzene toluene ethylbenzene styrene o-xylene m-xylene p-xylene m+p xylene total xylene	Real drinking water + spiking concentrate in methanol	0.1 – 1.5 µg/l 0.2 – 4.0 µg/l 0.2 – 4.0 µg/l 0.2 – 4.0 µg/l 0.2 – 4.0 µg/l 0.2 – 4.0 µg/l 0.2 – 4.0 µg/l 0.2 – 8.0 µg/l 0.5 – 12.0 µg/l	1 litre	15 Jan 2018 3 Apr 2018 31 Jul 2018 8 Oct 2018 5 Feb 2019
12 **Chlorine**	FWCH1-DRW1	total & free chlorine	Concentrate for dilution up to 1 litre	0.5 – 3.0 mg/l	3ml	22 Jan 2018 23 Apr 2018 9 Jul 2018 12 Nov 2018 18 Mar 2019
15 **Triazines and Urea Herbicides**	FWTU1-DRW1	isoproturon diuron linuron chlortoluron monuron methabenzthiazuron diflufenican metamitron simazine atrazine propazine cyanazine trietazine prometryn terbutryn ametryn carbetamide pirimicarb	Real drinking water + spiking concentrate in methanol	0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l 0.01 – 0.15 µg/l	1 litre	15 Jan 2018 31 Jul 2018 5 Feb 2019
16 **Total Cyanide**	FWTC1-DRW1	total cyanide	Concentrate for dilution up to 1 litre	0.01 – 0.10 mg/l	3ml	22 Jan 2018 23 Apr 2018 9 Jul 2018 12 Nov 2018 18 Mar 2019
17 **Haloacetic Acids**	FWHA1-DRW1	monochloroacetic acid (MCA) dichloroacetic acid (DCA) trichloroacetic acid (TCA) Monobromoacetic acid (MBA) dibromoacetic acid (DBA)	Ultra-pure water + spiking concentrate in methyl tert-butyl ether	5.0 – 50 µg/l 5.0 – 50 µg/l 5.0 – 50 µg/l 5.0 – 50 µg/l 5.0 – 50 µg/l	1 litre	21 May 2018 19 Nov 2018
18	FWHC1-DRW1	Hexavalent Chromium (CrVI)	Concentrate for dilution up to 1 litre	5.0 – 50 µg/l	2ml	23 Apr 2018 9 Jul 2018 12 Nov 2018 18 Mar 2019

Water Microbiology

This part of Water & Environmental programme is solely intended for microbiological analysis of drinking water samples. This can help laboratories to meet requirements of the laboratory standard ISO/IEC 17025.

Our water microbiology tests are invaluable to ensure your laboratories are adequately equipped to monitor and respond to emerging water microbiology developments. We live in a world with ever growing & emerging water microbiology challenges and participation in a relevant proficiency testing scheme can provide confidence that your results of analyses are meaningful and robust, aiding the safety of your drinking water.

- Responding to consumer feedback we also now have a longer analysis window for participants to analyse their samples, increasing the period of time available to start the analysis has increased from 2 days to 9 days.
- In addition, the results submission on Fapas SecureWeb will remain open for a further two weeks giving more time for completion of the reporting process.

Within our Water Microbiology proficiency tests our target organisms include pathogens, indicator micro-organisms and spoilage organisms to give you an ideal overview of your microbiology analysis abilities. The full range and availability of the test materials is determined on an annual basis.

Drinking Water Microbiology

How it works

We offer a flexible programme of 10 distributions a year to meet your laboratories quality system. Our samples are sent by courier worldwide in a controlled environment with detailed instructions. This ensures uniform testing which results in a highly accurate representation of your laboratories performance. Closing date for registrations is four weeks before the start date of these tests.

The samples supplied are lyophilised vials, which require reconstituting with your laboratory's own sterile deionised water.
For each distribution, you can send up to 4 samples:

Sample A:
For Total coliforms and *Escherichia coli.*

Sample B:
Total Colony Count at 22°C/3 days & Total Colony Count at 37°C/2 days

Sample C:
For Enterococci together with *Clostridium perfringens** **AND** *Pseudomonas aeruginosa**. *NB another Clostridium/Pseudomonas species may be added to test laboratories' ability to confirm *Clostridium perfringens* / *Pseudomonas aeruginosa*.

Organism Identification:
This is a lyophilised vial which requires rehydrating. The vial has been inoculated with a gram negative rod-shaped organism **but please note**, occasionally a gram positive organism may be used. The organism chosen is one which is routinely recovered from water.

1. Internal test material homogeneity testing
2. Distribution of test materials
3. Participants analyse test materials
4. Participants return results
5. Statistical analysis of data
6. Distribution of confidential report
7. Recommendations for future rounds.

Drinking Water Microbiology Schedule (Jan 2018 – Mar 2019)

Test Material	Product Code	Analytes	Distribution Dates (available for all product codes)
Drinking Water		**Enumeration & Detection**	
	FWM01-DRW1	Total coliforms and *Escherichia coli*	23 Jan 18
	FWM02-DRW1	Total Colony Count at 22°C/3 days	06 Mar 18
		Total Colony Count at 37°C/2 day	17 Apr 18
	FWM03-DRW1	Enterococci	15 May 18
		Clostridium perfringens	12 Jun 18
		Pseudomonas aeruginosa	17 Jul 18
	FWM04-DRW1	Organism Identification	11 Sep 18
			09 Oct 18
			06 Nov 18
			04 Dec 18
			22 Jan 19
			05 Mar 19

Drinking Water – Taste & Odour (Sensory) Chemical Identification

This programme is aimed at testing the capabilities of a laboratory to analyse a chemically contaminated drinking water sample for completely unknown compound(s) which may produce a taste or odour. The primary sources of taste and odour problems in drinking water are algae and bacteria. However, other anthropogenic sources such as wastewater discharges and chemical spills also act as sources of chemicals that cause off tastes and odours. Such chemicals can affect both ground water and surface water.

Taste and Odour Problems

There are four basic taste types: sour, sweet, salty and bitter. There are also a variety of odour types including earthy, musty, chemical, and chlorinous.

Some species of algae and bacteria naturally produce odorous chemicals inside their cells. geosmin (trans-1,10-dimethyl-trans-9-decalol) and MIB (2-methylisoborneol) are common odorous chemicals. The earthy and musty odours generated by geosmin and MIB are detectable by many people at concentrations of 5 to 10 parts per trillion. When large numbers of algae and bacteria flourish in a water body (an "algae bloom"), taste and odour-compound concentrations increase to levels above this threshold and cause taste and odour problems.

Participants will be sent a drinking water sample contaminated with chemical(s) known to produce taste and odour problems, together with a corresponding 'blank' drinking water sample. Please note, the 'blank' sample is supplied solely to allow the laboratory to compare the background matrix of the contaminated drinking water.

Participants are required to submit responses to the following questions:

- **What taste and odour producing chemical(s) are in the drinking water? *NB participants should not undertake any taste (organoleptic) testing***
- **What is your estimated detection limit for this chemical?**
- **Where may this chemical have originated from?**
- **What methods were used to detect the taste and odour contaminant(s)?**

WARNING

Participating laboratories should NOT undertake any taste (organoleptic) testing as the samples supplied may contain toxic chemicals

Results are then e-mailed to Fapas for evaluation. The closing date for submission of results will be 3 weeks from the start date for the exercise. The next steps of participation within this test distribution is to join the yearly 'Discussion Forum' held at Fera Science Ltd, to discuss the outcomes of each taste and odour contamination test. The meeting is an important opportunity for participants to share information on detecting the contaminant(s) present. The cost for participating is included in the price for participation in the test, with a maximum of 2 people per organisation attending. Clearly the Discussion Forum is highly confidential and rules are respected. Closing date for registrations is two weeks before the start date for this test. **This test is not currently covered by our schedule of accreditation.**

Drinking Water – Taste & Odour Schedule (January 2018 to March 2019)

Distribution Date	Product Code	Test Description
19 Jul 2018	FWTO1-DRW1	Taste & Odour Chemical Identification **WHAT YOU RECEIVE:** Contaminated Drinking Water Samples, labelled TASTE & ODOUR **CHEMICAL CONTAMINATION:** • 2 x 1 litre glass bottles for analysis of 'organics' **Blank Drinking Water Samples, labelled BLANK:** • 2 x 1 litre glass bottles for analysis of 'organics'

Drinking Water Emergency Scenario

This programme is aimed at testing the capabilities of a laboratory to analyse a completely unknown chemically contaminated drinking water sample on an emergency short-term rapid screening basis. The purpose of these exercises is to provide a learning environment to acquaint participants from a variety of response agencies with each others' emergency responsibilities and procedures, and to determine shortfalls and successes in emergency response that could result from a significant intentional drinking water contamination event. The experiences from these exercises and knowledge gained are applicable to water system emergencies in general. The selected scenarios include chemical contamination (hydrogen cyanide), biological contamination (botulism), and suspected (threatened) biological contamination (ricin). Such lessons can be useful in conducting future water system emergency exercises, and in preparing for real-life emergency response.

How it works

Participants will be sent an incident scenario, which will detail how the possible chemical contamination may have occurred, together with contaminated drinking water samples, corresponding 'blank' drinking water samples and a sample to be tested for gross alpha and beta radioactivity. Please note, the 'blank' sample is supplied solely to allow the laboratory to compare the background matrix of the contaminated drinking water.

For a laboratory to gain maximum benefit from participation it is absolutely crucial that laboratory staff have no advance warning of the test.

Participants are required to submit responses to the following questions:

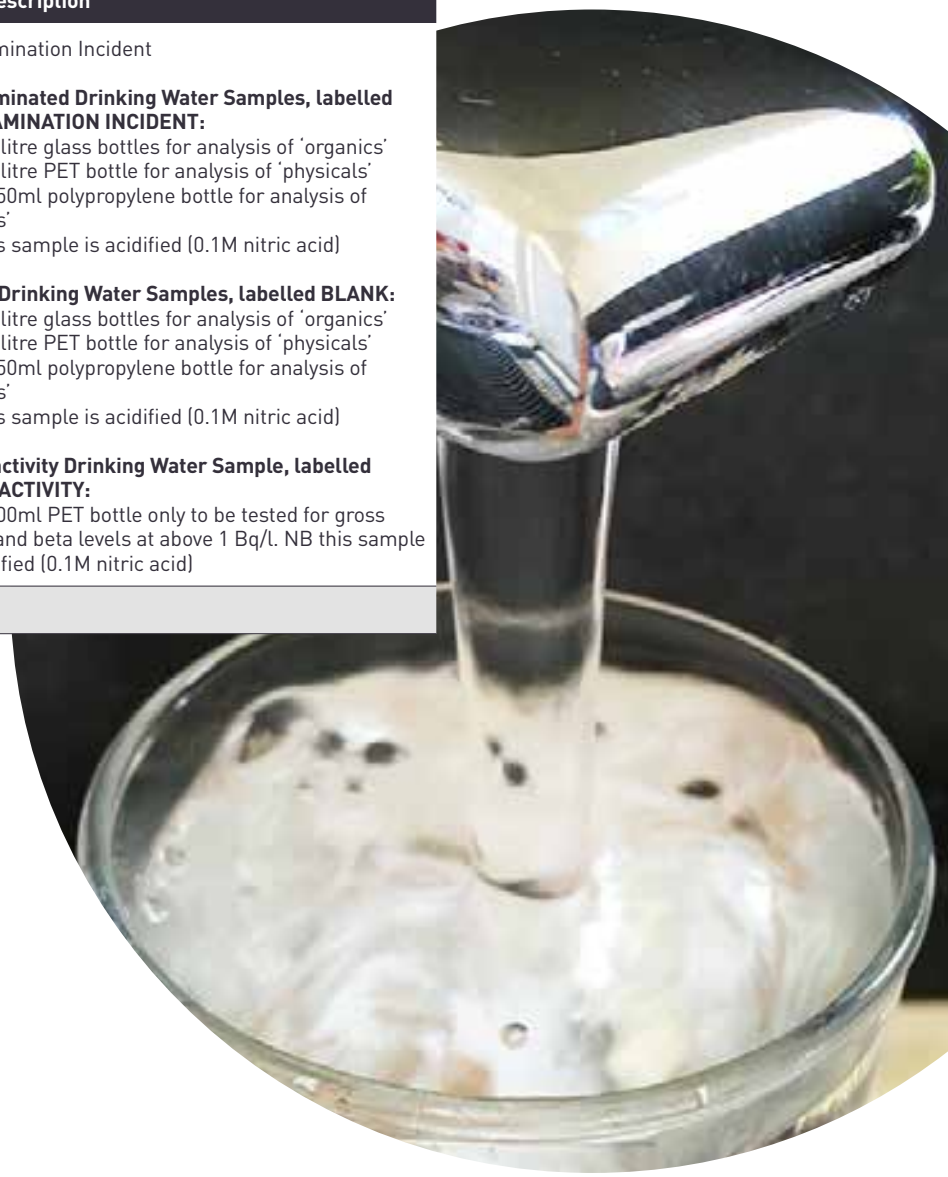
- **Is there any significant contamination of the drinking water?**
- **If so, what is in the water? and the approximate concentration(s)**
- **Do you have any analytical information that you feel would help the water company to decide if this water could be safely used for non-drinking purposes (e.g. bathing, washing, laundry etc.)**
- **What methods were used to detect the contaminant(s)?**
- **Were any screening tests used?**

Results Submission

You will then be asked to submit your results to Fapas via email. The closing date for submission of results is 7 days from the start date for the exercise. Laboratories will then be informed by e-mail within 1 day of the closing date of the list of contaminants knowingly added to the test samples. The next steps of participation within this test distribution is to join the yearly 'Discussion Forum' held at Fera Science Ltd, to discuss the outcomes of each taste and odour contamination test. The meeting is an important opportunity for participants to share information on detecting the contaminant(s) present. The cost for participating is included in the price for participation in the test, with a maximum of 2 people per organisation attending. Clearly the Discussion Forum is highly confidential and rules are respected. Closing date for registrations is two weeks before the start date for this test. **This test is not currently covered by our schedule of accreditation.**

Drinking Water Emergency Scenario Schedule (January 2018 to March 2019)

Distribution Date	Product Code	Test Description
May 2018	FWEM1-DRW1	Contamination Incident **Contaminated Drinking Water Samples, labelled CONTAMINATION INCIDENT:** • 2 x 1 litre glass bottles for analysis of 'organics' • 1 x 1 litre PET bottle for analysis of 'physicals' • 1 x 250ml polypropylene bottle for analysis of 'metals' NB this sample is acidified (0.1M nitric acid) **Blank Drinking Water Samples, labelled BLANK:** • 2 x 1 litre glass bottles for analysis of 'organics' • 1 x 1 litre PET bottle for analysis of 'physicals' • 1 x 250ml polypropylene bottle for analysis of 'metals' NB this sample is acidified (0.1M nitric acid) **Radioactivity Drinking Water Sample, labelled RADIOACTIVITY:** • 1 x 500ml PET bottle only to be tested for gross alpha and beta levels at above 1 Bq/l. NB this sample is acidified (0.1M nitric acid)
October 2018		



Drinking Water Parasitology

Microbiologically safe drinking water is essential in protecting public health. Microbiological contaminants are made up of bacteria, parasites and viruses. The use of disinfectants such as chlorine have significantly reduced the risk of waterborne disease, but certain contaminants like Cryptosporidium are resistant to chlorine. It can get complicated because Cryptosporidium and Giardia are two common parasites found in surface water, so groundwater does not typically have problems with these parasites unless they are under the influence of surface water. Because chlorine is not effective in removing all microbiological contaminants, additional treatments can be employed such as the use chloramine, ultraviolet (UV) light and ozone. The two parasites Cryptosporidium and Giardia are typically found in animal and human waste, so they are much more likely to be prevalent in surface water or groundwater sources, which are under the influence of surface water.

Closing date for registrations is two weeks before the start date of these tests.

Suspension A is for microscopy only, it is a suspension of Cryposporidium oocysts and Giardia cysts in phosphate buffered saline (PBS). Approximately 1ml is supplied. Samples may be prepared either from commercially available concentrates or formalin fixed faecal material. Participants are required to count the oocysts and cysts by fluorescence microscopy and/or any other technique that they routinely use.

Suspension B is a PBS Cryptosporidium oocyst and/or Giardia cyst suspension. Approximately 1ml is supplied. This suspension is added to 10 litres of tap water by the participants and then processed by the laboratory's routine analytical method.

Drinking Water Parasitology Schedule (Jan 2018 – Mar 2019)

Test Material	Product Code	Analytes	Distribution Dates (available for all product codes)
Drinking Water Parasites – **Suspension A**	FWPA1-DRW1	Cryptosporidium oocysts and/or Giardia cysts	23 Jan 18 06 Mar 18 15 May 18 17 Jul 18 11 Sep 18 06 Nov 18 22 Jan 19 05 Mar 19
Drinking Water Parasites – **Suspension B**	FWPA2-DRW1	Cryptosporidium oocysts and/or Giardia cysts	23 Jan 18 06 Mar 18 15 May 18 17 Jul 18 11 Sep 18 06 Nov 18 22 Jan 19 05 Mar 19

Environmental Water Proficiency

Legionnaire's Disease

Legionnaires' disease is a severe, often lethal, form of pneumonia. It's caused by the bacterium Legionella pneumophila found in both potable and non potable water systems. The major source is water distribution systems of large buildings, including hotels and hospitals. Cooling towers have long been thought to be a major source for Legionella, but new data suggest that this is an overemphasised mode of transmission. Other sources include mist machines, humidifiers, whirlpool spas, and hot springs.

How legionella gets into our water systems

Legionella bacteria are commonly found in natural water systems such as rivers and lakes where their numbers are usually low and they pose little risk. They grow over a temperature range of 20°C to 45°C. Below this temperature they survive dormant and as the temperature rises above 50°C they are progressively killed off and will not survive long at temperatures above 60°C. Their ideal growth temperature is around human body temperature, 37°C! Whilst *legionella* are widely found in the natural environment the risk comes when they contaminate man-made water systems, entering at low levels in the incoming water supply or in air-borne aerosols. Many man-made water systems not only provide the ideal environment for legionella to multiply but also involve water sprays which can release dangerous aerosols into the atmosphere.

How it works

Participants will be sent two lyophilised vials which will require reconstitution with laboratories own sterile deionised (or distilled) water to 1 litre before analysis. Participants are then required to report results qualitatively, indicating whether *Legionella* spp. is detected or not detected and identify the species present. Quantitative results are requested to be expressed in cfu/l. Closing date for registrations is four weeks before the start date of these tests.

Environmental Water Schedule (Jan 2018 – Mar 2019)

Test Material	Product Code	Analytes	Distribution Dates
Environmental Water	FWM05-WAW1	**Detection** Legionella species by culture **Identification** Legionella species by culture	17 Apr 2018 9 Oct 2018

Environmental Waste Water Chemistry

Since the implementation of the Clean Water Act and subsequent legislation and standards set by UK governments and regulators, the European Union and even global organisations like the World Health Organisation, it has never been more important to ensure your testing systems meet regulatory requirements. These regulators ensure that the water sector is controlled by well-run businesses that behave responsibly and are required to continually improve the quality of their process wastewater effluent discharges.

At the same time, population and production increases have increased water use, creating a corresponding rise in wastewater quantity. This increased water use and process wastewater generation requires more efficient removal of by-products and pollutants that allows for effluent discharge within established environmental regulatory limits. The determination of wastewater quality set forth in environmental permits has been established since the 1970s in a series of laboratory tests focused on four major categories:

Organics – A determination of the concentration of carbon-based (i.e., organic) compounds aimed at establishing the relative "strength" of wastewater (e.g., Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Organic Carbon (TOC), and Oil and grease (O&G).

Solids – A measurement of the concentration of particulate solids that can dissolve or suspend in wastewater (e.g., Total Solids (TS), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Total Volatile Solids (TVS), and Total Fixed Solids (TFS).

Nutrients – A measurement of the concentration of targeted nutrients (e.g., nitrogen and phosphorus) that can contribute to the acceleration of eutrophication (i.e., the natural aging of water bodies).

Physical Properties and Other Impact Parameters – Analytical tests designed to measure a varied group of constituents directly impact wastewater treatability (e.g., temperature, colour, pH, turbidity, odour).

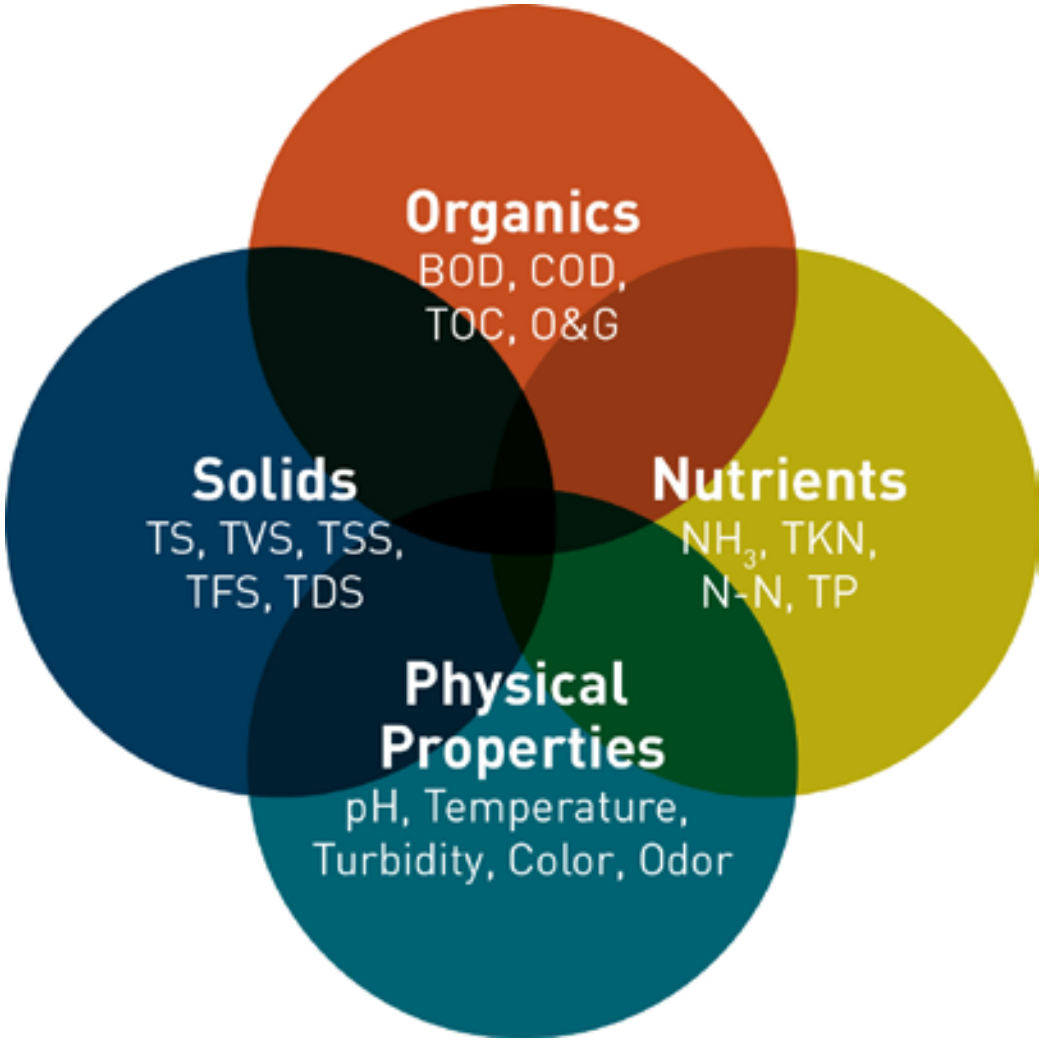


Figure 1. Interaction of wastewater analytical categories and laboratory tests.

Although wastewater analytical tests are often separated into categories, it is important to understand that these tests are not independent of each other (Figure 1). In other words, a contaminant identified by one test in one category can also be identified in another test in a separate category. For example, the organics in a wastewater sample represented by BOD (biochemical oxygen demand) will also be represented in the spectrum of solids, either as suspended (TSS – Total suspended solids) or dissolved (TDS – total dissolved solids) particulates.

The test materials supplied are standard concentrates or standard solutions. All groups, except 2 & 4 require dilution with your laboratory's reagent water before analysis. Full instructions regarding this dilution step will be provided. When diluted the test materials will contain levels of contaminants usually, found in waste water / effluent samples. The volume of concentrate supplied is given below together with the dilution required. Closing date for registrations is two weeks (for groups 3 & 4) and four weeks (for groups 1, 2 & 5-15) before the start date of these tests.

Environmental Wastewater Schedule (Jan 2018 – Mar 2019)

Analyte Groups	Product Code	Number Of Distributions (Bundled)	Analytes	Concentration Ranges (approx, after dilution)	Volume Supplied (approx)	Dilution Required	Test Dates
1	FWDE1-EWW1	7	BOD 5-day COD TOC	6.0 – 250 mg/l 6.0 – 250 mg/l 6.0 – 250 mg/l	20ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
2	FWRE1-EWW1	7	Dissolved Solids @ 180˚C Suspended Solids Total Solids	23 – 675 mg/l 23 – 675 mg/l 23 – 675 mg/l	500ml	no dilution required	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
3	FWNU1-EWW1	7	Nitrate (N) Nitrite (N) Ammonia (N) Chloride Orthophosphate (P) Sulphate (SO4) Total Phosphorus (P) Kjeldahl Nitrogen (N) Total Nitrogen (N)	0.5 – 50 mg/l 0.2 – 10 mg/l 0.2 – 20 mg/l 10.0 – 500 mg/l 1.0 – 100 mg/l 10.0 – 500 mg/l 0.2 – 5 mg/l 2.0 – 50 mg/l 2.0 – 50 mg/l	4 x 60ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
4	FWPH1-EWW1	7	pH Electrical Conductivity @ 25˚C	1.0 – 13.0 pH units 200 – 2000 µS/cm @ 25˚C	2 x 125ml	no dilution required	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
5 **Trace Metals 1**	FWTM1-EWW1	7	Aluminium Arsenic Beryllium Cadmium Chromium (Total) Cobalt Copper Iron Lead Manganese Mercury Nickel Selenium Vanadium Zinc	200 – 4000 µg/l 70 – 900 8 – 900 8 – 750 17 – 1000 28 – 1000 40 – 900 200 – 4000 70 – 3000 70 – 4000 2 – 30 80 – 3000 90 – 2000 55 – 2000 100 – 2000	20ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
6 **Trace Metals 2**	FWTM2-EWW1	7	Antimony Barium Boron Molybdenum Silver Strontium Thallium	95 – 900 µg/l 100 – 2500 800 – 2000 60 – 600 26 – 600 30 – 300 60 – 900	20ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
7	FWHC1-EWW1	7	Hexavalent Chromium	45 – 880 µg/l	20ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19

Analyte Groups	Product Code	Number Of Distributions (Bundled)	Analytes	Concentration Ranges (approx, after dilution)	Volume Supplied (approx)	Dilution Required	Test Dates
8	FWMI1-EWW1	7	Alkalinity Calcium Total Hardness Magnesium Potassium Sodium	10 – 120 (as CaCO3) mg/l 3.5 – 110 mg/l 17 – 675 (as CaCO3) mg/l 2 – 40 mg/l 4 – 40 6 – 100	2 x 20ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
9	FWAN1-EWW1	7	Bromide Fluoride	1 – 10 mg/l 0.3 – 4	20ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
10	FWOG1-EWW1	7	Oil & Grease Suitable for EPA 1664, SM 5520B and other gravimetric methods (NOT suitable for IR methods)	10 – 100 mg/l	2ml	to 1 litre	20 Feb 18 10 Apr18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
11	FWTC1-EWW1	7	Cyanide (Total)	0.1 to 1 mg/l	2ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
12	FWTS1-EWW1	7	Total Sulphide	1 – 10 mg/l	20ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
13	FWSS1-EWW1	7	Settleable Solids (Volumetric test using Imhoff cone)	5 – 100ml/l	25g	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
14	FWDO1-EWW1	7	Dissolved Oxygen Dissolved Oxygen (Winkler)	1.0 to 100 mg/l	2ml	to 1 litre	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19
15 **VOC 1**	FWVO1-EWW1	7	Benzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Ethylbenzene Methyl tert-butyl ether (MTBE) Naphthalene Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene m+p-Xylene o-xylene Total Xylene	8 – 120 µg/l 8 – 100 9 – 125 8 – 115 9 – 100 15 – 100 8 – 190 7 – 100 8 – 100 8 – 100 8 – 300 8 – 300 20 – 300	2ml	to 100ml	20 Feb 18 10 Apr 18 19 Jun 18 06 Aug 18 16 Oct 18 03 Dec 18 18 Feb 19

Analyte Groups	Product Code	Number Of Distributions (Bundled)	Analytes	Concentration Ranges (approx, after dilution)	Volume Supplied (approx)	Dilution Required	Test Dates
16 Phthalates	FWPT1-EWW1	2	Bis (2-ethylhexyl) phthalate Butyl Benzyl Phthalate Di-n-butyl phthalate Diethyl phthalate Dimethyl phthalate Di-n-octyl phthalate	8 – 50 µg/l 8 – 50 µg/l 8 – 50 µg/l 8 – 50 µg/l 8 – 50 µg/l 8 – 50 µg/l	2ml	to 1 litre	19 Jun 18 03 Dec 18

Environmental High Salinity Water Chemistry

Almost three quarters of Earth's surface is covered with water, but most of it is too salty to drink or use for irrigation. And the 2.5 percent that is freshwater is locked up either in soil, remote snowpacks and glaciers or in deep aquifers. That leaves less than 1 percent of all freshwater for humans and animals to drink and for farmers to use to raise crops—and that remnant is shrinking as rising global temperatures trigger more droughts. Plants can concentrate solutes in their roots to increase water absorption from the soil (via osmosis), but plants cannot compete for water with highly saline soils. High salinity in water occur in a variety of industries and adversely affect equipment and water disposal, making treatment processes significantly more challenging.

The quality of seawater is under increasing scrutiny as leisure activities bring people to the sea for swimming, diving and sailing. Many countries now operate a system of grading beaches for their environmental quality. Part of this grading process is the testing of seawater for contamination with indicator chemicals, with the high salt content of the matrix providing an additional analytical challenge. Fapas high salinity proficiency test samples replicate this challenge to maintain the standard of environmental analyses.

Minerals within water have large effects on the water properties. Through conductivity analysis, the overall concentration of salts within water can be found, leading to key water quality identification, a major factor within the water industry. Through effective proficiency testing within conductivity and a range of other determinations, your water testing capabilities can be accurately benchmarked to provide a platform for continual improvement processes and quality control methods. Closing date for registrations is four weeks before the start date of these tests.

Our materials are full volume simulated seawater samples made using NaCl with salinity of 3.5%.

Environmental Seawater Schedule (Jan 2018 – Mar 2019)

Analyte groups	Product Code	Number of Distributions	Analytes	Concentration Ranges (approx)	Volume Supplied (approx)	Test Dates
1 Complex Nutrients	FWCN1-HSW1	2	Kjeldahl nitrogen, total (TKN) Nitrogen, total Phosphorus, total	1.5-35 mg/L 1.5-35 mg/l 0.5-10 mg/l	500ml	13 Jun 2018 12 Dec 2018
2 Simple Nutrients	FWSN1-HSW1	2	Ammonia as N Nitrate as N Nitrate+nitrite as N Nitrite as N Orthophosphate as P	0.650-19.0 mg/l 0.250-40.0 mg/l 0.250-40.0mg/l 0.400-4.00 mg/l 0.500-5.50 mg/l	500ml	13 Jun 2018 12 Dec 2018
3 Minerals	FWMI1-HSW1	2	Calcium, Ca Magnesium, Mg Potassium, K Alkalinity as CaCO3 Conductivity (25°C) Hardness, total as CaCO3 pH	25-110 mg/l 2-40 mg/l 4-40 mg/l 10-100000 mg/l 0.00-100 S/cm 8.7-275 mg/l 5-10 units	500ml	13 Jun 2018 12 Dec 2018
4 Trace Metals 1	FWTM3-HSW1	2	Aluminium Arsenic Beryllium Cadmium Chromium Cobalt Copper Iron Lead Manganese Mercury Nickel Selenium	0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l 0-10000 µg/l	500ml	13 Jun 2018 12 Dec 2018
5 Trace Metals 2	FWTM4-HSW1	2	Antimony, Sb Barium, Ba Boron, B Molybdenum, Mo Silver, Ag Strontium, Sr Thallium, Tl Tin, Sn Titanium, Ti	95-900 µg/l 100-2500 µg/l 800-2000 µg/l 60-600 µg/l 26-600 µg/l 30-300 µg/l 60-900 µg/l 1000-5000 µg/l 80-300 µg/l	500ml	13 Jun 2018 12 Dec 2018

Environmental Soil Chemistry

The Fapas soil proficiency test is complementary to our environmental water proficiency tests but substitutes the liquid matrix for a solid soil matrix. This proficiency test is intended for laboratories who test for heavy metal contamination in all types of environmental samples, not just waste or surface waters.

Heavy, toxic metals such as arsenic, cadmium, lead and mercury are often found in food, usually as a natural contaminant. These heavy metals can contaminate foodstuffs in a number of ways including through contaminated soils. As such it is important to be able to highlight any potentially high levels of these heavy metals within soils to maintain low, manageable numbers within grown consumer foodstuffs. Soils are vital to ensure adequate crop yield and therefore significant financial reward. Laboratory proficiency testing is an essential element of quality assurance. With the increasing demands for independent proof of competence from regulatory bodies and clients, proficiency testing is relevant to all laboratories testing soil for quality in every country. Proficiency testing provides the means by which external customers can compare competence in carrying out specific tests and is an independent, unbiased assessment of the performance of all aspects of the laboratory, both human and hardware. Closing date for registrations is four weeks before the start date of this test.

Product Code	Number of Distributions	Analytes	Concentration Ranges (approx, after dilution)	Volume Supplied (approx)	Dilution Required	Test Dates
FWTM5-SOI1	1	Cadmium Lead Chromium Arsenic Barium Nickel Copper Zinc Mercury	1.0 – 400 mg/kg 10 – 2000 mg/kg 10 – 500 mg/kg 1 – 500 mg/kg 30 – 2500 mg/kg 1 – 200 mg/kg 2 – 200 mg/kg 10 – 200 mg/kg 0.1 – 200 mg/kg	6 – 8g	no dilution required	3 Oct 2018

Analytical data for Certification was obtained using USEPA SW846, 3rd edition methods 3050 (hot block) and 3051 (microwave) using **nitric acid** extraction. Analysis was carried out according to USEPA methods 6010 (ICP-EOS), 6020 (ICP-MS) and 7000 (AES).

Note that nitric acid extraction is not as rigorous as aqua regia.If your laboratory method employs aqua regia to analyse soil samples for metals then these samples may not be suitable.

Environmental Surface Water Chemistry

Surface water is the water contained in our lakes, rivers, creeks, wetlands and streams and like many other surface water sources, are sensitive to the effects of pollutants. Pollutant sources include runoff water and farm chemicals from agricultural land, pesticides, fertilizers and industrial, commercial and landfill effluent. Testing of surface water can ensure drinking and swimming water quality. Surface water is more likely to contain organic material. When this water is treated with the disinfection chemicals such as chlorine, chlorine dioxide, ozone and bromine, the chemicals can react with natural organic matter. This can result in the production of toxic or carcinogenic by-products. The drinking water industry is highly regulated across the world. There is a related responsibility to ensure that the source of the water has a low environmental pollution. Fapas surface water proficiency test samples replicate those used to test for potential environmental contamination, covering a wide range of determinants. These include routine components and trace metals.

Our materials of surface water will be sourced from a clean river, reservoir or lake. Closing date for registrations is two weeks before the start date of these tests.

Environmental Surface Water Schedule (Jan 2018 – Mar 2019)

Analyte groups	Product Code	Number of Distributions	Analytes	Water Type	Concentration Ranges (approx)	Volume Supplied (approx)	Test Dates
1 Major Inorganic Components	FWIC1-SUW1	3	sodium potassium chloride calcium magnesium alkalinity total hardness total phosphorus fluoride sulphate	surface water	5.0 – 50 mg/l 0.3 – 3.0 mg/l 6.0 – 50 mg/l 10 – 150 mg/l 1.0 – 15 mg/l 30 – 300 mg HCO_3/l 30 – 130 mg Ca/l 100 – 3000 µg P/l 150 – 1800 µg/l 5.0 – 100 mg/l	1 litre + spiking concentrate	5 Mar 2018 25 Jun 2018 29 Jan 2019
2 Routine Components	FWRC1-SUW1	3	nitrite nitrate ammonium TOC PI colour (filtered) SR phosphate pH turbidity conductivity @ 20°C	surface water	0.02 – 0.6 mg NO_2/l 2.0 – 60 mg NO_3/l 0.1 – 0.6 mg NH_4/l 0.2 – 5.0 mg/l 0.2 – 5.0 mg/l 0.2 – 30 HAZEN 1.0 – 1500 µg P/l 6.0 – 10.0 pH units 0.05 – 10.0 NTU 100 – 600 µS/cm @ 20^0C	1 litre + spiking concentrate	5 Mar 2018 25 Jun 2018 29 Jan 2019
3 Metals (in 0.5% Nitric Acid)	FWME1-SUW1	3	iron manganese copper aluminium zinc silver barium boron strontium lithium	surface water	15 – 400 µg/l 10 – 70 µg/l 20 – 700 µg/l 10 – 500 µg/l 20 – 700 µg/l 2 – 15 µg/l 10 – 700 µg/l 25 – 1500 µg/l 10 – 1000 µg/l 10 – 100 µg/l	500ml + standard solution	5 Mar 2018 25 Jun 2018 29 Jan 2019

The surface water provided will be sourced from a clean river, reservoir or lake.

Analyte groups	Product Code	Number of Distributions	Analytes	Water Type	Concentration Ranges (approx)	Volume Supplied (approx)	Test Dates
4 Toxic Metals (in 0.5% Nitric Acid)	FWTX1-SUW1	3	cadmium lead nickel selenium arsenic antimony mercury cobalt vanadium chromium molybdenum tin beryllium	surface water	0.2 – 7.0 µg/l 1 – 25 µg/l 3 – 30 µg/l 1.0 – 15 µg/l 1.0 – 15 µg/l 0.5 – 7.0 µg/l 0.1 – 2.0 µg/l 2.0 – 30 µg/l 2.0 – 30 µg/l 3.0 – 60 µg/l 2.0 – 30 µg/l 1.0 – 100 µg/l 1.0 – 10 µg/	500ml + spiking conc	5 Mar 2018 25 Jun 2018 29 Jan 2019

Agent Information

Fapas has a network of Agents to help you locally.

Please contact your nearest office:

Argentina
Phone: +5411-4701-6262
c.daiutolo@r-biopharmlat.com.ar

Armenia
Phone: +7 495 707 28 68
pt@stylab.ru

Austria
Phone: +49 40 49294 2930
fapas@eurofins.de

Australia
Phone: +61 (0)3 9416 0093
info@biosys.com.au

Azerbaijan
Phone: +7 495 707 28 68
pt@stylab.ru

Belgium
Phone: +32 2 736 62 18
i.demeyer@pandora.be

Belarus
Phone: +7 495 707 28 68
pt@stylab.ru

China (Shanghai)
Phone: + 86 13311603693
jan_shen2001@aliyun.com

China (Beijing)
Phone: +86-10-88026887
leifh@clovertek.com

Egypt
Phone: +202 0114 15 215 26
pts@targetls.net

Estonia
Phone: +7 495 707 28 68
pt@stylab.ru

France
Phone: +33 478643200
s.veyrier@r-biopharm.fr

Georgia
Phone: +7 495 707 28 68
pt@stylab.ru

Germany
Phone: +49 40 49294 2930
fapas@eurofins.de

Greece
Phone: +30-210-2934745
info@qacs.gr

Indonesia
Phone: +62 811824811
marketing@rnd.co.id

Israel
Phone: +972572400503
assafy@eldan.biz

Italy
Phone: + 39 02 89540225
giovanna.lampis@starecotronics.it

Japan
Phone: +81 35211 1807
fapas.info@cscjp.co.jp

Kazakhstan
Phone: +7 495 707 28 68
pt@stylab.ru

Korea
Phone: +81 2529 2282
kisan@kisanbio.com

Kyrgyzstan
Phone: +7 495 707 28 68
pt@stylab.ru

Latvia
Phone: +7 495 707 28 68
pt@stylab.ru

Lithuania
Phone: +7 495 707 28 68
pt@stylab.ru

Malaysia
Phone: +603-5122 5108
fapas@tms-lab.com

Moldova
Phone: +7 495 707 28 68
pt@stylab.ru

Pakistan
Phone: +92 42 3733 9116
saq@swissconsulting.co

Philippines
Phone: +6324410430
r.alaba@fil-anaserve.com

Poland
Phone: +48 61 868 6272
badania@nuscana.pl

Portugal
Phone: +351 22 996 20 69
artur.melo@ambifood.com

Russia
Phone: +7 495 707 28 68
pt@stylab.ru

South Africa
Phone: +27114444330
jacqueline@aecam.co.za

Spain
Phone: +34 91.504.66.02
info@setelsl.com

Switzerland
Phone: +49 40 49294 2930
fapas@eurofins.de

Taiwan
Phone: +886228484509
biotic@ms64.hinet.net

Tajikistan
Phone: +7 495 707 28 68
pt@stylab.ru

Thailand
Phone: +6628817404
sales@scientificsupply.co.th

Turkey
Phone: + 90 232 464 8006
edip@sincer.com.tr

Turkmenistan
Phone: +7 495 707 28 68
pt@stylab.ru

Ukraine
Phone: +7 495 707 28 68
pt@stylab.ru

Uzbekistan
Phone: +7 495 707 28 68
pt@stylab.ru

United Arab Emirates
Phone: +971-4-2852211
salesexecutive@bdhme.com

United States of America
Phone: +18507278107
orders@biofronttech.com

Vietnam
Phone: +84 8 3726 0440
fapas@nghiphu.com

—

United Kingdom
Fapas

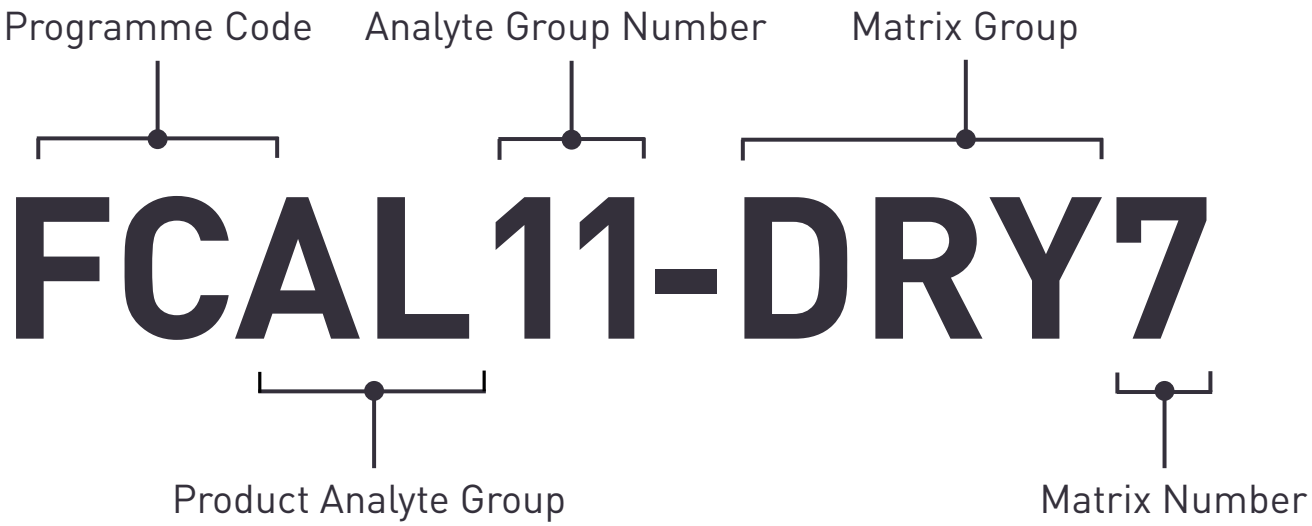
Fera Science Ltd. (Fera)
National Agri-Food Innovation Campus
Sand Hutton
York
YO41 1LZ
UK

Tel: +44 (0)1904 462100
Fax: +44 (0)1904 500440

info@fapas.com
web: fapas.com

Fapas product codes explained

We've made our product codes even simpler! We've organised our codes by programme, analyte group and matrix so you can quickly understand your product exactly. As our product offering is so extensive see the list below of all the programme, analyte and matrix groups we offer.



So for **FCAL11-DRY7**, this product is within the food chemistry programme, number 11 within the allergens sub group, and number 7 in the dairy matrix group.

Programme Code

Code	Programme Code
FC	**F**ood **C**hemistry
BL	**BL**ANK (Food Chemistry)
FG	**F**apas **G**M
FM	**F**ood **M**icrobiology
FW	**F**apas **W**ater

Analyte Group

Code	Product Analyte Group
OH	Alcohol (**OH**)
AL	**Al**lergens
AA	**A**uthenticity: **A**dulteration
AC	**A**uthenticity: **C**ontamination
AS	**A**uthenticity: **S**peciation
CO	**C**ontaminants: **O**verall migration (packaging contaminants)
CE	**C**ontaminants: **E**nvironmental PAH
CP	**C**ontaminants: **P**rocessing Contaminants
CS	**C**ontaminants: **S**pecific migration (phthalates, BPA, PAA)
CM	**C**ontaminants: **M**etals, Trace elements
FO	**F**at, Fatty Acids and **O**il
FA	**F**ood **A**dditives and Ingredients
OE	Food Microbiology**: O**rganism **E**numeration
OD	Food Microbiology: **O**rganism **D**etection
GM	GM
MA	**M**ycotoxins: **A**flatoxins
ME	**M**ycotoxins: **E**rgot Alkaloids
MF	**M**ycotoxins: **F**usarium toxins
MM	**M**ycotoxins: **M**ulti-Mycotoxins
MO	**M**ycotoxins: **O**TA
MP	**M**ycotoxins: **P**atulin
NC	Nutritional, Proximates: **N**utritional **C**omponents
NE	Nutritional, Proximates: **N**utritional **E**lements
NV	**N**utritional, Proximates: **V**itamins
PM	**P**esticides: **M**ulti Residue Methods
MS	Pesticides: Single Residue Methods
QH	**Q**uality: **H**oney
QO	**Q**uality: Olive **O**il
QT	**Q**uality: **T**VB-N
VD	**V**et **D**rugs

Matrix Group

Code	Matrix Sub Group
AFE	Animal Feed
PFO	Pet Food
DRY	Dairy
EGG	Eggs
INF	Infant food
DRA	Alcoholic Drinks
DRN	Soft Drinks
DRH	Tea, Coffee & Hot Drinks
FRU	Fruit & Fruit Purees
VEG	Herbs, Salad & Vegetables
SEA	Fish and Seafood
MRP	Meat (raw and processed)
UNF	Non-Food Media
CCP	Cereals and Cereal Products
FAT	Fat
NUT	Nuts
OIL	Oil (olive and vegetable)
PMM	Packaging materials and migration simulants
CON	Confectionery and Condiments
HON	Honey
SUP	Nutritional Supplements
PRO	Processed products and baked goods
SPI	Spices
TOB	Tobacco
DRW	Drinking Water
EWW	Environmental

Frequently Asked Questions

Log-in and communications

I cannot log-in to the website – help?

If you have forgotten your password, there is a facility on the website to help you ('forgotten password' link, just below the UserID and Password box). We provide unique log-in details to a named person only. We do this to preserve the confidentiality and integrity of your details. If you are not a named person on our database, you will not be able to log-in, even if you are from a registered company. If you and your company are new to Fapas or you are a new person at a company that has used Fapas in the past, then you need to contact us (info@fapas.com) and give us full details of your name and email address together with your company name and address.

I cannot submit my results – help?

Results can only be submitted by the named sample contact using their log-in details. If you are not the named contact for the test, you will not be able see or submit the results. You will need to contact us and ask us to change the sample contact over to your name. Sharing passwords will decrease the security of your account and is not recommended.

Where is my invoice?

The invoice will be sent to the named contact person for your company. If you are not the named contact person, you will not receive the invoice. You will have to ask the correct named contact person to check their email for the invoice. Please check that the email address you have provided is correct. If your company is on prepayment terms, pro-forma invoices are raised when the order is placed and emailed to the named contact. If your company is on standard terms, invoices are raised within 3 working days of the order being submitted and are emailed to the accounts email address.

Where is my order confirmation?

The order confirmation will be sent to the named contact person for the order. If you are not the named contact person, you will not receive the order confirmation. You will have to ask the correct named contact person to check their email for the order confirmation. Please check that the email address you have provided is correct. Order confirmations are normally sent within three (3) working days of the order being submitted.

Where is the price list?

Quotations can be generated from our website by selecting the required proficiency tests and submitting them to a 'basket'. You will need to register on the website to view the quotation (but there is no obligation then to continue with the purchase). There is a discount scheme for multiple orders and this will be generated automatically on the quotation.

Can I order more samples?

Yes, you can order more samples for each proficiency test but you will have to pay for each sample. You will not be allowed to submit results for each sample. If you wish to submit multiple results, you must purchase additional proficiency tests (additional registrations). Remember that a proficiency test is an exercise to test the performance of the laboratory as a whole, not individual components of it.

Can I order more proficiency tests?

Yes, you can order more proficiency tests. A discount scheme operates when you order multiple proficiency tests.

Can you help me?

Yes, we will try to help you whenever we can. It is important when you contact us to give us as much detail as possible as to who you are (full name as you have registered on the website plus company name). We have thousands of participants, so identifying you correctly is critical. Also, please give us as much detail as possible as to which proficiency test the question relates to, so we can help you as quickly as possible. We carry out hundreds of proficiency tests a year, so please help us to help you.

FAQ

Sample shipment

Where is my sample?

Samples are dispatched from our site at York, UK on the day that the test starts. The time period for the test includes the time required to transport the samples to you. For some countries, it can take up to 10 working days for samples toget to you. Please be patient for the transport. If the sample has gone by courier, you will be able to track it (see below). You should contact us if your sample has not arrived within 2 days (UK), 3 days (EU) or 5 days (outside EU). You will still have a few weeks to carry out the analysis and return the results.

What is my tracking number/ airway bill number?

Tracking numbers (airway bill numbers) are only generated for samples that are sent by courier. Samples which are stable and do not require courier transport are sent by standard postal service from our site in York, UK. There is no tracking number for standard post. All participants will receive an email on the day of dispatch to advise you that the sample has been sent. You will receive this email for standard post as well as courier transport. For courier transport, we will include the tracking number in the email. For standard post, there will not be a tracking number in the email.

Where are the instructions or information with the samples?

Instructions or information are not sent with the samples. You can access the instruction letter from the Fapas website by logging in to your page. The named contact person will be emailed when the sample is dispatched and to alert that person to access the instruction letter from the website.

Any contact person at the lab can access instruction letters.

My sample is delayed at the customs office – help?

Unfortunately, this can be a problem and samples can sometimes be stopped at customs. If you advise us at the time of ordering the proficiency test that you need customs paperwork (customs pro-forma, declaration letter, phytosanitary certificate, etc.) then we will provide this in advance of dispatch. We will do everything we can to help you in advance of the dispatch. However, if you do not tell us that your customs officials require the additional paperwork, then there is little we can do to help if your sample gets stopped. In some countries, we operate through a local agent. In the first instance, please contact the agent who may be able to help.

My sample was shipped frozen but has arrived thawed?

Some samples are sent frozen with ice packs and temperature stable packaging. This will buffer the effects of extreme temperature changes during transport. In some cases the sample will defrost (thaw) during transit, especially if there is a delay in transportation. The sample will still be okay for analysis. If the sample has been in transit for more than five (5) days, please contact Fapas for advice.

Microbiology samples are delayed, are they stable?

Microbiology samples areguaranteed stable from the time of preparation until nine (9) days after the dispatch date. If the sample has been in transit for longer than this, please contact us immediately. Unfortunately, we are not able to send replacement samples if you haven't contacted us at the earliest time. The ice blocks packed with the samples will have melted by this time. The samples will still be stable within nine (9) days after the dispatch date.

Results submission

I submitted incorrect results, can I resubmit them?

We require a written request (email to info@fapas.com) to resubmit results. Please bear in mind, however, that part of the proficiency test is to be able to correctly submit results (as you would do for a customer). Also, there is a danger that collusion has taken place, which is bad practice. Please see our policy on collusion in the Protocol, Part 1 – Common Principles (section 3.5.1), which you can download from the Fapas website.

I cannot submit my results – help?

Results can only be submitted by the named sample contact using their log-in details. If you are not the named contact for the test, you will not be able see or submit the results. You will need to contact us and ask us to change the sample contact over to your name. Sharing passwords will decrease the security of your account and is not recommended.

Where are my results?

Results can only be submitted by the named contact person using their log-in details. If you are not the named contact for the test, you will not be able see or submit the results. Reports are generated within 30 days of the closing date for the test. Your results and assessments will be included in the report. The named contact person will receive an email when the report is ready to be downloaded from the website.

FAQ

Can I submit results after the closing date?

Unfortunately, it is not possible to submit results after the closing date of the proficiency test. The ability to report results within the required deadline is a part of the proficiency test.

Technical

My z-score/assessment for the proficiency test was not satisfactory. Is this because the test materials were not fit-for-purpose?

Fapas has been dispatching fit-for-purpose test materials for over 25 years therefore it is unlikely that this impacted on the z-score. Test materials are thoroughly assessed for their suitability before they are dispatched. Critical test materials are also re-tested several weeks after their initial preparation. Participants' data are also carefully scrutinised for any underlying problems before assessments are issued in the reports.

Are your proficiency tests accredited?

All of our procedures comply with the requirements of ISO 17043. All of our major proficiency test schemes are accredited to ISO 17043 and our reports will state the compliance with the accreditation.

What does 'corrected for recovery' mean?

It is standard practice in many residues analyses (mycotoxins, for example) to correct the analytical result against the recovery value for the analytical batch. The exception is pesticide residues, where it is standard practice not to correct for recovery. Some methods, such as quantification by standard addition or use of isotope dilution internal standard, will inherently correct for recovery. These methods are commonly used in veterinary medicines residues analysis. Please ensure that you add a comment with your result if you need to further explain your recovery correction procedure. In these cases, unless otherwise stated, results will be assessed against consensus derived from recovery corrected data.

What does low level and high level mean in histamine testing?

Proficiency tests for histamine in fish will be advertised as low level or high level. Low level tests contain histamine at < 50 mg/kg. High level tests contain histamine at > 100 mg/kg.

What does low level and high level mean in metals testing?

Proficiency tests for metals sometimes will be advertised as low level (natural) or high level. Some metal contaminants, especially highly toxic ones, will be at natural (unspiked) levels and therefore will be at low levels, typically 10-100 µg/kg. Certain critical matrices, such as infant food, will also be at low levels. Otherwise, metals will be over-spiked to increase the levels.

Can I order a larger sized sample?

The sample size is fixed and as advertised on the programme. We appreciate that some laboratories' methods might use a larger amount of sample. However, the samples are intended to be single-use only and the sample size has been determined from consultation with relevant experts to be appropriate for the analysis in question. If you need more material, you should purchase a second sample and thoroughly homogenise both samples together before taking your analytical portion.

Microbiology technical

The microbiology sample has been analysed outside of the recommended time frame. Will this affect the assessment?

We recommend that you start your analysis within nine (9) days of the date of despatch shown on the programme. Our samples are known to be stable for much longer than this but for stability to be guaranteed you must start your analysis within this time frame.

The microbiology sample does not appear to be homogeneous. Can it still be analysed?

Yes, the sample can be analysed. You might sometimes see a lump or darker colouration of the contents of the container; this is not a cause for concern. Microbiology test materials are not designed to be homogeneous within the sample. It is very important to download the instructions for preparation of the samples from our website and follow them exactly before you start your analyses. All microbiology samples (except those for the detection of unknown organisms in food) must be treated as a whole and must not be sub-sampled before re hydration/resuscitation.

I use a PCR technique to detect Escherichia coli O157. Will participation in microbiology proficiency tests help me to check my laboratory performance?

The strain of Escherichia coli we use in our test materials is non toxigenic. It carries the EAE genes but does not carry the VT1 gene or VT2 gene. Therefore, if your PCR method identifies VT1 or VT2 genes, unfortunately our proficiency tests are not appropriate.

FAQ

I identified organisms other than the target organism in the test material. Are these organisms contaminants and would their presence have adversely affected my performance?

Microbiology proficiency tests adds background flora to most of the test materials to simulate the sort of sample that your laboratory would expect to receive routinely. The organisms we choose are ones which might reasonably be expected to be present in the product. Research and development is carried out to ensure that the organisms added will provide a reasonable challenge to our participants by whichever method is used.

I use a most probable number technique (MPN) for my enumeration test and my results are expressed as MPN/g. Can I still participate in microbiology proficiency tests?

Yes, you can still participate. However, MPN techniques are most useful and sensitive for low numbers of organisms. Our proficiency tests in enumeration in food are designed for higher levels, typically 10^2 to 10^4 log10 cfu/g.

PROFICIENCY
TESTING.

Fera Science Ltd

Sand Hutton
York
YO41 1LZ
United Kingdom

info@fapas.com
+44 (0) 1904 462100

@FeraScience
FeraScienceLTD
company/fera-science

labtube.tv/channel/ferascienceltd

www.fera.co.uk
www.fapas.com

@Fapas_PT
company/fapas-proficiency-testing

fera
Original thinking... applied

Fera Science Ltd is a company registered in England and Wales with Company Number 9413107. VAT Registered number GB618184140.

Products and services availability may change at any time without prior notice given and all content are for illustration purposes only.