



NRL Contacts

**Antimicrobial
Resistance
Zoonoses
(salmonella)**
Dr M Gutierrez

**Listeria
Staphylococci
Milk & Milk Products**
Ms B Hickey

Ecoli (VTEC)
Dr L Scott

Parasites
Dr T Murphy

TSE's
Dr P Collery

**Residues/Chemical
Elements**
Mr P Rafter

Pesticide Residues
Dr D O'Sullivan

Campylobacter
Dr J Egan

Animal Proteins
Mr G Roe

Activities of National Reference Laboratories (NRL's)

Introduction

In 2006 following the designation of a number of additional Community Reference Laboratories (CRL's) by EU, Member States were required under Article 33 of Regulation 882 / 2004 to designate one or more National Reference Laboratory (NRL) for each CRL. The Departments of Health and Children and Agriculture and Food, as the Irish Competent Authorities, assigned these NRL functions to a number of laboratories including those within the Backweston Laboratory Campus. See list of NRL's outlined in Appendix.

Article 33 of Regulation 882 / 2004 outlines functions of NRL's to include

- (a) collaborate with the Community reference laboratory in their area of competence;
- (b) coordinate, for their area of competence, the activities of official laboratories responsible for the analysis of samples in accordance with Article 11;
- (c) where appropriate, organise comparative tests between the official national laboratories and ensure an appropriate follow up of such comparative testing;
- (d) ensure the dissemination to the competent authority and official national laboratories of information that the Community reference laboratory supplies;
- (e) provide scientific and technical assistance to the competent authority for the implementation of coordinated control plans adopted in accordance with Article 53;

As part of the process of communication the Daff Laboratories, Backweston will issue quarterly an electronic newsletter outlining relevant activities undertaken by NRL's under its remit.

Report

NRL Salmonella

In 2007 a total of 1475 Salmonella isolates were typed at the Central Veterinary Research Laboratory, the NRL Salmonella. Of these 115 isolates originated from official control programmes undertaken by DAFF. A total of 1289 isolates were submitted by private laboratories (see list) supporting food safety controls operated by food business operators. A total of 71 strains originated from pathological submissions to the Regional Veterinary Laboratory Service.

Up to 50 different serovars were recorded in submissions. The top 10 in order of their relative frequency were; *S. Kentucky*, *S. Typhimurium*, *S. Derby*, *S. Agona*, *S. Indiana*, *S. Mbandaka*, *S. Brandenburg*, *S. Orion*, *S. Enteritidis* and *S. London*. The main serovar isolated was *S. Kentucky* (612 strains or 41.6% of the strains tested), predominantly in association to the poultry industry. *S. Typhimurium* was the second serovar in frequency, accounting for 13.2% of isolates. The majority of strains were of porcine origin, however 5 originated from poultry. One was from turkey meat imported from Italy (phage type U311) and 4 were from dust samples from a farm in Northern Ireland (phage type DT12).

S. Enteritidis was isolated from 27 submissions. Eight of the isolates were obtained from pigeons collected as part of an investigation of a *Salmonella* outbreak in the southwest of the country; all of them phage type PT4. Most of the other samples originated from poultry products and where tracebacks were possible, showed the products to have originated outside the country.

S. Infantis and *S. Virchow*, which are also considered as of public health significance, were found in 16 and 3 occasions respectively. With the exception of 8 strains, all the serovars belonged to the species *S. enterica* subsp. *enterica*. There were 7 strains from sheep and reptiles found to be *S. enterica* subsp. *diarizonae* and 1 strain from a reptile that was identified as *S. enterica* subsp. *arizonae*.

Table 1: Top 20 serovars isolated in 2007

	Official Samples	Food Business Controls
<i>S. Kentucky</i>	44	568
<i>S. Typhimurium</i>		195
<i>S. Derby</i>		99
<i>S. Agona</i>		93
<i>S. Indiana</i>	3	58
<i>S. Mbandaka</i>	17	36
<i>S. Brandenburg</i>	9	30
<i>S. Orion</i>		33

	Official Samples	Food Business Controls
<i>S. Enteritidis</i>	1	26
<i>S. London</i>		23
<i>S. Rissen</i>	3	20
<i>S. Dublin</i>		21
<i>S. Bredeney</i>		17
<i>S. Schwarzengrund</i>	3	14
<i>S. Infantis</i>	3	13
<i>S. Senftenberg</i>	2	12
<i>S. Livingstone</i>		12
<i>S. Anatum</i>	6	2
<i>S. Reading</i>		8
<i>S. Diarizonae</i>		7

Private Laboratories contributing to National Zoonoses Monitoring:

Advanced Micro Services, Cork
 AI Control, Dublin
 Anser Laboratories Ltd, Moy, Co. Tyrone
 Aqua Lab Ltd, Killybegs, Co. Donegal
 Biosearch Ltd., Belfast
 Bodycote Consult-us, Glanmire, Co. Cork
 City Analyst, Limerick
 Complete Laboratory Solutions, Connemara, Co. Galway
 Enfer Micro Laboratory, Clonmel, Co. Tipperary
 Enva Ireland Ltd., Ballincolig, Co. Cork
 Envirolab, Waterford
 Eurofins Ireland, Dundalk, Co. Louth
 Independent Micro Lab Ltd., Portlaoise, Co. Laois
 Irish Equine Centre, Johnstown, Co. Kildare
 Liffey Meats Ltd, Ballyjamesduff, Co. Cavan
 Microchem Laboratories, Dungarvan, Co. Waterford
 Microlab Ltd, Castleblayney, Co. Monaghan
 Mid-Antrim Laboratory Services, Ballymena, Co. Antrim
 Monaghan Veterinary Laboratory, Monaghan
 Oldcastle Laboratories Ltd., Oldcastle, Co. Meath
 Q-Lab Ltd., Drinagh, Co. Wexford
 Slaney Foods Int'l Ltd., Enniscorthy, Co. Wexford
 Southern Scientific Services Ltd., Kilarney, Co. Kerry
 Veterinary Food Safety Lab, Cork Co. Council

Report

NRL *Listeria monocytogenes*

Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs outlines the microbiological criteria that must be in place by food business operators (FBO's) to ensure foodstuffs should not contain micro-organisms or their toxins or metabolites in quantities that present an unacceptable risk

for human health.

In addition to stating the microbiological criteria that food business operators must comply the regulation also outlines additional requirements with regard to *Listeria monocytogenes*. Article 3 (2) of the Regulation states-

“As necessary, the food business operators responsible for the manufacture of the product shall conduct studies in accordance with Annex II in order to investigate compliance with the criteria throughout the shelf-life. In particular, this applies to ready-to-eat foods that are able to support the growth of Listeria monocytogenes and that may pose a Listeria monocytogenes risk for public health.”

ANNEX II of the Regulation elaborates further on the studies referred to in Article 3(2). These shall include:

- specifications for physico-chemical characteristics of the product, such as pH, aw (water activity), salt content, concentration of preservatives and the type of packaging system, taking into account the storage and processing conditions, the possibilities for contamination and the foreseen shelf-life, and
- consultation of available scientific literature and research data regarding the growth and survival characteristics of the microorganisms of concern.

When necessary on the basis of the abovementioned studies, the food business operator shall conduct additional studies, which may include:

- predictive mathematical modelling established for the food in question, using critical growth or survival factors for the microorganisms of concern in the product,
- tests to investigate the ability of the appropriately inoculated micro-organism of concern to grow or survive in the product under different reasonably foreseeable storage conditions,
- studies to evaluate the growth or survival of the microorganisms of concern that may be present in the product during the shelf-life under reasonably foreseeable conditions of distribution, storage and use.

The above mentioned studies shall take into account the inherent variability linked to the product, the microorganisms in question and the processing and storage conditions.

The regulation did not specify how these tests should be conducted. ED/DG SANCO acknowledged that a guidance document was required, providing both detailed and practical information on how to conduct shelf life studies for *Listeria monocytogenes* in ready to eat foods to ensure conformance to the Microbiological criteria set out in Regulation (EC) No. 2073/05. The CRL has produced a guideline document that is aimed at the FBO's and laboratories carrying out these studies. The

guideline document will be available for circulation shortly.

Report

NRL Coagulase positive Staphylococci

The CRL has published a method for the Detection of staphylococcal enterotoxins types SEA and SEE in milk and milk products for coagulase positive *Staphylococci* including *Staphylococcus aureus*. It is a European screening method developed by the CRL

The method is Version 1, 19 November 2007 and is a revision of the method already published but differs by having a clause on interferences.

This method will be circulated shortly.

Report

NRL Milk and Milk Products Phosphatase

Currently the limit for phosphatase activity in cow's milk is set out in Chapter II of Regulation EC No 1664/2006. An alkaline phosphatase test is considered to give a negative result if the measured activity in cow's milk is not higher than 350 mU/l. The reference method set out in the Regulation is ISO 11816-1.

ED/DG SANCO acknowledge that limit's for phosphatase activity in milk from species other than cows are required. The CRL in conjunction with NRL's have been carrying out surveys on milk from goats and ewes in order to establish suitable limits. The Dairy Science Laboratory, Backweston, as the Irish NRL participated in this work. The data to date suggests that the limit of 350mU/L set for milk from cow's will also be suitable for milk from goat's but unsuitable for milk from ewe's.

Report

NRL Antimicrobial Resistance

Decision 2007/407/EC outlines a harmonised approach for monitoring antimicrobial resistance in poultry and pigs in Member States of the EU. The EFSA Task Force on Zoonoses Data Collection adopted in February 2007 a "Report including a proposal for a harmonised monitoring scheme of antimicrobial resistance in *Salmonella* in fowl, turkeys and pigs and *Campylobacter jejuni* and *C. coli* in broilers. This report made recommendations on a harmonised monitoring scheme and harmonised methodology for susceptibility testing. The decision lays down the detailed rules for monitoring antimicrobial resistance in fowl (*Gallus gallus*), turkeys and slaughter pigs in MS.

Salmonella isolates collected through control and monitoring programmes must be tested for antimicrobial resistance as out-

lined in Table 2 below. A total of 170 isolates for each study population / year must be tested.

Table 2: Years in which *Salmonella* isolated from the indicated animal populations shall be selected for antimicrobial resistance testing

Year	All <i>Salmonella</i> Serovars			
	Laying Hens	Broilers	Turkeys	Slaughter Pigs
2007			x*	x*
2008	x			
2009	x	x		
2010	x	x	x	
2011	x	x	x	x
2012	x	x	x	x

*Isolates collected in baseline studies conducted in 2007

The CVRL, as the NRL Antimicrobial Resistance, along with NRL's in other MS, has recently switched from the disk diffusion test to the broth dilution method to determine Minimum Inhibitory Concentration (MIC) for antimicrobial resistance studies in *Salmonella* and *Campylobacter*. The standardisation of antimicrobials tested and cut-off points for susceptibility and resistance will facilitate generation of comparable data across the MS and allow more effective monitoring of antimicrobial resistance in food producing animals.

Broth dilution is a technique in which wells in a plate are filled with identical volumes of inoculated broth and incrementally (usually geometrically) increasing concentrations of the antibiotic. The aim of this method is the determination of the lowest concentration that inhibits bacterial growth: the minimum inhibitory concentration (MIC). The broth dilution method may be performed by macrodilution or microdilution. Microdilution denotes the performance of the broth dilution method in microtiter plates with a capacity of <500 µL per well. For the *Salmonella* strains a plate that meets the requirements of Commission Decision 2007/407/EC has been designed by the group of NRLs AMR and has been manufactured by Trek Diagnostics. For the *Campylobacter* strains our NRL uses a plate designed and manufactured by the National Veterinary Institute in Sweden (SVA).

Salmonella strains are checked against a panel of fourteen antimicrobials: Ampicillin, Cefotaxime, Ceftazidime, Chloramphenicol, Ciprofloxacin, Colistin, Florfenicol, Gentamicin, Kanamycin, Nalidixic acid, Streptomycin, Sulfamethoxazole, Tetracycline and Trimethoprim. Strains found resistant to Cefotaxime or Ceftazidime are investigated for ESBL production by the disk diffusion method. *Campylobacter* strains are checked against a panel of six antimicrobials: Erythromycin, Gentamicin, Streptomycin, Tetracycline,

Ciprofloxacin and Nalidixic acid.

The cut-off points used are those established by the European Committee on Antimicrobial Susceptibility Testing (EUCAST) by checking a large population of strains for each particular pathogen and looking at concentration points that differentiate wild type strains from resistant strains. The cut-off points do not correlate exactly with the breakpoints that are established by checking the effect or lack of effect of the antibiotic clinically, such as the ones published by the Clinical and Laboratory Standards Institute (CLSI).

By comparison, the levels set by EUCAST are lower than the levels recommended by CLSI. In the case of *Campylobacter*, the cut-off points are different for *C. jejuni* and *C. coli*.

Tables 3 & 4: Range of antimicrobials tested for and cut-off values applied for the classification of strains as resistant.

Salmonella	
Antimicrobial	Cut-off value (mg/L) R >
Ampicillin	4
Cefotaxime	0.5
Ceftazidime	2
Chloramphenicol	16
Ciprofloxacin	0.06
Colistin	8
Florfenicol	16
Gentamicin	2
Kanamycin	4
Nalidixic acid	16
Streptomycin	32
Sulfamethoxazole	256
Tetracycline	8
Trimethoprim	2

Campylobacter		
Antimicrobial	Cut-off value (mg/L) R >	
	<i>C. jejuni</i>	<i>C. coli</i>
Ciprofloxacin	1	1
Erythromycin	4	16
Gentamicin	1	2
Nalidixic acid	16	32
Streptomycin	2	4
Tetracycline	2	2

Report

Codex Alimentarius *AdHoc* Intergovernmental Task Force on Antimicrobial Resistance

The Codex Alimentarius is a global reference point for consumers, food producers and processors, national food control agencies and the international food trade. The Codex Alimentarius system allows all countries to join the international community in formulating and harmonising food standards and ensuring their global implementation. It allows them a role in the development of codes governing hygienic processing practices and recommendations relating to compliance with those standards.

The 29th Session of the Codex Alimentarius Commission (July 2006) agreed to establish a Codex *AdHoc* Intergovernmental Task Force on Antimicrobial Resistance (TFAMR) with the following objectives, terms of reference and timeline.

Objectives:

The objectives of the TFAMR are to develop science based guidance, taking full account of its risk analysis principles and the work and standards of other relevant international organizations. The intent of this guidance is to assess the risks to human health associated with the presence in food and feed including aquaculture and the transmission through food and feed of antimicrobial resistant microorganisms and antimicrobial resistance genes and to develop appropriate risk management advice based on that assessment to reduce such risk.

Terms of reference:

To develop guidance on methodology and processes for risk assessment, its application to the antimicrobials used in human and veterinary medicine as provided by FAO/WHO through JEMRA, and in close cooperation with OIE, with subsequent consideration of risk management options. In this process work undertaken in this field at national, regional and international levels should be taken into account.

Timeframe:

Four meetings starting 2007.

First meeting of the Intergovernmental TFAMR Seoul, Republic of Korea, October 2007

This meeting was attended by 138 delegates from 36 Member countries, 1 Member organization and Observers from 9 international organizations. Dr John Egan (DAFF) was the Irish delegate. The full report is available at <http://www.codexalimentarius.net/web/archives.jsp?lang=en>

By way of background to discussions a number of organizations or countries outlined their perspective on the task. The European Commission was in favor of activities aimed at preventing the development of antimicrobial resistance being considered in a balanced way with respect to all relevant areas: human medicine, veterinary medicine related in particular to food production, and plant protection. The EU proposed including the objective to put in perspective the risks presented by the use/misuse of antimicrobials used both in animals and in humans in order to avoid overestimating the impact of the use of antimicrobials in animals and to keep proportionate the measures to be adopted. The WHO stated that it would be problematic to include, in the scope of the TFAMR the use of antimicrobials in human medicine in view of the activities already undertaken and ongoing in WHO in this area and the need for additional expertise in the task force to deal with this subject. The World Organization for Animal Health (OIE) highlighted the importance of having an integrated approach and maintaining a global perspective to antimicrobial resistance. Other delegations and observers, supporting the view of the WHO Representative, stated that the Task Force's activities should focus on aspects related to the non human use of antimicrobials and to the development of antimicrobial resistance in human pathogens in and through food, including both animal and vegetable products.

After some debate, the TFAMR agreed to: i) add a sentence under "Objectives" to clarify that the Task Force should attempt to put into perspective the risk of increase of antimicrobial resistance in human beings and animals generated by different areas of use of antimicrobials, such as veterinary applications, plant protection or food processing, without adding a reference to human medicine; and ii) keep the text under "Terms of reference" unchanged. It was understood that the issue regarding the use of antimicrobial resistance genes as a marker genes in the development of recombinant-DNA plants, remained outside the scope of the TFAMR since the matter had been dealt with elsewhere.

WHO outlined the work undertaken by WHO and its partner agencies since the first WHO resolution on antimicrobial resistance in 1998. Approximately half or more of the total tonnage of antimicrobials produced was currently used to treat diseased animals, to prevent disease and as growth promoters, and that continuous and low-level dosing of antimicrobials, as growth promoters, favored the development of drug-resistant bacteria. WHO noted that such uses had been banned in several countries mainly in Europe, in accordance with WHO recommendations. WHO underlined that the TFAMR needed to build on all previous work done and that there was a need for general risk assessment policy guidance as well as specific scientific advice in this area. WHO further highlighted the need to develop management options for non-human use of antimicrobials that were critically important to human medicine.

OIE acknowledged the importance for both public and animal

health of the potential antimicrobial resistance resulting from the use of antimicrobials in the veterinary sector. OIE highlighted the main outcomes of their activities over the last decade aimed at containing and preventing antimicrobial resistance. Three specific areas of action were highlighted: adoption of specific guidelines; establishment of the list of veterinary critically important antimicrobials; and capacity building in member countries, including strengthening of veterinary services. OIE also highlighted several specific OIE guidelines on antimicrobial resistance including those on the responsible and prudent use of antimicrobial agents in veterinary medicine and on the risk assessment for antimicrobial resistance arising from the use of antimicrobials in animals. OIE underlined the multidisciplinary aspect of antimicrobial resistance and the need to cover the whole food chain. OIE also stressed the need to create synergy between the different international organisations by developing existing work and avoiding duplication.

The FAO informed the task force of activities carried out by their organization in this field, including: provision of scientific advice; development of guidelines for good agriculture practices, animal husbandry and aquaculture practices, which contribute to the containment of foodborne antimicrobial resistance; and capacity building. All activities were carried out under a multidisciplinary approach, directly or in coordination with other international organizations, such as WHO, OIE and other stakeholders.

The representative of FAO also mentioned that the Joint FAO/WHO/OIE Expert Meeting on Critically Important Antimicrobials, held in November 2007 in Rome, which would provide recommendations on future work to the three organizations. The TFAMR was also informed of the Global Initiative for Food-related Scientific Advice (GIFSA), launched by FAO and WHO in July 2007, to facilitate the mobilization of technical, financial and human resources to support activities on the provision of scientific advice, including those related to antimicrobial resistance. All delegates were invited to make use of this new mechanism to ensure that the provision of scientific advice, which might be required by the TFAMR, could be provided in a timely manner.

The TFAMR reviewed the twelve project documents and other proposals forwarded by members and observers in response to the initial Codex Alimentarius request. The task force noted that all proposals submitted fell under one of the three main clusters: risk assessment, risk management and risk profile/prioritization and agreed to discuss the various proposals for new work according to the three clusters and to prepare one project document for each of these clusters.

Due to the limited time and in order to expedite its work, the TFAMR agreed to establish three in-session working groups to prepare three project documents on risk assessment, risk management and risk profile/prioritization. A brief outline of the work to be covered by each of the working groups (WG) is

given below.

WG. Development of science-based risk assessment guidance regarding foodborne antimicrobial resistant microorganisms

In the risk assessment group, to be chaired by Canada, there was extensive discussion on the need to include some references in the work to the positive effects of the use of antimicrobial drugs in animals in the purpose and scope of its work. It was agreed that when considering the risk related to a specific anti-microbial resistance the task force would take into consideration its impact on human health.

Main aspects to be covered:

The Task Force will develop an appropriate risk assessment set of criteria and a process for JEMRA and/or national/regional authorities to use to determine the overall risk to human health relating to antimicrobial resistant microorganisms and resistance determinants in feed, food animals (including aquaculture), food production/processing, and retail foods, arising from the non human use of antimicrobials. When considering the risk related to a specific antimicrobial resistance concern, the Task Force will take into consideration the impact on human health.

The completed guidance should:

- Address, if possible, the overall risk to human health for each antimicrobial use (e.g. usage, species, microorganisms, dosage, regime)
- be a sequence of assessment steps covering the likelihood of transfer of resistant microorganisms and resistance determinants from animals to humans;
- provide techniques to evaluate the parameters at each step, using the appropriate data input to that step. These parameters and input need to be identified;
- provide techniques to enable the output of one step to be used as the input for the next step (e.g. flow charts, decision trees);
- provide techniques to evaluate risk management options as appropriate;
- include a method to document data sources, procedures and results.

This proposed new work will build upon the risk analysis processes already in place within Codex, JEMRA and within OIE for risk assessment with regard to human health concerns by adapting and consolidating them in the framework of risk assessment for antimicrobial resistance, similar to the OIE work on risk analysis included in its Terrestrial Animal Health Code.

WG. Development of risk management guidance to contain foodborne antimicrobial resistant microorganisms

The purpose of the proposed work is to develop appropriate risk management guidance for national/regional authorities that may be necessary following risk profiling and/or risk assessments, usually undertaken as described in the Risk Assessment and Risk Profile project documents prepared by the Task Force. Guidance will also be provided on how to measure and monitor the effectiveness of the selected risk management options, including establishing a baseline against which subsequent changes can be measured.

Main aspects to be covered:

The Task Force will develop appropriate risk management options throughout the "farm-to-table" continuum. This will be done by utilizing relevant Codex, OIE, WHO and FAO documents. The goal is to protect human health by minimizing and containing antimicrobial resistant foodborne microorganisms and resistance determinants that may be transmitted through the food chain.

Risk management options that can be implemented by the various food chain participants may include but are not limited to:

- Regulatory authorities - antimicrobial product approval/non-approval/withdrawal; surveillance/compliance; regulatory controls on conditions of use; establishment of co-ordinated and coherent surveillance networks at national/regional/international levels that may include links between established surveillance networks in human and veterinary medicines.
 - National/regional/international authorities - resistance monitoring of foodborne pathogens and selected commensal microorganisms isolated from food-producing animals, food, humans, and plants, as appropriate; foodborne disease surveillance; development and implementation of responsible use guidelines
 - National authorities or other stakeholders - Antimicrobial usage monitoring; accounting of use.
 - Veterinary associations and allied organizations - development and implementation of responsible use guidelines; education of veterinarians and clients.
 - Animal feed industry - processes and controls on animal feed production.
 - Food animal (including aquaculture) producers - quality assurance programs.
 - Food production industry - food processing; hygiene controls
- (e.g. HACCP; decontamination of carcasses).
- Veterinary pharmaceutical industry - development and implementation of responsible use guidelines; compliance with regulatory controls; good manufacturing practices for quality products.
- Additionally, risk management options may include programmes promoting the development of new antimicrobial agents, alternative treatments, and prevention programmes such as vaccination.
- The Task Force will provide guidance for national/regional authorities as to the most appropriate actions to be implemented for a particular foodborne antimicrobial risk. The guidance will take into account that antimicrobials administered to animals also play a major role in animal health.
- The Task Force will provide guidance on how the recommendations might be implemented on a regional/national basis taking into account the feasibility (for example, infrastructure, expertise, funding, etc.) of implementation. When there is evidence that a risk to human health exists but scientific data are insufficient or incomplete, it may be appropriate for countries to select a provisional decision, while obtaining additional information that may inform and if necessary modify the provisional decision. In those instances, the provisional nature of the decision should be communicated to all interested parties and the timeframe or circumstances under which the provisional decision will be reconsidered (e.g. reconsideration after the completion of a risk assessment) should be articulated when the decision is communicated initially.
- For those antimicrobial products and associated foodborne antimicrobial resistant microorganisms that will be of the highest risk classification, the guidance will provide the following additional options that should be considered for priority implementation by the national/regional authorities:
- Regulatory review of currently approved antimicrobials by national risk assessment guidelines.
 - Resistance monitoring and usage monitoring (specifics to be determined).
 - Responsible use guidelines including consideration of alternative treatments or conditions of use.
 - The Task Force will describe methods to measure the effectiveness of the risk management options such as:
 - Trends in antimicrobial resistant foodborne microorganisms by monitoring of animals, foods and humans.
 - Trends in human foodborne disease (matched to public health goals).

notes

- Antimicrobial usage monitoring trends, etc.

WG. Development of guidance on creating risk profiles for antimicrobial resistant foodborne microorganisms for setting risk assessment and management priorities

The purpose of this project chaired by the US is to develop guidance on:

- identifying food safety issues related to antimicrobial resistance;
- data needed for risk profiles; and
- setting priorities with respect to risks related to antimicrobial resistant foodborne microorganisms.

Main aspects to be covered:

Preliminary risk management activities include the establishment of a risk profile to facilitate consideration of the issue within a particular context, and provide as much information as possible to guide further action. As a result of this process, the risk manager may commission a risk assessment as an independent scientific process to inform decision-making. When there is evidence that a risk to human health exists but scientific data are insufficient or incomplete, it may be appropriate for countries to select a provisional decision, while obtaining additional information that may inform and if necessary modify the provisional decision. In those instances, the provisional nature of the decision should be communicated to all interested parties and the timeframe or circumstances under which the provisional decision will be reconsidered (e.g. reconsideration after the completion of a risk assessment) should be articulated when the decision is communicated initially.

It is expected that this work could consider but not be limited to:

- Antimicrobial agents or classes used in food producing animals that would significantly impact on human medicine due to the development or dissemination of antimicrobial resistance.
- Importance of the drug in human medicine (indications, extent of use, level of resistance, availability of alternative drugs, resistance mechanisms, etc.).
- Information on drug use in various animal species.
- Relevant data that is available concerning antimicrobial resistant microorganisms in feed, food animals (including aquaculture), food production/processing, and retail foods as well as identification of important data that may need to be collected and analyzed; relying on national resistance monitoring program data, published sources and other data recognized as valid.
- Information about human exposure to hazard including routes of exposure.
- Information on adverse health effects in humans (e.g., dose-response, type and severity of adverse health effects, and at-risk population characteristics).

For further information contact: john.egan@agriculture.gov.ie

Matrix/ Parameter	CRL	Head of NRL	Contact person (if different to Head NRL)
Milk and milk products	AFSSA - Laboratoire d'études et de recherches sur la qualité des aliments et sur les procédés agroalimentaires (LERQAP) F-94700 Maisons-Alfort, France	Bernadette Hickey Tel: +353 6157452 Fax: +353 6157454 Email: Bernadette.hickey@agriculture.gov.ie	
Zoonoses (salmonella)	Rijksinstituut voor Volksgezondheid en Milieu (RIVM) 3720 BA Bilthoven The Netherlands	Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie	Dr Montserrat Gutierrez Tel: +353 6157222 Fax: +353 6157116 Email: mm.gutierrez@agriculture.gov.ie
Listeria monocytogenes	AFSSA - Laboratoire d'études et de recherches sur la qualité des aliments et sur les procédés agroalimentaires (LERQAP) F-94700 Maisons-Alfort France	Bernadette Hickey Tel: +353 6157452 Fax: +353 6157454 Email: Bernadette.hickey@agriculture.gov.ie	
Coagulase positive <i>Staphylococci</i> , including <i>Staphylococcus aureus</i>	AFSSA - Laboratoire d'études et de recherches sur la qualité des aliments et sur les procédés agroalimentaires (LERQAP) F-94700 Maisons-Alfort France	Bernadette Hickey Tel: +353 6157452 Fax: +353 6157454 Email: Bernadette.hickey@agriculture.gov.ie	
<i>Escherichia coli</i> , including Verotoxigenic E. Coli (VTEC)	Istituto Superiore di Sanità (ISS) I-00161 Roma Italy	Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie	Dr Montserrat Gutierrez Tel: +353 6157222 Fax: +353 6157116 Email: mm.gutierrez@agriculture.gov.ie
Campylobacter	Statens Veterinärmedicinska Anstalt (SVA) S-751 89 Uppsala Sweden	Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie	Dr John Egan Tel: +353 6157138 Fax: +353 6157116 Email: john.egan@agriculture.gov.ie
Parasites (in particular <i>Trichinella</i> , <i>Echinococcus</i> and <i>Anisakis</i>)	Istituto Superiore di Sanità (ISS) I-00161 Roma Italy	Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie	Paul Rafter/Dr Tom Murphy Tel: +353 6157350 Fax: +353 6157361 Email: paul.rafter@agriculture.gov.ie
Antimicrobial resistance	Danmarks Fødevareinstituttet DK-1790 København V Denmark	Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie	Dr Montserrat Gutierrez Tel: +353 6157222 Fax: +353 6157116 Email: mm.gutierrez@agriculture.gov.ie
Animal proteins in feedingstuffs	Centre Wallon de recherches agronomiques (CRA-W) B-5030 Gembloux, Belgium	Gabriel Roe Tel: +353 6302902 Fax: +353 6280634 Email: Gabriel.roe@agriculture.gov.ie	
Transmissible spongiform encephalopathies (TSEs)	The Veterinary Laboratories Agency Surrey KT15 3NB United Kingdom	Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie	Dr Paul Collery Tel: +353 6157203 Fax: +353 6157199 Email: paul.collery@agriculture.gov.ie
Chemical elements in food of animal origin	Istituto Superiore di Sanità Viale Regina Elena 299 00161 Rome, Italy.	Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie	Paul Rafter Tel: +353 6757350 Fax: +353 6157361 Email: paul.rafter@agriculture.gov.ie

Matrix/ Parameter	CRL	Head of NRL	Contact person (if different to Head NRL)
Residues in food of animal origin <i>Beta-agonists</i> <i>Anthelmintics</i> <i>Anticoccidials including Nitroimidazoles</i> <i>Non-steroidal anti-inflammatory drugs (NSAID's)</i>	Bundesamt für Verbraucherschutz und Lebensmittelsicherheit (BVL) D-10562 Berlin GERMANY	(1) Dr John Ferris Tel: +353 6157101 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie (2) Michael O'Keeffe Tel: +353 8059500 Fax: +353 8059550 Email: michael.okeeffe@teagasc.ie (3) Dermot Hayes Tel: +353 505 7000 Fax: +353 505 7070 Email: dermot.hayes@statelab.ie	(1) Paul Rafter Tel: +353 6757350 Fax: +353 6157361 Email: paul.rafter@agriculture.gov.ie (2) Liam Regan Tel: +353 5057062 Fax: +353 505 7070 Email: liam.regan@statelab.ie
Residues of animal origin <i>Stilbenes, stilbene derivatives, salts and esters</i> <i>Antithyroid agents</i> <i>Steroids</i> <i>Resorcylic Acid Lactones (RAL's) incl. zeranol</i> <i>Sedatives</i> <i>Mycotoxins</i>	Rijksinstituut voor Volksgezondheid en Milieu (RIVM) 3720 BA Bilthoven The Netherlands	(1) Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie (2) Dermot Hayes Tel: +353 505 7000 Fax: +353 505 7070 Email: dermot.hayes@statelab.ie	(1) Paul Rafter Tel: +353 6757350 Fax: +353 6157361 Email: paul.rafter@agriculture.gov.ie (2) Liam Regan Tel: +353 5057062 Fax: +353 505 7070 Email: liam.regan@statelab.ie
Residues of animal origin Antibacterial substances, including <i>sulphonamides and quinolones</i> <i>Dyes</i> <i>Carbadox and olaquinox</i> <i>Chloramphenicol</i> <i>Dapsone</i> <i>Nitrofuranes</i>	Laboratoire d'études et de recherches sur les médicaments vétérinaires et les désinfectants AFSSA- F-35302 Fougères France	(1) Dr John Ferris Tel: +353 6157106 Fax: +353 6157197 Email: john.ferris@agriculture.gov.ie (2) Michael O'Keeffe Tel: +353 8059500 Fax: +353 8059550 Email: michael.okeeffe@teagasc.ie	Paul Rafter Tel: +353 6157350 Fax: +353 6157361 Email: paul.rafter@agriculture.gov.ie
Residues of pesticides in cereals	Danish Institute for Food and Veterinary Research (DFVF) DK 2860 Søborg Denmark	Dan O'Sullivan Tel: + 353 6157610 Fax: + 353 6157575 Email: dan.osullivan@agriculture.gov.ie	
Residues of pesticides in food of animal origin	Chemisches und Veterinäruntersuchungsamt (CVUA) Postfach 100462 D-79123 Freiburg Germany	Dan O'Sullivan Tel: + 353 6157610 Fax: + 353 6157575 Email: dan.osullivan@agriculture.gov.ie	
Residues of pesticides in fruits and vegetables	Pesticide Residue Research group Universidad de Almería (PRRG) Laboratorio Agrario de la generalitat valenciana (LAGV) Spain	Dan O'Sullivan Tel: + 353 6157610 Fax: + 353 6157575 Email: dan.osullivan@agriculture.gov.ie	
Pesticides: single residue methods	Chemisches und Veterinäruntersuchungsamt (CVUA) Stuttgart Postfach 1206 D-70702 Felbach Germany	Dan O'Sullivan Tel: + 353 6157610 Fax: + 353 6157575 Email: dan.osullivan@agriculture.gov.ie	