COMMISSION OF THE EUROPEAN COMMUNITIES

COM(81) 450 final
Brussels, 10 September 1981

Proposal for a

COUNCIL DECISION

adopting a concerted action project of the European Economic Community on the effect of processing on the physical properties of foodstuffs (COST Project 90 bis)

(Presented by the Commission to the Council)

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C O N T E N T S

1. INTRODUCTION

This proposal for a Community concerted-action project on the effect of processing on the physical properties of foodstuffs (COST Project 90 bis) constitutes a continuation and extension of the first concerted-action project on the subject (COST Project 90), which was adopted by the Council on 20 February 1978[1].

Countries which are not Member States of the Community but which take part in European cooperation in the field of scientific and technical research (COST) will, as in the case of the first project, be invited to participate.

The aim of this new project is twofold:

(a) to bring the first project (COST Project 90) to a satisfactory conclusion and to promote the application of the results obtained;

(b) to exploit the experience acquired in the field already studied (water activity and rheological and thermal properties) by extending the range of coordination to cover mechanical, diffusion and electrical properties, the knowledge of which is considered essential if the quality of the foodstuffs produced by the food industry is to be improved.

This programme was prepared with the assistance of the Concerted-Action Committee (COMAC) for COST Project 90, which strongly recommended that it be implemented.

2. DESCRIPTION OF THE PROBLEM

The processing of agricultural products into foodstuffs brings about a large number of transformations in these products. Experience and research have demonstrated that it is necessary, in order to ensure that food production is consistently of a high quality, to be able to monitor these transformations during the industrial process, in particular by measuring the various physical properties. Such measurements should lead, inter alia, to an optimization of the technologies currently applied (energy saving, for example).

Hence the importance of arriving at an objective knowledge of these properties and of supplying data thereon to the food industry and to public or university research centres and equipment manufacturers working for this sector.

3. STATUS OF KNOWLEDGE AND RESULTS OF COST PROJECT 90

The aim of COST Project 90 on the effect of processing on the physical properties of foodstuffs was originally to coordinate the work on water activity

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[1] OJ No L 54 25.2.1978, p. 25.

and rheological and thermal properties conducted in the scientific institutions of the countries taking part in the project. This coordination was to be effected through improved exchanges of information, the collection of published and unpublished data and a critical examination of the value of the latter.

Since the examination of the data gathered revealed that the latter were often neither reliable nor comparable, a wide range of parallel work had to be undertaken in the context of the implementation of this project, namely:

(a) the compilation of a standard format for the presentation of data, including the operational context;

(b) the preparation of a guide to the choice of the most suitable conditions for measuring the rheological properties of liquid foods;

(c) the preparation and evaluation of reference samples and the development of apparatus for measuring water activity;

(d) the evaluation and recommendation of methods for calculating the thermal properties of foodstuffs;

(e) the organization of meetings in the different laboratories concerned with a view to exchanging experience;

(f) the compilation and publication of results culled from the scientific literature and elsewhere.

Of the foregoing, the work on the compilation of standardized methodologies and presentation formats and on the evaluation of methods of calculation will have reached a highly advanced stage by the end of 1981. The same applies to the collection of data.

It should, however, be stressed that although as a result of the abovementioned problems the project has not been completed within the period of three years, it has nevertheless attracted the attention of the different sectors concerned by food technology. Specialists on the subject from other countries not taking part in European cooperation in the field of scientific and technical research (COST) have asked to be informed of the results obtained.

Likewise, contacts have been made with international organizations such as the ISO, CODATA and IUFOST which are working in related fields.

It is therefore desireable that a further period of approximately two years be provided for so that these activities can be completed.

4. CONTENT OF THE PROGRAMME

The work programme has been drawn up with due regard to the status of the work described above and to the fact that, when the first project was prepared, the choice of physical properties had for practical reasons to be limited to the three mentioned. Nevertheless, a survey conducted among the participating countries has demonstrated the importance of other physical properties, such as :

(a) mechanical properties, including the rheological properties of solids;
(b) diffusion properties (the diffusion of flavours, etc.;)
(c) electrical properties (reflectivity, dielectric properties, etc.)

The wish was also expressed that the temperature range to be studied run from 40° to 130°.

The work, which will be organized in the same way as the first project, may also involve the development of new methods and techniques provided the latter are compatible with the objectives of the programme. It is expected that the Member States will include in the concerted action all major research work that is in progress or being planned and that they will endeavour to examine the possibility of launching new projects in order to fill any gaps which might be identified.

Annex A to Annex I (the Council Decision) constitutes a table showing the initial participation of the various countries in the research topics.

5. DURATION

A period of four years is proposed for this concerted-action project.

6. IMPLEMENTATION OF THE PROGRAMME

The programme will be implemented in the form of a concerted-action project.

A Concerted-Action Committee (COMAC) will be set up; the Member States and the associated non-member countries will each be represented on it by one delegate, who may be assisted by experts.

The terms of reference of this Committee are given in Annex B to Annex I. The project will be implemented according to the following schedule :

(a) the activities in progress will be continued and the term of office of the three relevant subcommittees extended for a period of one year to a year and a half;

(b) the operation relating to the collection, dissemination and updating of information on the physical properties under consideration will simultaneously be launched. To this end, the Commission, which is responsible for coordinating this project, will decide, in agreement with the Committee, whether to entrust this operation to a single individual (project leader) or to a select working party;

(c) on the basis of the existing sub-committees, three new subcommittees dealing with electrical, mechanical and diffusion properties will be set up during 1983.

7. DISSEMINATION OF KNOWLEDGE

Stress will be laid on quick and efficient dissemination of the results by organizing workshops, symposia, etc. and by publishing regular reports.

8. TOTAL APPROPRIATION AND STAFF COMPLEMENT

The total appropriation for the national research of the Member States which is coordinated by the concerted-action project is estimated at I5 million ECU for a period of four years.

The cost of the coordination borne by the Community Budget is estimated at 670,000 ECU for the four-year period. This amount includes the salary of a Category B employee (to be recruited), expenses incurred by experts, the organization of meetings and symposia and the expenses relating to the project leader or to the experts called upon to assist in the coordination.

9. PARTICIPATION OF NON-MEMBER COUNTRIES TAKING PART IN COST

Several countries which are not Member States of the Community but which take part in European cooperation in the field of scientific and technical research (COST) have already expressed their wish to participate in the Community concerted-action project under a Community-COST concertation agreement to be concluded with the Community. This association is rendered possible by the provisions of Article 6 of the Council Decision (Annex I hereto).

A draft brief for the negotiation of an agreement with the non-member countries concerned has been simultaneously submitted to the Council.

PROPOSAL FOR A
COUNCIL DECISION OF .....
ADOPTING A CONCERTED ACTION PROJECT OF THE EUROPEAN ECONOMIC COMMUNITY ON THE EFFECT OF PROCESSING ON THE PHYSICAL PROPERTIES OF FOODSTUFFS

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas, in its Resolution of I4 January I974 on an initial outline programme of the European Communities in the field of science and technology (3), the Council stressed that the entire range of ways and means available, including concerted action, should be drawn upon as appropriate, and that, whenever appropriate, non-member States, particularly European States, should be involved;

Whereas in its resolution of I4 January I974 relating in particular to the coordination of national policies in the field of science and technology (4), the Council entrusted the Community institutions with the task of ensuring, with the assistance of the Scientific and Technical Research Committee (CREST), the gradual coordination of national policies in the field of science and technology;

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1 OJ No
2 OJ No
3 OJ No C 7, 29.I.I974, p. 6
4 OJ No C 7, 29.I.I974, p. 2

Whereas by Decision 78/I77/EEC[5] the Council adopted a first concerted action project on the effect of processing on the physical properties of foodstuffs;

Whereas the abovementioned concerted action project has given extremely encouraging results;

Whereas a second project in this field would make it possible to derive the maximum benefit from the effort that has been made;

Whereas the Member States intend, as part of the rules and procedures applicable to their national programmes, to carry out the research described in Annex I and are prepared to integrate it into a process of coordination at Community level over a period of four years;

Wheras the execution of the research work as described in Annex I calls for a financial outlay of some I5 million ECU in the Member States taking part therein;

Whereas on I8 July I978 the Council agreed on certain procedural arrangements for cooperation under European Cooperation in the field of scientific and technical research (COST);

Whereas the Treaty does not provide the specific powers necessary for this purpose;

Whereas CREST has given its opinion on the Commission proposal,

HAS DECIDED AS FOLLOWS :

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5 OJ No L 54, 25.2.I978, p. 25.

ARTICLE 1

The Community shall implement for a period of four years a concerted-action project on the effect of processing on the physical properties of foodstuffs (hereinafter called 'the project').

The project shall consist in the coordination at Community level of the research work which is specified in Annex I and which shall form part of the research programmes of the Member States.

ARTICLE 2

The Commission shall be responsible for such coordination.

ARTICLE 3

The financial contribution by the Community towards the four-year period of coordination is estimated at 670,000 ECU and the staff complement is estimated at one employee. The ECU is defined by the Financial Regulations in force. These figures are given for guidance only.

ARTICLE 4

To facilitate the execution of the project a Concerted Action Committee on the Effect of Processing on the Physical Properties of Foodstuffs (hereinafter called 'the Committee') shall be established.

A project leader shall be appointed by the Commission in agreement with the Committee. He shall, in particular, assist the Commission in its task of coordination.

The terms of reference and composition of the Committee are laid down in Annex II.

The Committee shall draw up its own rules of procedure.

Its secretariat shall be provided by the Commission.

ARTICLE 5

1. In accordance with a procedure to be laid down by the Commission in agreement with the Committee, the Member States participating shall regularly exchange all relevant information concerning the performance of the research covered by the project and forward to the Commission all information that may be useful for coordination purposes. They shall in addition endeavour to provide the Commission with information relating to the research planned or performed by bodies which are not under their authority. This information shall be treated as confidential if the Member State which communicates it so requests.

2. The Commission shall prepare annual progress reports on the basis of the information provided and shall send them to the Member States and the European Parliament.

3. At the end of the coordination period the Commission shall, in agreement with the Committee, send to the Member States and to the European Parliament a consolidated report on the performance and result of the project. The Commission shall publish such report six months after it has been sent to the Member States, except where a Member State objects. In that event, the report shall be distributed upon request only to the institutions and undertakings whose research or production activities justify access to the results of the research carried out under the project. The Commission may make provision that the report remains confidential and is not disclosed to third parties.

ARTICLE 6

In accordance with Article 228 of the Treaty, the Community may conclude agreements with non-member countries participating in COST with a view to concerting the Community project with the corresponding programmes of those countries.

This Decision shall tak effect on the day of its publication in the Official Journal of the European Communities.

Done at .....

For the Council

The President

CONTRIBUTION OF THE MEMBER STATES TO THE PROJECT
BY RESEARCH TOPIC

Research topic	Tentative apportionment of the research work													
	Belgium	F.R. Germany	Denmark	France	Italy	Ireland	Netherlands	United Kingdom	Switzerland	Finland	Spain	Portugal	Greece	Sweden
I. Mechanical properties: in general				x				x						
(a) density and related properties			x			x								
(b) acoustic properties														
(c) tension/relaxation relationships			x	x		x				x				x
2. Diffusion properties : in general														
(a) diffusion of water and water vapour			x		x			x						x
(b) diffusion of solutes										x				x
(c) diffusion of aroma, flavour and nutriments						x				x				x
(d) activity/fugacity of the foodstuff constituents										x				
										x				
3. Electrical properties : in general								x						x
(a) microwaves and dielectric properties						x				x				x
(b) interactions in the infra-red spectrum						x								x
(c) interactions in the ultraviolet spectrum														
(d) interactions in the visible spectrum														
4. Continuation of the collection of data (on rheology, absorption and thermal properties)			x	x	x	x		x		x				x

(to be supplemented)

TERMS OF REFERENCE AND COMPOSITION OF THE COMMITTEE REFERRED TO IN ARTICLE 4

I. The Committee shall

I.I. contribute to the optimum execution of the project by giving its opinion on all aspects of its progress;

I.2. evaluate the results and draw conclusions regarding their application;

I.3. be responsible for the exchange of information provided for in Article 5(I);

I.4. keep abreast of national research work being done in the fields covered by the project, in particular by keeping abreast of scientific and technical developments likely to affect the execution of the project;

I.5. suggest guidelines to the project leader;

I.6. have the right to set up, in respect of each of the four research topics defined in Annex A, a subcommittee to ensure that the programme is properly implemented.

2. The reports and the opinions of the Committee shall be communicated to the Commission and the Member States participating. The Commission shall forward these opinions to CREST and to the Standing Committee on Agricultural Research (SCAR).

3. The Committee shall consist of the persons responsible for coordinating the Member States' contributions to the project, a delegate from the Commission responsible for the latter's contribution and the project leader. Each member may be accompanied by experts.

FINANCIAL RECORD

(for the 1982 Budget)

A. PART 1 : NEW PROJECTS

1. RELEVANT BUDGET HEADING : To be charged to Chapter 73, Article 737, item 7371

2. TITLE OF BUDGET HEADING : Concerted-action project of the EEC on the effect of processing on the physical properties of foodstuffs.

3. LEGAL BASIS : Article 235 of the EEC Treaty

4. DESCRIPTION, OBJECTIVE(S) AND JUSTIFICATION OF THE PROJECT

The processing of agricultural products into foodstuffs brings about a large number of transformations in these products. Experience and research have demonstrated that it is necessary, in order to ensure that food production is consistently of a high quality, to be able to monitor these transformations during the industrial process.

Three physical properties, namely water activity and rheological and thermal properties, were the subject of a first concerted-action project in this field (COST Project 90). In this new concerted-action project, it is envisaged to exploit the experience acquired in the field already studied by extending the range of coordination to cover mechanical, diffusion and electrical properties.

OBJECTIVES

The main aim of the project is to provide the food industry with reliable physical and chemical data and methodologies in order to enable them to improve food production.

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JUSTIFICATION

Data on the physical properties of foodstuffs are plentiful but often neither reliable nor comparable; hence the need for coordinating the work conducted in the field.

5. FINANCIAL IMPLICATIONS OF THE PROJECT (IN ECU)

5.0. Implications in respect of expenditure

5.0.0. Multiannual timetable

Appropriations for commitment (ECU)

	1982	1983	1984	1985
Staff	46,000	50,000	54,000	58,000
Admin. Operation	50,000	55,000	60,000	65,000
Contract	50,000	55,000	61,000	66,000
TOTALS	146,000	160,000	175,000	189,000

Appropriations for payment (ECU)

	1982	1983	1984	1985
Staff	46,000	53,000	54,000	58,000
Admin. Operation	50,000	55,000	60,000	65,000
Contract	50,000	55,000	60,000	66,000
TOTALS	146,000	160,000	175,000	189,000

5.0.2. Rate of utilization of the appropriations for payment during the 1982 financial year

Ist quarter	2nd quarter	3rd quarter	last quarter
1/4	1/4	1/4	1/4

5.1. Implications in respect of revenue, if any

6. TYPE OF CONTROL TO BE APPLIED (including checks on efficiency)

COMAC
Administration of Contracts Division in DG XII
Financial Control

B. PART 2 : ADDITIONAL DATA TO BE PROVIDED FOR A NEW PROJECT

7. OVERALL FINANCIAL IMPLICATIONS OF THE PROJECT FOR THE WHOLE OF ITS EXPECTED DURATION (in ECU)

7.0. Implications in respect of expenditure (costs) :

- chargeable to the Community Budget	670,000 ECU
- chargeable to the national administrations	I5,000,000 ECU
- chargeable to other sectors at national level	
Total cost	I5,670,000 ECU

7.I. Implications in respect of revenue (to be completed by DG XIX)

8. INFORMATION REGARDING STAFFING AND THE APPROPRIATIONS FOR ADMINISTRATIVE EXPENDITURE NECESSARY FOR THE IMPLEMENTATION OF THE PROJECT

Staffing : one Categoty B employee

9. PROJECT FINANCED FROM :

9.0.

9.I.

9.2.

9.3. Appropriation(s) to be entered in future budget(s)[1]

[1] Delete as applicable