Services
Residue Monitoring Services

Teagasc have extensive expertise in the area of residues analysis and provide analytical capabilities for the detection of nearly two hundred residues in food using our suite of analytical tests that have been validated on our site. We offer a range of ISO17025 accredited analysis for ~125 residues in different food matrices. Methods can be adapted to client needs on request. The laboratories use a range of modern equipment, which include six tandem mass spectrometer instruments. The methods used in our laboratories are comprehensive and sensitive to meet the demands of your clients.

Background

In order to ensure the health of animals and good hygiene, veterinary drugs/pesticides and disinfectant are routinely used on farms. In order to ensure compliance with international food safety legislation, self-monitoring must be carried out by food companies to ensure that the products they are manufacturing are safe to put in the market place. Residue monitoring can be carried out on a risk-based approach, where residues can be monitored using a targeted approach by looking for residues where they are likely to occur. Although, priority is often placed on substances such as antibiotics and banned veterinary drugs.

Benefits to Industry

The Teagasc residue laboratories are based in Dublin and can provide rapid analysis of samples for clients if short turnaround times are required. Once samples arrive in the laboratory results can be generated within 48 h if needed depending on the analytical test method used.

Areas of Expertise

- Chemical analysis of residues in food;
- Veterinary drug residues including anthelmintics and antibiotics.
- Pesticides.
- Biocides including chlorates and quaternary ammonium compounds.
- Mycotoxins.

Facilities/Equipment

- Range of sample extraction and clean-up equipment.
- Five modern laboratories.
- Five triple quadrupole mass spectrometers.
- One ultra-sensitive QTRAP mass spectrometer.
- One High resolution time of flight mass spectrometer.

Range of Solutions

We can provide a range of advice and technical services to meet your needs.

Of Interest to

Food and ingredient companies

How to Proceed

For further information contact:
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Mary Moloney
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Email: mary.moloney@teagasc.ie
Anthelmintic Drug Residue Testing

Teagasc researchers at Ashtown are leading experts in the area of anthelmintic drug residue detection. They offer an analytical service covering a wide range of anthelmintic residues in meat, milk and dairy products. This unique method measures 40 substances and is available for the Irish agri-food industry as a specialist service from our accredited laboratories at Ashtown.

Background

Anthelmintics are one of the most widely used groups of veterinary medicines in the world. They are used in prophylaxis and therapeutic treatment of parasitic infections in livestock animals. The control of nematode (roundworm), cestode (tapeworm) and trematode (fluke) infections in food-producing animals is essential for maintaining animal health and the financial viability of primary producers of meat. Anthelmintic drugs used in livestock production include various benzimidazole compounds, imidazothiazoles, macrocyclic lactones and flukicides.

Maximum Residue Limits (MRLs) have been set for a number of these anthelmintic residues in milk and edible tissue including muscle, liver, kidney and fat to reduce the risk to human health. Only a few products are approved for dairy animals and have limits set in milk. The remainder are unapproved and a zero tolerance is applied.

Teagasc researchers developed a test that simultaneously measures 40 veterinary drug residues and are offering this test as a service to the agri-food industry.

Benefits to Clients

Under Directive 96/23/EC the food industry is required to have self-monitoring programmes in place to monitor for residues in food of animal origin.

By using this test you can be satisfied that you are in compliance with EU legislation and customer specifications.

This test will support industry in the export of food and gaining access to new markets.

Testing Details

The Ashtown method has been validated in liver, meat and milk samples according to the 2002/657/EC guidelines. The method is very sensitive and has a limit of quantitation of 1ìg/kg (ppb) for 38 residues, 2 ìg/kg for bithionol and clorsulon. The test includes avermectin, benzimidazole, flukicide and pesticide residues. The method has been accredited by the Irish National Accreditation Board.

How to Proceed

For further information contact:

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Email: mary.moloney@teagasc.ie
Anticoccidial Residue Testing

Teagasc has developed an extensive test to measure anticoccidial residues in meat, milk and eggs. The method has been extensively validated at EU Maximum Residue Limits (MRLs) and Maximum Limits (MLs) set for non-target species.

**Background**

Anticoccidial drugs are widely used as additives in feed and as veterinary drugs for the prevention and treatment of coccidiosis in poultry and other animals.

MRLs and MLs have been set for a number of these anticoccidial residues to reduce risks to human health. In 2009, new MLs were set for non-target tissues to allow for the unavoidable carry-over of anticoccidiads in non-target feed.

Teagasc has developed a test based on liquid chromatography coupled to tandem mass spectrometry (LC-MS/MS) that can measure up to 23 anticoccidials in eggs, meat and milk and is offering this test as a service to food companies.

**Benefits to Clients**

Under Directive 96/23/EC the food industry are required to have a self-monitoring programme in place to monitor for residues in food of animal origin.

By using this test you can be satisfied that you are in compliance with EU legislation and customer specifications.

**Service Details**

The Ashtown method has been validated according to the 2002/657/EC guidelines. The method is very sensitive and has a limit of quantitation of 2.5 µg/kg or less for most analytes. The method is currently accredited in egg and avian muscle. The method was accredited in 2012 by the Irish National Accreditation Board.

**Table 1.** The anticoccidial residues that can be measured using the Teagasc test.

<table>
<thead>
<tr>
<th>Residue</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EU Licensed</strong></td>
<td></td>
</tr>
<tr>
<td>Amprolium</td>
<td>Veterinary Drug</td>
</tr>
<tr>
<td>Cyromazine</td>
<td>Veterinary Drug</td>
</tr>
<tr>
<td>Decoquinate</td>
<td>Feed Additive &amp; Veterinary Drug</td>
</tr>
<tr>
<td>Halofuginone</td>
<td>Feed Additive &amp; Veterinary Drug</td>
</tr>
<tr>
<td>Imidocarb</td>
<td>Veterinary Drug</td>
</tr>
<tr>
<td>Lasalocid</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Maduramicin</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Monensin</td>
<td>Feed Additive &amp; Veterinary Drug</td>
</tr>
<tr>
<td>Narasin</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Nicarbazin</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Robenidine</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Salinomycin</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Semduramicin</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Toltrazuril</td>
<td>Veterinary Drug</td>
</tr>
<tr>
<td>Toltrazuril Sulphoxide</td>
<td>Veterinary Drug</td>
</tr>
<tr>
<td>Toltrazuril Sulphone</td>
<td>Veterinary Drug</td>
</tr>
<tr>
<td><strong>Not licensed in the EU</strong></td>
<td></td>
</tr>
<tr>
<td>Arprinocid</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Clopidol</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Diaveridine</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Laidlomycin</td>
<td>Feed Additive</td>
</tr>
<tr>
<td>Nequinate</td>
<td>Feed Additive</td>
</tr>
</tbody>
</table>

**How to Proceed**

**For further information contact:**

Mary Moloney  
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Bioactive Peptide Discovery Unit

The Bioactive Peptide Discovery Unit at Teagasc is a world class facility, equipped to purify and characterise bioactive peptides produced by microorganisms, protein hydrolysis or fermentation. This facility and related capabilities can be accessed by research institutes, SME’s, national and multinational companies with an interest in purifying, identifying, analysing or synthesising bioactive peptides at research scale for food or biomedical applications.

Background

Many dietary proteins contain ‘encrypted’ peptides, released upon enzymatic cleavage, identified as having specific bioactivities of commercial interest. Examples include peptides that can influence blood pressure (anti-hypertensive), inhibit undesirable microorganisms (antimicrobial) and prevent infection (anti-infectives). The bioactive peptides associated with these biological properties may be developed as functional food ingredients or for pharma/biomedical preparations. The identification and characterisation of these molecules is the first step in their path to commercialisation.

Competitive Advantage to Clients

The Bioactive Peptide Discovery unit is a unique facility offering a one-stop shop for those interested in any aspect of peptide identification, purification, analysis or synthesis.

Service Details and facilities

The unit is equipped with analytical and semi-prep HPLCs, FPLCs, a MALDI TOF mass spectrometer, a peptide synthesiser, an amino acid analyser, and a DIGE 2D electrophoresis unit.

Areas of Expertise include:

- Purification of peptides using reversed phased and ion exchange HPLC and FPLC.
- Molecular mass determination of peptides and proteins, protein identification via peptide mass fingerprinting and peptide sequence confirmation of small peptides via MS/MS using MALDI TOF mass spectrometry.
- Microwave Fmoc synthesis of peptides 2–60 amino acids long at 0.1 or 0.25 mM scale.
- Free amino acid analysis of biological samples and compositional analysis of proteins.
- Whole cell protein profiling using Difference In Gel Electrophoresis (DIGE).

Of Interest to

This facility is primarily of interest to research institutes, SME’s, national and multinational companies with an interest in purifying, analysing or synthesising bioactive peptides at research scale for food or biomedical applications.

How to Proceed

For further information contact:
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Blown Pack Spoilage Testing (T-Bio®)

Teagasc researchers have developed a specialist blown pack spoilage (BPS) test which is available at Teagasc Food Research Centre, Ashtown as a service to the meat industry.

Background
Blown pack spoilage occurs in correctly chilled batches (0 to 2°C) of vacuum packaged beef after 4 to 6 weeks and is caused by Clostridium estertheticum and Clostridium gasigenes. This type of spoilage is characterised by the production of large volumes of gas (carbon dioxide), a putrid smell and a metallic sheen on the meat. Meat spoiled in this way has no commercial value.

Service Details
As part of the TBio technology transfer project, Teagasc (Ashtown) offers a testing service for Clostridium estertheticum and Clostridium gasigenes. Each test currently costs €15 and results are provided within 24–48 hours.

Of Interest to
The T-Bio® test is primarily of interest to the meat industry.

How to Proceed
For further information contact:
Joan Carroll
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Background
Carbamate pesticides are used worldwide to protect crops against a range of pests, due to their broad spectrum of insecticidal activity, effectiveness, and the nature of non-persistence in the environment. Despite their benefits, low levels of pesticide residues may remain in the crops, animal feeds or environment leading to contamination of the food chain. Exposure to pesticide residues in food is of considerable concern to consumers, food producers and regulators due to their subacute and chronic toxicity. Carbamates are of particular concern due to their anticholinesterase activity in the nervous system, which leads to an accumulation of the neurotransmitter, acetylcholine, at nerve terminals, causing subtle and long-lasting neurobehavioral impairment in humans. Symptoms of toxicosis include abdominal cramps, nausea, diarrhoea, salivation, miosis, dizziness, tremor, anxiety and confusion.

Service Details
By using this test you can be satisfied that you are in compliance with EU legislation and customer specifications. This will support you in exporting food and gaining access to new markets.

Benefits to Clients
The carbamates test, developed by Teagasc, allows the analysis of 31 residues in liver tissue using liquid chromatography coupled to tandem mass spectrometry (LC-MS/MS). The method uses a rapid QuEChERS sample preparation procedure, which can give faster turnaround time on your analysis.

The carbamates method was validated in liver samples according to the 2002/657/EC guidelines. The method is very sensitive and has a limit of quantitation ranging from 2 to 7.6 µg/kg. The method has been accredited by the Irish National Accreditation Board.

Table 1: The 31 residues that can be measured using the carbamates test.

<table>
<thead>
<tr>
<th>Carbamate residue</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2,3,5 Trimethacarb</td>
<td>Methiocarb</td>
</tr>
<tr>
<td>3-Hydroxycarbofuran</td>
<td>Methiocarb sulphone</td>
</tr>
<tr>
<td>Aldicarb</td>
<td>Methiocarb sulphoxide</td>
</tr>
<tr>
<td>Aldicarb sulphoxide</td>
<td>Methomyl</td>
</tr>
<tr>
<td>Aldicarb sulphone</td>
<td>Molinate</td>
</tr>
<tr>
<td>Aminocarb</td>
<td>Oxamyl</td>
</tr>
<tr>
<td>Bendiocarb</td>
<td>Oxamyl oxime</td>
</tr>
<tr>
<td>Benthiavalicarb</td>
<td>Pebulat</td>
</tr>
<tr>
<td>Carbaryl</td>
<td>Pirimicarb des methyl</td>
</tr>
<tr>
<td>Carbofuran</td>
<td>Pirimicarb</td>
</tr>
<tr>
<td>Diethofenocarb</td>
<td>Propamocarb</td>
</tr>
<tr>
<td>Fenobucarb</td>
<td>Propoxur</td>
</tr>
<tr>
<td>Fenoxy carb</td>
<td>Prosulfolcarb</td>
</tr>
<tr>
<td>Indoxacarb</td>
<td>Thiobencarb</td>
</tr>
<tr>
<td>Iprovalicarb</td>
<td>Triallat</td>
</tr>
<tr>
<td>Isoprocarb</td>
<td></td>
</tr>
</tbody>
</table>

How to Proceed
For further information contact:
Mary Moloney
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Email: mary.moloney@teagasc.ie
Consultancy in Food Quality Assurance

Teagasc, through its Food Research Centre at Ashtown, provides a unique specialist technical service package to state bodies, regulatory agencies and industry, especially SMEs. This package encompasses specialist technical advice and standards development, technology/information transfer of research programme outputs and benchmarking through advanced technical assessment of completed processes.

Background

Emerging stringent legislative principles and quality assurance standards clearly place the responsibility for assuring food safety on food sector management. Commercial customers and retailers are conscious of the realities of market-place incidents and seek assurance from their suppliers on the adequacy and effectiveness of the control systems that are in place.

To address these requirements, food quality management systems (incorporating food safety) must increasingly be robust to meet such demands, whilst also remaining cost effective in order to meet commercial objectives. There is an increasing focus on the quality assurance chain incorporating traceability from farm to fork. This, together with renewed government support, has provided unprecedented challenges and opportunities for the Irish food sector and supporting organisations.

Benefits to Clients

Companies who implement and operate world class quality assurance standards enjoy the following benefits:

- Increased market access.
- Customer and consumer confidence.
- Enhanced ability to meet stringent legislative requirements.

Of Interest to

This service is relevant to food SMEs, state agencies and regulatory bodies, who wish to benefit from such specialist technical advice.

Service Details

This is a confidential service. We work with the client to put together the most suitable package in terms of assessment, consultancy and implementation and may include the following service options:

- Independent audits of food/feed businesses against appropriate industry standards.
- Supplier audits.
- Pre-certification audits for various standards including Bord Bia, BRC etc.
- Confidential reports on levels of compliance and non-compliance with relevant legislation/standards.
- Technology capability assessments and advice.
- Trouble-shooting/ problem-solving.

How to Proceed

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Ita White
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Flavour Profiling of Foods and Beverages

Teagasc has a state of the art flavour chemistry facility at the Teagasc Food Research Centre, Moorepark. Here, we can analyse the volatile and non-volatile components of food that directly impact on flavour perception, using a wide range of advanced chromatographic equipment and software.

Background

Flavour is derived from approximately 75% aroma (odour) and 25% taste. The number of taste compounds is relatively limited to ‘sweet’, ‘sour’, ‘salty’, ‘bitter’ and ‘umami’, however other sensations and interactions exist that increase the complexity of taste, such as ‘acid’, ‘hot’, ‘cooling’, ‘astringency’ and ‘mouth-coating’. The number of odour compounds is in the thousands which are made of a wide range of different chemical classes. We have extraction and separation methodologies designed to elucidate compounds that influence flavour either positively or negatively. Flavour chemistry can be used to support sensory analysis or as a standalone discipline. The flavour chemistry facility undertakes research in a wide range of food and beverages directly within Teagasc research programs but also in collaboration with external research groups. It also provides a very active service to industry and has an extensive database of flavour compounds, whose origin and odour properties are known.

Capabilities on Offer

- Flavour profiling.
- Identification of odour active compounds.
- Olfactory analysis.
- Preference mapping.
- Product matching.
- Flavour shelf live.
- Identification of taints/off-flavours.
- Oxidative rancidity.
- Predictive modelling.
- Product quality.

Service Details

- Advanced chromatography mass spectrometry.
- Extraction Techniques.
- Sniffing ports.

Of Interest to

Industry and Academia involved in food and beverages from production to packaging.

How to Proceed

For further information contact:
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Grain Monitoring

Teagasc offer a National Grain Quality Monitoring Scheme to the grain trade, through Teagasc Food Research Centre, Ashtown. The purpose of this scheme is to ensure that all instruments, used in the measurement of the quality of grain at intake point during the harvest period, are providing uniform results.

Background

As grain is sold on a weight basis one of the most important characteristics at intake is the moisture level. Teagasc facilitate a National Grain Moisture Monitoring Scheme that ensures the standardisation of methods and instruments used across the country to measure grain quality at intake point during the harvest period.

Benefits to Clients

- Ensures moisture levels are accurate and grain producers are receiving adequate prices for their products.
- Participants of the Scheme can request additional moisture testing through Teagasc at a reduced rate.
- Protein determination is also provided at a rate of €30 per sample to Scheme participants. Protein levels are important as they can determine the end use of the grain and therefore the price.

Testing Details

Teagasc select raw grain samples from 8 different intake points around the country and analyse the grain for moisture content. Replicate samples are then sent to participating members of the Scheme who are asked to duplicate the analysis using their own equipment and the methods provided. Each member is provided with large standard samples at the beginning of the harvest. These standard samples are approximately 400g each for oven/protimeter testing or 1000g for other moisture meters requiring a larger test sample. All samples will be provided in an airtight container to prevent moisture loss over the course of the harvest. The samples available are wheat, barley & oats.

Of Interest to

Grain producers

Nineteen companies are currently subscribed to the Scheme.

How to Proceed

For further information contact:

Karen Hussey
Phone: +353 (0)1 8059530
Email: karen.hussey@teagasc.ie
High Throughput DNA Sequencing Platform

The Teagasc Sequencing Platform, available through resources at Teagasc Food Research Centre, Moorepark can bring the power of the cutting-edge technologies to your DNA sequencing projects. This technology can be employed for whole genome de novo sequencing, transcriptome profiling, characterisation of the microbiology of food, environmental, animal and human samples, amplicon sequencing and more. The Platform also has a dedicated, highly experienced, bioinformatics team to analyse and interpret the sequencing outputs.

Background
DNA Sequencing technologies have been revolutionised in recent years. The Teagasc sequencing platform contains cutting-edge technologies from Illumina, Ion and Oxford Nanopore. These instruments have a range of applications:

- Whole genome sequencing.
- Targeted resequencing.
- 16S/ITS amplicon sequencing.
- Shotgun metagenomics.
- (Meta)transcriptome sequencing.
- RNA Seq.

Benefits to Clients
- Range of different technologies available.
- Dedicated staff responsible for operating the technology and carrying out the associated bioinformatic analysis.
- Can contribute to DNA extraction, library preparation, quantification, QC where needed.
- Complementary equipment (PCR, qPCR, Qubit, Nanodrop, Bioanalyser, PCR workchambers).
- Software to facilitate analysis.
- Option of multiplexing multiple samples.
- Competitive prices.
- Dedicated bioinformatics team.

Service Details and Facilities
Prices available on request

How to Proceed
For further information contact:
Paul Cotter
Email: paul.cotter@teagasc.ie
Phone: +353 (0)25 42694

Fiona Crispie
Email: fiona.crispie@teagasc.ie
Phone: +353 (0)25 42630
New Product Development for Food SMEs

Teagasc researchers and technologists have extensive knowledge, expertise and facilities available to support food businesses in new product development at its two food research centres at Ashtown and Moorepark. There is a special focus on supporting new product development (NPD) in SME and start-up food businesses.

Background

Advances in the food sector are accelerating the development of a wide range of new and improved, added-value products and services. The future success of the Irish food industry depends in large on its ability to be at the forefront of this scientific and innovative activity. Teagasc is committed to supporting the food processing sector and provides a range of supports including new product development services.

Benefit to Clients

The competitive position of food businesses is very dependent on their capacity to absorb new knowledge and skills and develop innovative products. Teagasc recognises the constant challenge faced by food companies and aims to support and assist them in the new product development process.

Product development supports are backed by the wide-ranging food research programme at Teagasc which has extensive linkages with food research institutes worldwide.

Support and Facilities

- Food development facilities are available at Teagasc Food Research Centres in Ashtown, Dublin and Moorepark, Cork.
- These include pilot and full scale regulatory approved production facilities containing modern equipment for the development of dairy, beverage, meat, bakery and prepared foods.
- Specially designed incubation units are available for sole use by client companies.
- Well-equipped and modern laboratories are available for microbiological, chemical, physical and sensory testing of products.

Of Interest to

Product development support is of interest to food processing businesses, and to suppliers of materials, services and development support to the food processing sector.

Service Contracts

Service contracts are agreed with clients and work is carried out on a confidential basis.

A schedule of fees is available on request for the various services provided.

How to Proceed

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Ciara McDonagh
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Nitrofuran Residue Testing

The Chemical Residues Laboratory at Ashtown offers a suite of analytical testing services. One of the most important of these is the nitrofuran test method, which tests for residues of nitrofuran antibiotic drugs in meat, plasma, fish, eggs and honey. This method represents an essential service for both importers and exporters of animal products.

How to Proceed
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Email: mary.moloney@teagasc.ie

Background
Nitrofurans are a class of broad-spectrum antibiotics that were widely used in food-producing animals. Concerns about their potential toxicity resulted in them being banned for use in the EU in the 1990s. Despite this, nitrofuran contaminants remain a frequent source of alerts in the EU Rapid Alert System for Food and Feed (RASFF), with 72 cases of semicarbazide (the marker residue for nitrofurazone) in shrimp in 2009.

Teagasc have developed an assay that employs liquid chromatography coupled to tandem mass spectrometry (LC-MS/MS) to detect and quantify in a single analysis the metabolites of four of the main nitrofuran drugs (shown below). We are offering this test as a service to food companies. The test can ensure the absence of nitrofuran drug residues down to extremely low levels.

Benefits to Clients
Under Directive 96/23/EC the food industry are required to have a self-monitoring programme in place to monitor for residues in food of animal origin.

By using this test you can be satisfied that you are in compliance with EU legislation and customer specifications.

Testing Details
The Nitrofurans test has been validated in liver, muscle, fish, plasma, egg and honey samples according to the 2002/657/EC guidelines. The method is very sensitive and has a limit of detection of <0.10 μg/kg for all four residues in most matrices. The method has been accredited by the Irish National Accreditation Board.
Sensory Analysis

Teagasc, through its researchers and technologists at both its food research centres at Ashtown and Moorepark, has extensive knowledge, expertise and facilities available to identify the sensory requirements of food businesses and devise suitable testing methodologies.

Background

Sensory analysis is a scientific discipline used to measure and interpret reactions to foods as they are perceived by the senses (sight, sound, smell, taste and touch). It provides valid and accurate information on sensory characteristics using precise, documented techniques. People closely involved with a product frequently find it difficult to be objective when comparing it with those of competitors. Sensory analysis is used to judge the acceptability of products at many stages of product development (from concept to launch) and in quality control and quality assurance.

Benefits to Clients

Sensory Analysis provides a powerful tool in terms of new product development, and can be used anywhere in the NPD process from concept to launch and beyond in terms of quality assurance.

Teagasc sensory staff work closely with other Teagasc experts to correlate sensory and instrumental data. Off-flavour investigation is carried out in conjunction with our flavour chemists. Each client's needs are assessed and advice given on appropriate test methodology.

Service Details

- We carry out the full range of discrimination tests including triangle tests, tetrad, duo trio, paired comparison, and other tests as required.
- We have a trained descriptive panel experienced in the sensory analysis of a range of products.
- We provide expert advice to food businesses and help them devise the most suitable methodologies for their needs.
- Bespoke sensory training courses can also be developed on request.

Facilities

- We have state-of-the-art food preparation and sensory facilities.
- The testing facility comprises 8 individual booths each equipped with Compusense® 5.0 software for sensory data collection from panellists.
- The area is equipped with adjustable lighting and the temperature, ventilation and odour can be controlled.
- Training and conference rooms are also available for panellist training sessions and focus groups.

Of Interest to

Sensory evaluation is relevant to food processing businesses, ingredient manufacturers and suppliers, food service companies, retailers and distributors.

Service Contracts

Contracts are agreed with clients and work is carried out on a confidential basis. Cost is dependent on the method of testing used and sample numbers involved.

How to Proceed

For further information contact:
Carol Griffin or Carmel Farrell
Phone: + 353 (0)1 8059592/8059572
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Specialised Training and Seminars

Teagasc provides specialised technical training and seminars for the food sector, in areas that include food safety, quality management, compliance with food legislation, and product development, through its Food Industry Training Programme. This programme is offered as a schedule of public courses to industry, development agencies and competent authorities each year. Delivery of customised training to companies is available on request. Seminars are also held each year covering topical issues of interest.

Background
The food sector is a knowledge intensive industry sector, with a continual need to upgrade knowledge and skills. The environment in which the industry operates is constantly changing in relation to regulatory, customer requirements, product lines and innovations. The Teagasc Food Industry Training Programme, through effective knowledge transfer and certification, enables the sector to keep abreast of these changes. The programme is quality assured, and course topics are updated regularly to reflect the changing needs of the sector.

Benefits to Clients
The Teagasc Food Industry Training Programme provides food businesses with up-to-date knowledge and skills required to keep up to date with changes in legislation, technology and good practice. This enables clients to compete effectively in the sector.

Courses are updated to ensure information is current and represents best practice. All trainers are highly qualified and experienced and many of the courses on offer are certified through the National Framework Qualifications Ireland (QQI).

Service Details
The programme includes training in the following areas:
- Food Safety Management (HACCP).
- Quality Management (based on Third Party Standards).
- Systems Auditing.
- Laboratory Quality Management & Auditing.
- Trainer Skills.
- Compliance with Legislation & Labelling.
- Innovation Management and NPD.
- Dairy Product Manufacture & Cheese-making.

Dairy Plant Operation, Spray-drying etc.
Meat Processing & Butchery Skills.

A range of seminars are scheduled annually. Themes are chosen based on current topical issues and input from the food sector. Expert speakers are drawn from competent authorities, industry and the retail sector.

Of Interest to
This service is relevant to food industry personnel involved in technical or quality management, as well as supervisory staff, business owners & entrepreneurs, regulatory and development agency staff.

How to Proceed
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Visit: www.teagasc.ie/food
Technical Food Information Support

Teagasc provide a food information service that can help address the technical and practical questions that arise in the food industry. This is a key service for many food companies where keeping up-to-date may seem impossible with the amount of information being produced and the number of journal articles being published each week.

Background
Teagasc Food Research Centre, Ashtown provides an Information Service to help meet the continuous need of food companies for reliable and expert information. The service aims to address the technical and practical questions that can arise for the food industry. Topics include food safety issues, new developments and technologies, food marketing and food legislation.

Benefits to Clients
Teagasc have access to external databases and other information sources, including information generated from the extensive research programme of Teagasc plus national and international scientific linkages. These can be used to provide rapid food information solutions to companies operating in a competitive sector.

Of Interest to
This service is of benefit to any food and related industries who need assistance in keeping up-to-date with technical and practical issues arising in the food industry.

Service Details
Teagasc can provide the following Food Information Solutions:

- We can work with bespoke projects whether it is a food safety issue or processing problem.
- We can carry out an information search on a range of topics and provide a customised review to suit a product sector.
- We offer advice on accessing technology information sources.
- We can supplement a company’s own resources and help to fill knowledge gaps.

This is a confidential service where we will work with the client to put together the most relevant information solution.

An appropriate fee will be agreed in advance.

How to Proceed
For further information contact:
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Testing for Agrochemical Residues

Teagasc is offering a range of analytical tests for the food industry for the detection and quantification of agrochemical residues in foods, through their well established laboratories at Teagasc Food Research Centre, Ashtown. Tailored analytical solutions can be developed upon request to provide more cost effective analysis.

Background

Veterinary drugs, feed additives and pesticides are used in the treatment of infections in food producing animals and can result in undesirable levels of residues in food. Regulatory agencies such as the Committee for Veterinary Medicinal Products and the European Food Safety Authority have set maximum residue limits (MRLs) for a range of agrochemical residues in food. The purpose of these MRLs is to protect public health and promote trade between countries.

Product labels on agrochemical products have been carefully prepared to ensure good agrochemical practice including application rates of products and withdrawal periods. If label claims are not carefully followed, non-compliant levels of residues can occur in food. The European Commission require each member state within the European Union to carry out national surveillance of their food production annually and demonstrate compliance with legislation. In addition, there are requirements on industry to carry out self-monitoring for residues, and it forms a basic part of a company’s HACCP plan.

Competitive Advantage

- Teagasc has a long history in veterinary drug residue detection and the laboratories at our Food Research Centre, Ashtown have been accredited for this work for over 25 years.
- State-of-the-art ultra high performance liquid chromatography coupled to tandem mass spectrometry is used in the majority of such analyses, giving the best possible result to clients.
- Tailored analytical solutions can be developed on request to provide more cost effective analysis.

Testing Details

Some of the drug residues that we cover include:

- **Nitrofuran antibiotics** – 4 residues in liver, meat, eggs, honey and aquaculture products.
- **Anticoccidials** – 21 residues in eggs and meat.
- **Anticoccidials** – 8 residues in liver.
- **Anthelmintics** – 40 residues in liver, meat, milk.
- **Carbamate pesticides** in liver, meat, milk, milk.
- **Pyrethroid pesticides** in egg, fat and honey.

Of Interest to

These tests are relevant to all sectors of the Irish food industry. If we do not carry out a specific type of testing on site we can outsource the work at a highly competitive rate.

How to Proceed

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