



Successfully implemented Capacity Building Projects



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Selected Twinning Projects, managed by AGES/ with substantial involvement of AGES

Twinning is a European Union instrument for institutional cooperation between Public Administrations of EU Member States and of beneficiary or partner countries. Twinning projects bring together public sector expertise from EU Member States and beneficiary countries with the aim of achieving concrete mandatory operational results through peer-to-peer activities.

Infosite Twinning: [Twinning \(europa.eu\)](https://ec.europa.eu/eip/agriculture/twinning/)

EU's support to capacity building and gradual Union acquis alignment in the veterinary sector of Bosnia and Herzegovina

- Sector: Veterinary
- Country: Bosnia and Herzegovina
- Project period: 01 September 2020 – 31 August 2024
- Project reference: BA 18 IPA AG 02 19 (Twinning Project)

Agriculture and the food industry are important economic sectors for Bosnia and Herzegovina. To support the veterinary authority there, the Twinning Animal Health in Bosnia and Herzegovina was launched.

At the level of the overall objective, the annual programme for IPA 2018 expects modernising and restructuring agro-industrial sector in Bosnia and Herzegovina, including economic empowerment of life in rural areas. For such objective, reaching food safety, veterinary and phytosanitary requirements of the EU and progressing in approximation of the legislation and practices of Bosnia and Herzegovina to the EU rules and standards is of crucial relevance for the country, representing its obligations to implement that stems from the Stabilisation and Association Agreement.

AGES together with VET International France (Agency of the French Ministry of Agriculture) and the Veterinary and Food Safety Department of the Croatian Ministry of Agriculture,

advises and trains the veterinary offices of Bosnia and Herzegovina. The concrete tasks and objectives of the project are to align the laws and regulations in the veterinary field in Bosnia and Herzegovina with the EU standards. This facilitates, among other aspects, the cross-border movement of animal products.

As indicated in the adopted IPA 2018 Country Action Programme, the specific objective is to support the Union acquis alignment and implementation of policy measures in the areas of food safety, veterinary and phytosanitary standards. Animal health and welfare are some of the crucial pillars of agri-food sector responsible among other issues for better competitiveness of agri-food producers, increase of export potential and creating jobs through effective and quality animal disease and welfare control. Accordingly, aiming to reach the abovementioned overall objective, Veterinary sector in BiH, expects that this intervention will specifically result in better gradual approximation, development of efficient legislation and improvement of the policy measures by harmonised operational procedures in the areas of animal health, animal welfare and animal waste/ by products control and management.

Harmonizing Food Safety in Israel with EU legislation

- Sector: Food Safety
- Country: Israel
- Project period: 01 January 2023 – 31 December 2024
- Project reference: IL 18 ENI HE 02 22

The Israeli authority NFS, a department of Israeli Ministry of Health, is in the process of establishing export and import controls. In addition, harmonisation with EU law ("EU acquis") is being sought. In order to further improve trade with the EU, Israel would like to achieve harmonisation with the EU in this area, both legally and operationally. This twinning project aims to train the Israeli authority (NFS) in EU food safety regulations.

The overall objective of this action is to increase the agri-food trade between the EU and Israel. In this context, four specific objectives must be achieved. The 1st objective concerns generally the harmonisation of the Israeli Food Legislation with the EU Acquis. The 2nd and 3rd objectives are focusing on special aspects of food safety, specifically the implementation of HACCP (hazard analysis and critical control points) system according to EU practices and the adoption of EU sampling, monitoring and enforcement practices on food contaminants and pesticide residues. The last objective aims to create a network of open and continuous

communication and data exchange on food safety and quality with relevant services in Europe.

Based on the above, the project will contribute to:

- a. The harmonisation of Israeli legislation regarding food safety and quality issues, labelling of nutrition and health claims, food improvement agents, traceability of domestic, imported and exported agri-food products with the EU relevant framework;
- b. The acquisition of extensive and solid knowledge on HACCP principles, HACCP authorization and inspection system through written guidelines, manuals and training tools;
- c. The adoption of guidelines on monitoring, sampling of foods placed on market in line with EU standards;
- d. The adoption of guideline on monitoring, sampling and enforcement of regulations on food contaminants and pesticide residue;
- e. The adoption of guidelines on environmental sampling and enforcement of regulations on microbiological contaminants in food manufacturers;
- f. The adoption of recommendations on how to improve coordination on food safety between the Israeli NFS and pertinent EU Institutions;
- g. The training of Israeli colleagues on the various information management system;
- h. The NFS participation to EU/Member States activities;
- i. The establishment of a channel for consultations and coordination with the EU and Member States on food safety, quality, and authenticity issues.

Building-up administrative capacity of the Executive Agency for Variety Testing, Field Inspection and Seed Control (EAVTFISC) for Genetically Modified Organism (GMO) control of seed and propagating material moving on the EU and the International market

- Sector: Seed and varieties sector
- Country: Bulgaria
- Project period: 15 December 2009 – 07 June 2010
- Project reference: BG/2007/IB/AG/06/UE/TWL (Twinning Light Project)

The project aim was to support the efforts of EAVTFISC to implement the GMO control in the compliance with EU requirements and practices. Ensuring conformity with the EU validated testing methods and practices, and efficient functioning of the established GMO laboratory to carry out the relevant analyses by well-trained experts as a vital necessity. There was also a necessity of training the Agency's staff involved in the variety testing of candidate-varieties and in filed inspection activities for GMO control of the marketed seed lots subject to certification.

Completion of the project build up the administrative capacity of EAVTFISC for carrying out an effective control of the GMO at the border inspection points, which as part of the entire phytosanitary control is a prerequisite for achieving compliance with the EU regulations relating to monitoring of GMOs in seed. This was an important step towards meeting the criteria of the society in this sensible field – to receive adequate information regarding the measures undertaken for control and limitation of the contamination and protection of the environment for the present and future generations and for protection of human health, for conservation of the genetic diversity according to the bio-geographical characteristics of the country.

Strengthening of the capacities of the Phytosanitary services in BiH (IPA 2009)

- Sector: Agriculture
- Country: Bosnia and Herzegovina
- Project period: 01 September 2013 – 28 February 2014
- Project reference: BA 09 IB AG 01 TWL (Twinning Light Project)

The overall objective of this Project was to ensure high level of public and plant health protection in Bosnia and Herzegovina and to remove trade barriers with the European Union and countries in the region. The Twinning Light Project contributed to the sustainable protection of public and plant health in accordance with the EU standards and thus to overall objective by supporting relevant institutions in Bosnia and Herzegovina to further increase their legislative, institutional, administrative and monitoring capacities and capabilities. The observation of these standards and equivalence with EU procedures and implementing practices is an important prerequisite for the free movement of plants and plant products on the Common Market and within the region.

The specific project purpose of the Twinning Light project focused on increasing the capacities of the phytosanitary service in Bosnia and Herzegovina to control plant health and safety.

The project aimed to build upon the outcomes in the line of EU-IPA and of previous and on-going forms of assistance and projects by further strengthening the technical and administrative capacity in accordance with the aims defined. The focus within the project was on strengthening of the laboratory capacity of the beneficiary laboratories in the country through methodological trainings. In close interaction the BC experts, the Twinning schedules were carefully designed to meet the needs of the participating institutions and to provide the Know-how according to EU and international requirements. Ultimately, the project aimed to a more effective work and the optimised use of existing capacities.

Implementation of Integrated Border Management (IBM)

Serbia

- Sector: Border services
- Country: Serbia
- Project period: 01 September 2009 – 01 February 2011
- Project reference: SR 06 IB JH 01 (Twinning Project)

The overall objective of the Project was to achieve “open borders” but at the same time ensure that Serbia’s borders are controlled and secure with the main focus on facilitating the institutional, operational and procedural reforms within IBM relevant services by assisting the Serbian authorities in implementation of Serbia’s IBM strategy and associated action plan in line with EU standards. Furthermore, as Serbia has applied for EU membership, IBM reforms should be compatible with EU IBM standards and norms. This twinning was one component of a broader IBM agenda and complementary to other on-going or planned EU funded projects in the IBM area.

Becoming a member of the EU remains a strategic goal of the government. Amongst other things, this implies acceptance of EU IBM related standards and rules.

Consequently, the focus should remain as follow:

- Identification of shortages and gaps hampering the border related services from fulfilling their mandates in fundamental areas

- Implementation of the planned re-organization of IBM relevant services
- Drafting and adoption of primary and secondary legislation in the IBM field
- Continued capacity building internally in the IBM services, including continuous education and training
- Implementation of all aspects of the Serbia IBM strategy and the associated Action Plan; ensuring tight and smooth cooperation and coordinating among all services working on IBM matters throughout Serbia
- Ensuring compliance with the EU provisions in the IBM area

Improved Implementation of Acquis in the Area of Food Safety Surveillance

- Sector: Food Safety
- Country: Czech Republic
- Project period: 15 December 2008 – 30 September 2009
- Project reference: CZ/06/IB/AG/08-TL (Twinning Project)

Food safety issues still have a very high profile. Food emergencies have arisen in recent years, globalization affects trade in food and consumers are better informed than ever before. Rapid changes have been reflected by the legislation development as well.

EU tackles this challenge by the initiative called "Better training for safer food". High level provided training focused on food safety topics.

The project proposed training activities focused on application, implementation and enforcement of specific EC Regulations and reflected general food law requirements laid on the official control bodies and food business operators as described in the Regulations.

By definition, the purpose of the Transition Facility is to continue in assistance to the new Member States in their efforts to strengthen their administrative capacity to implement Community legislation and to foster exchange of best practice, as a follow-up of the assistance provided until accession under Phare.

The reason why further assistance in case of the recent EC Regulations mentioned above is needed, in contrast to the old Member States, is that the Czech Republic did not take part in negotiations during preparation of this legislation and therefore, is not acquainted with the

heart of the legislation, its construction and implications to that extent as the old Member States. It created factual disparity, which should be tackled by the proposed project.

The project content could be regarded as a tool, which would enable and contribute to the change from the present to the desired state. The desired state means the situation when the new EC Regulations are used in precise and accurate way, smoothly implemented, the capacity of laboratories and human resources is enhanced and the ability of the Czech Agriculture and Food Inspection Authority (CAFIA) to face the requirements that stem from the EU membership and recent development in the area of food safety is strengthened. Furthermore, it means that CAFIA has the capacity to participate in twinning-out projects focused on applicant countries. Finally, it means that the minor drawbacks reported by the two latest FVO missions are eliminated or at least reduced.

The project activities are aimed not only at issues specified in various EC reports, but also in areas where CAFIA is aware of need for further training and improvement of its activities.

Improving analyses and risk assessments regarding residue pesticides

- Sector: Food safety
- Country: Slovakia
- Project period: 27 November 2008 – 31 May 2009
- Project reference: SK06/IB/HE/01/TL (Twinning Light Project)

The overall objective of the project was ensuring complete and effective protection of consumers from exposure to health risky food products due to residue pesticide content placed on the market (Ensuring Consumer Health Protection and Food Safety).

The majority of the work involved in this project was the actual training of Slovak experts in the areas of risk assessment and analytical issues so that in future they can fully implement the requirements mentioned in the contract.

The work carried out by AGES with the Public Health Authority of the Slovak Republic (PHA SR) it was based on the assessment of the individual activities.

It is considered that scientific experts of BC now have the basic expertise and supporting guidance required to carry out their data evaluation responsibilities.

The mandatory results were as follows:

The capability of PHA experts to evaluate mammalian toxicological data on the active substances and also on the plant protection products resulting in a correct classification and an ability to carry out the acute and chronic consumer exposure assessment, the calculation of NEDI, NESTI and TMDI reached by means of trainings and seminars.

Training materials and MPGs on global harmonised system of classification and labelling and calculations of NEDI, NESTI and TMDI, general evaluation procedures, principles on MRL calculation, recording of scientific evaluations and preparations of EU Monographs (DARs) produced.

Laboratory workers responsible for laboratory analysis of residue pesticides able to analyse all residue pesticides by using methods on the base of EU requirements which determination is mandatory according to the EU law and documents both due to official control and monitoring purposes.

Upgrade of the knowledge of professionals of PHA SR and Regional Public Health Authorities regarding principles of risk analysis in the field of pesticide residues in foodstuffs.

European Food Risk Assessment (EU-FORA) Fellowship Programme

- Sector: Food safety
- Country: Multi-country
- Programme period: 01 April 2022 – 31 December 2026 (twice extended)
- Programme reference: OC/EFSA/ENCO/2021/01

The European Food Safety Agency (EFSA) is an agency of the European Union, responsible for risk assessment regarding food and feed safety. In close collaboration with national authorities in open consultation with its stakeholders, EFSA provides independent scientific advice and clear communication on existing and emerging risks. EFSA is thus an important cooperation partner of AGES at EU level. "Food safety" in this context comprises the areas of risk assessment, risk communication and risk management.

Infosite: [EU-FOA - The European Food Risk Assessment Fellowship Programme | EFSA \(europa.eu\)](#)

The European Food Risk Assessment (EU-FORA) Fellowship Programme is a key initiative of EFSA for ensuring preparedness for future risk analysis needs. The aim of the programme is to increase the pool of food safety risk assessment experts in Europe and stimulate the involvement of Member States in risk assessment, all with the ultimate objective of building a common EU culture for risk assessment. For the implementation of EU-FORA, a central training provider was needed.

AGES has already successfully implemented the first two funding programmes and is now responsible for the current exchange programme. The fellows funded by EU-FORA should have a basic knowledge of food safety, but not necessarily specific to risk assessment. The programme lasts twelve months, with one third of the time spent at a hosting site - usually a national partner agency in the field of food safety – following a working programme. During the remaining time, the fellow works remotely from his/her sending organisation, and attends special training modules designed by the EU-FORA training consortium.

On behalf of EFSA (European Food Safety Authority), AGES Academy is leading a training consortium consisting of BfR, AUA, SGL and SAFOSO. Together with international experts from European and North American partner institutions, our experts developed an interactive training programme for prospective risk assessors along the food chain. The programme

consists of five modules in two versions (two face-to-face modules and three online modules). Currently, the sixth cohort is being trained.

Both the design of the training programme and participation in the Fellowship require a successful application to EFSA. In total, around 100 fellows are already part of EU-FORA. They have formed an alumni club with its own online platform (also developed by AGES).

Structure and method

Each cohort of fellows (15-22 people) goes through the following modules:

Induction training (Parma, Italy, 3 weeks):

- Historical overview of the E.U. food safety system and main EU food safety legislation
- Basic scientific concepts of food safety
- Background and principles of food risk assessment
- Statistical concepts
- Basic epidemiologic principles
- Microbiological risk assessment
- Chemical risk assessment

Module 1 (virtual, 1 week)

- Animal health and welfare
- GMO
- Plant health
- Nutrition
- Regulated products
- Environmental risk assessment

Module 2 (virtual, 1 week)

- Emerging risks
- Applications of OMICs in risk assessments
- Applications of whole genome sequencing in risk assessments
- Nanotechnology
- Risk ranking
- Adverse Outcome Pathway (AOP) and Mode of Action (MoA) and the IATA approach

Module 3 (Parma, Italy, 1 week)

- Risk perception
- Risk participation
- General functions of risk and crisis communication
- Hands-on: risk communication
- Hands-on: crisis communication

Module 4 (virtual, 1 week)

- General introduction and data collection legislative background
- Guidance documents for data reporting
- Data models
- Catalogues
- Reporting tools
- Data validation

AGES as BTSF Focal Point

Better Training for Safer Food (BTSF) is a training initiative of the European Commission.

Infosite: [BTSF ACADEMY](#)

The main objectives of BTSF are to organize and develop an EU training strategy with a view to ensuring and maintaining a high level of consumer protection as well as animal health, animal welfare and plant health; to continuously improve and harmonize official controls in EU countries; to create the conditions for a level playing field for food businesses contributing to the EU's priority for jobs and growth; and to harmonize control procedures between EU and non-EU partners.

The AGES Academy is the focal point and contact person for BTSF stakeholders in Austria. Our experts regularly provide their expertise as tutors in international BTSF trainings.

Contact address for interested parties: btsf@ages.at.

Laboratory training courses offered by AGES

The AGES Academy offers specific in-site training in analytical methods for official use based on international standards especially for authorities and state agencies.

Infosite: [Laboratory practice - AGES](#)

Trainings offered as at 27 February 2023:

Pesticide residues in plant-based food and feed products

The laboratory training takes place in our AGES National Reference Laboratory (NRL) for pesticide residues at the Institute for Food Safety Innsbruck. The training focuses on the analysis of pesticide residues from sample receipt to comprehensive and practical reporting.

Content

In addition to theoretical knowledge and analytical expertise, the laboratory training also describes in detail the legal principles and quality-relevant parameters in an accredited laboratory. Using pesticide multi-methods (LC-MS/MS, GC-MS/MS), the training focuses on the analysis of different matrices from simple plant foods and feeds to more complex foods (meat, eggs, oil, tea, herbs). In addition, analytical quality control and method validation procedures for pesticide residue analysis according to SANTE/11312/2021 are presented. Practical tips and troubleshooting experiences round out the course content.

Veterinary drug residue analysis

The aim of the training is to teach residue analysis for veterinary drugs in animal matrices and animal foodstuffs through a combination of theoretical knowledge and practical application. You will acquire knowledge of the relevant legal requirements for the validation of analytical methods, quality assurance and the evaluation and interpretation of results.

Content

Analysis of residues of veterinary drugs in animal matrices and animal foodstuffs, illustrated by selected methods; validation of analytical methods according to EU criteria (Commission Decision 2002/657/EC); requirements for screening and validation methods according to Commission Decision 2002/657/EC; overview of legislation within the EU; sample collection and management; sample registration via a database system; laboratory infrastructure and qualification of laboratory staff; quality management, proficiency testing; Reporting.

Residue analysis of hormones and hormonal active substances in animal matrices

The aim of this training is to teach the analysis of residues of hormones and hormonally active substances in animal matrices using a combination of theoretical knowledge and practical applications. You will gain knowledge of the relevant legal requirements for validation of analytical methods, quality assurance, and evaluation and interpretation of results.

Content

Analysis of residues of hormones and hormonal active substances in animal matrices, illustrated by selected methods; hormones and hormonal active substances and their metabolites as potential residues; validation of analytical methods according to EU criteria (Commission Decision 2002/657/EC); Requirements for screening and validation methods according to Commission Decision 2002/657/EC; Overview of legal regulations within the EU; Sample collection and management; Sample registration via database system; Laboratory infrastructure and laboratory staff qualifications; Quality management, proficiency testing; Reporting.

Determination of Mycotoxins in Food and Animal Feed

Mycotoxins are fungal toxins. They are natural, so-called secondary metabolites of mold, which have toxic effects on humans and animals or cause mycotoxicosis. Mycotoxins are

largely heat stable and are usually not destroyed during food processing. The effects of mycotoxins can be acute or chronically toxic, depending on the type of toxin. Symptoms of acute poisoning in animals are e.g. liver and kidney damage, attacks on the central nervous system, skin and mucous membrane damage, impairment of the immune system or hormone-like effects. Even quantities of toxins that do not trigger any or only a few symptoms of the disease can be carcinogenic, cause inheritance damage or lead to malformations in the embryo.

That is why mycotoxins, as agricultural contaminants, are at the top of the EU legislative agenda and are continuously monitored by the responsible European authorities.

This five-day intensive training course is held at the AGES National Reference Laboratory at the Institute for Food Safety in Linz. Its objective is to teach the analysis of mycotoxins, ranging from samples to test reports using a combination of theoretical knowledge and practical applications.

Content

You will gain knowledge about the relevant legal principles and framework that validate the analytical methods, quality assurance and the assessment and evaluation of results. Each participant will carry out the relevant procedures on real samples under professional supervision in a fully equipped laboratory.

Evidence of treatment with ionizing radiation

This training provides an overview of the treatment of various foods with ionizing radiation, including information on applications and the current legal situation. Different methods for detecting a treatment with ionizing radiation will be presented and issues of validation, quality assurance and evaluation of results will be discussed.

Content

- Background of food treatment with ionizing radiation (purpose, physicochemical processes, legal aspects)

- Practical training on the detection of a treatment with ionizing radiation by luminescence measurement and electron spin resonance spectroscopy, covering the entire workflow (sample preparation, measurement, data evaluation and reporting)
- Method validation and quality assurance

Determination of contaminants in food (e.g. plasticizers, acrylamide, furan, bisphenol A)

This training provides an overview of contaminants in food including information on their possible sources, health effects and the current legal situation. Various methods for analyzing contaminants are presented and issues of validation, quality assurance and result evaluation are discussed.

Content

- Background and importance of contaminants in various foods
- Practical training on the analysis of contaminants using LC-MS/MS, GC-MS, GC-MS, GC-MS/MS, covering the entire workflow (sample homogenization, sample preparation, measurement, data evaluation and reporting).
- Method validation and quality assurance according to accreditation and EU legal requirements

Next Generation Sequencing (NGS)

An up-to-date overview of Next Generation Sequencing based characterization of bacterial pathogens for outbreak investigation and surveillance.

Content

In a hands-on approach, we will train you in the use of next generation sequencing (NGS) and NGS data analysis (Illumina and Oxford Nanopore sequencing technologies,

assembly, quality control, core genome analysis, strain comparison and drawing phylogenetic trees, resistance genes, virulence genes, plasmids, classical MLST).

Genetically modified organisms (GMOs) – screening, identification and quantification

GMO analysis, from sample preparation to the preparation of a test report, is presented in a very practical way. The training focuses on the screening and quantification of GMOs.

Content

In addition to theoretical knowledge, the training also covers the performance of tests in the laboratory under quality-assured conditions. This should provide comprehensive knowledge on the qualitative and quantitative analysis of GMOs in food, feed and seed. All relevant procedures will be performed by each participant under professional supervision in a fully equipped laboratory on real samples.

Identification of species

The course provides theoretical and practical knowledge in areas where national authorities are confronted with fraudulent activities related to food authenticity and food mislabeling (food fraud).

Content

Species identification - from sample preparation to preparation of a test report - is presented in a practical manner. The training focuses on the identification and differentiation of a variety of animal species commonly used as ingredients in meat and meat products using DNA-based methods. The relevant procedures are performed by each participant under professional supervision in a fully equipped laboratory on real samples. In addition to theoretical knowledge, the training also includes the performance of tests in the laboratory

under quality-assured conditions. Participants acquire comprehensive knowledge of the qualitative analysis of animal species in food.

Detection of radioactivity with the HPGe system in food and water

In this training we teach the basics of measuring radioactive samples with gamma spectrometry on an HPGe detector. You will learn how to operate the software and how to handle the detection system.

Content

In addition to gamma spectrometry, sample preparation and standardized procedures for the entire measurement process are discussed. The basics of analysis software, especially energy calibration and consideration of the entire measurement setup and the resulting detector efficiency will be considered. You will learn about additional software that can be used to create specific nuclide libraries and geometry files required for the individual measurement setup.

Detection of radioactivity with alpha spectrometry in soil, vegetation and water

In this training, you will learn the basics of measuring radioactive samples with alpha spectrometry. You will learn different methods of sample preparation as well as how to interpret and analyze alpha spectra.

Content

The goal of this course is to teach analysis for various radioactive nuclides: from sample to test report, using a combination of theoretical knowledge and practical applications. The course focuses on the determination of $^{239/240}\text{Pu}$, ^{238}Pu , ^{241}Am , ^{238}U , ^{235}U , ^{234}U and ^{210}Po including radiochemical sample preparation. They acquire knowledge of the relevant Austrian and European legal bases and frameworks for the validation of analytical methods,

quality assurance results and the evaluation and interpretation of results. Participants will be able to perform sample preparation by either ion exchange, extraction chromatography or auto-deposition. The procedures will be performed by each participant under professional supervision in a fully equipped laboratory on real samples.

Radioactivity by liquid scintillation counting in soil, food and water

In this training we illustrate the basics of measuring radioactive samples with liquid scintillation counting using a Quantulus 1220 system. You will learn various methods of sample preparation as well as how to interpret and analyze alpha and beta spectra.

Content

The goal of this course is to teach analysis for various radioactive nuclides: from sample to test report, using a combination of theoretical knowledge and practical applications. The course focuses on the determination of ^3H , ^{226}Ra , ^{228}Ra , ^{210}Pb , ^{210}Po , ^{222}Rn , ^{90}Sr , ^{89}Sr and Gross a+b measurements including radiochemical sample preparation. They acquire knowledge of the relevant Austrian and European legal bases and frameworks for the validation of analytical methods, quality assurance results and the evaluation and interpretation of results. Participants will be able to perform sample preparation using either co-precipitation and extraction methods or ion exchange and extraction chromatography. The procedures will be performed by each participant under professional supervision in a fully equipped laboratory on real samples.

Heavy metals in food contact materials

This course deals with the analysis and evaluation of the release of metals from food contact articles. In addition to theoretical knowledge and analytical expertise, the laboratory training also covers in detail the legal principles and quality requirements of an accredited laboratory.

Content

Each participant performs all relevant procedures on real samples under professional supervision in a laboratory for routine analyses. Migrates are prepared from various kitchen items, e.g. ceramic, glass, enamel or metal, using food simulants under defined time/temperature conditions, which are then analyzed for their metal concentration using ICP techniques. The concentrations in the migrates are then converted to the samples and the results obtained are finally evaluated from a legal and toxicological point of view.

Analysis of heavy metals in food and feedstuffs

This course takes place at the National Reference Laboratory for Heavy Metals in Food and Feed in Linz, Upper Austria. The five-day course focuses on a combination of theoretical background knowledge and practical skills in elemental analysis.

Content

You will acquire knowledge of relevant standards and laws, method validation and analytical expertise in different instruments (ICP-MS, ICP-OES and AAS). Each participant performs the analysis of real samples and acquires practical knowledge of the entire analytical procedure - from sample preparation and digestion to measurement and evaluation of the resulting data.

- Sample management via LIMS
- Sample preparation and microwave digestion
- Intensive training in routine methods, including possible QA strategies
- Evaluation of the acquired data and possible interferences
- Evaluation of results taking into account relevant EU legislation
- Discussion of specific requirements that participants may have.
- Review of relevant standards and EU directives
- Overview of how the NRL works

Iodine in food using ICP-MS

This course takes place at our AGES National Reference Laboratory for Metals and Nitrogenous Compounds in Food and Feed in Linz, Upper Austria. The five-day course focuses on a combination of theoretical background knowledge and practical skills in the analysis of iodine by ICP-MS.

Content

Participants will acquire knowledge of relevant standards, method validation and analytical expertise in the determination of extractable and total iodine by ICP-MS in food and feed. Each participant performs the analysis on real samples and acquires practical knowledge of the entire analytical procedure - from sample preparation and extraction or digestion to measurement and evaluation of the resulting data.

- Sample management via LIMS
- Sample preparation, extraction and digestion
- Intensive training in routine methods
- Evaluation of the acquired data and possible interferences
- Possible QA strategies and method validation
- Discussion of specific requirements that participants may have.
- Review of relevant standards and EU directives
- Overview of how the NRL works

Release of primary aromatic amines, melamine and formaldehyde from plastic kitchenware

This training course focuses on the analysis and evaluation of the release of primary aromatic amines, melamine and formaldehyde from plastic kitchen equipment. In addition to theoretical knowledge and analytical expertise, the laboratory training course also covers in detail the legal principles and quality-relevant parameters in an accredited laboratory.

Content

Each participant performs all relevant procedures on real samples under professional supervision in a laboratory for routine analyses. Migrating foods are prepared from various kitchen utensils, e.g. melamine-formaldehyde resins and nylon, under defined time/temperature conditions, which are subsequently analyzed for their release of primary aromatic amines, melamine and formaldehyde by LC-MS/MS, GC-MS and spectrophotometric methods. The concentrations in the migrations are then converted to the samples and the results obtained are finally evaluated from a legal and toxicological point of view.

Determination of the commercial parameters of honey

This five-day intensive course will take place in the Department of Food Analysis and Toys at our Institute of Food Safety in Linz. The aim is to introduce the analysis of commercial parameters of honey, ranging from samples to test reports, using a combination of theoretical knowledge and practical applications.

Content

Participants will acquire knowledge of the relevant legal principles and framework for validation of analytical methods, quality assurance and the assessment and evaluation of results. Each participant performs the relevant procedures on real samples under professional supervision in a fully equipped laboratory. The framework of the course is the analytical parameters of the Honey Regulation (Directive 2001/110/EC).

Determination of sugars and sweeteners in food

This five-day intensive training course takes place at our Institute for Food Safety in Linz. The aim is to teach the analysis of sugars and sweeteners from sample to test report with a combination of theoretical knowledge and practical application. The analysis of sugars is an important part of nutritional analysis. In particular, testing for specific sugars is becoming increasingly important in the evaluation of adulterated products (e.g. honey).

Content

Participants will gain knowledge of the relevant legal principles and frameworks that validate analytical methods, quality assurance, and the evaluation and interpretation of results. Each participant performs the relevant procedures on real samples under professional supervision in a fully equipped laboratory.

Determination of trans fats in food

This five-day intensive training course will take place in the Food Analysis and Toys Department of our Institute for Food Safety in Linz. The aim is to demonstrate the analysis of fatty acid profiles in foods with special interest in unsaturated fatty acids with double bonds in trans configuration from sample to test report with a combination of theoretical knowledge and practical application. In addition, the analysis of other characteristic factors of oil samples is also included in the course.

Content

Participants will gain knowledge of the relevant legal principles and framework for validation of analytical methods, quality assurance, and evaluation and interpretation of results. Each participant performs the relevant procedures on real samples under professional supervision in a fully equipped laboratory.

Determination of PAHs in food and feedstuffs

This five-day intensive training course takes place at our Institute for Food Safety in Linz. The aim is to teach the analysis of PAHs from sample to test report with a combination of theoretical knowledge and practical application. The analysis of PAHs is an important part of food and feed analysis. In particular, the analysis of EPA-PAK in feed or EU-PAK in food will be presented using HPLC/FLD.

Content

Participants will gain knowledge of the relevant legal principles and frameworks that validate analytical methods, quality assurance, and the evaluation and interpretation of results. Each participant will perform the relevant procedures on real samples under professional supervision in a fully equipped laboratory.

Determination of fat-soluble vitamins in food and feedstuffs

Content

You will gain knowledge of the relevant legal principles and frameworks that validate analytical methods, quality assurance, and the evaluation and interpretation of results. Each participant performs the relevant procedures on real samples under professional supervision in a fully equipped laboratory.

Determination of artificial food colors in food

The participants acquire extensive, practical knowledge of analytical methods for determining artificial colours in food. The theoretical and legal background of the use of colourings in various food, is conveyed in a practical way.

Content

The rules for the use of approved colourings in foods, are laid down in the European Food Additives Regulation. As part of the training offered, theoretical explanations, practical demonstrations and independent exercises for checking the maximum levels in food, are carried out.

In the practical part, the participants carry out the sample preparation for various foods, the measurement with HPLC-DAD and the evaluation of the results independently.

Quality assurance and the assessment of proficiency test results, are discussed.

Analysis of triphenylmethane dyes in fish and fish products

The laboratory training for triphenylmethane color residues takes place in our AGES National Reference Laboratory (NRL) at the Institute for Food Safety Innsbruck. Relevant validation criteria, sample homogenization procedures as well as residue analysis with a self-developed and validated LC-MS/MS method will be clearly presented and offer the opportunity to gain practical experience.

Content

In this course week, in addition to theoretical knowledge and analytical expertise, legal principles and quality-relevant parameters in an accredited laboratory are presented. Validation and analytical method performance criteria according to Commission Directive 2002/657/EC will be of particular importance. Detailed method development approaches and experiences from routine analysis of TPM dyes in fish and fish products will give the trainee a comprehensive picture on this topic.

Detection in cyanide residues in food and feedstuffs

In addition to the theoretical background of cyanide analysis, the practical implementation of the analytical methods is carried out. The participants acquire knowledge about the relevant legal basis and the framework of validation of the present analytical methods, quality assurance and result evaluation.

Content

In the European regulation, maximum levels for cyanides in food and feed are specified (e.g. apricot kernels, linseed, etc.). Furthermore, regulations for the import of apricot kernels have been published. In addition to free hydrocyanic acid, as found in spirits, cyanogenic glycosides (hydrocyanic acid bound to glycosides) also occur in food and feed. In the practical course, differences in the analysis of free and bound hydrocyanic acid will be discussed theoretically. In addition, each participant will analyze real samples under expert guidance in the fully equipped laboratory.

Dough rheology and influence on baking quality

The course provides theoretical and practical knowledge on rheological dough measurements (extensograph and farinograph) and the interpretation of the results on the baking properties of wheat.

Content

Wheat flour specifications, especially with regard to dough texture, are of great importance for bakeries and are usually provided by mills. Besides quality parameters such as protein, gluten content, sedimentation values, rheological parameters are discussed and theoretically evaluated. The two most important methods for flour characterization and quality assessment in baking are the so-called farino- and extensograph. The training includes introduction and practical experience with the mentioned devices.

Different flour qualities are tested and the results are discussed in relation to baking quality and specific product requirements (e.g. rolls, frozen dough products, cookies). In addition, the influence on the ripening of wheat flour will be considered. In summary, the participants will obtain a comprehensive technical knowledge.



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