

# COMMISSION OF THE EUROPEAN COMMUNITIES

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## COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

on the  
Interim review of the FLAIR Programme  
(1989-1993)

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**INTRODUCTION**

1. Article 4 of the Council Decision adopting the FLAIR (Food-Linked Agro-Industrial Research) Programme' states that "during the third year of the implementation of the programme and in the light of the interim results achieved, the Commission shall review the programme and send a report on the results of its review to the European Parliament and the Council. This report shall be accompanied, where necessary, by proposals for amendment or extension of the programme".

2. The Appendix to the Council Decision adopting the FLAIR programme outlines the short-term objectives and the milestones to be achieved by the programme which are as follows:

The primary short term objective is that the programme should succeed in eliciting proposals, for concerted actions and for RTD cost-shared projects on a scale commensurate with the proposed Community resources. This objective (Objective 1) shall be testable from 1991 to 1992.

At the same time the programme should also demonstrate its promotion and encouragement of intersectoral collaboration across the Member States and in Europe, in particular between enterprises, including SMEs (Objective 2).

Particular objectives to be attained within three years of the implementation of the programme are as follows (Objective 3):

- a) that improved food evaluation and assessment techniques have been developed, in particular sensory analysis, and that the results have given grounds to expect that they will find applications which will benefit industry, including SMEs and/or the consumer;
  - b) that new or improved, rapid tests for food hygiene, safety and toxicological aspects have been developed; that advantages in terms of precision, effectiveness or the avoidance of possible adverse side-effects have been indicated; and that, as a result of the tests, the products, techniques or services have practical applications for industry and/or the consumer;
  - c) that research and development has been conducted on the nutritional value of foods; that useful tests have been developed to measure the nutritional value of food constituents, including the effect of processing; and that as a result the nutritional and wholesomeness values of those foods are enhanced;
  - d) that studies and tests have been conducted for the development of new or improved, novel processing technologies or innovations which enhance food quality, safety and nutritional value and that, as a result of such studies and projects, new applications have been found.
3. In order to assess the level of attainment of these short-term objectives the Commission, with the help of the Centre for Agricultural Strategy, University of Reading, UK, has used the results of a questionnaire addressed to all FLAIR project leaders, which studied the potential structural and social effects of the FLAIR Programme and aimed to characterise the research in FLAIR, its orientation and positioning in the food chain. These results have been used as background to the formulation of this communication and some of the important conclusions are mentioned in the text.

## EVALUATION OF THE PROGRAMME

### Objective 1

The Call for Proposals for the FLAIR programme was launched on 29 June 1989 for concerted actions and shared-cost proposals. The Information Package listed the priority areas which were open for either shared-cost or concerted actions. For concerted actions the objective was to coordinate research already under way in different countries or evolved through the COST Programme. The involvement of industry, particularly small and medium sized enterprises as well as cooperation with consumer protection groups was encouraged in the Call for Proposals.

57 declarations of intention to participate in concerted actions were received, together with 106 proposals for shared-cost projects. The 57 declarations comprised 508 participants and the 106 shared-cost proposals comprised 635 participants.

Participation was open to all Member States as well as those in non-Member (European) States which had framework agreements in S/T Cooperation with the Community. Concerted actions proposals did not request a budget at the declaration of interest stage. The 106 shared-cost proposals represented a total budget of 146 MECU with a budget request of 89 MECU.

15 % of concerted actions applicants were industrialists, while 33 % of shared-cost applicants were from this sector.

Subsequent to the selection procedure 33 proposals were selected for contract negotiation. These represented a number of amalgamations of proposals - especially among concerted actions, which were put in place by the FLAIR management prior to contract negotiation.

The 33 proposals are now comprised of 22 shared-cost projects and 11 concerted actions.

The total amount of the FLAIR budget was 25 MECU of which 15 MECU was allocated to shared-cost project. 6 MECU were for concerted actions and the remainder to studies, support of workshops, bursaries and training, mobility grants and the management of the programme. At least 20 MECU is being contributed by participating organisations, which means that together with the EC contribution, about 40 MECU of food related research is being generated by the FLAIR programme.

### Objective 2

Organisations from an average of 4 different countries were involved in shared-cost projects - varying from a minimum of 2 to a maximum of 6. It should be noted that for shared cost projects to achieve concise objectives over a 3 or 4 year programme a smaller number of participants than concerted actions is required. Therefore participation in concerted action is much larger with an average of 12 countries per action - ranging from 4 to a maximum of 16 countries. In shared-cost projects, French participants are most numerous, followed by British, Italian, German, Danish, Irish and Belgian.

Concerted actions have a strong British participation, particularly as co-ordinators, but there is also a good participation from French, Dutch, Belgian, German and Danish participants. There is considerable EFTA participation in the concerted actions and to a lesser extent in the shared-cost projects.

The Reading Study found that FLAIR did lead to an equalisation of skills between the scientifically more and less advanced regions of the Community - especially the concerted actions with their large networks which include top scientists in the relevant fields.

The results of the FLAIR projects were thought to be equally suitable to all regions of the Community with some possible bias towards the poorer regions where agriculture predominates.

The shared-cost projects include 126 participants of which 23 % are industrialists, while concerted action participants total 391 of which 13 % are industrial.

Overall industrial sector participation constitutes 16 % of all participants in FLAIR, while 56 % of these industrial participants are SMEs. Universities constitute 30 % of total participants, public research institutes 44 %, and private research institutes and international representative organisations 10 %.

The Reading study indicated that research concentrates on processing and retail sectors - less on the ingredients, equipment sectors. Most of the research funded by FLAIR is equally applicable in small and

large firms, though larger firms may be more likely to benefit immediately from the newer sophisticated technologies while smaller firms would benefit from the more specific technological projects e.g. cheese making, meat packaging, fruit processing.

### Objective 3

Food quality evaluation and assessment techniques (3a) are being addressed specifically by two concerted actions. One action deals with the measurement of food quality by a range of spectroscopic techniques (NIR, FTIR, NMR) and is investigating which of these new techniques are most suitable for rapid measurement of food quality - either off-line or as true on-line quality sensors. A parallel concerted action - comprising 42 laboratories is investigating the emerging science of sensory analysis and consumer choice models.

In the area of food safety (3b) a number of projects are concentrating on the development of rapid tests; e.g. for rapid detection of xenobiotics in foods such as sulfonamides, growth promoting agents, anthelmintics, pesticides, nitrofurans and nitromidazoles; the detection of microbial contaminants based on immunological specificity which can then assess the microbiological status of foods during processing.

A range of natural antimicrobial systems are being examined in another project which could be used for food processing replacing food preservatives which could have negative side-effects for consumers. Food allergies and intolerances are an increasing phenomenon among food consumers and the mode of action of these is being studied in a shared-cost project. Pathogenic micro-organisms in poultry meat which have been responsible for an increasing incidence of food poisoning are being examined by a large concerted action. The Reading study estimated that almost 50 % of the programmes funds are supporting research in the areas of food safety and nutrition with considerable benefits for those in the population most susceptible to food borne illnesses (the young, old, poor, those susceptible to allergies).

New developments in food nutrition (3c) are being examined by projects on resistant starch, food lectins, probiotics, functional fibres, while concerted actions are concentrating on new techniques for measurement of micro-nutrient status and improved compatibility among European food consumption databases. Nutrition related research was accorded less attention in the shared cost projects.

The development of new technologies, such as microwave heating for particulate food products, improved cheese making technologies, novel cleaning technologies for pipeline plants, in-pack thermal processing, computer aided design procedures for limited shelf life products should lead to new applications in food processing areas (3d). This latter area is where the greatest shared cost expenditure within FLAIR is concentrated - over 50 % as estimated by the Reading study, particularly concentrated in the secondary processing sector, less so in primary processing.

Prenormative research is being undertaken by a number of projects on authentication of fruit juices (jointly with BCR), red wine quality, virgin olive oil quality.

Finally information from all of the projects within FLAIR is being disseminated every month via the FLAIR-FLOW concerted action, which transmits this information to food companies, food trade journals and consumer groups throughout Europe, via 16 national dissemination networks. To-date this information has been utilised in articles in the press (more than 400 articles), food fairs, special FLAIR-FLOW workshops in each country. This latter action is contributing particularly to informing SMEs' and the consumer of the results of the FLAIR Programme and overall to the aims of Objective 3.

### RESULTS

The Decision establishing FLAIR in 1989 stipulated that the objectives of the programme are to contribute to Europe's competitiveness in the food industry, to the improvement of food safety and quality for the consumer and to the strengthening of food science and technology in Europe. Taking into account the budget of FLAIR which is 25 MECU, the response to the Call for Proposals and projects subsequently chosen indicates that the original objectives of the programme have been achieved.

Specifically, the Commission notes the following:

- Concerted actions are proving very useful mechanisms for putting in place scientific networks where new disciplines or concepts are emerging (e.g. sensory analysis, HACCP).

Considerable numbers of short-term exchanges of personal are occurring within concerted actions while longer term exchanges are occurring within shared cost projects. Both are very important in terms of equalisation of skills particularly in terms of cohesion. Indeed the FLAIR Programme with strong participation from Objective 1 regions where agriculture and food are significant economic activities has been shown to contribute to the achievement of cohesion.

The information dissemination action was a novel concept but so far has proved a very effective tool.

Current consumer issues have been addressed by the programme particularly in areas where there is consumer unease, e.g. safety of poultry products, cheese made from raw milk, safety of meat packs.

FLAIR is the first dedicated European programme in the food sector building on scientific cooperation already began with the COST Programmes. The involvement of industry, especially in shared-cost projects, is encouraging and this can only help the future competitiveness of the European food industry. It is important to maintain this continuity in future programmes to make good use of the structures and international networks of laboratories which are now operating as integrated infrastructures.

#### CONCLUSION

The positive results from this mid-term review of FLAIR confirms that the objectives and approach of the Council Decision establishing the programme are being addressed and effectively implemented.

No request for extension is made as food research is incorporated in the Specific Programme for Research, Technological Development and Demonstration in the field of Agriculture and Agro-Industry, including Fisheries (1991-1994) of the Third Framework Programme which is now being implemented.

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# DOCUMENTS

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