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**STATISTICAL OFFICE OF THE
EUROPEAN COMMUNITIES
(EUROSTAT)**

**FOOD AND AGRICULTURAL
ORGANISATION (FAO)**

**ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT
(OECD)**

**HOW TO CAPTURE CONCEPTS OF FOOD SAFETY IN STATISTICAL TERMS:
A FRAME WORK FOR GENERAL DEFINITIONS**

Invited paper submitted by Eurostat*

1. Introduction

1.1 Background

1. The food and behavioural crisis sparked off by mad cow disease was followed by awareness that the food we buy contains unknown ingredients. Concerns spread to all areas of the environment, fuelling major food scares and a desire for objective information.

1.2 The Commission's response

2. The Commission responded immediately in 1997 by separating the units in charge of legislation and risk management from those responsible for monitoring and evaluating risks, thus bolstering DG SANCO. Eurostat had already been approached and asked to publish, in conjunction with DG SANCO, a review of consumer statistics.

*Prepared by Ms Ana Maria Martinez Palou, Eurostat.

3. With the help of the European Parliament, the Commission also introduced legislation in the food sector and set up a "European Food Safety Authority ", one of its tasks is to collect existing information.

4. At the end of 2001, the CEIES¹ was convened to look into this matter, and a picture emerged of an acute need for information. The Director-General of Eurostat undertook to create a structure to meet this information need in a spirit of co-operation and openness that would allow economies of scale to be achieved. 1 March 2002 saw the creation of Eurostat Unit F5, "Food safety, rural development and forestry".

5. One of the top priorities in the Commission's 2002 programme is food safety, an issue that is also linked with sustainable development against the broader backdrop of managing resources and means.

2. General

6. The object of food safety statistics is to provide a framework for the quantitative evaluation of data on the safety of products used for human or animal consumption on the territory of the Member States, irrespective of whether these products are manufactured within the EU or imported.

7. They should allow us to gauge whether the available quantities suffice in the long term. They should also measure not just compliance with food safety regulations but also the individual characteristics of products that comply. Statistics must thus reflect the match between available quantities and the demand for safe products, providing qualitative information on these products.

8. They should also appear at regular intervals, to allow changes to be charted, and should be presented at the appropriate geographical level. They should also provide a measure of people's access to safe food, i.e.

- Physical access, meaning the physical proximity of commercial outlets;
- Financial access, i.e. the availability of sufficient resources.

Data will be

- Available immediately after aggregation of national data;
- Available in certain Member States and then extended to others;
- Unavailable, in which case additional investigations will have to be conducted.

3. The legal framework

9. Article 153 of the Treaty states that "the Community shall contribute to protecting the health, safety and economic interest of consumers, as well as to promoting their right to information...". Regulation (EC) No 178/2002 of the European Parliament and of the Council

of 28 January 2002² laying down the general principles and requirements of food law sets up the European Food Safety Authority and sets out the procedures to be followed to ensure that foodstuffs are safe.

10. This Regulation applies to all stages of production, processing and distribution of food and animal feed. The concept of traceability covers management of the food chain as a whole. The impact of materials and articles in contact with food, animal feed and other agricultural inputs are also covered. Imports are subject to the same measures as are applied to food produced within the Community.

11. Food safety statistics thus cover the safety of food and animal feed.

Article 2 defines food as follows:

"Food" (or "foodstuff") means any substance or product, whether processed, partially processed or unprocessed, intended to be, or reasonably expected to be ingested by humans.

"Food" includes drink, chewing gum and any substance, including water, intentionally incorporated into the food during its manufacture, preparation or treatment.

It includes water after the point of compliance as defined in other directives.

This definition excludes animal feed, which is dealt with separately.

12. Council Regulation (EC) No 1257/1999³ of 17 May 1999 on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF) also attaches great importance to food safety, especially:

- Article 2 (scope) - "Support for rural development, related to farming activities and their conversion, may concern...the improvement of product quality";
- Title II.

4. The fields concerned

13. Monitoring food safety means monitoring security of supply, product safety and product quality.

4.1 Security of supply

14. This involves drawing up an overall picture of the availability of sufficient resources, access to these resources and their reproducibility:

- The long-term nature of production and the preservation of the sources of supplies;
 - Water;
 - Seeds;

- storage capacities;
- lack of potential risk.

- Availability of supply of various products in terms of market equilibrium and external trade;
- People's access to these products;

- existence of sufficient resources;
- existence of a suitable commercial distribution network.

4.2 Product safety

15. Products are deemed safe if they meet the standards and regulations currently in force. It is this production "standard" that applies to products at all stages of production, "from farm to fork":

- Production and storage on the farm;
- Processing by the agri-food sector;
- Transportation and storage;
- Distribution and sale to consumer.

16. At each of these stages, unfit products should be identified and withdrawn from the market, and an evaluation produced of the impact of added products such as additives, flavourings and other technological aids. Whilst not all of these products are necessarily agricultural, they are all designed for consumption.

17. One of the things to be done is to monitor products which are to be destroyed or which require specific additional processing before they can be incorporated into the production process or consumed. In addition to evaluations of the quantities concerned, monitoring notifications of information on hazardous products will cast light on certain aspects of foodstuffs and animal feed. At this stage, the **controls** arranged by the authorities and by enterprises play a crucial role in product safety and the way products are perceived by consumers.

4.3 Products with distinctive marks

18. Within "standard" production, certain products bear markings that set them apart from others. This marking implies a message and allows the product to be recognised by the consumer. At the top end of the scale are products that carry a label which indicates a type of soil or cultivation method. This is true of organic farming and all vintage and other such markings. Other labels include a description of where the product was processed and marketed. Finally, there are products that stand out as a result of the special characteristics of reproduction: genetically modified organisms (GMOs) and clones.

19. For each of these products, and regardless of quantitative considerations, attention should also be paid to their economic impact, especially:

- Cost price;
- Consumer price;
- Value added;
- Employment.

4.4 Materials coming into contact with products

20. For both animal feed and food for human consumption, materials and objects coming into contact with any part of the production chain have an impact that must be measured. Contamination may be physical (packaging, radioactivity, oxidation, etc.) or biological (decomposition, mycotoxins, etc.) or it may be caused by product residues (pesticides, medicinal products, etc.). It is thus essential that this **food chain** be the subject of investigation.

21. The **checks** carried out on behalf of enterprises will be taken into consideration, whether these are carried out by the enterprises themselves or by certification companies. Under the terms of Directive 93/43/EEC⁴ on the hygiene of foodstuffs, the industrial operators, who are responsible for the quality and safety of the products they manufacture, must carry out checks within their own enterprise. This initial check, which Member States must ensure is carried out, is verified by the European Commission. This is done by the Food and Veterinary Office in the Member States and in non-member countries exporting their products to the European market.

5. **Conclusion**

22. Following the agreements made with the other Directorates General of the European Commission, Unit F5 of Eurostat has already drawn up an inventory of existing data in the fields described above. The authorities in the Member States, Candidate Countries and Acceding Countries are required to carry out the relevant work in this field.

23. The work done during the meeting of the working party held in Luxembourg 10 and 11 April 2003 has allowed Eurostat to identify the priority areas within this large field. Eurostat foresees, through meetings of experts, to investigate in more detail statistics concerning controls, residues, risk assessment and classifications. Our aim is to set up a reliable and regularly updated database to follow food safety in Europe through the relevant indicators.

NOTES

¹ Committee on Statistical Information in the Economic and Social Spheres.

² OJ L 31, 01/02/2002.

³ OJ L 160, 26/06/1999.

⁴ Council Directive of 14 June 1993 – OJ L 176, 19.7.1993.

ANNEX I

Inventory of data - Questionnaire sent to Member States and Candidate Countries

Food Safety list of items

Thematic groups

1. Food and feed production, prices and international trade

This group contains information about the production of food and feedingstuffs, international trade, prices and other related economic data of the food chain. A special section is elaborated for information about the national systems and approaches to organic farming, marks of quality and Genetically Modified Organisms (GMOs).

Some of this data is already available within Eurostat but other data focussed on food safety, at national or regional level could be required.

1.1 Conventional agricultural production, and inputs

- Standard crop, animal and fish production;
- Prices of food (farm-gate prices of food in particular);
- Production and prices of animal feedingstuffs (straight and compound, with particular attention to be paid to meat-and-bone meal);
- Seeds (certified seeds in particular);
- Fertilisers;
- Biocides (pesticides in particular).

1.2 Industry, transport and distribution of food and feed

Some of the data are already available within Eurostat. Nevertheless, it is important to highlight the coherency between data on the food industry and data on the agricultural industry, at sector level.

- Data related to the production of the food processing industry;
- Data related to prices at all stages (apart from production);
- Data related to imports and exports;
- Data related to packaging;
- Data related to transport (e.g. transported quantities by means of transport and distance);
- Other industries:
 - Homogenised food preparations and dietetic food (15.88 NACE code Rev.1.1);
 - Food products enriched with vitamins, proteins (15.89 NACE code Rev.1.1);

- Food additives, flavours (aromas) and processing aids (chemical industry, manufacture of essential oils 24.63 NACE code).
- Data related to distributive channels (traditional retail; big distributive channels, ...).

1.3 Organic farming, integrated agriculture and their products

- Organic farms and breeding;
- Area of organically farmed land and area in conversion;
- Number of animals (heads);
- Processors of organic products;
- Organic crop and animal production (Products with “Organic farming -EEC control system” label);
- Organic Seed production;
- Trade of organic products;
- Prices of organic products (at all stages);
- Distribution outlets for organic produce (e.g. specialised shops);
- Data related to integrated agriculture (a national definition is required).

1.4 Genetically Modified Organisms (GMOs) and cloning

- Trade in GMO seeds and GMO products (imports);
- GMO labelled animal feedingstuffs;
- Authorizations for biotechnology experimentation;
- Products with GMO related labels (e.g. data about sales of products with “GMO-free” label);
- Information about eventual data related to cloning (e.g. imports).

1.5 EU marks/labels of quality production: Traditional and regional specialities; national quality labels

Number of producers involved in registered denominations, certified quantities, agricultural production destined for quality production; market value of quality production; export and import; prices at all stages.

- Products with Protected Designation of Origin (PDO) label;
- Products with Protected Geographical Indication (PGI) label;
- Products with Traditional Speciality Guaranteed (TSG) label;
- Quality wines produced in specified regions.

Possibly data related to:

- Products with the Integrated Agriculture label;
- National or regional quality labels; private quality labels (like quality labels of producers' Consortia, e.g. European Quality Beef label, Reg. 1318/93/EEC,

quality labels of inter-professional organisms, commercial quality labels of distributive chains, regional quality labels).

1.6 Unfit production

Data related to production which is to be destroyed or which requires specific additional treatment before it can be incorporated into the production process or consumed:

- Treatment of meat-and-bone meal:
 - Quantities of risk material produced;
 - Quantities produced by risk class: high (e.g. animals that died on farm, which must be destroyed with normal procedures); low (slaughtering waste, which could be destined to meat-and-bone meal with additional treatment); specific (material with specific risk for BSE, which must be destroyed as special waste);
- Quantities destroyed;
 - Reuse of low risk material in meat-and-bone meal (allowed for pigs, fish feeding and pet food);
- Seeds and plants contaminated by GMO:
 - Quantities of seeds or plants contaminated;
 - Quantities of seeds or plants to be destroyed as special waste (contaminated by not authorised GMO);
 - Quantities of plants to be destroyed with normal procedures (contaminated by authorised GMO);
 - Quantities of seeds contaminated by authorised GMO, which are not destroyed but sold for further processing (excluding organic sector and baby food).

Data related to withdrawals from the market for phytosanitary reasons, veterinary reasons, food safety reasons, not normalisation (calibre) reasons:

- Quantities of goods withdrawn from the market;
- Quantities re-employed in non food industries (cosmetics, varnishes, etc);
- Quantities destroyed.

2. Group: Animal health and welfare

2.1 General information

- Positive cases of illnesses;

- Information about the implementation of the animal register (database with: the number of animals registered, national and imported, by species, by breeder, by regions; events in each breed (births, deaths, purchases, sales, etc.); information about each animal (feeding, veterinary interventions);
- Animal product food processing establishment with EU approval (allowed to trade in all EU) and without EU approval (only for local commercialisation).

Sectors involved:

- Fresh meat (Dir. 64/433/EEC);
 - Fresh poultry meat (Dir. 71/118/EEC);
 - Meat products (Dir. 77/99/EEC);
 - Minced meat and meat preparations (Dir. 94/65/EC);
 - Egg products (Dir. 89/437/EEC);
 - Live bivalve molluscs (Dir. 91/492/EEC);
 - Fishery products (Dir. 91/493/EEC);
 - Rabbit meat (Dir. 91/495/EEC);
 - Game meat (Dir. 92/45/EEC);
 - Milk (Dir. 92/46/EEC).
- Animal transport (e.g. number of transported animals by means of transport; country of origin, transport duration; deaths during transport).

2.2 Animal labelled production

- Adoptions of a voluntary system of bovine meat labelling or specifications approved (Reg. 1760/2000/EC);
- Controls on the compulsory labelling of bovine meat and bovine meat products (Reg. 1760/2000/EC).

3. Group: Controls on food, feed and traceability

This group contains data on food control activities (both official and in-house control) and enforcement of HACCP (Hazard Analysis Critical Control Points) systems in the production chain.

3.1 Official food controls

This data is based on EU annual recommendations. Reporting is guided by the EU Vademecum. Contact networks in the Member States are available. Reporting systems contain the following data:

- Sampling and laboratory analyses;
- Control visits and audits;
- Control of in-house controls;

- Legal actions.

3.2 Special Inspections

This data is reported partially to the EU. Some guidelines for reporting are available.

- Veterinary Inspections;
- Food Hygiene Inspections;
- Seeds Inspections;
- Plant Health Inspections;
- Inspections of controls on marketing/use of plant protection (pesticides) products;
- Organic Farming Inspections;
- Traceability Inspections.

3.3 HACCP systems

This data is based only partly on present EU legislation. Data is needed for indicators that describe the status of HACCP implementation in food chain.

- Implementation rate in official food control;
- Implementation rate in in-house control;
- Training of inspectors;
- Training of staff in establishments (farms, food industry etc.).

4. Food consumption

This group contains data used for national food balance sheets and results of food consumption studies based on different groups of the population. Some of these data are already available within Eurostat.

4.1 General data on food consumption

Food consumption data is used traditionally for an evaluation of nutritional status. Data is also needed for an exposure assessment to chemicals and contaminants. Additional information is needed from individual food consumption data (number of persons, age, sex, high percentile consumption, consumers only, length of surveys, grouping system of foodstuffs etc.):

- Apparent consumption (resulting from Food Balance Sheets);
- Population and household data;
- Individual data (Food records, diaries, food frequency, 24-hour dietary recalls).

4.2 Data on consumption of certified or labelled products

Follow-up systems of consumption, either belonging to Group 4.1 or other existing systems or systems under development.

- Consumption of organic products;
- Consumption of labelled products and quality wines (see 1.5);
- Consumption of products with GMO related labels.

5. Product quality and consumer safety

This group contains data on monitoring and surveillance studies and RASFF (Rapid Alert System for Food and Feed) announcements of food and feed. This group also contains data on food poisonings and the results of regular exposure (intake) studies. This data is reported partially to the EU or other international organisations. Guidelines and annual reporting systems may be available. Existing reporting systems should be notified and other existing data identified.

5.1 Product quality and safety

- Pesticide residue monitoring;
- Monitoring of radioactivity;
- Microbiological and chemical quality;
- Novel foods;
- Baby food control data;
- Food and feed RASFF;
- Contamination of Food and Feed Materials Inspections;
- Monitoring of Genetically Modified Food;
- Residue monitoring of products of animal origin (Directive 96/23/EC).

5.2 Consumer safety

- Number of outbreaks of food poisoning;
- Number of outbreaks of water-borne poisoning.
- Outbreaks of animal diseases communicable to humans (ADNS Directive 82/894/EEC);
- Food chemical exposure (e.g. food additives, pesticide residues, heavy metals, nitrate, mycotoxins, dioxins, PCB's etc.);
- Information on the exposure assessment method and population group.

ANNEX IIData available at Eurostat

The aim of this document is to summarise briefly the data available at Eurostat and that has a link with the food chain. All different sources are included. Later on it will be necessary to analyse the different sources in order to decide which ones are the most appropriate ones to follow the level of food safety in Europe.

The document presents the availability of data following the different steps involved in the food chain: from the farm to the final consumer and their impact on consumer's health. Each part includes a table providing a general summary of the data available.

Animals

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Livestock (Source: supply balance sheets)	50 items: Cattle, goats, equidae, sheep, pigs, laying hens	Number of heads	Annual	EU, EFTA, Candidate countries
Imports /exports	75 items: equidae, bovine, swine, sheep and goats, poultry	Value, tons, heads	Monthly	EU, Candidate countries
Chicks placed	Hens, ducks	1000 heads	Monthly	EU
Production forecasts: pigs and cattle		Heads	Quarterly (pigs) Half-yearly (cattle)	EU
Agricultural Holdings (Source: Eurofarm)	-By typology -By area	-Number of holdings -Area -Livestock	Every 10 years 3 intermediate surveys	EU (national + regional)
Value of production (Source: Agricultural accounts)	Live animals: -Cattle -Pigs -Equines -Sheep and goats -Poultry -Other animals	Euro or national currency	Annual	EU, candidate countries
Selling prices	-Live animals: ~20 items (cattle, pigs, goats, sheep, poultry) -Slaughtered cattle and other animals	Absolute prices: Euro, national currencies, in PPS (Purchasing Power Standard)	Monthly Annual	EU Candidate countries (only annual data)

Animal “welfare”

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Veterinary expenses in agriculture (Source: agricultural accounts)	No breakdown	Value (Euro and national currencies)	Annual	EU, candidate countries
Production (Source: Prodcom)		-Volume (Kg) -Value	Annual (from 1994 onwards)	EU

Feedingstuffs

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Available production (Source: supply balance sheets)	-Cereals -Oleaginous seeds and fruits -Vegetable fats and oils -Oil cakes	-1000 tones	Annual	EU Candidate countries
Available production (Source: ad-hoc questionnaire on animal feed*)	-Commercialised feeding stuffs: Of vegetal origin: Cereals, rice, dried pulses, processed green fodder, manioc, etc Processing by-products: milling ind., brewing ind., starch ind., etc. Oil cakes Of animal origin -Non-commercialised/ Annual fodder, root crops, perennial fodder crops,	-1000 tones	Annual	8 EU countries
Intermediate consumption in agriculture (Source: Agri. accounts)	Of which: -Supplied by other agric. holdings -Purchased from other agric. industry -Produced and consumed by the same holding	Value (Euro and national currencies)	Annual	EU Candidate countries
Production (Source: Prodcom)	-Flours of meat, fish -Vegetable by-products and waste -Bran, sharps and other residues from milling of cereals -Prepared feeds for farm animals: 6 items -Pet food	-Volume (Kg) -Value	Annual (from 1994 onwards)	EU
Imports /exports	~ 24 items (Chapter 23 of combined nomenclature)	Value, tons	Monthly	EU, Candidate countries

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Domestic market (Source Europroms: Prodcom + external trade)	Same level of detail as production (Prodcom)	Value, tons	Annual (from 1994 onwards)	EU
Purchase prices of means of agricultural production	43 items: -Cereals and by-products of the milling industry -Oil-cakes -Products of animal origin -Other straight feedingstuffs -Compound feedingstuffs: For cattle For pigs For poultry	Absolute prices: Euro, national currencies, in PPS (Purchasing Power Standard)	Monthly Annual	EU Candidate countries (only annual data)

* Project recently started. Data collection has just started slowly.

Animal products

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Production of meat: Slaughtering Gross indigenous production	Bovines: 7 items Pigs Cheep and goats Equidae Poultry	Tons Heads	Monthly	EU, Candidate countries
Activity of hatching	Hens, ducks	1000 eggs	Monthly	EU
Milk and milk products: collection and processing (all milks)	Milk, and milk products (about 60 items)	Unit: 1000 Tons Fat content (unit: tons) Protein content (unit: tons)	Monthly (about 10 products) and annual in dairies (about 60 products)	EU, EEA
Production and utilisation of milk (all milks) at the farm	~ 30 items	Unit: 1000 Tons	Annual	EU, EEA
Dairies' structure	By size class: -volume of milk collection, -volume of milk treated -production of fresh products, etc.	-Number of enterprises and collection centres -Annual production: 1000 tons	Every 3-years	EU and EEA
Value of production of animal products (Source: Agricultural accounts)	Of which, milk, eggs, other	Value (Euro and national currencies)	Annual	EU, candidate countries

Imports /exports	Very detailed, i.e. products of chapters 02, 04 and 16 of Combined Nomenclature	Value, tons	Monthly	EU, 12 Candidate countries
Selling prices of animal products	-Milk -Eggs -Dairy products (detailed figures for cheese)	Absolute prices: Euro, national currencies, PPS (Purchasing Power Standards)	Monthly Annual	EU Candidate Countries (only annual data)

EEA: European Espace Area.

Fishing activities

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Catches	By species By fishing region	tones	Annual (from 1970 onwards)	All countries of the world
Aquaculture production	By species	Euro tonnes of live weight	Annual	All countries of the world
Landings on EEA ports	For each species: By "presentation" By final use (destination) By vessel's nationality	tonnes of landed weight Average price	Monthly	EEA countries
Fishing fleet	By size (tonnage, length, age, etc.)	Number of vessels Gross tonnage kW (power of vessels)	Annual	EEA, candidate countries
Employment	By environment: marine, coastal, etc. By gender Full/part-time	Number of persons	Annual	All countries of the world

EEA: European Espace Area.

Crop production

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Crop production	-Crops products: ~ 90 items, of which cereals, dried pulses, rice, root crops, potatoes, oilseeds, etc. -Fruits and vegetables: ~100 items	-Area of production -Harvested production -Yields -Land use	Annual	EU, EFTA, Candidate countries CARDS
Imports /exports	Very detailed, i.e. Products of chapters 7, to 10 and 12 of the Combined Nomenclature	Tons, value	Monthly	EU, 12 Candidate countries
Crop production (Source: Eurofarm)		-Number of holdings -Area	Every 10 years 3 intermediate surveys	EU
Selling prices of crop products	Very detailed: Cereals, food potatoes, sugar beet, fresh vegetables, fresh and dried fruit, citrus fruit, wine (from different regions), olive oil, etc.	Absolute prices: Euro, national currencies, PPS (Purchasing Power Standards)	Monthly Annual	EU Candidate countries (only annual data)

Input into agriculture**Seed**

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Use of agricultural production (Source: Supply balance sheets)	-Cereals: 33 items, -Dried pulses -Potatoes -Rice -Sugar beet -Fruit and vegetables -Oil seeds	1000 tonnes	Annual	EU, EFTA, Candidate countries
Intermediate consumption in agriculture (Source: agricultural accounts)	Of which: -Supplied by other agric. holdings -Purchased from other agric. industry	Value (Euro and national currencies)	Annual	EU candidate countries

Fertilisers

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Production (Source: Prodcum)	37 items: -Nitrogenous fertilisers -Phosphatic fertilisers -Potassic fertilisers -Animal or vegetal fertilisers	-Volume (Kg of active ingredient, or Kg) -Value (Euro)	Quarterly (from 1994 onwards)	EU
Imports /exports	Combined Nomenclature	Value (Euro) tons	Monthly	EU, candidate countries
Domestic market (Source Europroms: Prodcum + external trade)	Same level of detail as production	Value, if any	Quarterly (from 1994 onwards)	EU
Activity of enterprises (Nace 24.15). Variables like: -Number of enterprises -Turnover -Employment -Etc.		-Number -Monetary data (Turnover, value of production etc.) : million of Euro	Annual	EU, EFTA, Candidate countries
Consumption *	3 main categories *: nitrogenous fertilisers, phosphatic fertilisers, potassic fertilisers	Tonnes of active ingredient	Annual	EU, candidate countries
Intermediate consumption in agriculture (Source: agricultural accounts)	Fertilizers and soil improvers, of which: -Supplied by other agric. holdings -Purchased from other agric. industry	Value	Annual	EU, candidate countries
Purchase prices of means of agricultural production	30 items: -Nitrogenous fertilisers -Phosphatic fertilisers -Potassic fertilisers -Compound fertilizers, binary and tertiary	Absolute prices: Euro, national currencies, in PPS (Purchasing Power Standard)	Monthly Annual	EU Candidate countries (only annual data)

* Source: FAO (Much more detailed figures are available from FAO web site).

Pesticides

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Production (Source: Prodcop)	-Insecticides (biological, others: 7 items) -Herbicides (7 items) -Anti-sprouting products -Plant-growth regulators -Disinfectants (3 items) -Fungicides (6 items) -Rodenticides (3 items)	-Quantity (Kg of active ingredient) -Value	Quarterly (from 1994 onwards)	EU
Imports /exports	~ 30 items of chapter 38 of the Combined Nomenclature	-Quantity (Kg) -Value	Monthly	EU candidate countries
Domestic market (Source Europroms: Prodcop + external trade)	Same level of detail as production	Value	Quarterly (from 1994 onwards)	EU
Activity of enterprises (Nace 24.20) Variables like: -Number of enterprises -Turnover -Employment Etc. (Source: Structural business survey)	-By size (persons employed) -By region	-Number -Monetary data (Turnover, value of production etc.) : million of Euro	Annual	EU Candidate countries
Sales	Fungicides, Herbicides, Insecticides, other	Tonnes of active ingredient	Annual	EU
Consumption (Source: Industry via ECPA*)	-Herbicides, fungicides, insecticides: By crop -By chemical classes and crop -By active ingredient and crop	Tonnes of active ingredient	Annual (most recent data: 1999)	EU
Intermediate consumption in agriculture (Source: agricultural accounts)	No breakdown	Value (Euro and national currencies)	Annual	EU, candidate countries

* ECPA = European Crop Protection Association.

Organic farming

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Organic and in conversion crop areas Organic crop yields *	Individual arable and permanent crops, permanent grassland	-Area: Ha -Production: tons	Annual	EU, Norway
Organic livestock *	By type	Heads	Annual	B, NL
Registered organic operators *	Operators ⇒ -producers ⇒ -processors ⇒ -importers ⇒ -mixed -New in year -Withdrawn -End of year (preliminary) -End of year -1	Number	Annual	EU, Norway
Organic processors and importers *	By activity	Number	Annual	BE, ES, IT, LU, PT, NO
Agricultural holdings (Source: Eurofarm)	-By typology -By area -By crop	-Number -Area	Annual: 2000 (2003, 2005, 2007)	EU
Prices for retail sale **	Prices of few individual products		2-yearly	EU

* Source: DG AGRI questionnaire.

** Prices collected for the purpose to calculate Purchasing Power Parities. Low quality at the product level. Further analysis should be made before using them.

Water

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Consumption in agriculture *	-Public water supply -Self supply	-Millions of cubic meters	Annual	Some EU and candidate countries

* Results of a join questionnaire made with OECD.

Quality of drinking water: Under the Drinking Water Directive (Directive 80/778/EEC, revised by 98/83/EC) Member States are required to report to the Commission every three years on the quality of their drinking water. The most recent data available is for 1996-1998. DG Environment has this information. The Commission has been asked by the Council to produce an indicator on Quality of Drinking Water for inclusion in the Structural Indicators, so Eurostat will be looking at the data coming from this Directive more closely in the near future. The European Environment Agency has collected data on Water quality from the Candidate countries, and this is more up to date.

Manufacture of food products

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Production (Source: Prodcum)	~ 370 items concerning: Production, processing and preserving of meat and meat products, fish and fish products, fruit and vegetables, dairy products, animal oils and fats, cocoa, noodles, tea and coffee, beverages, etc.	-Quantity: tons -Value: Euro	Annual (from 1994 onwards)	EU
Imports/ exports	Very detailed, i.e. products of chapters 02, 03, 04, 07, 08, 09, 10, 11, 12, 13, and mainly 16, 17, 18, 19, 20, 21 et 22 of the Combined Nomenclature	-Tons -Value: Euro	Monthly	EU Candidate countries
Domestic market (Source Europroms: Prodcum + external trade)	-Same level of detail as production (see above)	Tons Value (Euro)	Annual (from 1994 onwards)	EU
Activity of enterprises Variables like: Number of enterprises Turnover Employment etc. (Source. Structural business survey)	--~ 38 activities (classes belonging to Nace 15) -By size (persons employed): ~ 8 activities (groups of NACE 15)	-Number -Monetary data (Turnover, value of production etc.) : million of Euro	Annual	EU Candidate countries
Industrial Short term indicators, of which: Production indices Producer price indices etc.	By economic activity: ~38 activities (classes belonging to Nace 15), like Manufacture of meat products, manufacture of fish products, manufacture of ice cream, etc.	Indices (1995=100)	Monthly	EU

Packaging of food products

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Production (Source: Prodcum)	-Iron & steel cans -Aluminium cans -Bottles of glass and glass containers	-Quantity (Number) -Value (Euro)	Annual (from 1994 onwards)	EU
Imports /exports	Combined Nomenclature	-Quantity (Kg or number) -Value	Monthly	EU, Candidate countries
Domestic market (Source Europroms: Prodcum + external trade)	Same level of detail as production	-Quantity (Number) and/or -Value (Euro)	Annual (from 1994 onwards)	EU

Transport of food products

Type of data	Level of detail	Unit of measure	Periodicity	Countries
-Road transport: -National and International -Rail transport: -National and international	NST/R: -Cereals -Fresh, frozen vegetables -Live animals, sugar beet -Foodstuff and animal fodder By Loading / Unloading country	Tonnes Millions ton-km	Annual	EU: annual and regional data
Imports /exports,	-by means of transport: air, road, train, etc.) -containerised or not -by product (NST classification)	Value, tons	Monthly (Quarterly, before 1998) Monthly (from 1999 onwards)	EU Candidate countries

Retail sales of food products

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Activity of enterprises (Source: Structural business survey) Variables like: Number of enterprises Turnover Employment etc	~ 5 activities concerning retail trade of food products: meat products, fish products, beverages, in specialised / non-specialised stores By size class (number of persons employed) Breakdown of turnover by product	-Number -Monetary data (Turnover, value of production etc.) : million of Euro	Annual Breakdown of turnover by product (5-yearly)	EU, candidate countries
Short term indicators: Index of retail trade Number of persons employed	~ 5 activities concerning retail trade of food products: meat products, fish products, beverages, in specialised / non-specialised stores	-Indices -Number (employment)	Quarterly	EU
Harmonised indices of Consumer Prices	COICOP-HBS: 76 items concerning food (Bread and cereals, meat, fish, milk, cheese and eggs, oils and fats, fruits, vegetables, sugar, honey, chocolate, sauces, non-alcoholic and alcoholic beverages, tobacco)	-Indices	Monthly	EU Candidate countries (Interim indices)

Food consumption

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Consumption expenditure of private households (Source: HBS, Household Budget Survey)	COICOP-HBS: 76 items concerning food (Bread and cereals, meat, fish, milk, cheese and eggs, oils and fats, fruits, vegetables, sugar, honey, chocolate, sauces, non-alcoholic and alcoholic beverages, tobacco)	-Mean consumption: PPS (Purchasing Power Standard) -Structure of consumption expenditure: Per 1000	5-yearly survey (most recent figures: 1999)	EU Candidate countries (1994 and 1999 data: just the global food consumption)
Human consumption (Source: Supply balance sheets).	Wine Meat Cereals Rice Milk Eggs Vegetable and fat oils Sugar Potatoes	Tons Kg or Litre per capita	Annual	EU, candidate countries
Human consumption (Source: supply balance sheet for fishery products)*	Fish (no breakdown by species or fishing products)	Kg per capita	Annual, till 1999	All countries of the world
Domestic market (apparent consumption) (Source Europroms: Prodcom + external trade)	~ 370 items concerning: Production, processing and preserving of meat and meat products, fish and fish products, fruit and vegetables, dairy products, animal oils and fats, cocoa, noodles, tea and coffee, beverages, etc.	-Tons -Value (Euro)	Annual (from 1994 onwards)	EU

* Source FAO. Eurostat is studying the possibility to collect the figures directly from the EU countries and also by species.

Health statistics

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Infectious diseases: Reported cases and incidence rates	- <u>Food-borne diseases</u> : Botulism, Brucellosis, Campylobacterios, Leptospirosis, Listeriosis, Salmonellosis, and Trichinosis. - <u>Waterborne diseases</u> : Shigellosis, Cholera, Typhoid and Paratyphoid fever -Diseases covered by Decision 2000/96/C: Giardiasis, E.Coli, Toxoplasmosis and Yersiniosis	-Reported cases: Number -Incidence rates per 100 000 of inhabitants	Annual	EU, regional (see *)
Causes of death: Definite and probable cases of CJD **	7 types among which the “new variant” (generally admitted as being caused by the Bovine Spongyo Encephalyte - BSE)	-Number of deaths -Rate per million of population	Annual	EU, EFTA, Slovakia, some other countries
Causes of death ***	65 diseases	-Number of deaths -Standardised death rate -Crude death rate	Annual	EU, EFTA EU, regional

* Salmollenosis, Shigellosis and Typhoid and Paratyphoid fever, also available at regional level

** Creutzfeld-Jakob Disease

*** At the moment, the deaths due to infectious food-borne and water-born diseases are not calculated by Eurostat. However, this possibility could be examined in a near future together with the specialist in mortality.

Research and Development

Type of data	Level of detail	Unit of measure	Periodicity	Countries
Expenditure on R & D	Positions 0405 and 06 of NABS*: -Food and hygiene ** -Agricultural production and technology, of which: ⇒ -Animal products ⇒ -Fish products ⇒ -Crops ⇒ -Food technology ⇒ -Veterinary medicine	-Value (Millions of Euro, PPS, ...) -% of total government expenditure	Annual	EEA

* Nomenclature for the Analysis and Comparison of Scientific Programmes and Budgets, 1992 Revision.

** This heading covers research into the relationship between nutrition and health as well as the effect on health of all kinds of chemicals, micro-organisms, parasites and toxic products. This includes, in particular:

- research on human nutrition (dietetics for the healthy);
- research on food hygiene, aimed at the safety of foodstuffs;
- research aimed at combating all toxic and carcinogenic elements in foodstuffs;
- maintaining the food chain and the development of new food-stuffs for mankind;
- research aimed at combating food adulteration.

Not included: research aimed at the improvement of food quality from the point of view of its nutritional effect.
