__W__ork __P__rogramme

for the specific programme for research, technological development and demonstration:

"Integrating and strengthening the European Research Area"

Priority 5: Food Quality and Safety

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0. GENERAL INTRODUCTION

1. General

Following the adoption of the specific programme for research, technological development and demonstration: "Integrating and strengthening the European Research Area"[1] and the rules of participation and dissemination[2] under the EC Treaty, the Commission has adopted, with the assistance of the programme committee, this work programme which sets out in greater detail the objectives and technological priorities and the timetable for implementation of the specific programme, in particular for the first year of operation.

As regards the **Priority Thematic Areas of Research**, the new instruments (integrated projects and networks of excellence) are recognised as being an overall priority means to attain the objectives of critical mass, integration of the research capacities, management simplification and European added value.

The new instruments referred to will be used from the start in each theme and, where deemed appropriate, as a priority means, while maintaining the use of specific targeted projects and co-ordination actions. In particular, a smooth transition with previous programmes will be ensured.

In terms of participation of the Community in programmes undertaken by several Member States (Article 169 of the Treaty), this is only foreseen, at this stage, in the priority thematic area of research addressing 'life sciences, genomics and biotechnology for health'.

More information on the provisions for implementing the new instruments is available on Cordis (http://www.cordis.lu/fp6/instruments/).

Regarding research activities in areas involving **Specific Activities Covering a Wider Field of Research**, these will be implemented, at this stage, using specific targeted research projects, co-ordination actions, and specific research projects for small and medium sized enterprises (SMEs).

Concerning **Strengthening the Foundations of the European Research Area**, the implementation will mostly take the form of specific targeted research projects and co-ordination actions.

Specific support actions, including calls for tender, and co-ordination actions may be applied throughout the programme

In drawing up this work programme, the Commission has relied on advice from advisory groups and, for the Priority Thematic Areas of Research, on the results of a call for expressions of interest, which was launched in early 2002.

[1] OJ L 294, 29.10.2002, P 0001-0043.
[2] OJ C 262 E, 29/10/2002 P. 0489 – 0491.

More information on this, including the list of members of the advisory groups and the results of the call for expressions of interest, is available on Cordis.

2. Scope of Work Programme

The scope of this work programme corresponds to that defined in the specific programme. The calls for proposals planned within this work programme are those foreseen to close in 2004. Annex A gives an overview of these calls. Some topics in the specific programme have been left until a later stage and these will be addressed in future work programmes.

3. Cross Cutting Issues

There are several issues that are important to all parts of the work programme. These are addressed here and, as appropriate, elaborated in the various parts. Please note that the work related to statistics in this work programme will be implemented in close co-operation with EUROSTAT, in particular the parts relating to the priority thematic areas "Information Society technologies" and "Citizens and governance in a knowledge-based society", as well as the part addressing policy-oriented research under the heading "Specific activities covering a wider field of research".

a) This work programme places special emphasis on the needs of small and medium-sized enterprises (SMEs). In particular, at least 15% of the funding allocated to the Priority Thematic Areas of Research is foreseen for SMEs. In order to reach this objective, special actions are foreseen such as SME specific calls for proposals in the context of the new instruments, reinforcement of National Contact Points, and specific training and take-up measures. In addition, the involvement of SMEs is taken into account in the evaluation criteria particularly for the new instruments. Also the fact that enterprise groupings which represent large communities of SMEs may play an active role in the new instruments will contribute to reaching the above-mentioned objective.

b) Proposers based in associated States may take part in this programme on the same footing and with the same rights and obligations as those based in Member States. In addition, this work programme underlines the importance of involving associated candidate countries in the Community's research policy and in the European Research Area. Specific support actions will also be implemented to stimulate, encourage and facilitate the participation of organisations from the associated candidate countries in the activities of the priority thematic areas. These will comprise information, awareness and training activities, promotion of associated candidate country competencies, support to researchers from these countries to participate in conferences and to prepare proposals, establishment and reinforcement of networks or centres of excellence between Member States and associated candidate countries, and between centres of excellence of associated candidate countries and within associated candidate countries, measures in support of SMEs in associated

candidate countries to better participate, evaluation of RTD systems and policies in a particular field, the screening of research establishments active in a particular field, and prospective studies aimed at defining research policies and organisation of research systems in a particular field.

c) International co-operation represents an important dimension of the Sixth Framework Programme. As a contribution to a European Research Area open to the world, it will be implemented in the Sixth Framework Programme through three major routes:
   - The opening of "Focusing and Integrating Community Research" to third country organisations with substantial funding,
   - Specific measures in support of international co-operation, and
   - International activities under the heading of Human Resources in the specific programme for research, technological development and demonstration "structuring the European Research Area".

   The first two, as part of the specific programme "Integrating and strengthening the European Research Area", are covered by the present work programme. They also correspond to the second activity referred to in Article 164 of the Treaty, which covers co-operation with third countries and international organisations.

   - *Opening of "Focusing and Integrating Community Research" to third country organisations*

   Funding is available for the participation of researchers, teams and institutions from third countries in projects within the seven Priority Thematic Areas of Research, as well as under "Specific activities covering a wider field of research". Under this heading, the activities in question have the following overall objectives:

   - To help European researchers, businesses and research organisations in the European Union and in the countries associated with the Framework programme to have access to knowledge and expertise existing elsewhere in the world, and
   - To help ensure Europe's strong and coherent participation in research initiatives conducted at international level in order to push back the boundaries of knowledge or help to resolve the major global issues.

   Any particular issue concerning the international dimension of the seven Priority Thematic Areas of Research and of the Specific activities concerning a wider field of research is set out in the relevant chapter of this work programme.

   Participants from all third countries[3] and from international organisations may take part in all activities under this heading in addition to the minimum number of participants required.

[3] There is currently no co-operation with Afghanistan, Iraq, Iran, Libya, Myanmar, or North Korea. This situation is subject to review, in line with the Community's external policies. Please check on Cordis for updates.

Participants from Developing countries, Mediterranean partner countries, Western Balkan countries, as well as Russia and the new independent states (see the list of countries in Annex C) can be funded in all activities under this heading[4]. Other third country participants can also be funded in those areas where the relevant part of this work programme makes reference to this possibility or if it is essential for carrying out the research activity.

- *Specific measures in support of international co-operation*

315 million Euro will fund "Specific measures in support of international co-operation". In support of the external relations, including the development policy, of the Community, these measures target the following groups of third countries: Developing countries, Mediterranean partner countries, Western Balkan countries, and Russia and the new independent states. The activities and calls for proposals under this heading, which are complementary to the opening of the Priority Thematic Areas of Research, are presented in Chapter 10 of this work programme. Requirements for consortium composition are set out in this part.

- *Participation and funding for third country entities under the heading "Strengthening the European Research Area"*

International co-operation with third country partners and international organisations will be actively fostered on all topics that will benefit from such co-operation. Furthermore, third country entities and international organisations can benefit from Community financial contribution. To this end, topics for international co-operation will be specified, where appropriate, in calls. This applies particularly to those third countries with whom co-operation agreements have been concluded.

d) Research activities carried out under this work programme must respect fundamental ethical principles and the requirements as stipulated in the decision on the specific programme for research, technological development and demonstration: "Integrating and strengthening the European Research Area". More information on the review procedure is given in the "Guidelines on Proposal Evaluation and Selection Procedures" (http://www.cordis.lu/fp6/find-doc.htm). Annex B to this work programme also details the issues to be covered in any ethical review.

e) As much as possible and in association with the specific programme for research, technological development and demonstration "Structuring the European Research Area", the mobility of researchers will be promoted, particularly with a view to the successful creation of the European Research Area.

[4] 285 million euro have in fact been allocated for participation from the targeted third countries (see Annex C) within the Priority Thematic Areas of Research and specific activities covering a wider field of research.

f) This work programme attempts, where possible, to reinforce and increase the place and role of women in science and research both from the perspective of equal opportunities and gender relevance of the topics covered.

g) A particular effort will be carried out to take into consideration the ethical, social, legal, regulatory and wider cultural aspects of the research including socio-economic research, and innovation, resulting from the possible deployment, use and effects of the newly developed technologies or processes and scenarios covered by each of the thematic priorities. This effort will be complemented by socio-economic research carried out within the priority addressing 'Citizens and governance in a knowledge-based society'.

h) In the context of the regular report to be submitted to the European Parliament and the Council, the Commission will report in detail on progress in implementing the specific programme, and, in particular, progress towards achieving its objectives and meeting its priorities.

4. Submitting a Proposal

Proposals should be submitted under the terms of a call for proposals[5]. In order to submit a proposal, a proposer should consult the following:

- This work programme,
- The relevant call for proposals as it is published in the *Official Journal of the European Communities*, and
- The relevant Guide for Proposers.

These and a number of other useful texts, including the rules for participation and details on the contracts, are available on Cordis (as referred to above).

5. Cross Cutting Proposals

Proposals are invited to be submitted on the basis of calls for proposals, which are, in the case of the Priority Thematic Areas of Research organised thematically. Proposals that address more than one thematic area will be accommodated by the Commission, provided the proposal addresses areas covered by this work programme.

The specific programme is focused on a number of thematic priorities. They encompass a wide range of disciplines and proposals that cut across the boundaries of themes are to be expected. The criterion of relevance to the objectives of the specific programme is a *sine qua non* for the further

[5] Proposals for specific support actions, which do not fall within the scope of a call for proposals, may be submitted to the Commission only when it is provided for in this work programme.

consideration of such proposals. Furthermore, proposals will not be accepted if they do not fall within the scope of the work programme.

Cross-cutting proposals may be categorised as follows:

- **Proposals with a clear "centre of gravity".** Given the nature of research carried out today, a large proportion of proposals contain some degree of multi-disciplinarity. These are handled by normal submission and evaluation procedures. For proposals that contain a significant technological or thematic element from a different part of the programme, the procedure involves the proposal being treated by the thematic area represented by the greatest proportion of the proposal (ie, its "centre of gravity"). For proposals where the centre of gravity is not immediately obvious, the Commission will examine the proposal content and decide in which thematic area the proposal is best handled. If a proposal is transferred to a thematic area other than the one to which it was submitted, it will be handled in the framework of the new thematic area. However, if the new centre of gravity does not have an open call at the time of transfer, the proposal will be held over, with the agreement of the proposers, until a suitable call is open, but only if such a call is explicitly foreseen by the work programme. If successful, the proposal will be handled and funded by the thematic centre of gravity.

- **Joint calls for proposals**. In certain fields, it is clear that proposals will always contain a high proportion of interest for different thematic areas. In this instance, the Commission uses calls for proposals issued jointly by two or more programme/thematic areas, with a pooling of budget. This procedure only occurs for well-defined areas where the cross cutting nature of the proposals to be received can be clearly identified in advance.

- **Proposals with horizontal interest**. These relate to proposals which are of general interest to all parts of the specific programme but of no specific interest to an individual part. If such proposals are truly innovative and ground breaking, there is the possibility of referring them to the work programme part that addresses "anticipating scientific and technological needs", once this part is open for the receipt of such proposals. Proposals with a horizontal interest that do not meet this criterion may, if applicable, be handled like proposals with a centre of gravity (see first bullet point).

6. Evaluation Criteria and Related Issues

The "Guidelines on Proposal Evaluation Procedures" describes the basic procedures to be followed by all programmes under the Sixth Framework Programme of the European Community.

The set of criteria applicable to this work programme is given in Annex B. Any complementary criteria are clearly stated in the relevant part of this work programme. Evaluation thresholds for each set of criteria are given in Annex B and apply unless otherwise clearly stated. In addition, Annex B outlines how

the following will be addressed: gender issues, ethical and/or safety aspects, and the education dimension.

All proposals before they are selected for funding and which deal with ethical issues and any proposal for which ethical concerns have been identified during the scientific evaluation may be reviewed by a separate ethical review panel. The "Guidelines on Proposal Evaluation Procedures" gives more details on the evaluation procedure as a whole as well as details of the ethical review procedure.

Furthermore, the work programmes, and consequently their calls for proposals, may specify and restrict the participation of legal entities in an indirect action according to their activity and type, according to the instrument deployed and to take into account specific objectives of the Framework Programme.

Calls for proposals may involve a two-stage evaluation procedure. When such a procedure is employed, this is stated clearly in the call for proposals. More information on this process is given in the "Guidelines on Proposal Evaluation Procedures".

7. Specific Support Actions

Support activities are more limited in scope than the accompanying measures of the previous Framework Programmes. These projects aim to **contribute actively** to the implementation of activities of the work programme, the analysis and dissemination of results or the preparation of future activities, with a view to enabling the Community to achieve or define its RTD strategic objectives. Therefore, a significant emphasis has been placed on Support Actions:

- to promote and facilitate the dissemination, transfer, exploitation, assessment and/or broad take-up of past and present programme results (over and above the standard diffusion and exploitation activities of individual projects);
- to contribute to strategic objectives, notably regarding the European research area (e.g. pilot initiatives on benchmarking, mapping, networking, etc.);
- to prepare future community RTD activities, (e.g. via prospective studies, exploratory measures. pilot actions etc.);

as opposed to awareness and information exchange activities, e.g. annual Workshops and Conferences, that would take place anyway without Commission support. The latter activities will not be welcome if they do not **serve** the programme's strategic objectives, (in the sense of the European Research Area, improved co-ordination, public awareness, preparation of future Community initiatives, etc.).

I. FOCUSING AND INTEGRATING COMMUNITY RESEARCH

5. Priority thematic area 5: Food Quality and Safety

5.1 Introduction

The primary objective of this Thematic Priority is to improve the health and well-being of European citizens through a higher quality of their food, improved control of food production and of related environmental factors. This approach re-addresses the classical "farm-to-fork"-approach by giving priority to consumers' demands and rights for high quality and safe food. Taking the "fork-to-farm"-approach provides the primary driver for developing new and safer food production chains and foods, relying in particular on biotechnology tools and taking into account the latest results of genomics research. The anticipated benefits will be achieved by developing and integrating research in the way that food from farming, including fishing and aquaculture, is produced, distributed, and consumed along the various stages of the food production chain and will include consideration of associated environmental factors and their influence on human health.

The research areas within this Thematic Priority thus address key aspects of food quality, safety and consumer concerns along the food chain. The approach starts with consumer health and well-being, quality, safety and consumer concerns identifying the major issues and then proceeds along the production chain, outlining issues associated with primary production, animal feeds, processing, distribution, consumption and environmental health risks related to the chain.

In all cases, a wider and innovative combination of disciplines beyond those traditionally used will be deployed depending on the issue. In addition to combining production, processing, nutritional and analytical expertise, consortia should also draw on expertise from such areas as genomics, medicine, information technologies, ethics, environmental, economic and social sciences in achieving their aims, as appropriate. Accordingly, integrated research approaches that cross several of the research areas and adopt a "total food chain" approach will be anticipated.

The workprogramme outlines the research areas as described in the Specific Programme in which project proposals can be presented. The first area on "Total Food Chain" is all encompassing and is intended to reinforce the desired "fork-to-farm" approach. The other areas focus on particular aspects of food quality and safety.

Taken in combination, the specified research areas form the backbone of the workprogramme and will be valid for all calls for proposals. The section "Technical Content" shows the topics selected for the call in 2004.

5.2 Objectives, Structure and Overall Approach

The research areas as described for 2004 specify crucial research topics along the complete food chain "from fork to farm" which have to be addressed. The rationale for the selection of these is based on several inputs such as the analysis of the expressions of interest submitted in 2002. This analysis gave substantial information

and guidance on the most immediate and pressing research challenges in the food safety and quality domains. The views and opinions of the Programme Committee, Scientific Advisory Groups, and relevant Commission services have also been taken into account in selecting the appropriate research topics. The specific research topics for the new instruments of integrated projects and networks of excellence embrace – within a food chain context – human nutrition, quality of food on the plate, through to animal and crop production whilst also addressing related processing factors and increasingly important environmental hazards associated with foodstuffs.

Strengthening the competitiveness of the European food and biotechnology sectors is an important objective of this priority theme with particular attention being given to innovation aspects and the substantial participation of SMEs. Innovation related aspects need to be clearly addressed and well-defined dissemination and exploitation plans presented, showing the optimal use of projects results. SMEs play a vital role in the food chain and will be key to promoting innovation. With a target of 15% of the budget reserved for their participation within FP6, a strong mobilisation by all project consortia to include SMEs wherever appropriate must be ensured, in particular in the new instruments.

For proposals submitted to Priority 5 in 2004, there will be one closing date for all instruments plus one closing date only dedicated to Specific Support Actions.

5.3 Technical content

The workprogramme presented below introduces each area and gives a description of the topics for which project proposals are invited. For each topic, the workprogramme specifies whether a new or traditional instrument is to be used.

5.4 Areas

5.4.1 Area: Total food chain

Projects will address quality and safety aspects of the complete food chain from consumption back to primary production including feed production. The objective will be to develop foods with higher quality and safety together with clear health benefits for consumers. Sustainable production systems should be developed under appropriate ethical, animal welfare, environmental, economic and societal considerations.

These benefits may result from approaches such as:

- Foods from low input production systems
- The integration of recent human nutritional results and considerations within improved food production systems
- Developments using genomics of a European crop with proven human health advantages

- Process innovation leading to low or zero pathogenic loads on food.

These approaches will utilise diverse strategies and will incorporate a variety of methodologies and disciplines relevant to the whole food chain by cutting across the areas as outlined in the Specific Programme for this priority.

(T1.1) Improving the quality and safety of beef and beef products for the consumer in production and processing – IP

The project will encompass the entire food chain from farm to fork using a multidisciplinary approach. It will focus on the delivery of safe, high quality, added-value beef products with improved acceptability, eating quality and nutritional properties of beef and beef products for the consumer including diversification into new beef products. The project should consider safety issues including control strategies for pathogens and chemical contaminants, via the development of innovative processing techniques along the full production chain. The project will thus integrate research on beef production, engineering and biotechnology, product development and the exploitation of new technologies to produce beef products with both improved safety and improved nutritional aspects and that are more convenient to prepare to match changing consumer demands. SMEs are expected to play a pivotal role in this topic.

(T1.2) Improving the quality and safety of poultry products for the consumer – STREP

The aim will be to improve the quality and safety of European poultry products by identifying those aspects of the production and processing systems that influence quality, and safety or may give rise to societal concerns. In pre-selected key areas, it will aim to develop and analyse consumer-driven integrated strategies for the monitoring, prevention and control of zoonotic poultry diseases, spoilage bacteria and chemical contaminants. In order to improve disease control it will provide data, tools and methods to identify poultry production areas according to their density and organisational structure. It will take into account consumer expectations with regard to poultry products and analyse production factors such as type of product (eggs, broiler), type of production (out-door, in-door), size and type of poultry (for example chickens, turkeys and ducks), relations between holdings, patterns of integrated production, processing, handling, and trade patterns. It will ultimately provide a set of user-friendly production protocols and guidelines corresponding to different production systems.

5.4.2 Area: Epidemiology of food-related diseases and allergies

The objective is to examine the complex interactions between food intake and metabolism, immune system, genetic background and socio-economic factors to identify key risk factors and develop common European databases.

Many diseases and disorders prevalent in Europe today can be linked to diet, genetic make-up and lifestyle. Research in this area will use pan-European epidemiological studies concentrating on the most important nutrition-related diseases and disorders to identify vulnerable population groups, links to diet, genetic factors, and assess how an improved diet might reduce prevalence in the future.

(T2.1) Validated food information database for Europe – NOE

The objective will be to achieve a durable integration of available food composition databases by linking together as many as possible of them in order to give a comprehensive pan-European food information system. Specific attention has to be given to the application of state-of-the-art concepts in database linking and management and their comparability. The database should contain consistently evaluated and documented data on food composition as well as references to the analytical methods used in establishing the relevant concentrations. A number of analyses may need to be provided when data are lacking. The database should contain data about the food product, nutrients, fibre, water and biologically active compounds with positive health effect in addition to the date and method of analysis and the source database. No consideration shall be given to contaminants deriving from emissions (such as toxic trace elements, radioactive nuclides, PCBs, PAHs), packaging and cleaning materials, toxic substances of biological origin (mycotoxins, seafood toxins, plant toxins), and residues from pesticides and animal drugs. However, a possible future extension of the database to substances excluded now should be foreseen. Participation from all over Europe is necessary to cover all relevant foods groups, including traditional and novel foods, at all relevant stages of processing (from raw material to high-added value foods and prepared foods) within the database. Targeted dissemination and training on how to use the database should be ensured: to food and health scientists, agrifood industry, the retail sector, consumers and regulatory authorities. Solutions have to be given to guarantee database durability (systematic updating and maintenance) after the end of the EU financing.

(T2.2) Epidemiology of food allergy – IP or NOE

The focus should be on integrated epidemiological studies on well-defined food allergens influencing the occurrence, prevalence, prevention and distribution of allergic diseases and hypersensitivity disorders in the European population (children, adults, influences during foetal life). Immunological and genetic studies with well-defined criteria for diagnosis, well-defined and/or developed allergy markers, and the factors diet, environment and infections should be taken into account. The approach should include also an assessment of the socio-economic impact of food allergy, including costs to society and the effect on the quality of life of sufferers and their relatives. The generation of new diagnostic tools and methodologies to predict the outcome of allergen interaction with susceptible individuals, taking account the food matrix should form part of the proposal. Dissemination plans for patients and the scientific community should be clearly defined.

(T2.3) Influence of gene-nutrient interaction on the development of obesity – IP or NOE

The general objective of this topic is to achieve a better understanding of the interactions between human genetic background on the one hand and food intake and composition on the other hand on the development of overweight, obesity and co-morbidities. The project should provide the scientific basis for improving health through diet and the design of safe, high-quality, health-promoting foods and their validation. It must combine analyses of the psychosocial background, lifestyle and food intake of consumers as well as ethical considerations. Preference will be given to epidemiological studies on different European populations linking food components and biological markers of food intake with excess of weight gain as well as to intervention studies aimed at investigating the feasibility of specific approaches – such as specific foods or targeted diets – to prevent or reduce overweight, obesity and co-morbidities.

(T2.4) Nutritional and lifestyle habits of adolescents throughout Europe, including development of health-promoting foods with sensory properties attractive to adolescents – STREP

The objective of this topic is to understand and effectively enhance nutritional and lifestyle habits of adolescents in Europe. This will be achieved through a combination of dietary surveys and psycho-sociological, behavioural and economic studies and modelling in order to identify the factors that determine adolescents' food choices, preferences and dietary patterns. Health promoting foods with improved nutrient and sensory properties specifically targeting adolescents will be developed and their physiological effects and acceptability validated through multi-centre intervention studies. Dissemination activities will be required for promoting positive lifestyle habits for adolescents, particularly healthy diets. Particular emphasis should be given to novel strategies (including educational tools and predictive modelling) for understanding and promoting healthy dietary habits, foods and diets in different cultural and socio-economic environments. The desirability and feasibility of the reinstatement of traditional dietary patterns and traditional foods shall be studied as well.

5.4.3 Area: Impact of food on health

There is increasing evidence that consumption of certain types of food within a balanced diet may have a positive and even protective effect on health. The objective is to provide the scientific basis for improving health through diet. This will involve the use of dietary advice strategies, the development of new health promoting foods, e.g. new products, products resulting from low-input or organic farming, functional foods, products containing genetically modified organisms and those arising from recent biotechnology developments. It will be achieved by means of an improved understanding of food metabolism and by harnessing the opportunities now available from proteomics and biotechnology.

(T3.1) Programming effects of early nutrition on long-term health – IP

The objective of this topic should be the reduction of the incidence of adult diseases of possible foetal and early-life origin, such as cardiovascular diseases, obesity, diabetes, cognitive and mental disorders, and cancers. This should be accomplished by establishing their origins and critical periods in foetal and early life, by identifying and introducing early intervention in physiological and behavioural (e.g. lifestyle) aspects. The relative contribution of genetic determinants, maternal nutrition, post-natal growth in infancy and childhood and established adult life style risk factors to the diseases mentioned shall be evaluated compared with inappropriate foetal, infant and child nutrition. Epidemiological studies (e.g. multi-locus sequence typing) and animal-based intervention studies should be considered to determine which nutritional regimes contribute to or prevent degenerative diseases in adults.

(T3.2) Gut health – foods, microbes and the immune system – IP

The objective will be to address the molecular and mechanistic bases for the development of foods with specific functions for improving human health and well-being. A genomics-, proteomics and metabolomics-based analysis of gut microbial functionality shall be carried out including the effects of nutritional components. Subjects of the study will also include the molecular communication between host and gut microbes, the impact of gut microbes on host mucosa, neuronal development and activity of pathogens, and mechanisms of immune regulation by microbial activity. Knowledge generated from these areas will support application-oriented activities, including the targeted selection of specific gut microbes, their modification and processing, improved stabilisation and delivery systems, their effective integration in foods, and safety evaluation.

(T3.3) Improving and enhancing the nutritional value and health benefits of cereals – IP

The objectives are to address consumer demands for healthy food by exploring and understanding these demands and developing nutritionally optimised cereal foods, including foods for individuals who are sensitive to particular cereal constituents, and new food ingredients, from whole grain cereals. The natural variation, process-induced changes and human metabolism of bioactive compounds in European grains will be studied and the underlying physiological mechanisms related to human health or disease prevention will be identified. The project will set up a cereal biotechnology tool-box (including genomics, proteomics, transcriptomics and metabolomics resources as well as mutant analyses). This toolbox will be used to elucidate the biosynthesis pathways of selected bioactive compounds and the isolation of relevant markers and genes for molecular breeding or genetic engineering approaches for improving the composition of cereal bioactive compounds. In order to increase the added value of whole grain cereals to the human diet, innovative and economically viable technologies will be developed to isolate and to process new fractions

(especially from by-products) of high nutritional impact. The work programme should include a business plan for transferring results to plant breeders and to the European grain processing industry, and for disseminating information to health professionals and consumers.

5.4.4 Area: "Traceability" processes along the production chain

The objective is to increase consumer confidence in the food supply by strengthening the scientific and technological basis for ensuring complete traceability along the entire food chain including animal feed. It will ensure that products can be linked to their source while also protecting products of declared origin (both geographical and production system). It will also assure traceability of genetically modified organisms, and other products based on recent biotechnology developments, from raw material origin to purchased food products.

(T4.1) Development of reliable traceability methods and systems to establish the origin/ mode of production of food products – IP

The aim is to satisfy demand for harmonised, reliable, rapid and cost-effective methodologies and protocols needed to prevent fraud and to assure consumer confidence in the quality, safety and origin of food and to enable rapid and cost-effective product withdrawal. Taking a number of different foodstuffs, product-specific and generic traceability systems including analytical markers, technical and organisational aspects to determine production, species, and geographical origin, will be developed using natural tracers and other compounds. Development of a comprehensive information system (e.g. documentation system, information management) on authenticity along with the establishment of a high standard of training, demonstration and dissemination infrastructure is imperative. Building on existing technologies and scientific networks, the project will develop and demonstrate a working system suitable to all food chain stakeholders. The involvement of all relevant stakeholders is sought particularly addressing the wants and needs of consumers.

(T4.2) GMO co-existence and traceability of GMO ingredients along the food and feed chain – IP or NOE

The objective is to provide guidance, and to develop and validate methodologies, for tracing GM materials along the food chain and for facilitating the co-existence of genetically modified, conventional and organic crops. The project should develop, demonstrate and validate practical systems of sampling, tracing, labelling and documenting GMO content of foods and feeds. The systems should be suitable for use by all stakeholders in the food chain. This work will require the integration of new or existing systems for detecting and quantifying GM content of foods and feeds with other component elements of the traceability process. The project should also develop and deploy an EU-wide networking structure and information system on co-existence.

This system should be used for sharing, assessing and disseminating existing data, experiences, and codes of best practice on facilitating the co-existence of genetically modified, conventional and organic crops. Methods to facilitate co-existence should be further developed and validated as necessary to complement ongoing work. Particular emphasis is required on monitoring, economic, and administrative issues, and on the need to take local specificities into account. The result should be improved levels of information and understanding, and an effective science-based system for managing co-existence. Consultation processes with relevant stakeholders, notably marketing, processing, transport, farming, environmental, and consumer groups, should be set up at the beginning of the project so as to ensure the widest possible utility of the deliverables.

5.4.5 Area: Methods of analysis, detection and control

The objective is to contribute to the development, improvement, validation and harmonisation of reliable and cost-effective sampling and measurement strategies for chemical contaminants and existing or emerging pathogenic micro-organisms (such as viruses, bacteria, yeasts, fungi, parasites, and new agents of the prion type including development of ante mortem diagnostic tests for BSE and scrapie) so as to control the safety of the food and feed supply and ensure accurate data for risk analysis.

With changes in production methods, processing technologies and distribution systems, many pathogens and contaminants are controlled ever more rigorously today. However, new pathogens or food safety issues may arise as a consequence of factors outside the control of the food producer. Increasingly, foods do not come from one source or one country, but are a combination of raw materials coming from many diverse countries and very different production systems. The aim will be to improve detection and control techniques along the food production chain, using powerful new and more sophisticated technologies linked to primary production, ensuring that the original contamination does not enter the chain at critical points. Particular attention will be given to possible anticipation and control of emerging risks in food and feed including new contaminants and pathogens, non-conventional agents and stress adaptation of pathogens. Projects should take account of aspects of communication with stakeholders, especially consumers.

(T5.1) New approaches towards monitoring and preventing chemical contaminants in food products – IP or NOE

The objective will be to develop innovative strategies that enable efficient monitoring and, thus, contribute to the prevention of multiple contaminants or mixtures of hazardous chemicals throughout the food chain (including at least cereals, meat and fish products) with benefits to the consumer. The activities should include pesticides, environmental contaminants including heavy metals, natural toxins, therapeutic drugs and endocrine disrupters. Their control will be achieved by utilising: (i) advanced sample preparation techniques; and (ii) emerging biotechnological screening approaches based on developing novel biomarkers with diagnostic, prognostic characteristics/capabilities and fingerprints thereof. Confirmatory technologies will be

improved and developed to support validation of generated data. The research should create cost-effective validated analytical systems to detect contaminants based on recognised performance criteria including specifically those relevant to regulatory purpose. The research activities should be linked to extensive demonstration, dissemination and exploitation strategies for various end-users. In addition, the developed innovative analytical approaches should allow their use as an efficient tool assisting rapid alert systems and should be fit for purpose and applicable by the full range of intended end users, both in regulatory and other fields.

(T5.2) Development of cost-effective control and prevention strategies for emerging and future foodborne pathogenic microorganisms throughout the food chain – IP or NOE

The objective will be to reduce the prevalence of new and possibly re-emerging food-borne infectious diseases including toxin-producing pathogens and relevant zoonoses. This will be achieved by investigating the factors that enable pathogen viability and establishment (including biofilms and the expression of virulence traits), resuscitation and alternative spore germination pathways. The entire food chain should be taken into account and should include studies of the impact of animal feed, drinking water, water used for food production, and of novel processing technologies. Genomic and modelling tools and microarray techniques will be used to predict the occurrence of emerging pathogens. The study will also extend knowledge of the host-pathogen interaction using, with preference, existing diagnostic platforms for rapid detection of pathogens. Novel diagnostics may also be developed. Active involvement of relevant SMEs along the food chain is required.

(T5.3) Development of cost-effective tools for risk management and traceability systems for zoonotic agents and marine biotoxins in seafood – STREP or CA

The objective will be to develop cost-effective tools for analysis and detection of hazards associated with seafood from coastal waters such as Diarrhoeic Shellfish Poisons (DSP), Yessotoxins (YSP), Pectenotoxins (PTX), Azaspiracid Shellfish Poisons (AZP), and to provide other tools for the successful implementation of HACCP procedures. These should also include various approaches using existing and modified rapid validated and reliable methods, modelling, genomics, harvesting and processing techniques. The tools should be integrated within a traceability system and take account of other research initiatives.

5.4.6 Area: Safer and environmentally friendly production methods and technologies and healthier foodstuffs

The objective is to develop lower input farming systems (agriculture and aquaculture) based on systems such as integrated production, and organic agriculture. It will emphasise the use of plant and animal genomics, biotechnologies, and other innovative technologies, for improved transformation processes delivering safer

healthier nutritious, functional and varied foodstuffs, and animal feed, which respond to consumer expectations.

Consumers require healthy, safe and high quality food. Food production systems are tending towards those which are more sustainable, more environmentally- and welfare-friendly, and which have lower requirements for inputs. Following the fork-to-farm approach, research on production methods should aim to meet these consumer requirements.

(T6.1) High throughput analysis of plant composition and metabolism for improving end-product quality in the plant food chain – IP

The aims are to improve the nutritional value of crops for consumers using new technologies for a phenotyping platform for plant breeding. A further aim is to facilitate the analysis of "substantial equivalence". Using species chosen from the major European food crops (excluding cereals) this research will develop a set of core technologies for profiling and identifying most of the plant metabolites potentially implicated in human health and disease and investigate how growing conditions, storage, transport and processing affects the content of these metabolites. The biosynthetic pathways of selected metabolites of high relevance for human nutrition will be elucidated. Molecular markers and genes useful for marker-assisted breeding and engineering approaches for enhanced food nutritional quality will be identified. In addition to the necessary skills in plant biochemistry, genomics, post-genomics and human nutrition, teams should include expertise in socio-economics, policy, and communication. A plant-food health bioinformatics portal should be created for improved dissemination and interaction with the human medicine and nutrition sector. Emphasis is placed on the importance of interpreting and diffusing research results and helping consumers to make informed choice.

(T6.2) Soil microbial community management for safe production under biotic and environmental stress conditions – IP

The overall objective is to improve the production of quality food from low-input agriculture in difficult environmental conditions. The emphasis of the project will be on the substitution of chemical inputs using mycorrhizae, nitrogen-fixing organisms and other beneficial microorganisms. The project should include fundamental studies on the interactions between plants and microorganisms. The aim should be practical utilisation via innovative soil and crop management practices for food production. The work will include cost/benefit analyses at farm level and assessments of impact on the ecosystem and on food quality and safety. It should also include business plans for transferring the technologies into practice.

(T6.3) Exploitation of plant biodiversity to reduce application of chemicals for disease control – IP

The aim is to increase the resistance to bacterial and fungal diseases of major European food crops through molecular breeding and/or genetic engineering and thus decrease the need for plant protection chemicals. The project will develop more efficient and new methods for identifying naturally occurring sources and elicitors of resistance to bacteria and fungi. Particular emphasis will be placed on the use, in conformity with relevant international legislation and codes of practice, of genetic resources that are already conserved in gene banks. Modern genomics and post-genomics tools will be used to gain knowledge of the molecular mechanisms underlying innate resistance to bacterial and fungal diseases. Plant genes and alleles responsible for qualitative and quantitative resistance will be identified, genetically mapped and cloned, providing leads for the improvement of disease resistance through genetic engineering and marker-assisted breeding. Work should be oriented towards the development of new varieties of major European food crop plants with smaller (ideally zero) requirements for plant protection chemicals. Breeding of varieties suitable for organic production systems should be included. The project must include a plan for monitoring and adjusting progress towards the objectives (in terms of production, environment and economics). It must also include a business plan for transferring the technology into practice.

(T6.4) Platform for improving the immunological status of livestock (including fish) for better disease protection – IP or NOE

The ultimate objective of this project is to form a solid basis for the production of more effective vaccines – including using improved adjuvants – and immunology-based diagnostics for livestock diseases of relevance to food quality and safety. It will enhance animal production, welfare and food safety by reducing the demand for prophylactic and therapeutic drugs, thus minimising the risk of drug residues in animal products and of the development of antibiotic resistance. The project will consist of a science and technology platform that will act as a basis for improving practical vaccines and diagnostic products against important animal and food-borne diseases. It will take advantage of the most recent advances in fundamental and applied immunology and in vaccine technology and will be aimed primarily at producing a durable integration of research so as to improve the European knowledge base on protective immune responses induced by vaccination against pathogens.

(T6.5) Flavonoids in fruit and vegetables: their impact on food quality, nutrition and health – STREP or CA

The project will focus on the effects of plant flavonoids present in fruit and vegetables on the health of the European consumer. The project should be structured following the ‘Fork to Farm” approach. It should include work on (i) the uptake and impact of plant flavonoids and their metabolites on the human body; (ii) enriching food with flavonoids, and the associated benefits and risks; (iii) the effects of traditional and novel food production and processing on flavonoid concentration, composition and bioavailability, in food; and (iv) flavonoid biosynthesis, and the effects of agronomic and environmental practices, along with crop genetics and biodiversity, on flavonoid content.

(T6.6) Recycling and upgrading organic wastes from the food chain in environmentally friendly healthy food production – STREP or CA

The overall objective will be to increase the utilisation and sustainable management of organic matter from food production and processing while contributing to improved food quality and safety and reducing the environmental impact of the waste. Special emphasis is placed on the development of methods to transform waste (i.e. by-products) from the food industry into high added value products. The project should seek to minimise negative effects from noxious residues and/or microorganisms in the environment and in the final products, and it should therefore include a cost/benefit analysis, a risk assessment as well as an assessment of acceptance by consumers and retailers.

(T6.7) Sustainable aquaculture ensuring high-quality and safe products – CA

The goals are to provide the consumers with, and to demonstrate to them the benefits of, high-quality, safe and nutritious farmed fish produce grown in sustainable conditions. The implemented platform should provide protocols for sustainable aquaculture systems of low environmental impact, high competitiveness, and ethically responsible in areas such as biodiversity and animal welfare. It should also include risk/benefit analyses and implement best practices. The project should also focus on the transfer of existing improvements to SMEs. Stakeholders, including NGOs and consumers, should be brought together to develop and implement new rational and efficient production systems.

(T6.8) Porcine circovirus diseases – STREP

The main objective of this research should be to generate information and control measures for porcine circovirus diseases (PCVD) that will have a positive impact on the welfare of pigs and meet consumers concerns for quality and safety of pork products. This will be achieved by a reduction in the use of antibiotics, which are currently used to control secondary bacterial infections, including salmonella, and other zoonotic pathogens, which have a higher prevalence in PCVD-affected pigs. The research should include epidemiological studies in order to elucidate the co-factors necessary to trigger the full clinical expression of PCVDs. It will assess in particular the role that pig genetics, nutrition and/or PCV2 vaccination may play in predisposition and/or control of PCV2 in pigs. It will also include basic research on the early pathogenesis and in particular on the interactions with the porcine immune system.

(T6.9) Use of genetic resistance as a tool to control plant pathogenic viruses – CA

The aim is to reduce the use of pesticides in European crop production. The project will co-ordinate ongoing and emerging relevant work on the sources, mechanisms and

applications of genetic resistance to plant viruses and their vectors, including the use of genetic engineering. It will also include ways to effectively manage resistance genes in the field.

5.4.7 Area: Impact of animal feed on human health

The objective is to improve understanding of the role of animal feed, including products containing genetically modified organisms and the use of sub-products of different origins for that feed, in food safety. It will aim to reduce the use of undesirable raw materials and develop alternative new animal feed sources. This will include novel sources of the major feed components, energy, protein and fat, and the evaluation of the impact of additives in feeds, and of alternatives to common additives.

(no topics selected)

5.4.8 Area: Environmental health risks

The objectives are to identify the environmental factors that are detrimental to health, understand the mechanisms involved and determine how to prevent or minimise these effects and risks.

(a) Risks linked to the food-chain (chemical, biological and physical).

(b) Combined exposures of authorised substances, including impact of local environmental disasters and pollution on the safety of foodstuffs, with emphasis being placed on cumulative risks and health impacts of environmental pollutants, transmission routes to human beings, long-term effects and exposure to small doses, prevention strategies, as well as the impact on particularly sensitive groups, and especially children.

The environment can significantly affect human health. Environmental impacts on human health result from a complex interaction between genetic susceptibility, metabolic activity, environmental exposure and behaviour and socio-economic factors. Food is clearly an important exposure route but it should not be considered in isolation since other direct environmental exposures, via air, soil and water, can be equally or more important.

(T8.1) Environmental and endogenous factors influencing puberty onset – STREP

The aim of this project will be to obtain updated scientific data on the phenomenon of precocious puberty, which has been observed in humans in Europe and other parts of the world as well as in certain animal species. The role of various aetiological factors will be investigated through multidisciplinary research including expertise in human and animal sciences and will include novel modelling approaches. The project will study exposure via food and drink to endocrine disrupting compounds, including

those of natural origin, the possible role of nutrition, socio-economic and psychological factors as well as modulation by endogenous factors such as the individual genotype. Synergistic effects and the role of confounders should be included in the investigations.

(T8.2) Environmental cancer risk, nutrition and individual susceptibility – NOE

The aim of this project is to study gene/environment/nutrient interactions and cancer risk. It should integrate results from multidisciplinary studies including molecular epidemiology on the detection and mechanism of cancer initiation and progression, while providing relevant bio-indicators of exposure as well as biomarkers of effects. It should focus on diet-related exposure to environmental chemicals via food and drinking water including long-term and low-dose exposure and the role of food processing. In addition, these studies should consider smoking and other environmental exposure factors. The modulation of cancer susceptibility by phenotype and genetic polymorphism has to be assessed as well. Networking should include training, exchange of scientists and health care workers, and dissemination activities to increase the awareness of cancer risks from environmental exposure.

(T8.3) Food and fecundity – STREP

The aim of this project is to determine the parameters and the extent of the influence of environmental contaminants found in food, household products, cosmetics and drinking water, including endocrine disrupters and pharmaceutical residues, on changes in biomarkers of fecundity (in men and women) observed in various geographical locations and exposure scenarios in Europe.

(T8.4) Pathogens in drinking water sources – STREP

The objective of this project is to gather knowledge on stability, prevalence and pathogenesis of emergent microbial pathogens in drinking water sources. Focus should be on the transmission of water-borne diseases to humans via domestic water supply volumes. The successful consortium would be expected to include water supply partners as well as research actors.

5.5 Specific Support Actions

The objectives of specific support actions under this priority are to help implement the ERA, support stimulate and facilitate the participation and co-operation of SMEs, and international and candidate countries, and improve policy support and exploitation of results. SSAs are also invited which will contribute towards the “EU Strategy for Life Sciences and Biotechnology”. Support Actions under these headings can include conferences, seminars, studies and analysis, working and expert groups, operational

support, and dissemination of information and communication, or combinations thereof[6].

Mentioned below are, for each horizontal objective, a number of strategic actions, which serve as examples. This list is not exhaustive and any proposal that fits one or a number of the horizontal objectives may be submitted under this call. The topic of the SSAs has to fall within the general objectives and scope of the thematic priority "Food quality and safety" as described in the decision on the specific programme.

- Realising ERA objectives
  - Technology Platforms[7]
  - Transregional discussion platform on Mediterranean diet
- Promotion of SME participation
  - Targeted measures to increase SME participation in specific areas of food quality and safety research
- Stimulating international cooperation
  - Initiatives aimed at stimulating the co-operation with countries having signed bilateral S&T co-operation agreements with the EU
  - Networking of European and International Research on issues related to conservation, management and sustainable use of genetic resources for food and agriculture
  - International consultative forum on life sciences and biotechnologies for Developing countries
  - Bi-regional co-operation platforms for food quality and safety research with Developing countries
  - Initiatives to improve international coordination of research in the field of endocrine disruption
- Linking with associated candidate countries
  - Impact assessment of initiatives launched following the first call with a view to open new avenues for intervention or to readdress some of the existing Accompanying Measures (FP5) and SSAs (FP6).

[6] More information on the EU Strategy for Life Sciences and Biotechnology, particularly on the Life Sciences Action Plan (EC Communication COM(2002)27) can be found on the web site: http://europa.eu.int/comm/biotechnology/introduction_en.html

[7] More information on technology platforms is available from the web site: http://europa.eu.int/comm/research/era/3pct/index_en.html , in particular page 59 of the Commission Staff working paper on http://europa.eu.int/comm/research/era/3pct/pdf/com2003-annex.pdf

  - Creation of effective information interfaces between Research Organisations in associated candidate countries and the NoEs and IPs that have been launched following the first call

  - Actions to identify specific RTD needs within associated candidate countries

- Supporting policy development

  - Expert groups, workshops, small studies and other actions supporting policy development

- Stimulating exploitation

  - Transregional discussion platforms on innovation and research partnerships among regional public and private actors

- Contributing to the EU Strategy for Life Sciences and Biotechnology

  - Fostering the debate about cloning of farm animals

  - Networks of biotechnology clusters in specific fields of science and technology relevant to Thematic Priority 5

  - Improvement of the life science communication process, with the involvement of the media

  - Multi-stakeholder platform for information and debate on life sciences and technology in the EU

We would like to point out that SSA proposals that fall under the public procurement laws, such as prospective studies, impact assessment, actions supporting legislation etc., are not financed under this call, but will be part of a separate call for tenders, depending on budget availability. Detailed financial plans, including co-financing or contributions in kind of third parties, should be submitted with the proposal. In case of applications for networking or other support services, the financial plans should also indicate how a sustainable functioning of these services is achieved once the EU support comes to an end.

5.6 Links to other Research Topics

Fundamental knowledge in genomics (including human/animal/plant) is covered by the first priority, as well as its applications to human health. Applications to food are covered by the fifth priority (for example relating to nutrition/better quality food). Other issues related to life sciences are addressed under the sixth priority or covered, as appropriate, by policy oriented research. This includes the common agricultural policy (CAP) and the common fisheries policy (CFP) as well as Community policies related to health and environment.

5.7 Implementation Plan and Related Issues

The selected topics may be open only for the call indicated and it is envisaged that up to one project utilising a new instrument will be funded for each topic. There may be competition between proposals submitted to different topics and proposals submitted to the same topic. This may result in some topics not being supported.

Number of participants and budget per instrument for each area in the second call for proposals first deadline

Instrument	Number of participants	Indicative budget per group of instruments
Integrated Projects	See general Rules for Participation	144 M€
Networks of Excellence	See general Rules for Participation	
Specific Targeted Research Projects	See general Rules for Participation	42 M€
Co-ordination Activities	See general Rules for Participation	
Specific Support Actions	See general Rules for Participation	6 M€

Number of participants and budget per instrument for each area in the second call for proposals second deadline

Instrument	Number of participants	Indicative budget per group of instruments
Integrated Projects	See general Rules for Participation	
Networks of Excellence	See general Rules for Participation	
Specific Targeted Research Projects	See general Rules for Participation	
Co-ordination Activities	See general Rules for Participation	
Specific Support Actions	See general Rules for Participation	5 M€

ROADMAP – Thematic Priority 5 "Food quality and safety"

Type of Activity		Indicative budget Date of publication in OJ: *[date]*					Type of instrument Open in each call
Focussing and integrating Community research		Deadlines for submitting proposals					**IP** – Integrated Project **NOE** – Network of Excellence **STREP** – Specific Targeted Research Project **CA** – Coordination Action **SSA** – Specific Support Action
Thematic Priority	**Area**	**April 2003**	**February 2004**	**September 2004**	**January 2005**	**December 2005**	
5. Food quality and safety	Total food chain	€167M indicative €204M maximum EC contri-bution	€192M		€160M*	€160M*	IP, NOE, STREP, CA, SSA
	Epidemiology of food-related diseases and allergies						
	Impact of food on health						
	"Traceability" processes along the food production chain						
	Methods of analysis, detection and control						
	Safer and environmentally friendly production methods and technologies and healthier foodstuffs						
	Impact of animal feed on human health						
	Environmental health risks						
5. Food quality and safety	Total food chain			€5M			SSA
	Epidemiology of food-related diseases and allergies						
	Impact of food on health						
	"Traceability" processes along the food production chain						
	Methods of analysis, detection and control						
	Safer and environmentally friendly production methods and technologies and healthier foodstuffs						
	Impact of animal feed on human health						
	Environmental health risks						

* These amounts are expected to be increased based on contributions of associated candidate countries and associated States.

5.8 Call Information

1. **Specific Programme**: Integrating and strengthening the European Research Area

2. **Activity**: Priority thematic area of research "Food quality and safety".

3. **Call title**: Thematic call in the area of "Food quality and safety".

4. **Call identifiers**: FP6-2003-FOOD-2-A (closure date 5/2/04)
   FP6-2003-FOOD-2-B (closure date 29/9/04)

5. **Date of publication**[8]: 5 November 2003

6. **Closure dates**[9]: Date 1[10]: 5 February 2004 at 17.00 (Brussels local time)
   Date 2[11]: 29 September 2004 at 17.00 (Brussels local time)

7. **Total indicative budget**: 197 million €, broken down as follows

Call identifier	Closure date (see Point 6)	Instrument[12]	EUR (millions)
FP6-2003-FOOD-2-A	Date 1	IP and NOE	144
		STREP and CA	42
		SSA	6
FP6-2003-FOOD-2-B	Date 2	SSA	5

8. **Areas called and Instruments**:

Area	Topic	Instrument
5.4.1 Area: Total food chain	T1.1	IP
	T1.2	STREP
5.4.2 Area: Epidemiology of food-related diseases and allergies	T2.1	NOE
	T2.2	IP or NOE
	T2.3	IP or NOE
	T2.4	STREP
5.4.3 Area: Impact of food on health	T3.1	IP
	T3.2	IP
	T3.3	IP
5.4.4 Area: "Traceability" processes along the production chain	T4.1	IP
	T4.2	IP or NOE
5.4.5 Area: Methods of analysis, detection and control	T5.1	IP or NOE
	T5.2	IP or NOE

[8] The director-general responsible for the publication of this call may publish it up to one month prior or after its envisaged publication date.

[9] When the envisaged publication date is advanced or delayed (see previous footnote), closure date(s) will be adjusted accordingly in the published call for proposals.

[10] Closure date for call FP6-2003-Food-2-A.

[11] Closure date for call FP6-2003-Food-2-B.

[12] IP = Integrated project; NOE = Network of excellence; STREP = Specific targeted research project; CA = Coordination action; SSA = Specific support action

Area	Topic	Instrument
	T5.3	STREP or CA
5.4.6 Area: Safer and environmentally friendly production methods and technologies and healthier foodstuffs	T6.1	IP
	T6.2	IP
	T6.3	IP
	T6.4	IP or NOE
	T6.5	STREP or CA
	T6.6	STREP or CA
	T6.7	CA
	T6.8	STREP
	T6.9	CA
5.4.7 Area: Impact of animal feed on human health	No topic selected	
5.4.8 Area: Environmental health risks	T8.1	STREP
	T8.2	NOE
	T8.3	STREP
	T8.4	STREP
5.5 Specific Support Activities	(See Section 5.5 for details)	SSA

9. Minimum number of participants[13]:

Instrument	Minimum number of participants
IP, NOE, STREP and CA	3 independent legal entities from 3 different MS or AS, with at least 2 MS or ACC.
SSA	legal entity from a MS or AS

10. Restriction on participation: None.

11. Consortia agreements:
- Participants in IP and NOE are required to conclude a consortium agreement.
- Participants in STREP, CA, and SSA resulting from this call are encouraged, but not required, to conclude a consortium agreement.

12. Evaluation procedure:
- The evaluation shall follow a single stage procedure
- Proposals will not be evaluated anonymously.

13. Evaluation criteria: See Annex B of the work programme for the applicable criteria (including their individual weights and thresholds and the overall threshold) per instrument.

[13] MS = Member States of the EU; AS (incl. ACC) = Associated States; ACC = Associated candidate countries.
Any legal entity established in a Member State or Associated State and which is made up of the requested number of participants may be the sole participant in an indirect action.

14. Indicative evaluation and contractual timetable:

- Evaluation results: estimated to be available within some 4 months after the closure date.
- Contract signature: it is estimated that the first contracts related to this call will come into force before the end of 2004.