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CONFERENCE PAPER

EMERGING RISK IDENTIFICATION SYSTEM - ERIS INFORMATION EXCHANGE AND NETWORKING

The Netherlands and Romania

Overview:
This paper describes the initiative to set up a new system to identify emerging, or unforeseen risks to food safety. No such risk management system, to identify new or unforeseen risks, has previously been developed.

In co-operation with the EU, FAO and WHO, the Netherlands is trying to set up such a system and to make it work for all. This paper explains the system, how new or unforeseen risks can be identified, and how the system might develop and operate in the future.

The success of this new system, called 'Emerging Risk Identification System' (ERIS), depends on regular input on all relevant aspects of food safety. Validated (and even non-validated) scientific information from every country (ministries and research institutes) will be crucial for the success of this new system.

Co-operation and input of all countries is needed to make this system operational. The PEC provides the opportunity for review of this stage of ERIS, to gather input and discuss the initiative further, throughout the European region.

1. Background

An 'Emerging Risk Identification System' (ERIS) for food safety will allow risk assessors to identify new and unforeseen risks to food safety and therefore to public health, and alert risk managers to these at an early stage. Through early identification and recognition of potential new risks, timely management measures can be taken to avoid emergencies. An Emerging Risk Identification System will only be effective if it is internationally introduced, and implemented in a harmonised way.

With the European Union's Rapid Alert System (RAS EU) Member States can inform each other about known potential food safety risks. There are standards for many hazards (pesticides, contaminants) and if these are found to have been exceeded in data monitoring, the RAS is

activated. Such irregularities can be detected by nationally and internationally harmonised monitoring and survey programmes. One example is the national 'Residue Programme' that is set up by the European Commission and has to be implemented by each EU Member State.

The Eastern European countries also have monitoring systems to check for known food safety risks. Romania, for instance, has an information system that receives input from local and national veterinary networks, as well as veterinary border posts. Romania is striving to implement national measures in conformity with EU legislation. Multilateral organisations such as FAO and WHO, also have an alert system for signalling food supply problems on human and animal health, and known food safety risks on human and animal health.

All these systems, however, concern *known* food safety risks. Worldwide there is no system that allows countries to identify unknown food safety risks. The purpose of ERIS is the early identification of potential new risks or unforeseen risks, so that action can be taken in time to avoid a food safety crisis. ERIS will focus on *new and unforeseen risks* and not with the *recurrence of known risks.*

There is no international system, as yet, that provides a survey of validated or ongoing research, and indicates whether or not new food safety risks are to be expected. A systematic approach could warn risk assessors at an early stage and allow risk managers to anticipate potential risks, by commissioning further research or adapting policy.

This paper will describe:

- ERIS: A new risk management instrument;
- Present stage of the ERIS-project
- Involved organisations and communication
- The European Food Safety Network (EFSN) as part of ERIS
- Possibilities for setting up ERIS and EFSN in Eastern European countries - the experiences of Romania

In addition to this Conference paper, the Dutch delegation to the 'PAN-European Conference on Food Safety' will report the results of pilot projects carried out since September 2001. A demonstration of software that is especially tested for the ERIS system will be presented. This software collects and processes information. Furthermore an overview of possible indicators[1] which could (in)directly pose new or unforeseen risks to food safety will be identified and presented for discussion.

2. Emerging Risk Identification System: A new risk management instrument

ERIS is a risk management instrument to collect, combine and signal new[2] and unforeseen[3] risks to human health in an early stage. The objective of ERIS is to identify unknown potential food

[1] Indicators: Indicators are measurable parameters that refer to a discipline (like the environment) and can be (in)directly related to food safety problems by a change of state. See example.

[2] A new risk is a risk that has been examined and determined by scientific researchers and is based on scientifically validated or non-validated results. Results of the risk assessment show that this new risk (probably) has negative effects on human health. New risks might be a new virus, new bacteria, new prions, new mycotoxins or new plant toxins.

[3] An unforeseen risk is a risk that already exists in areas with other environmental conditions (temperatures/moistness) or in other types of food products. Unforeseen risks can be known viruses, bacteria, prions, mycotoxins, plant toxins, or biotechnological effects.

safety risks in an early stage so that action can be taken in a timely manner. In order to achieve this an interdisciplinary approach is taken to collect, combine and analyse signals in a structural way, throughout the food supply chain. The system should support knowledge-based food policy and will be the basis for scientific food safety management recommendations.

This systematic approach would give risk assessors timely warning and allow risk managers to anticipate potential risks and initiate further research, or adapt policy. It is important that risk assessors and risk managers respond adequately to these warnings and do not try to conceal potential new risks from the public.

The organisational structure below shows that ERIS receives its input from different scientific sources. This information can vary between disciplines (e.g. environmental science, animal health, regulations,) and research institutes. It is most crucial that for each discipline, concrete indicators are identified which could pose new food safety risks by changing their state.

> **Example of a possible influence from an indicator:** As a consequence of global warming (discipline: environmental science) there is a risk that temperatures and humidity (indicators) in Europe will change. Such changes may well have lasting consequences on the emergence of new or more mycotoxins, which can pose new risks to food safety in this region of the world. In this case temperature is an indicator

Table 1: Some additional disciplines and related indicators.

Discipline:	**Indicator:**
Environmental science: - Climate - Soil	? Temperature ? Humidity ? Erosion ? Soil quality
Production process:	? Nature of storage ? Duration of storage ? Humidity ? Processing techniques
Management instruments:	? National legislation ? (inter)national legislation ? enforcement ? HACCP
Veterinary medicine:	? Animal diseases

3. Present stage of the ERIS project

The conditions for setting up an optimally functioning ERIS are quite complex. It is important that at this stage all relevant information is gathered about existing systems and about relevant scientific data, and experts that could support ERIS. The project is currently in the inventory stage.

The Netherlands has divided the ERIS project into 4 different sub-projects:

1. An inventory of indicators which could pose (in)direct new risks to food safety by changing their state. National and international experts on risk management, risk

assessment, consumer organisations and industry and countries/international organisations will be consulted to give their input and contribute to the success of ERIS.

2. Development and adaptation of a powerful software tool to support the goals of the project. This software must be a search engine that must fulfil various functions, which will form the most essential basis for an optimal working ERIS. This system must be able to systematically collect information on scientific data and scientific experts, and to analyse and signal new information about indicators in relation to food safety risks.
3. The scientific sources of input for ERIS have to be identified and approved by scientific experts from different disciplines and countries. The expertise of the European Food Safety Network (EFSN) (See section 5. below) will therefore be tapped into and possibilities will be explored to expand and refine EFSN.
4. This new way of thinking and informing risk assessors and risk managers at an early stage must become widely accepted. The Netherlands is willing to contribute actively to this process of acceptance. We would like to communicate with all stakeholders (e.g. EU/WHO/EU/consumer organisations/food industry) about this new and systematic approach to risk communication between risk assessors and risk managers.

In March/April 2002 the inventory study will be evaluated and a decision will be taken about a European, or even worldwide implementation of ERIS.

4. Organisations involved

At the moment different organisations are contributing their general and specific knowledge to the four sub-projects above. These are:

- The Dutch ministries and research organisations concerned
- Representatives of consumer organisations and the food production business in and outside the Netherlands
- European Commission
- Food and Agriculture Organisation (FAO)
- World Health Organisation (WHO)
- Romania (Ministry of Agriculture).

5. The European Food Safety Network as part of ERIS

The European Food Safety Network (EFSN) is a joint activity of independent government-linked institutes, managed by a 'Core Planning Group' consisting of representatives from Denmark, France, Germany, Ireland, the Netherlands and the United Kingdom. The secretariat is at The State Institute for Quality Control of Agricultural products (RIKILT) in The Netherlands.

The aim of EFSN is to improve contacts between scientific experts, to achieve a more rapid and effective information exchange and improve the availability of mutual assistance in case of a problem.

EFSN is a database maintained by public institutes, which are active in the area of food safety, and some scientific experts. At the moment 12 countries within the EU are participating. The EFSN database can be used as a starting point for the network of scientific experts for ERIS. In the near future the EFSN secretariat is planning to expand the database to:

- include scientific institutes and experts of other disciplines which are (in)directly related to food safety;

- refine the background of the scientific experts (Curriculum Vitae, related scientific articles) who are (in)directly related to food safety.
- Countries inside and outside the EU.
- Institutes outside the public domain that may be invited to participate in specific activities (working groups, committees).

6. Possibilities for setting up ERIS and EFSN in Eastern European countries: comments from Romania

The Romanian government welcomes the initiative for the development of ERIS and is willing to take part in this project. The present organisations involved are from the Romanian veterinary and food safety network work according to a ´pyramid´ structure, in which all information obtained in local laboratories or services is transferred to central Institutes for monitoring.

At the current time Romania is striving to bring its legislation into harmony with EU legislation. Romania is willing to participate in ERIS and EFSN networks, and will provide the names of experts in veterinary, biochemical, chemical, biological and other relevant sciences, who could provide relevant information and data.

Romania is willing to serve as a contact country for ERIS and EFSN for the eastern European region, and will support an open and transparent information exchange, as well as striving for harmonised implementation.

Romania encourages other East European countries to participate in ERIS and EFSN; and to comply with the requirements and the new concepts regarding food quality and food safety.

7. Recommendations

ERIS is at an inventory stage till April 2002, at that time a decision will be taken on implementation. The proposed recommendations are divided into recommendations during the inventory stage and during implementation stage.

Conference participants are invited to:

7.1 Give their opinions to the objectives and the use of a new manner of thinking by involving different relevant disciplines and a new systematic approach, by using ERIS.

7.2 Give their opinion whether ERIS could improve the communication between risk managers and risk assessors within a country or even between different countries.

7.3 Make suggestions and recommendations to ensure ERIS meets the needs of users (risk managers and risk assessors) for exchange of information.

7.4 Consider the benefits of setting up a European or even worldwide ERIS-system by providing and sharing national validated (or non-validated) information on scientific research and/or scientific experts to anticipate on possible new or unknown food safety problems at an early stage.