FLAIR-EUROFOODS ENFANT CONCERTED ACTION

INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC)
WORLD HEALTH ORGANIZATION

WORKING GROUP ON THE LANGUAL FOOD CODING SYSTEM

Report of the Meeting

held at the International Agency for Research on Cancer

(Lyon, 24-26 June 1993)

IARC, Lyon, July 1993

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INTRODUCTION

The Langual system was originally developed by researchers at the US Food and Drug Administration and the US Department of Agriculture. At present the Langual data base in the US includes 22,000 foods for which large amounts of information on chemical, physical, technological and nutritional characteristics are available in a network of integrated data bases.

In Europe, Langual has been implemented at various levels and for somewhat different purposes in:

Denmark : National Food Agency
France : Centre Informatique pour la Qualité des Aliments (CIQUAL-INRA)
: Centre de Recherches pour l'Etude et l'Observation des Conditions de Vie (CREDOC)
Hungary : University of Horticulture and Food Industry
UK : Ministry of Agriculture, Fisheries and Food (MAFF)

In September 1991 a meeting was organized at IARC with the support of the FLAIR Eurofoods-Enfant Concerted Action to present the structure of the Langual system and to give an on-line demonstration of information retrieval from the US data base and to discuss the possibility of developing similar data bases in Europe.

In May 1992 FLAIR Eurofoods-Enfant organized a test with the collaboration of several European centres to evaluate the reproducibility, correctness and completeness of food coding with Langual and the importance of training the coders. Overall, the results were quite encouraging, as indicated in the reported prepared by J. Deary (Report on Langual Coding Experiment, FLAIR Eurofoods-Enfant Concerted Action, April 1993).

Objectives of the Working Group

The meeting was attended by researchers from the US Department of Agriculture, the US Food and Drug Administration, FLAIR Eurofoods-Enfant and IARC. The main aims of the meeting were:

1) To review and discuss the participants' experience in implementation and use of the Langual system in different European centres and in the US.

2) To present and discuss the final results of the food coding experiment carried out with Langual.

3) To present and discuss experiences and possibilities of combining Langual with other food coding systems, and particularly with Eurocode II.

4) To decide on how to coordinate the implementation of the Langual data bases in different countries, particularly in relation to the proposal to create an international committee which will be in charge of supervising the criteria for food coding in different countries in order to ensure comparability of data bases at the international level.

5) To evaluate different experiences of computerization of Langual (mainframe, PC, MacIntosh).

6) To plan future developments : activities, methods of coordination, search for funds.

PART I : OVERVIEW OF PRESENT STATUS OF THE LANGUAL SYSTEM IN THE UNITED STATES AND IN EUROPE

Elio Riboli, IARC, opened the meeting with remarks concerning the backgrounds of users, their common needs as well as their differences. He discussed the specific interest of IARC in the Langual approach to food description. He provided the focus of the meeting by outlining the goals for our current activity. In particular, participants were instructed to review current activities in Langual by various centres, to review and discuss the results of the Langual coding test, to identify and discuss needs and requirements for maintaining an international network to address food description concepts and related issues. E. Riboli pointed out the need for common targets, scientific cooperation and administrative and fiscal support.

Ray Russo, FDA, explained the current situation regarding Langual and its use at the FDA. He briefed the group on the retirement of Brad Rosenthal and the reorganization of the FDA. He stressed that Langual is alive and well in the USA and will continue to receive support at the FDA. Although federal resources are limited and some changes have taken place during the last year, the FDA will continue to support collaboration and cooperation on the development and use of Langual. He stressed the need for work with Langual in the USA and Europe to remain in concert, with a standard, core, worldwide Langual system. The value of Langual will be greatly diminished if we drift apart.

Betsy Smith, FDA, presented the overview of coding work during the last few years. Since the first file was coded in 1981, the Langual vocabulary has been applied to 16 files of food names. As of 15 June 1993, almost 31,000 foods have been coded from the following files:

- SIREN (Scientific Information Retrieval and Exchange Network) -
  Food names found in CFSAN regulatory files : **7200 foods**

- USDA Handbook 8 (Nutrient Database for Standard Reference):
  Nutritional analytical information: **5100 foods**

- USDA NFCS 1988; USDA NFCS 1977 (Nationwide Food Consumption Survey):
  Food consumption information: **6300 foods (1988); 4600 foods (1977)**

- FDA FLAPS 91; FDA FLAPS 88; FDA FLAPS 86 (Food Labelling and Packaging Survey):
  Full food description including pictures of label and package:
  4000 foods

- FDA Total Diet Study:
  Pesticides, heavy metals, some nutritional analysis:
  234 foods (1982-89); 265 foods (1990)

- FDA: Examples in printed lists, known as "Precombined Terms": **550 foods**

- CODEX Alimentarius Foods: **300 foods**

- CIQUAL "French Foods": **1200 foods**

- New Zealand Foods - finfish and shellfish: **100 foods**

- USDA Carotenoid Foods: **700 foods**

- Greek Foods: **130 foods**

- University of California "Berkeley Foods": **200 foods**

Tom Hendricks, FDA, then reported on the development of the International Interface Standard for food databases (see Appendix I). He stressed the increasingly critical need for exchange of nutrition and food safety data between the European Community and the USA. Currently, an interface standard is under contractual development at the FDA to provide a means of improving and standardizing food descriptions, matching foods among databases, exchanging data, and retrieving database information. During 1992 the scheme for the standard was refined to include complete Langual coding, full ingredient and recipe information, and descriptive terms for other aspects of foods. During 1993 a repertoire of personal computer programmes for rerieval of food data are being developed. Finally, as funding becomes available, the results will be tested and disseminated through pilot tests and demonstration projects.

Joanne Holden, US Department of Agriculture, emphasized the need for specific and detailed food descriptions when generating and compiling food composition data. Such descriptions are critical to the assessment of accuracy and variability in composition values for individual foods. Langual factors for the foods in the new carotenoid data base have been assigned and are available.

Anders Møller, National Food Agency of Denmark (LST) reviewed past experience with Langual in connection with the management of food composition and consumption data. Langual was chosen as the tool for the description of the foods in the databases due to its "open-ended" structure (non-classification system). To have more precise information on food components (ingredients and food additives), a full ingredient coding system was implemented as well as mapping between foods in the database and the corresponding entries in the Danish food additive list. Due to rapidly increasing needs, a proposal for a common database interface has been drawn up. The interface complies to the Template "International Interface Standard for Food Databases" (CODATA), and will be used to link the following databases:

- Danish Food Composition Database
- LST's laboratory information management system
- LST's database on inherent toxic substances in plants
- Danish food consumption surveys
- Danish household budget surveys.

Jayne Ireland-Ripert recalled the history of the CIQUAL database, acknowledging the combined support of the French Ministry of Agriculture and Research, the Institute of National Research in Agronomy and OSTOM. The French nutrient data base developed by the Centre Informatique sur la Qualité des Aliments (CIQUAL) contains over 2000 foods consumed and/or produced in France, and foods from northern, western and central Africa, in collaboration with the corresponding countries. At the creation of CIQUAL it was seen that it was necessary to elaborate a food description system that would be compatible with computer management. This greatly developed with the collaboration of national and foreign institutions which also manage food databases (composition or consumption), willing to assure the coherency of data that could be echanged or simply compared. In 1987, the CIQUAL chose the factored food vocabulary as food coding system. At the 1988 International FFV workshop hosted by CIQUAL in

Paris, the name was changed to Langual (Langua Alimentaria). An international Langual hierarchy was discussed:

- International Steering Committee with representatives of the USA and Europe.
- User groups associated: dieticians, consumers, industry.
- Parallel technical committees in the USA and Europe, with exchange of information.
- Telecommunications and computers: possibility of international exchange of information.
- Data and statistics: gathering, aggregation and data input.
- Communications/Publicity: Newletter
- Regulatory data.

The CIQUAL has been very active in implementing LANGUAL in Europe:

- Teaching Langual course each year.
- Organization of a Langual evaluation workshop in 1992.
- Cooperation with CRÉDOC.
- Proposals for facets and new descriptors.

Saadi Lahlou, CRÉDOC, presented the status of the implementation and use of Langual by his organization to answer research and data questions submitted by scientists at the Ministries of Agriculture, Health and also the Ministry of Consumption and Repression of Fraud. In addition, queries have been submitted by a limited number of industries. As part of a scheme to address questions about people, foods and habits, Langual has been implemented on a Sun Work Station, using the ABF programming language and the INGRES database management system. FDA factored foods (approximately 20,000 and others have been used as a base for factoring of French foods. Using the CRÉDOC systems for indexing and retrieval and linkage to consumption data it is possible to develop repartition curves to answer queries. As a results of CRÉDOC's experience, S. Lahlou stressed the need for a "recipe" approach for commercial and domestic multi-component foods. Furthermore, incorporation of familiar coding schemes as well as Langual codes accommodates the needs of most users. A computerized demonstration by S. Lahlou, Valérie Beaudoin, and Christophe Thévignot on Thursday afternoon illustrated the CRÉDOC system.

Jim Deary, Ministry of Agriculture, Food and Fisheries (MAFF) pointed out the difficulties associated with implementation of Langual within the UK national database. Some scientists who are accustomed to using established coding systems are reluctant to change their system. J. Deary emphasized that it is imperative to permit the use of both systems. At the same time, he discussed the need to justify Langual implementation in terms of budget cost, and requested suggestions for examples of problems which have been solved using Langual.

Ivan Varsanyi, University of Horticulture and Food Industry, Budapest, reported on the evaluation of the application of Langual for Hungarian foods. He indicated several difficulties with regard to current lack of specificity for certain Langual terms (e.g. acidified vs citric acid added, etc.). He emphasized the need for detailed food description, especially in view of the requirements for importing and exporting foods. He called for the organization of a US-European technical working committee to discuss coding questions and their resolution at regular intervals. Dr Varsanyi's detailed comments concerning the Hungarian experience in using both Eurocode 2 and Langual were submitted for review.

PART II : ASSESSMENT OF LANGUAL, EUROCODE AND FOOD DATABASE MANAGEMENT SYSTEMS

Jayne Ireland-Ripert, CIQUAL, outlined the organization and participation in the experiment. Two candidates from many different European countries were invited to code up selected lists of foods. These candidates coded up one list prior to any formal training in the use of Langual and then, following a training session in Paris, they were invited to code a second list of foods which had been selected by an independent committee to represent simple foods, complex foods and recipe foods.

In addition to coding the foods, candidates offered their opinion on the use of Langual, and J. Ireland-Ripert summarized many of the observations made, and noted that these would need to be addressed before Langual could be used properly in Europe. It was also noted that a retrieval experiment needs to be carried out and that a management committee should be esablished to oversee the development of Langual in Europe. Since Langual cannot yet deal effectively with recipes, our American colleagues suggested that the retrieval experiment should be delayed until Langual has been developed to deal with ingredients.

Jim Deary, MAFF, explained that the purpose of the experiment was to assess reproducibility, completeness, correctness and the importance of training. These terms are defined in the Eurofoods-Enfant report on the experiment. He indicated the approach taken to compare and measure candidates' results, and presented the conclusions:

- Complex commercial foods are more difficult to code than recipe foods which, in turn, are more difficult to code than simple foods.
- Some Langual facets (E, H and J) were difficult to code correctly for many foods.
- Different candidates cannot reasonably be expected to code the same foods identically or, always, correctly.
- Nevertheless, there is a high degree of conformance with the experts' views, sufficient to persuade decision-makers that Langual could be used reasonably successfully by different people in different countries.
- It is essential to know foods completely and to understand the Langual rules before commencing coding.

Anders Møller, National Food Agency of Denmark, presented the preliminary work of establishing a link (mapping) between Eurocode 2 and Langual. This task has been undertaken in order to:

- Facilitate Eurocode 2 coding for Langual users (automated coding)
- Make Eurocode 2-coded foods retrievable in Langual-based systems.

Based on the current draft of Eurocode 2 (March 1993) all food groups/ foods listed in Appendix III have been factored with Langual codes.

At a meeting in Paris (21-22 June 1993) members of the CODATA task group concerning "Systematic Nomenclature for Foods in Nutrient Data Banks" reviewed the first outcome of the exercise. The conclusion from the meeting shows that a direct link between Eurocode 2 and Langual can be established. Few problems exist, and they can be summarized as follows:

Major problems : Some foods/food groups in Eurocode 2 are not well defined (e.g. use of the term "miscellaneous").

Minor problems : Characteristics missing/different in Langual
e.g. fat/oil content (milk, cheese, margarine)
sugar content (jam and marmalade)
alcohol content (beer and wine)

"No" problems : Missing factors/terms in Langual, especially:
A. Product type
B. Food sources
C. Adjunct characteristics

The problems, according to their origin, will be addressed either to the Eurofoods secretariat or to the US Food and Drug Administration. A. Møller felt that while Eurocode is a useful tool for grouping purposes, it is not a descriptor system and could not be used in place of Langual.

Further tests on the mapping between Langual and Eurocode 2 need to be carried out to determine whether manual retrieval and automatic translation can be achieved. It is planned to carry out these tests during the coming months.

CRÉDOC, France, has kindly agreed to participate in this. The results will be presented at the FLAIR Eurofoods-Enfant meeting in Portugal in November 1993.

Ailsa Welch, EPIC, spoke about data management methods used in the production of the UK food tables. The current food table database consists of this series of publications:

		NUTS.
Cereals and Cereal Products	1988	60
Milk Poducts and Eggs	1989	54
Vegetables, Herbs and Spices	1991	57
Fruit and Nuts	1991	60
Vegetable Dishes	1991	53
The Composition of Foods, 5th Edition	1991	42
Food Labelling Data for Manufacturers	1991	12

The food tables were produced by the Royal Society of Chemistry which works in conjunction with the MAFF.

Management of Nutritional Databases in the UK

Management methods

The 3 data management methods for the UK McCance and Widdowson database are via the use of:

1) a unique identification number
2) structured food names
3) hierarchical food groups/

Within the final printed publications, the position of a food is determined by:

1) the main food group and subgroup
2) alphabetical listing of foods within these groups.

Unique identification number

This consists of a letter (indicating the food group) and a 3-digit code. This identification number remains with the data continuously throughout the data production process and is for internal use only.

Structured food names

A system has been devised to structure food names so that they can be manipulated to:

1) Automatically list in a logical order,
2) Enable formatting in different type faces by highlighting parts of the name in bold or italic. This improves clarity on the printed page.
3) Produce lists with minimal repetition of parts of the name
4) Produce a structured index for publication.

The names given to the foods are particularly important for use in computer systems, as the food name has to enable complete identification of the food (without resorting to the additional information found in the printed publications).

The names are divided into a set of fields (see Tables 1 and 2 for an illustration from the Vegetable Dishes supplement) The order of the parts of the name is considered carefully, and follows on from the system initiated in the 1979 edition of McCance & Widdowson.

Food groups

Food groups are used in a complementary way to the food names for organizing the data. An example of the structure of food grouping for milk and milk products is shown here (see Table 3).

Publication identification number

The sequential publication identification number is allocated at the very end stages of production. With this, there are two other numbers included in the computer export file. These are:

the Previous Publication Number

the Constant food Number.

The Previous Publication and the Constant Food numbers enable data for the same food to be cross referenced with newer versions of the data.

Summary

This management system is very effective in a single language situation and makes the best use of available information.

Table 1

FOOD NAME FIELDS USED FOR THE VEGETABLE DISHES SUPPLEMENT

MAIN NAME	Beanburger Curry

Bold
May also be sometimes used as a subgroup heading.

AUXILLIARY NAME	aduki chickpea

Normal type
Defines the food with greater precision at the level of type, variety/species.

PRESENTATION	whole and tomato

Normal type
More information on the type or form of the food - usually before any preparation procedure has occurred.

PREPARATION	fried in vegetable oil with butter ghee

Italic type
Describes the cooking process or preparation of the food.

Table 2

8 Vegetable Dishes

No.	Food
15-	
1	Aubergine, stuffed with lentils and vegetables
2	stuffed with rice
3	stuffed with vegetables, cheese topping
4	Bean loaf
5	Beanburger, aduki, *fried in vegetable oil*
6	butter bean, *fried in vegetable oil*
7	red kidney bean, *fried in vegetable oil*
8	soya, *fried in vegetable oil*

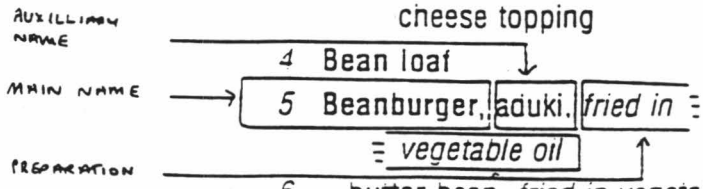


Table 3

EXAMPLE OF FOOD GROUP CODES

Milk and milk products		
Cows milks	BAE	Skimmed milk
	BAH	Semi-skimmed milk
	BAK	Whole milk
	BAN	Channel Island milk
	BAR	Processed milks

NUTRIFILE

Joyce Lambe, Nutriscan, Dublin, spoke about NUTRIFILE, a food and Nutrition atlas of the EC. The concept of NUTRIFILE arose from discussions about the need to collate existing data on food and nutrient intakes across Europe. The project is viewed as a sueful prelude to a pan-EC nutrition survey. The database can be searched on the basis of geographic location, study type, demographic parameters, year of study and dietary methodology used. The information can then be viewed using text, maps, bar charts and scatter graphs. Currently, there are almost 100 studies in the database. The improved programme and manual will be presented to the Europe Against Cancer Programme in October 1993. Views were requested on how NUTRIFILE should proceed from this point.

Elio Riboli expressed his concern that the raw data interrogated by the programme are obtained using very different methodologies. Therefore, it will not be clear whether comparison of the data reflect real differences between countries/groups or are influenced by the method of data collection. Saadi Lahlou suggested that the output data should bear the warning "Data are obtained from different sources" so that this will be considered when the data are being interpreted.

PART III : STANDARDIZATION AND CONSISTENCY OF THE FOOD INDEXING PROCESS

This part of the meeting was organized as a round table discussion, and was introduced by J. Ireland-Ripert, E. Smith, S. Lahlou and N. Slimani. The following is a summary of the main points raised and agreed on in the discussion.

1. How to supervise the standardization and consistency of the Langual coding/indexing process in different centres/countries

1.1 International Langual Steering Committee and European Technical Committee

the participants stressed the need for an international Langual Steering Committee with American and European members and of a European Technical Committee similar to the one in the USA, which will meet on a regular basis in the form of a centralized core group, plus additional working groups on specific indexing problems (e.g. packing). One of the issues should be the examination of Langual descriptors and scope-notes in the light of European regulations related to food consumption and food consumption data.

1.2 Exchange of information

In order to improve communications among Langual users, the International Steering Committee should publish, on a regular basis, a newletter giving language updates, definitions, modifications, publications, information on congresses and upcoming events, details on some aspects of indexing, etc. The UK has offered its services.

1.3 Langual training

It was felt that there should be Langual training of coders before they start indexing foods. This training could be combined with Eurofoods courses at Wageningen. A short introductory course is given each year in Paris.

In order to improve consistency of food indexing the group also felt that inter-laboratory trials should be carried out on a yearly basis.

1.4 **Computer implementation**

Consistency of indexing could be verified by computer means:

- One simple check could be comparing Langual codes for a same food item (e.g. a meat cut "leg" would point to an animal origin).
- A more sophisticated system would compare Langual descriptions with labels and/or recipes.
- A third method would be to have an international database of food prototypes indexed using Langual. If these are complex foods, their ingredients are also recorded in a recipe file.
- Finally, we need computer programmes which allow the transfer of sets of Langual codes from one food item (or prototype) to another food.

It was also pointed out that there is often a lack of knowledge as to the history of a food product (e.g. packaging material, storing conditions, breeding and selection). In this case, more background information could be supplied by industry.

2. Identification of foods in epidemiological surveys

2.1 **European Prospective Investigation into Cancer and Nutrition (EPIC)**

The EPIC study is a large prospective multi-centre study on diet and cancer involving seven European countries. Information on dietary intake will be collected from each subject in the cohort by means of a diet history questionnaire (# 300 items). In addition, a dietary method based on 24-hour recall will be used on a sub-sample of the subjects. This will involve a statistical methodological approach as a reference method, before the data is pooled, to calibrate the dietary intakes obtained with the diet history questionnaires used in the seven countries. One of the main statistical requirements for the use of the calibration method is that the 24-hour recall be standardized as far as possible between the different countries.

In the EPIC working group set up to standardize 24-hour recall, the "Langual concept" has been used for between-country standardization of the method of identification and the description of foods as reported by the subject during the dietary interview using a computer software programme. The following criteria led the group to use this approach: the type of dietary method used (open-ended method), the level of detail required from the subject and the type of foods reported by the subject.

Three different kinds of foods have been identified: "simple foods" (e.g vegetables, fruits,...), "complex foods" (mainly commercial products) and "recipes" which may have various implications for the method of identification, description but also for the quantification, calculation or analysis to be used. For each of these types of foods reported by the subject, different approaches have been used to standardize the method of identification/ description and the level of detail to be obtained systematically from the subject by using, depending on the type of food group considered. either an "implicit description" or an "explicit description" (or both) of foods.

- The "implicit description" supposes that the food name (and/or the brand name) is sufficient to identify and describe the foods. classification into main groups/sub-groups can also contribute to the implicit description.

- In the "explicit description", the food name and classification system are not sufficient to obtain the amount of detail required. In this case, a sequence of pre-defined facets/descriptors are used as a sequence of questions which should put to the subject systematically. This corresponds to the "Langual concept". All the foods belonging to the same food groups should be described by using the same number and type of facets, but the type of descriptors reported in the different facets will be more flexible and will depend on the local food habits or needs of each country.

For the "simple foods", the "implicit description" will involve using a common classification system in main groups/sub-groups and establishing a food list where only the common name will be reported (tomato, spinach, orange,...). The sequence of the facets/descriptors which will be attached to the foods reported in the list will correspond to the so-called "explicit description"

(see figure 1). The "recipes" will be broken down systematically into simple ingredients which will then be identified and described as "simple foods".

For the so-called "complex foods", the identification and the description will mainly be based on the "implicit description", including the classification of these foods into more homogeneous groups/sub-/or sub-sub-groups, their common names (or commercial names) but also, when relevant, their brand name. The use of the "explicit description" (facets/descriptors) will be limited to facets needed to identify the differences in terms of nutrients between foods belonging to the same food group/sub-group (e.g facet "fat content" for "camembert cheese", or the cooking method for some processed meat) (see figure 2).

2.2 Coding system required for the EPIC study

Basically, two types of coding systems will be necessary:

i) The ad hoc type of coding system developed at IARC to code foods as reported by the study subjects. This includes:

- Specific identifying code.
- Common classification into main groups and sub-groups.
- Series of facets/descriptors
- Specified probing questions

This system will be used mainly for the retrieval, management and exchange of data as reported by the subject within the EPIC group.

ii) International coding systems, including:

- Different classification systems (e.g. Eurocode)
- Multifactorial descriptive system (e.g. Langual).

These systems will be used for retrieval, management and exchange of data between the EPIC group and other groups. They will also be used for comparative or pooled analyses within EPIC, or between EPIC and other groups.

Additional tests on both Eurocode and Langual are needed.

STANDARDIZATION OF THE IDENTIFICATION OF SIMPLE FOODS (E.G : LEAFY VEGETABLES)

CLASSIFICATION IN FOOD GROUPS/SUB-GROUPS

02 : VEGETABLE
02 01 00 : LEAFY VEGETABLES (EXCEPT CABBAGES)

FOOD NAMES (+ SPECIFIC IDENTIFICATION CODES)

01 : CHARD
02 : ANDIVE
03 : CHICORY
04 : LETTUCE
05 : SPINACH
.
.

FACETS/DESCRIPTORS TO BE CONSIDERED INTO THE PATHWAY

04 **PRESERVATION METHOD** (C)
0 : UNDEFINED (N.S)
1 : CANNED
2 : FROZEN
3 : DRIED
4 : SALTED
6 : MARINADED
10: VACUUM PACKED
99: FRESH (D)

05 **PACKING MEDIUM** (C IF CANNED)
0 : CANNED (N.S)
1 : CANNED IN OIL
3 : CANNED IN WATER
4 : CANNED IN OWN JUICE
7 : CANNED IN SAUCE (N.S)
12: CANNED IN TOMATO SAUCE
13 : CANNED IN WHITE SAUCE
14 : CANNED IN CHEESE SAUCE
10: CANNED IN VINEGAR (OR PICKLED)
8 : CANNED IN GELATINE

02 **PHYSICAL STATE** (C)
0 : UNDEFINED (N.S)
2 : RECONSTITUTED FROM POWDER
3 : POWDERED
4 : FLESH (D)
5 : MINCED
6 : PUREED/MASHED (FROM FRESH VEGETABLES)
7 : SAUCE
12: GRATED

03 **COOKING METHOD** (C)
0 : COOKED (N.S)
1 : BAKED
2 : BARBECUED
3 : BOILED
4 : STEAMED
.
.

PROBING QUESTIONS
FAT ADDED DURING OR AFTER COOKING

Figure 1

FOOD GROUPS/ SUBGROUPS	ORIGINAL FOOD LISTS	FACETS/DESCRIPTORS TO BE INTRODUCED INTO THE FOOD NAMES	FACETS TO BE CONSIDERED IN THE PATHWAY (Software)
PROCESSED MEAT			
	Sort + common names	SOURCE (C) (if relevant)	COOKING METHOD (C)
		FAT CONCENT (C) (if relevant)	
		PRESERVATION METHOD (C) (if relevant)	
		PACKING MEDIUM (0) (if relevant)	
FLOUR, FLAKES, STARCHES			
	Common names	SOURCE (C)	
PASTA, SEMOLINA, RICE			
	Common names	SOURCE (C)	COOKING METHOD (C)
BREAD, CRISPBREAD, RUSKS			
	Common (or commerical names)	SOURCE (C)	
		FLAVOURED/ADDED COMPONENTS (C)	
		ENRICHED/FORTIFIED (0) (if relevant)	
		COOKING METHOD (0)	

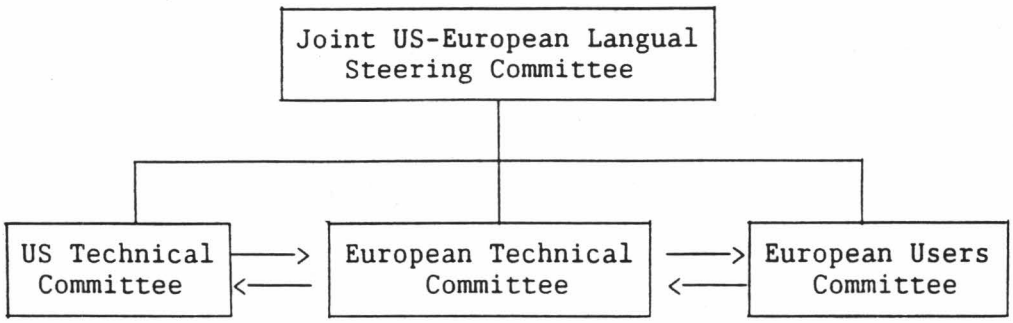
Figure 2

PART IV : RECOMMENDATIONS FOR FURTHER ACTION

Based on the discussions of the previous two days, it was decided to establish a joint US-Europe Langual Steering Committee in order to coordinate the activities of Langual in Europe and the United States.

1. Organizational structure

The following study was envisaged:



Representation of the Steering Committee would be on the basis of organizations, whilst representation on the Technical and Users Committee would be on a personal basis. Membership of the Steering Committee would be as follows (initial holders of the positions are in parentheses):

US Food and Drug Administration, Co-chairman (Dr Ray Russo)
US Department of Agricultural (Ms Joanne M. Holden
US user (to be identified by colleagues at US DA and US FDA)
OCA France (Representative from CIQUAL or CREDOC)
National Food Agency, Denmark (Dr Anders Møller)
Eurofoods-Enfant (Dr Clive E. West)
WHO (Dr Elio Riboli)

A second Co-Chairman of the Committee would be chosen from the OCA in France or the National Food Agency in Denmark. This person would become a member of the Management Committee of the COST Eurofoods-Enfant Project. Provisional membership of the European Technical Committee would be:

Dr Anders Møller
Ms Valérie Beaudouin
Dr Jayne Ireland-Ripert
Ms Nadia Slimani.

The US Technical Committee is already established.

2. Meetings

It is envisaged that the Steering Committee will meet annually and that meetings will be held alternately in the US and in Europe. Most of the work of the European Technical Committee will be done at a distance by E-mail, fax and telephone, although it will be necessary to organize face-to-face meetings from time to time. The European Users Committee meetings will be held during the planned COST Eurofoods-Enfant meetings. The US Technical Committee will continue its operations as it has in the past.

3. Secretariat and Newsletter

Initially, the Secretariat will be based at the US Food and Drug Administration. It was also decided to take up the offer of Mr Jim Deary from the MAFF (UK) to prepare and distribute newletter.

4. Memorandum of Understanding

Dr Ray Russo will prepare a draft Memorandum of Understanding which will be distributed to the proposed members of the proposed Steering Committee for comment.

5. Presentations and workshop on Langual at the FLAIR Eurofoods-Enfant meeting in Portugal

Papers will be prepared by:

- Dr Ray Russo
- Ms Valérie Beaudouin
- Dr Anders Møller

Dr Anders Møller will organize a workshop, the content of which will be discussed more fully at the Langual meeting planned for Paris or Lyon in the week commencing 13 September 1993.

Appendix 1

Working Group on the Langual Food Coding System

(IARC, Lyon, 24-26 June 1993)

Agenda

Thursday, 24 June 1993

Morning (9.00-13.00)

1)		**Opening of the meeting** **Election of chairperson and rapporteurs** **Adoption of the Agenda**
2)	E. Riboli	**Introduction to the objectives of the meeting**
3)	R. Russo	**Presentation of the Langual team and present status of the Langual system at the US FDA.**
	B. Smith	**Data bases coded so far at the US FDA**
	T. Hendricks	**Review of the interface standard (template)**
	J. Holden	**Langual activities at the US Department of Agriculture**
4)		**Experience with Langual in European Centres:** (Presentations of 30-40 minutes each)
	A. Møller	**Denmark**
	J. Ireland	**France (CIQUAL)**
	S. Lahlou V. Beaudoin	**France (CREDOC)**

Afternoon (14.00-17.30)

	J. Deary	**UK (MAFF)**
	I. Varsányi	**Hungary**
5)	S. Lahlou V. Beaudoin	**On-line demonstration of the CREDOC computerized system for coding and retrieval of foods with Langual**

Friday, 25 June 1993

Morning (9.00-13.00)

1)	J. Deary J. Ireland	**Presentation of the results of the Langual evaluation** (2 presentations of 20-30 minutes plus discussion)
2)	A. Møller	**Experience of combining Langual with other food coding systems** (20-30 minutes plus discussion)
3)	A. Welch	**Experience with the UK food composition data base**
4)	J. Lambe	**Presentation of Nutrifile, an EC food and nutrient data base**

Afternoon (14.00-17.30)

5) **How to supervise the standardization and consistency of the food coding process in different centres/countries?**

How to define criteria of "similarities" between foods which should or should not have the same codes, descriptors, etc.?

These topics will be discussed in a "workshop" session following introductions by:

B. Smith, J. Ireland-Ripert, N. Slimani, S. Lahlou

Saturday, 26 June 1993

Morning (9.00-12.30)

1)	Rapporteurs	**Summary of the conclusions reached on the topics discussed during the first 2 days**
2)		**Presentation of a proposal for future activities, including:**

- **Development of European applications of Langual**
- **Collaboration between US and European centres**

Afternoon (13.30-16.00)

- **Logistic, administrative and financial implications of future activities**
- **Conclusions**

Appendix 2

Working Group on the Langual Food Coding System

(IARC, Lyon, 24-26 June 1993)

List of Participants

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Ms Nadia Slimani
Ms Anne Linda van Kappel
Ms Johanne Amoyel
Mr Bertrand Hémon
Ms Corinne Casagrande

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Unit of Analytical Epidemiology
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France

INTERNATIONAL INTERFACE STANDARD FOR FOOD DATABASES

III. LanguaL FACTORS

1. Product Type
2. Food Source (plant or animal)
3. Part of Plant or Animal
4. Physical State, Shape or Form
5. Extent of Heat Treatment
6. Cooking Method
7. Treatment Applied
8. Preservation Method
9. Packing Medium
10. Container or Wrapping
11. Food Contact Surface
12. Consumer Group/Dietary Use
13. Geographic Places and Regions
    a. Area of origin (grown/produced)
    b. Area of processing
    c. Area of consumption
14. Cuisine
15. Adjunct Characteristics of Food
    (e.g., Color, Grade, Maturity/Ripeness, Location of Preparation, Specific Uses of Food)

I. FOOD/FOOD PRODUCT IDENTIFICATION

- Interface Food Number
- Source/Food Number

II. FOOD NAMES

Multiple Names in Various Languages

IV. OTHER FOOD DESCRIPTORS

Agricultural Production Conditions
  Growing Period and General Conditions
    - Growing period
    - Length of growing period
    - Environment
    - Types of controls
    - Climate
    - Precipitation
    - Watering scheme
    - Humidity
    - Temperature
    - Soil and/or water type
    - Atmosphere
    - Animal diet
  Substances Administered or Applied During Production
    - Substance
    - How administered or applied
    - Amount administered or applied per occasion
    - Fredquency of administration or application
    - Preharvest or preslaughter interval
Storage Conditions
  Storage Period and General Conditions
    - Location of storage
    - Container or medium
    - Storage period
    - Length of storage
    - Types of controls
    - Humidity
    - Temperature
    - Atmosphere
  Substances Administered or Applied During Storage
    - Substance
    - How administered or applied
    - Amount administered or applied
    - Frequency of administration or application
    - Postharvest or poststaughter interval
Weight: Volume Relationship
    - Weight in grams
    - Weight in unit other than grams
    - Volume or number of units
Manufacturer/Institution/Restaurant/Laboratory/Home
    - Organization
    - Package weight
    - Serving sizes
Additional Notes

V. OTHER DESCRIPTIVE CODING SYSTEMS

Codes/Descriptors Used in Other Systems
(e.g., EUROCODE 2, USDA FGS)

VI. INGREDIENTS/RECIPES

May Include Quantities and/or Recipe Instructions

VII. STANDARDS

(e.g., CODEX, CFR)

FROM OUTSIDE SOURCES

FOOD DATA

Food Composition Data
  - Date and location of collection
  - Sampling scheme
  - Number of samples
  - Analytical methods
  - Nutrient values (mean ± SD, median, range)

Food Consumption Data
  - Population surveyed
  - Number of people
  - Number of days of diet records
  - Methods of assessing consumption
  - Demographic variables (age, sex, region, race, income, urbanization, season, disease status, smoking status, pregnancy, lactation, activity level)
  - Food composition database used to assess intakes
  - Daily intakes of individual foods

Food Production, Availability and Utilization

REFERENCE FILES

VIII. SUBSTANCES

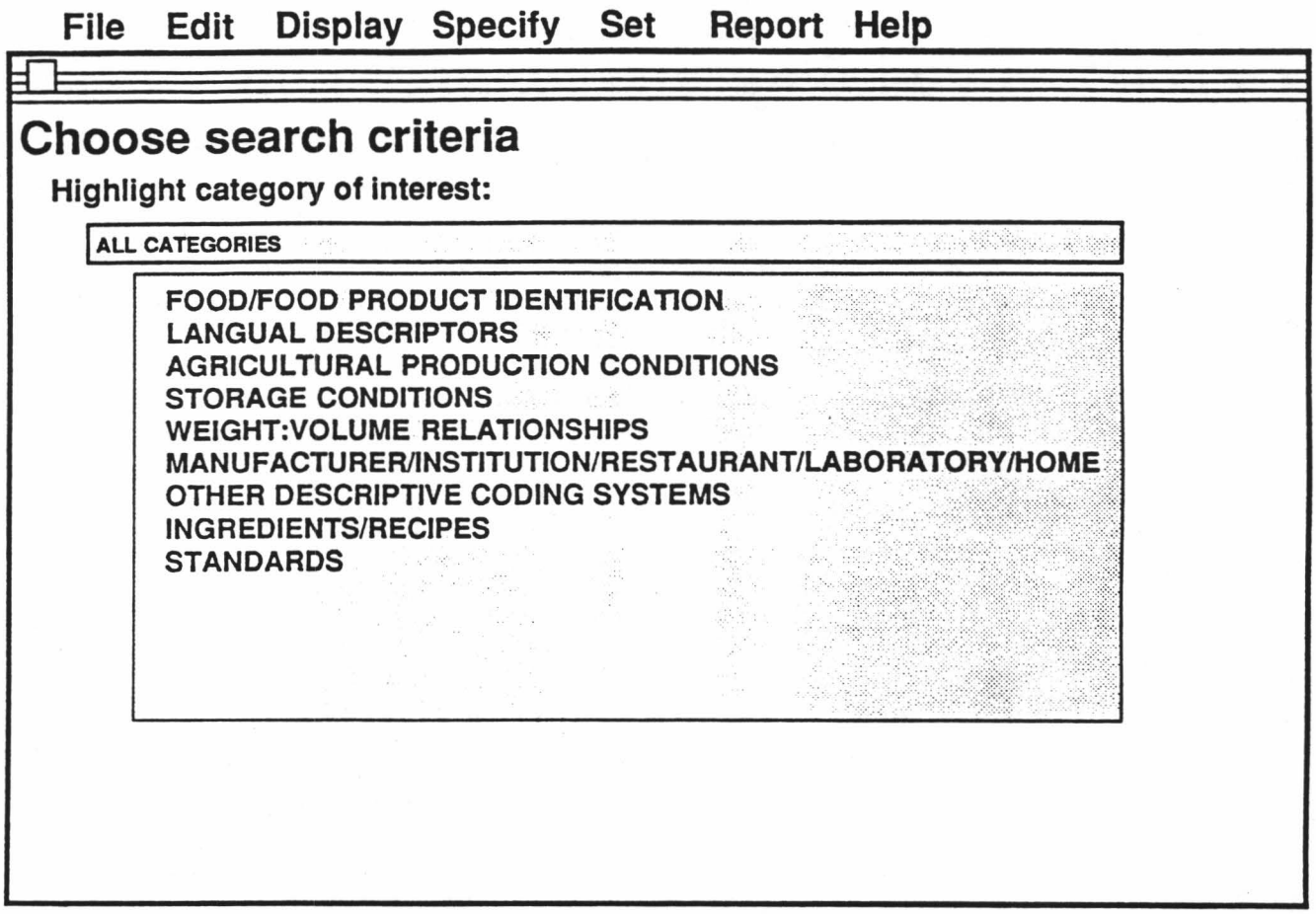
As used in IV. above

IX. ORGANIZATIONS

As used in IV. above

X. DATA SOURCES

Literature Citations
Databases (hardcopy/computerized)
Food Labels
Laboratory Data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Choose search criteria
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STORAGE CONDITIONS
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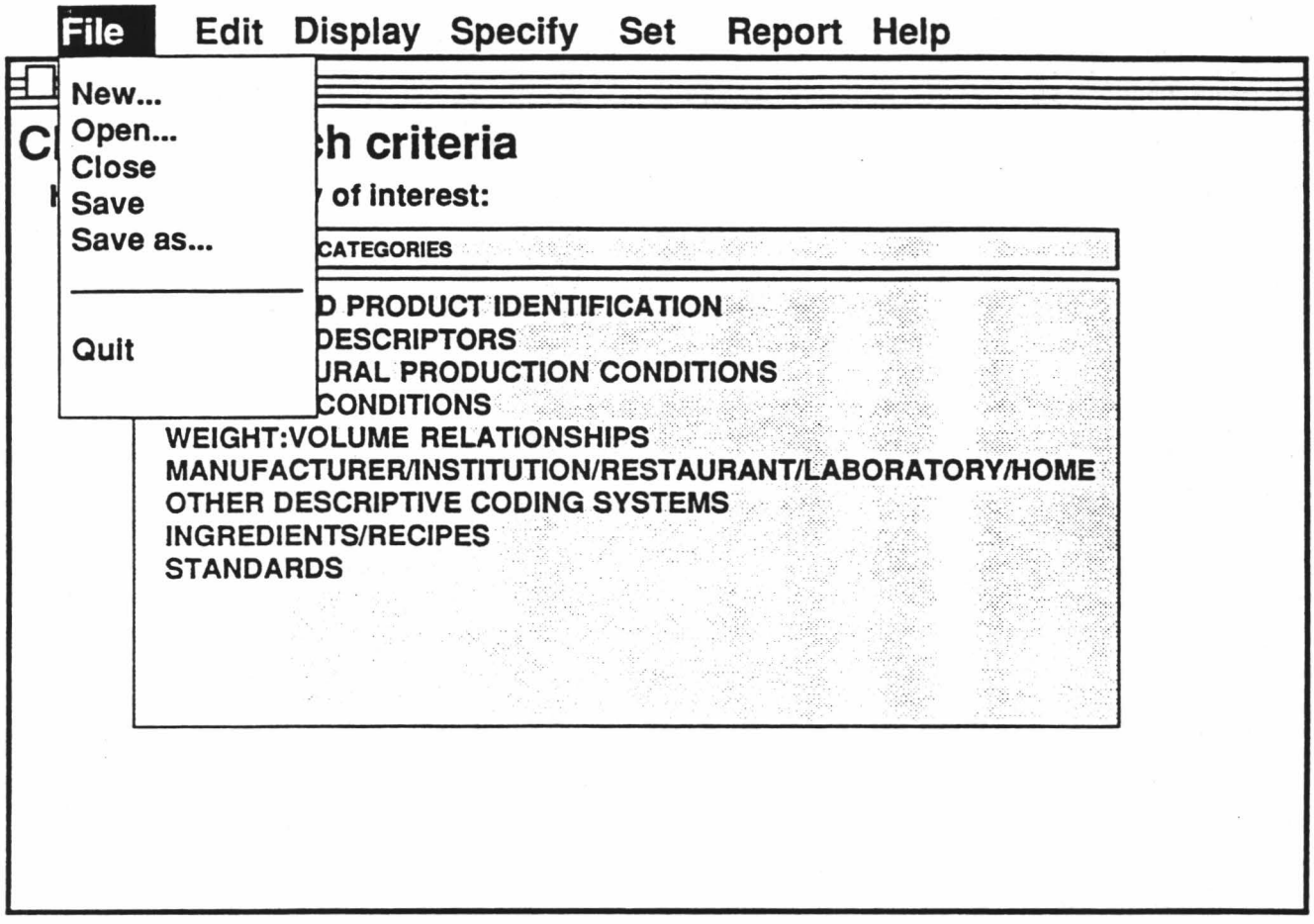
MANUFACTURER/INSTITUTION/RESTAURANT/LABORATORY/HOME
OTHER DESCRIPTIVE CODING SYSTEMS
INGREDIENTS/RECIPES
STANDARDS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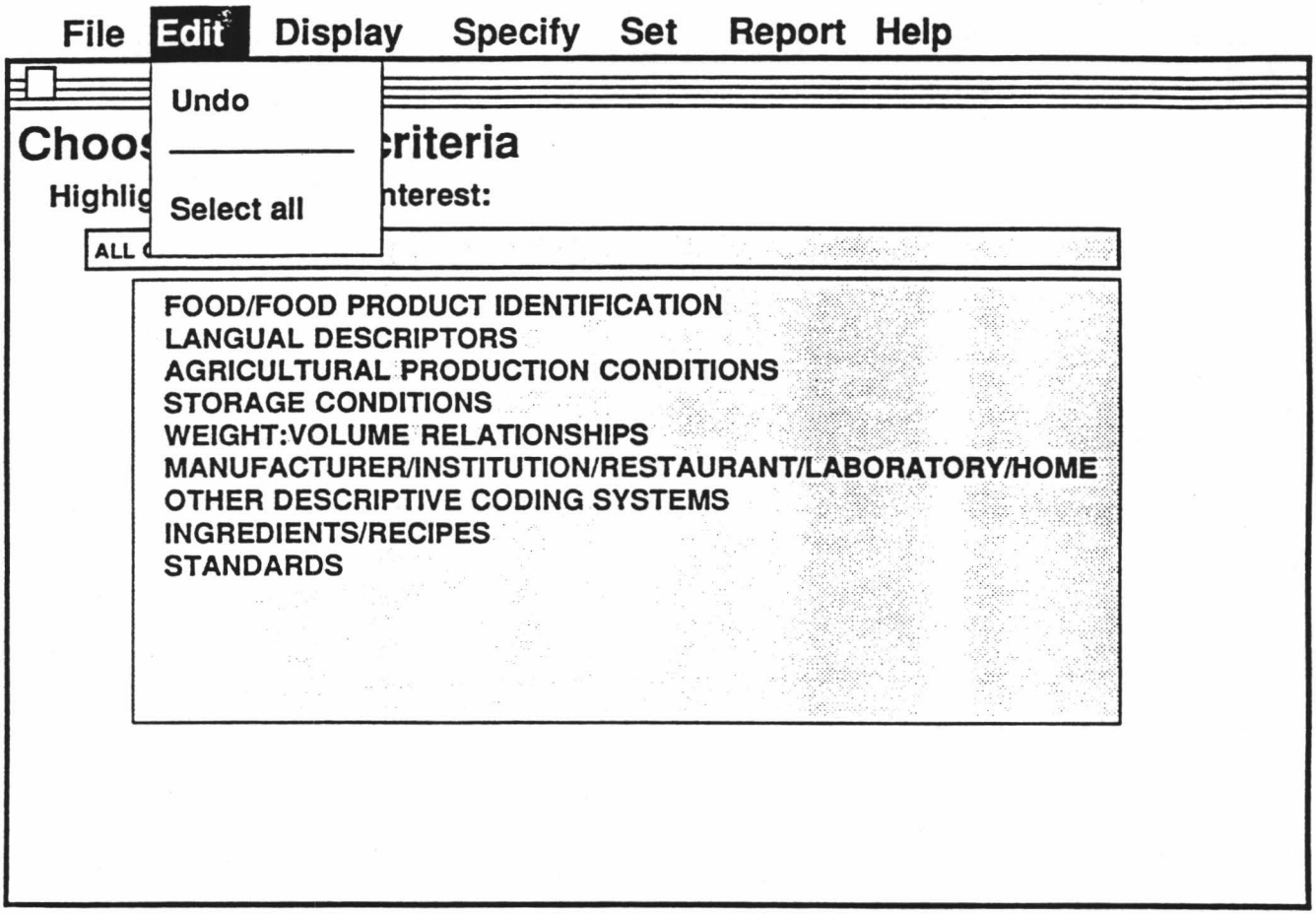
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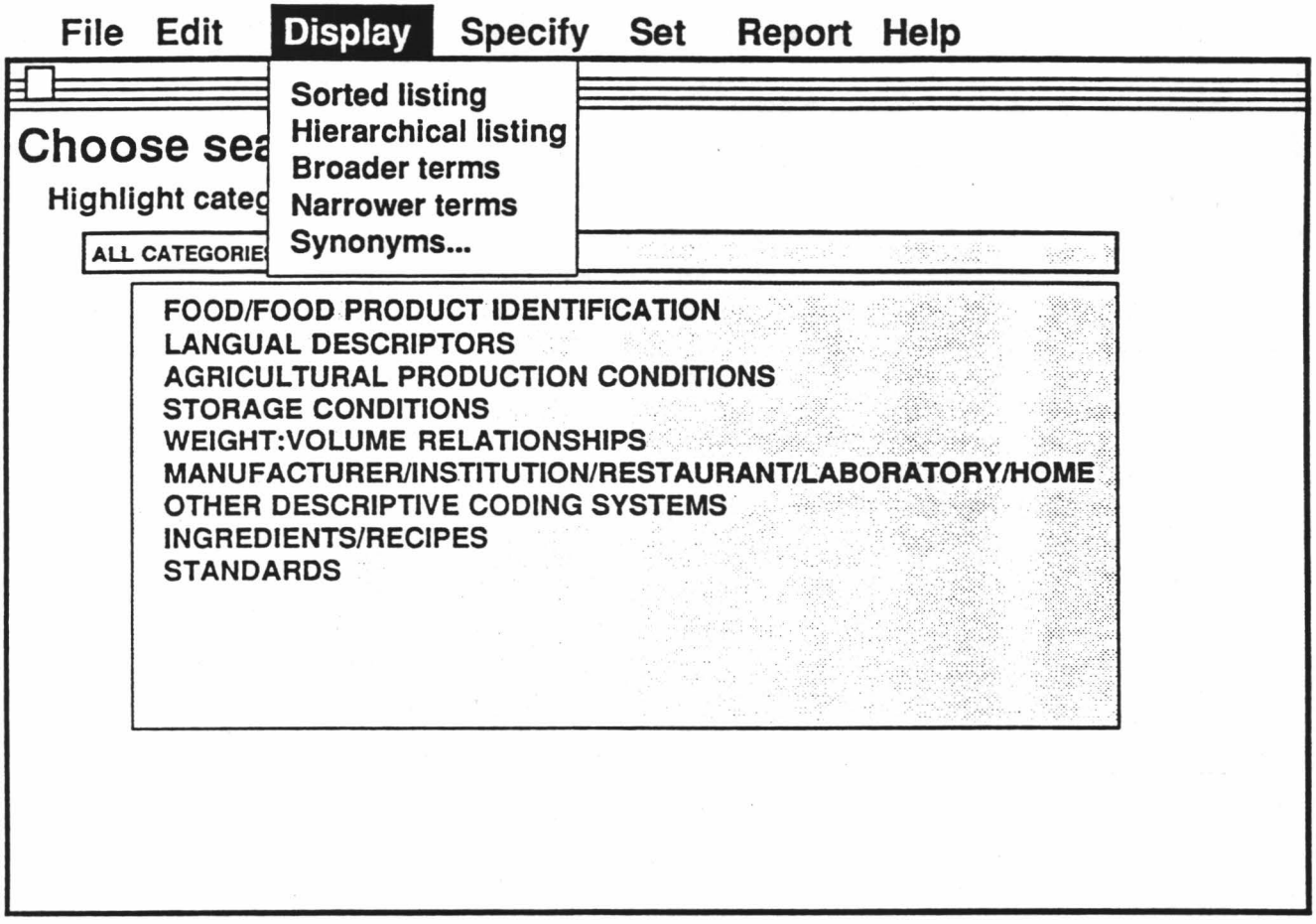
INGREDIENTS/RECIPES
STANDARDS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STORAGE CONDITIONS
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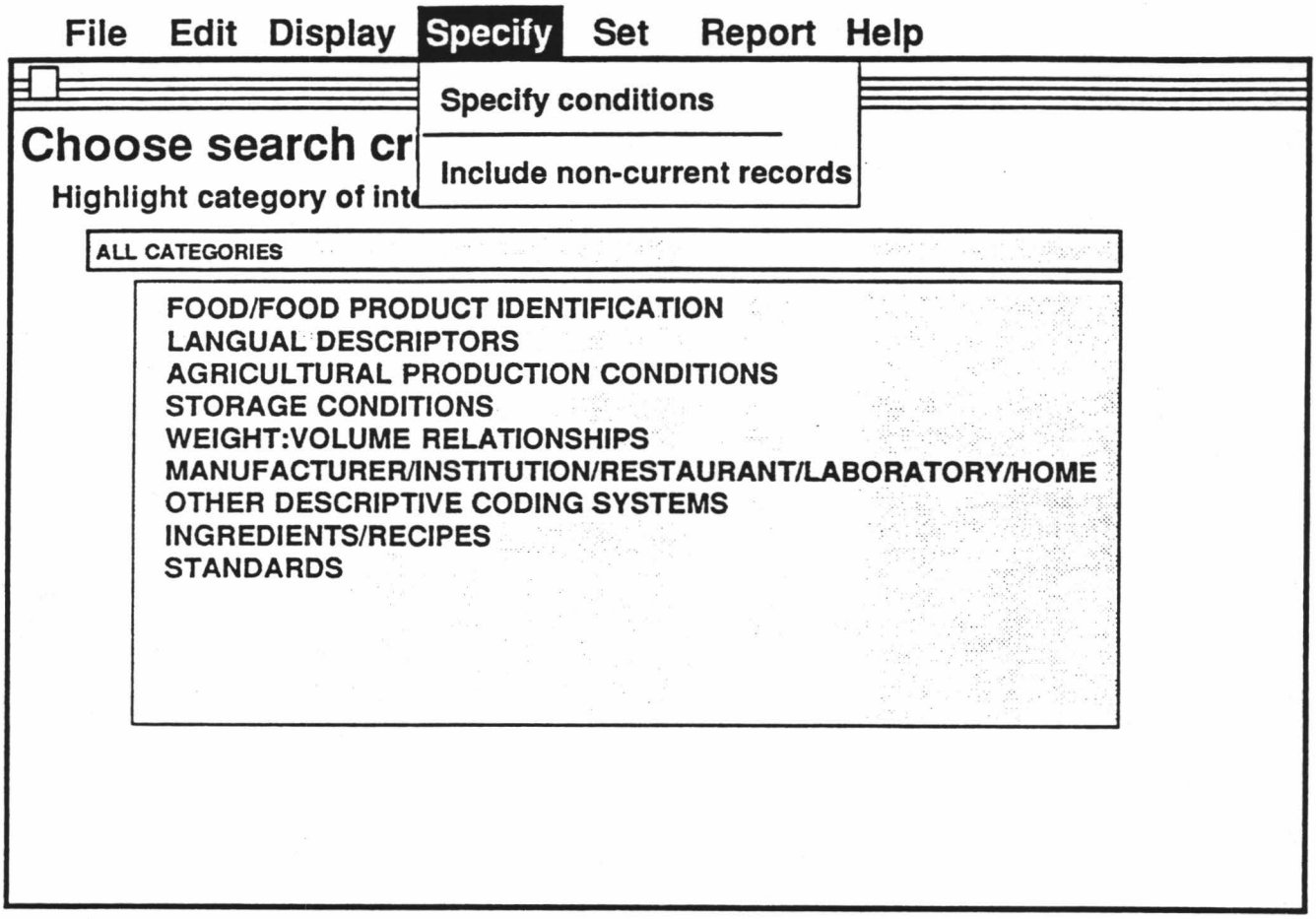
OTHER DESCRIPTIVE CODING SYSTEMS
INGREDIENTS/RECIPES
STANDARDS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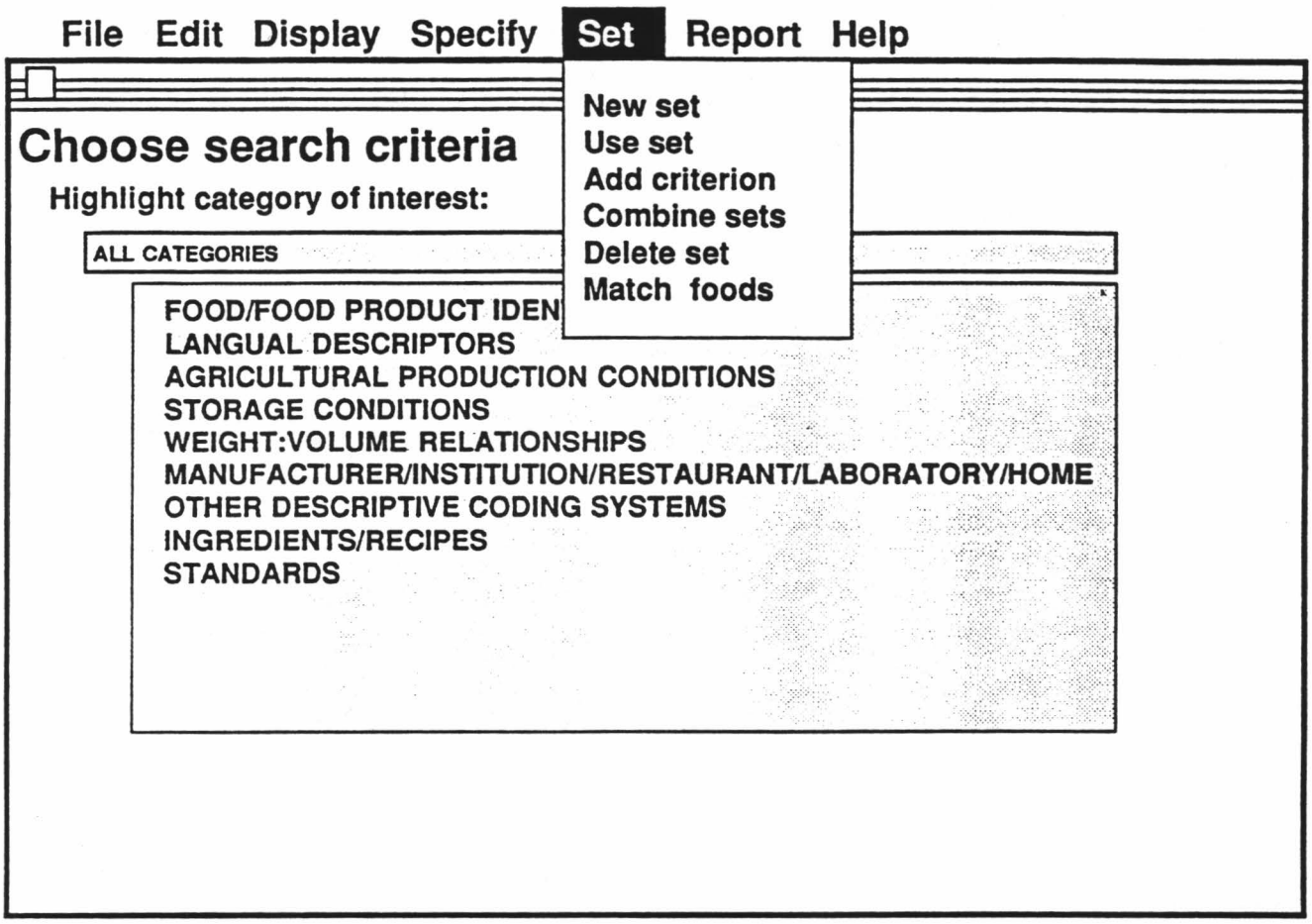
INGREDIENTS/RECIPES
STANDARDS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Add criterion
Combine sets
Delete set
Match foods
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AGRICULTURAL PRODUCTION CONDITIONS
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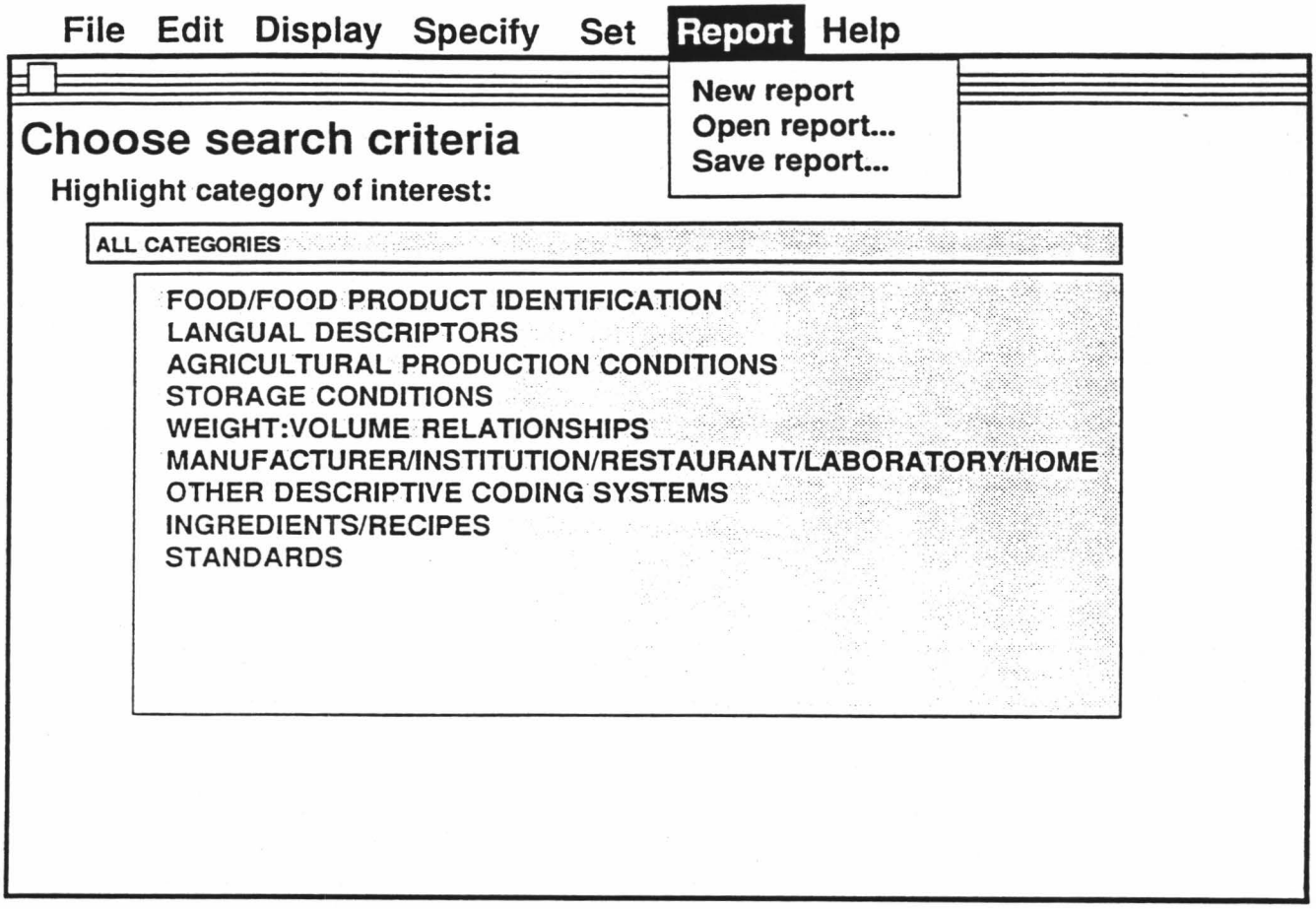
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FOOD/FOOD PRODUCT IDENTIFICATION
LANGUAL DESCRIPTORS
AGRICULTURAL PRODUCTION CONDITIONS
STORAGE CONDITIONS
WEIGHT:VOLUME RELATIONSHIPS
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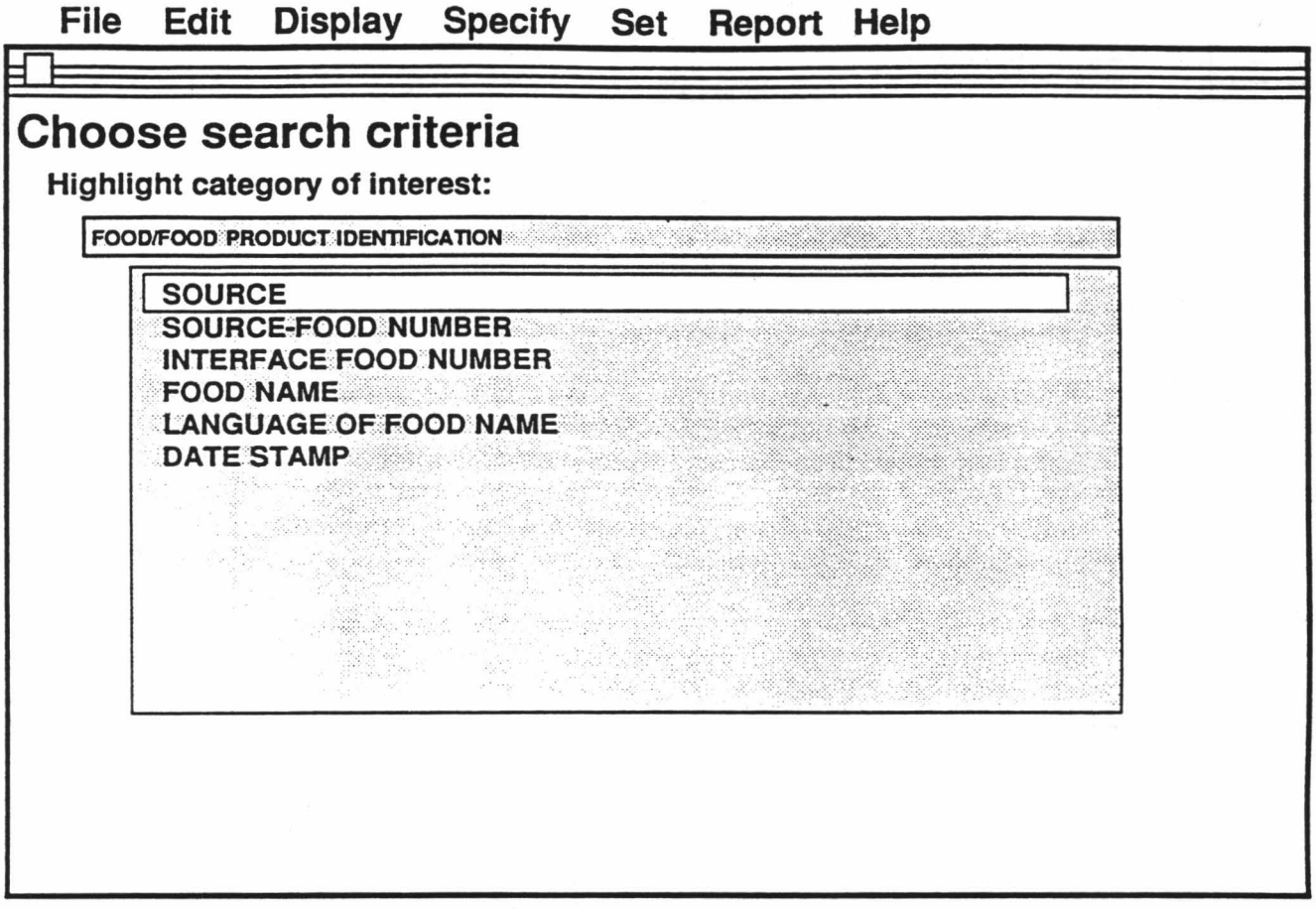
OTHER DESCRIPTIVE CODING SYSTEMS
INGREDIENTS/RECIPES
STANDARDS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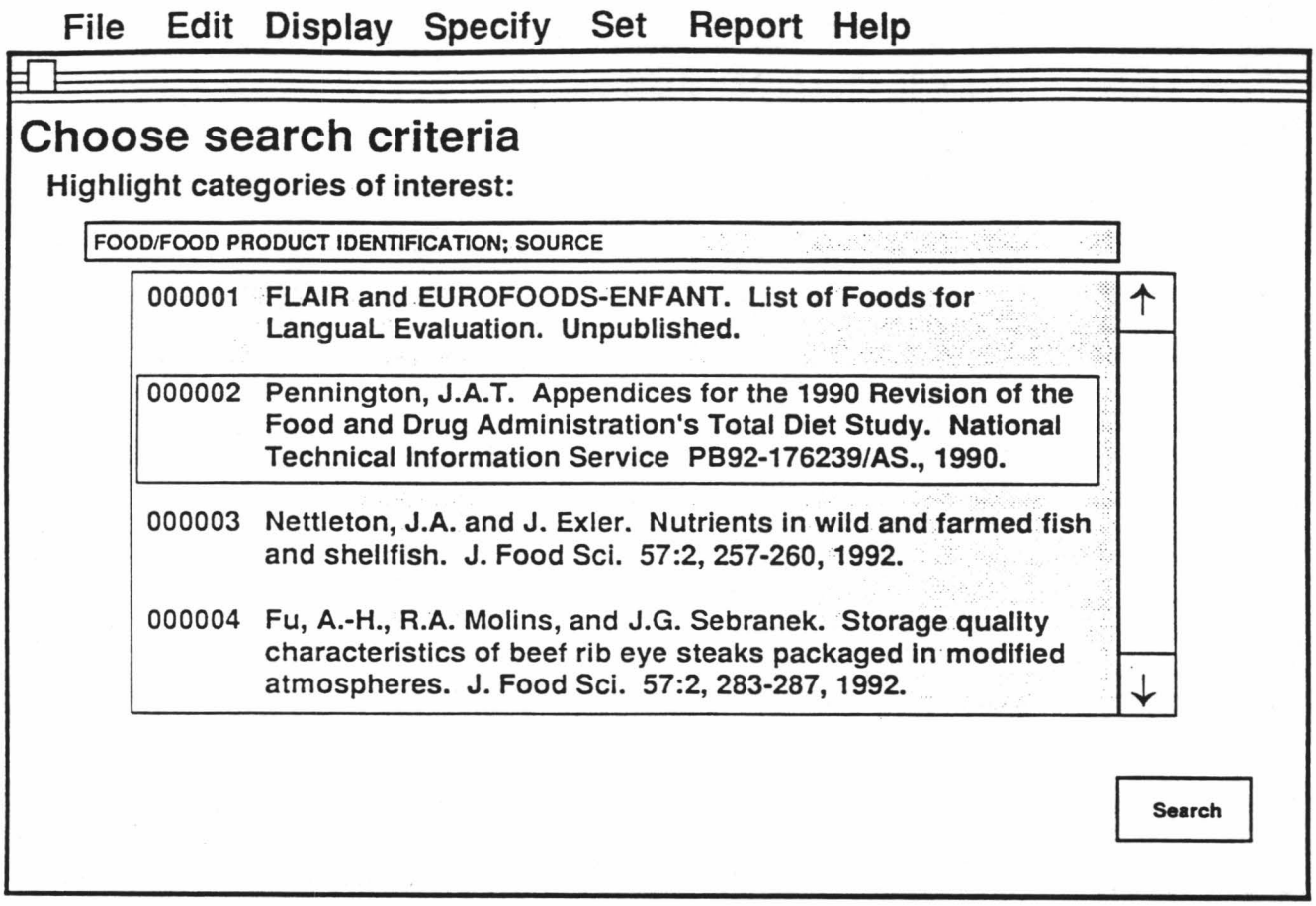
INTERFACE FOOD NUMBER
FOOD NAME
LANGUAGE OF FOOD NAME
DATE STAMP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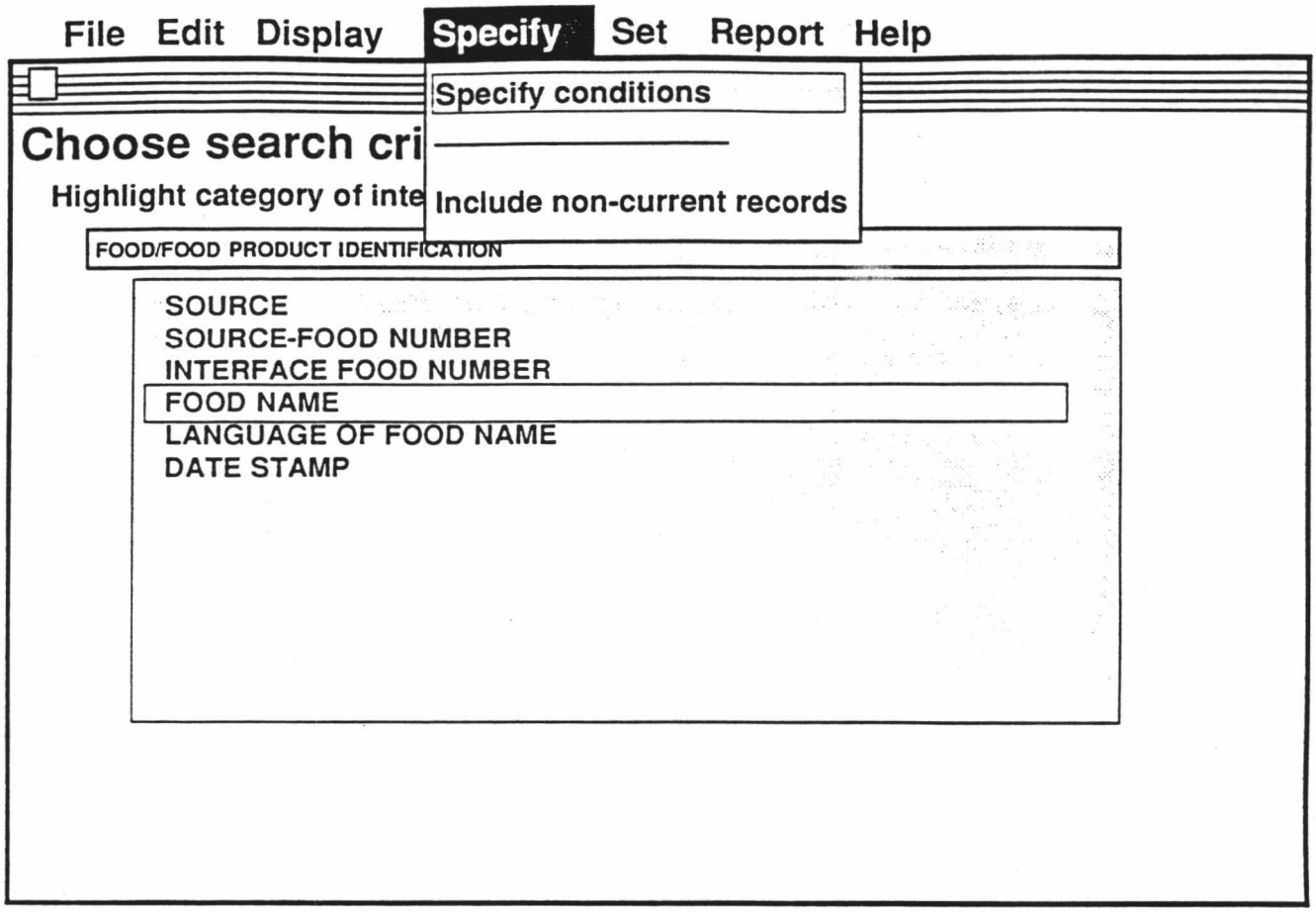
Choose search criteria
Highlight categories of interest:
FOOD/FOOD PRODUCT IDENTIFICATION; SOURCE
000001 FLAIR and EUROFOODS-ENFANT. List of Foods for LanguaL Evaluation. Unpublished.
000002 Pennington, J.A.T. Appendices for the 1990 Revision of the Food and Drug Administration's Total Diet Study. National Technical Information Service PB92-176239/AS., 1990.
000003 Nettleton, J.A. and J. Exler. Nutrients in wild and farmed fish and shellfish. J. Food Sci. 57:2, 257-260, 1992.
000004 Fu, A.-H., R.A. Molins, and J.G. Sebranek. Storage quality characteristics of beef rib eye steaks packaged in modified atmospheres. J. Food Sci. 57:2, 283-287, 1992.
Search

File Edit Display Specify Set Report Help

Query sets

	Search criteria	No. of foods
Set 1:	(FOOD/FOOD PRODUCT IDENTIFICATION: SOURCE NUMBER = 000002)	234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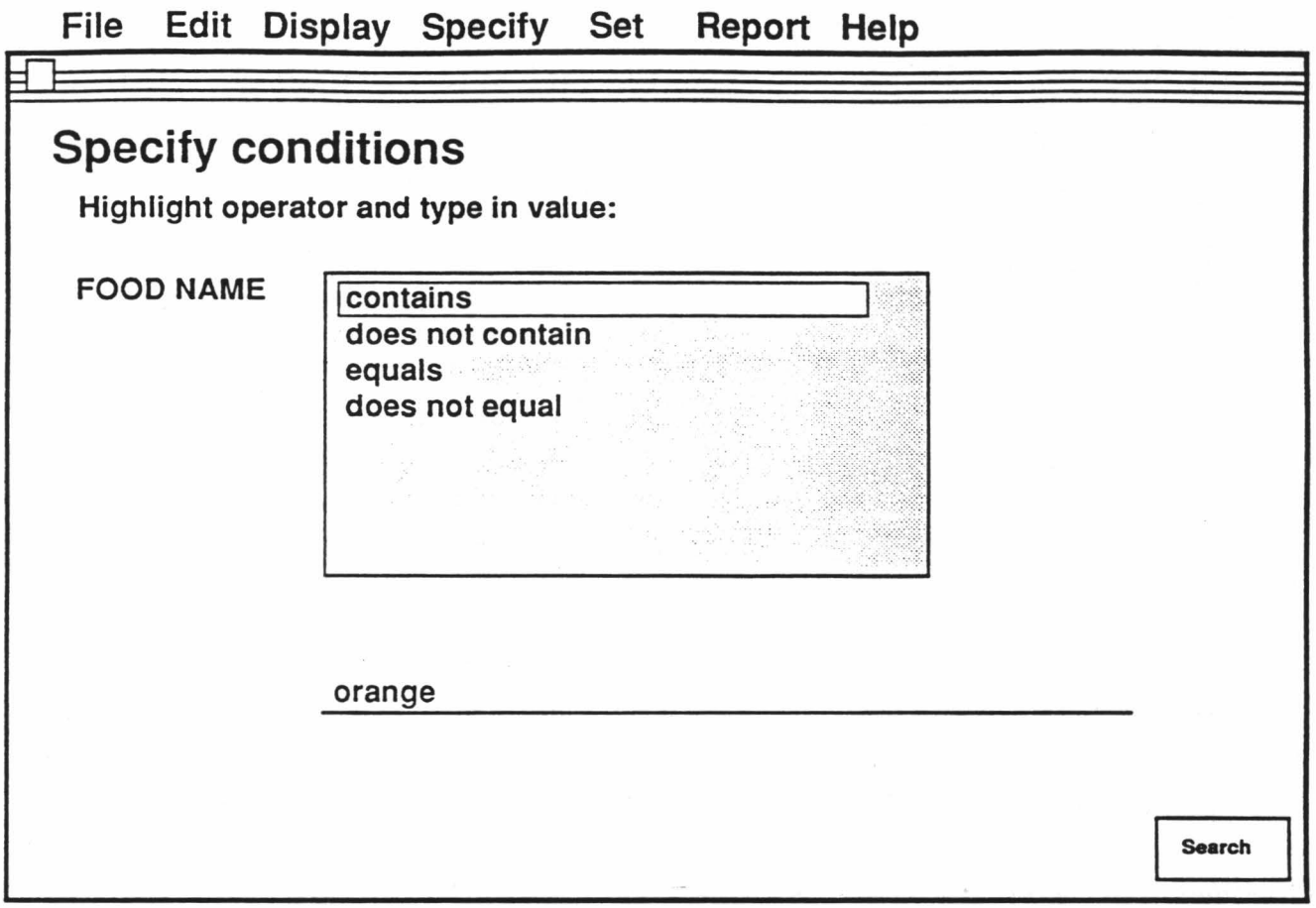
FOOD NAME
LANGUAGE OF FOOD NAME
DATE STAMP


File Edit Display Specify Set Report Help
Specify conditions
Highlight operator and type in value:
FOOD NAME
contains
does not contain
equals
does not equal
orange
Search

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Query sets

	Search criteria	No. of foods
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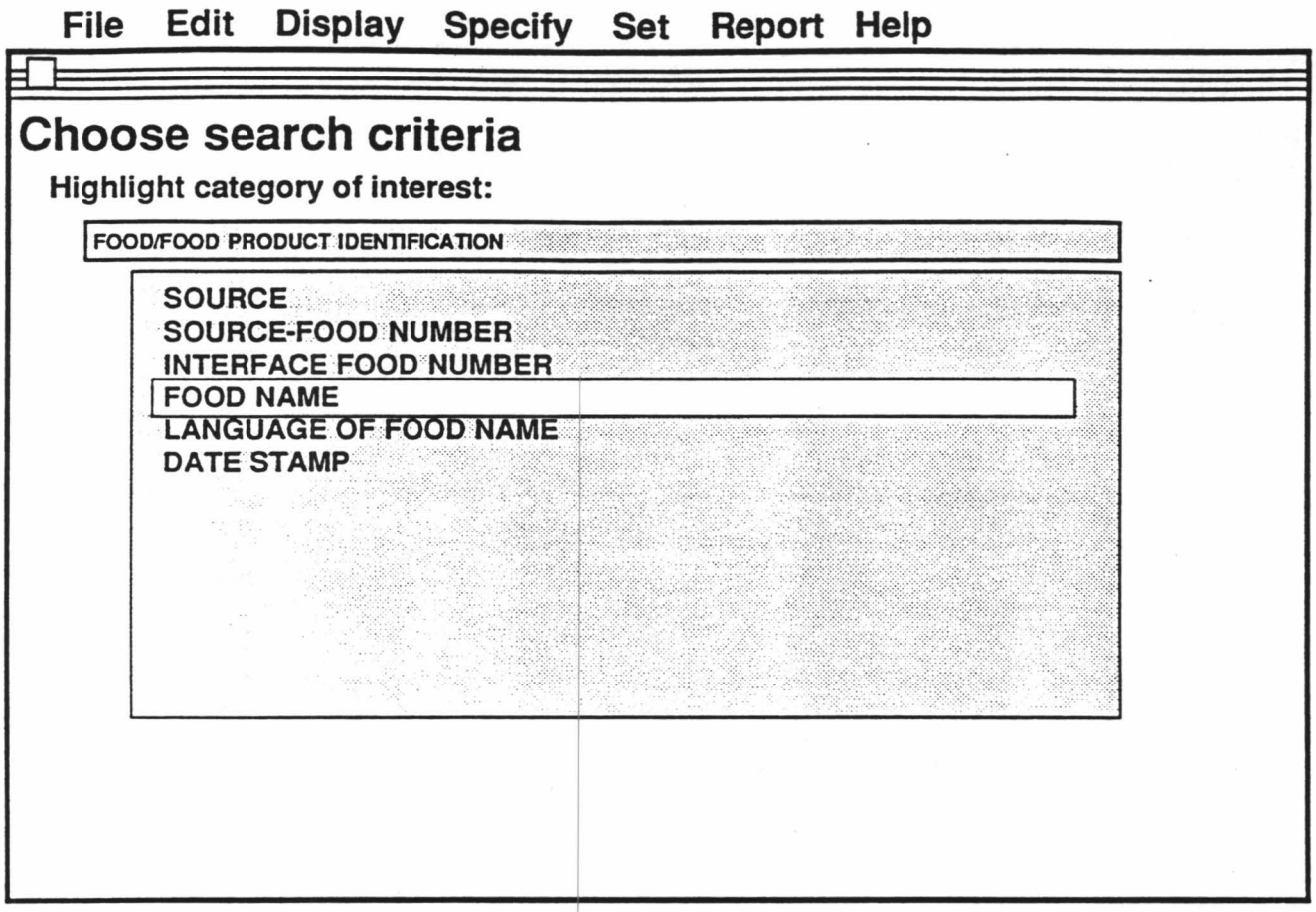
Set 2:	(FOOD/FOOD PRODUCT IDENTIFICATION: FOOD NAME contains "orange"	5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Choose search criteria
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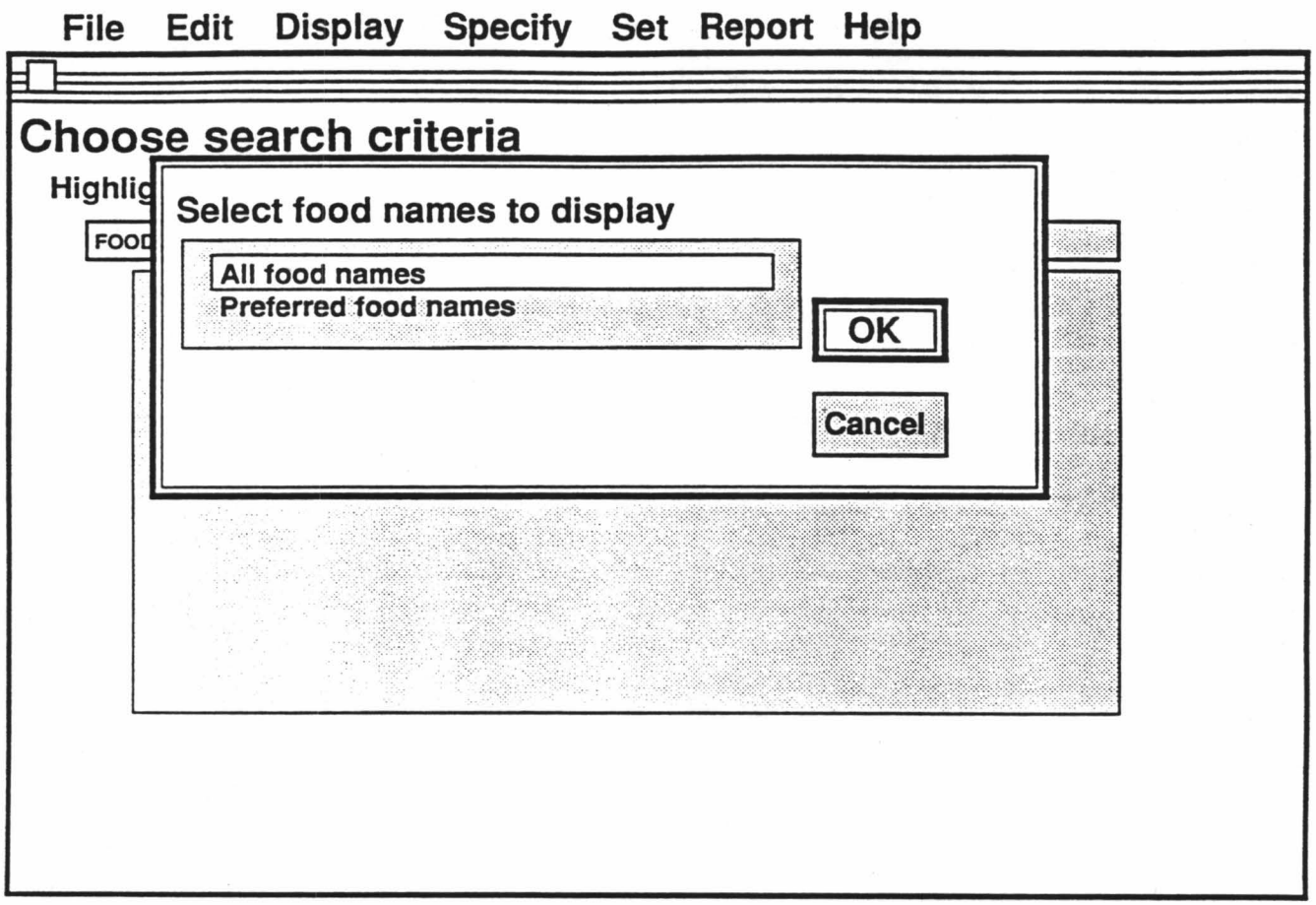
FOOD NAME
LANGUAGE OF FOOD NAME
DATE STAMP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FOOD
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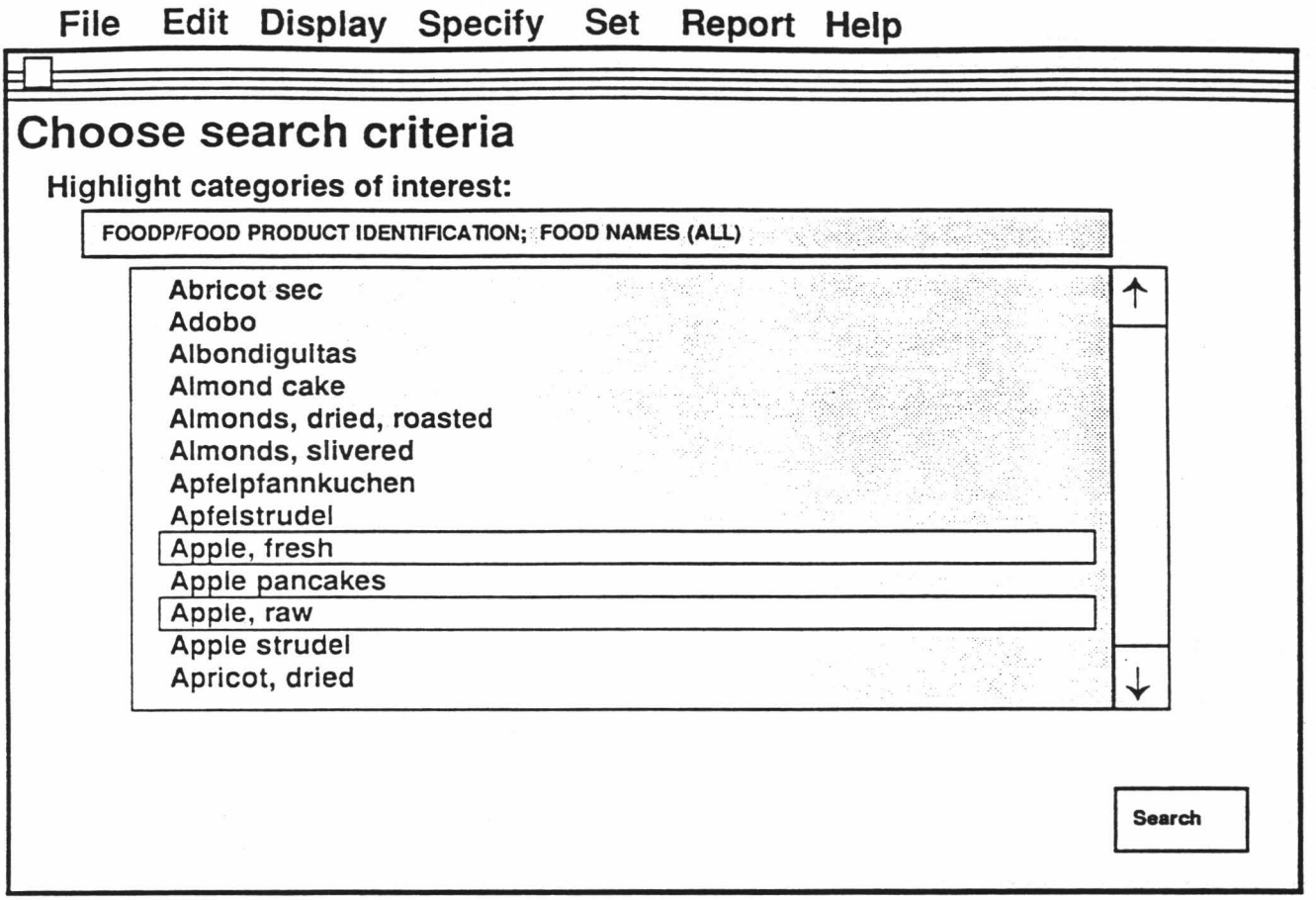
All food names
Preferred food names
OK
Cancel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Choose search criteria
Highlight categories of interest:
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Adobo
Albondigultas
Almond cake
Almonds, dried, roasted
Almonds, slivered
Apfelpfannkuchen
Apfelstrudel
Apple, fresh
Apple pancakes
Apple, raw
Apple strudel
Apricot, dried
Search

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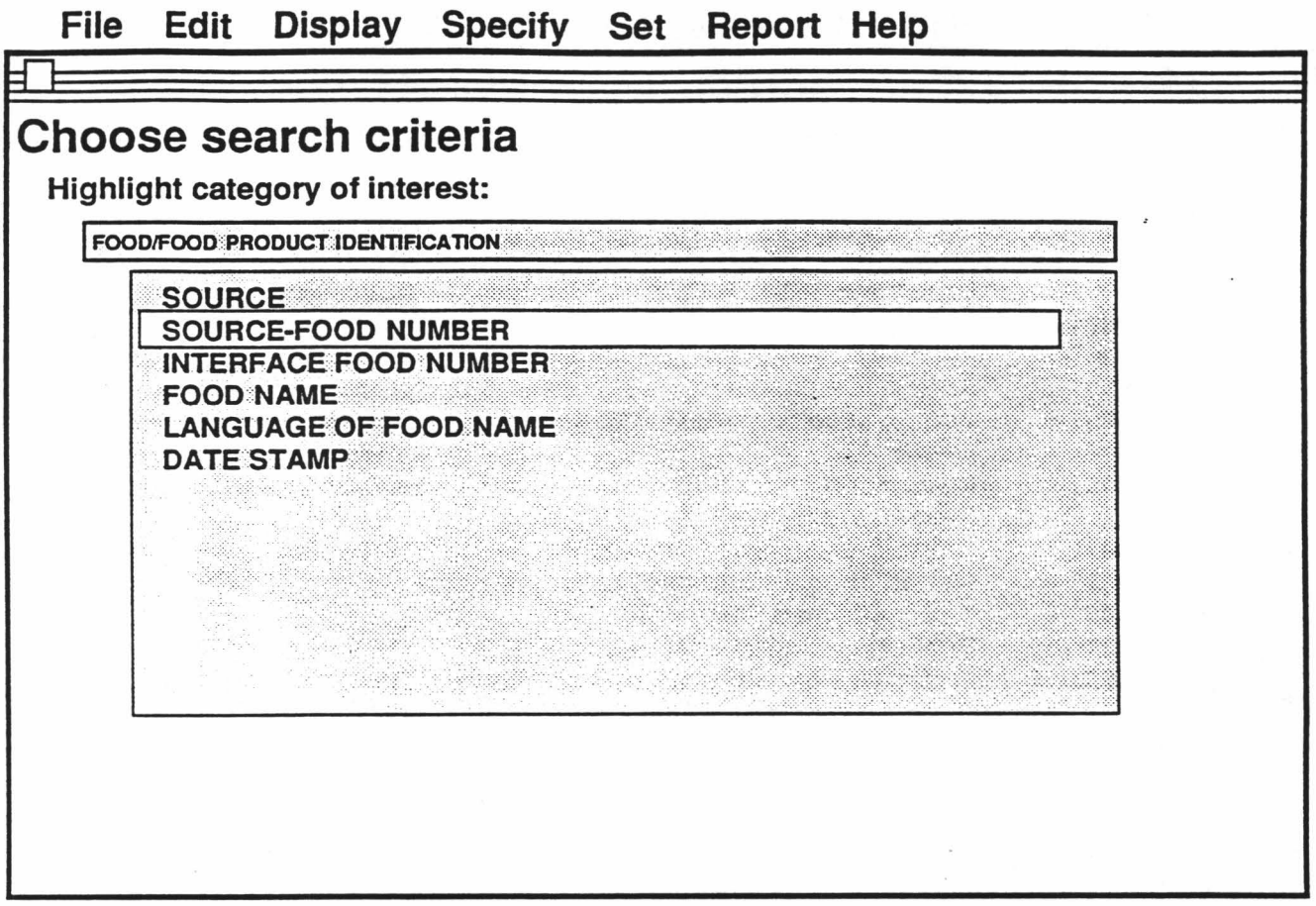
Query sets

	Search criteria	No. of foods
Set 1:	(FOOD/FOOD PRODUCT IDENTIFICATION: SOURCE NUMBER = 000002)	234
Set 2:	(FOOD/FOOD PRODUCT IDENTIFICATION: FOOD NAME = Apple, fresh) OR (FOOD/FOOD PRODUCT IDENTIFICATION: FOOD NAME = Apple, raw)	6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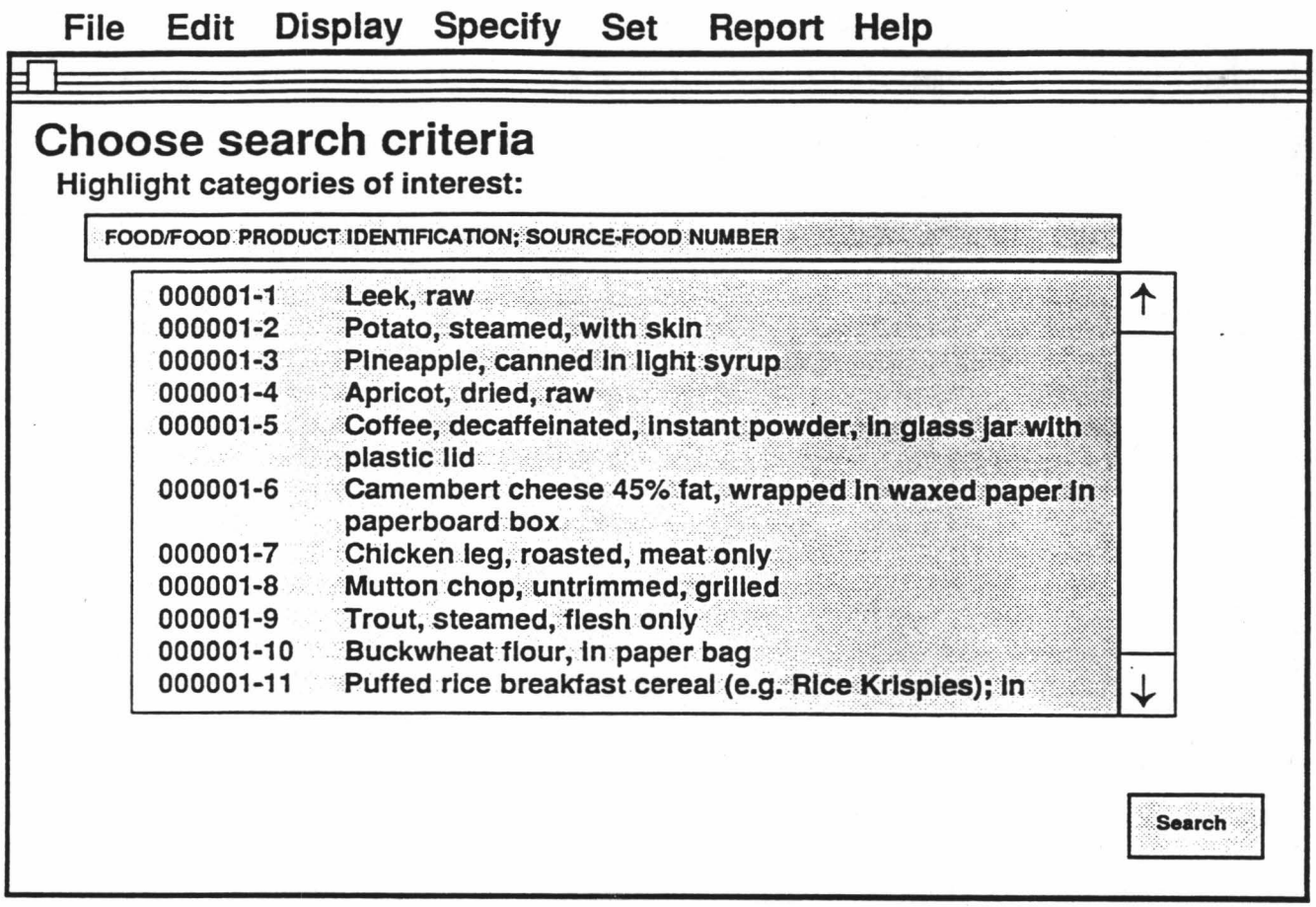
FOOD NAME
LANGUAGE OF FOOD NAME
DATE STAMP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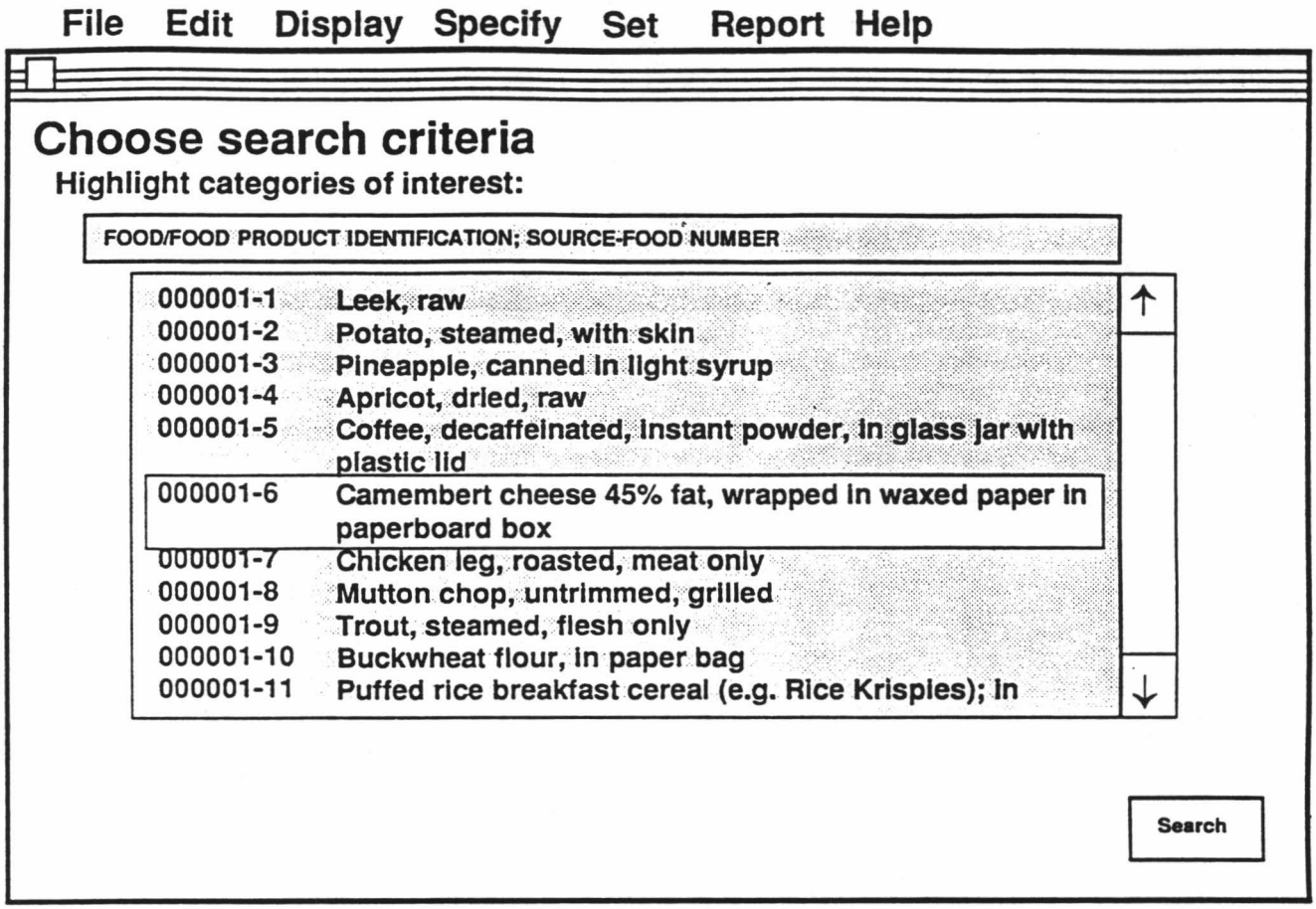
Choose search criteria
Highlight categories of interest:
FOOD/FOOD PRODUCT IDENTIFICATION; SOURCE-FOOD NUMBER
000001-1 Leek, raw
000001-2 Potato, steamed, with skin
000001-3 Pineapple, canned in light syrup
000001-4 Apricot, dried, raw
000001-5 Coffee, decaffeinated, instant powder, in glass jar with plastic lid
000001-6 Camembert cheese 45% fat, wrapped in waxed paper in paperboard box
000001-7 Chicken leg, roasted, meat only
000001-8 Mutton chop, untrimmed, grilled
000001-9 Trout, steamed, flesh only
000001-10 Buckwheat flour, in paper bag
000001-11 Puffed rice breakfast cereal (e.g. Rice Krispies); in
Search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FOOD/FOOD PRODUCT IDENTIFICATION; SOURCE-FOOD NUMBER
000001-1 Leek, raw
000001-2 Potato, steamed, with skin
000001-3 Pineapple, canned in light syrup
000001-4 Apricot, dried, raw
000001-5 Coffee, decaffeinated, instant powder, in glass jar with plastic lid
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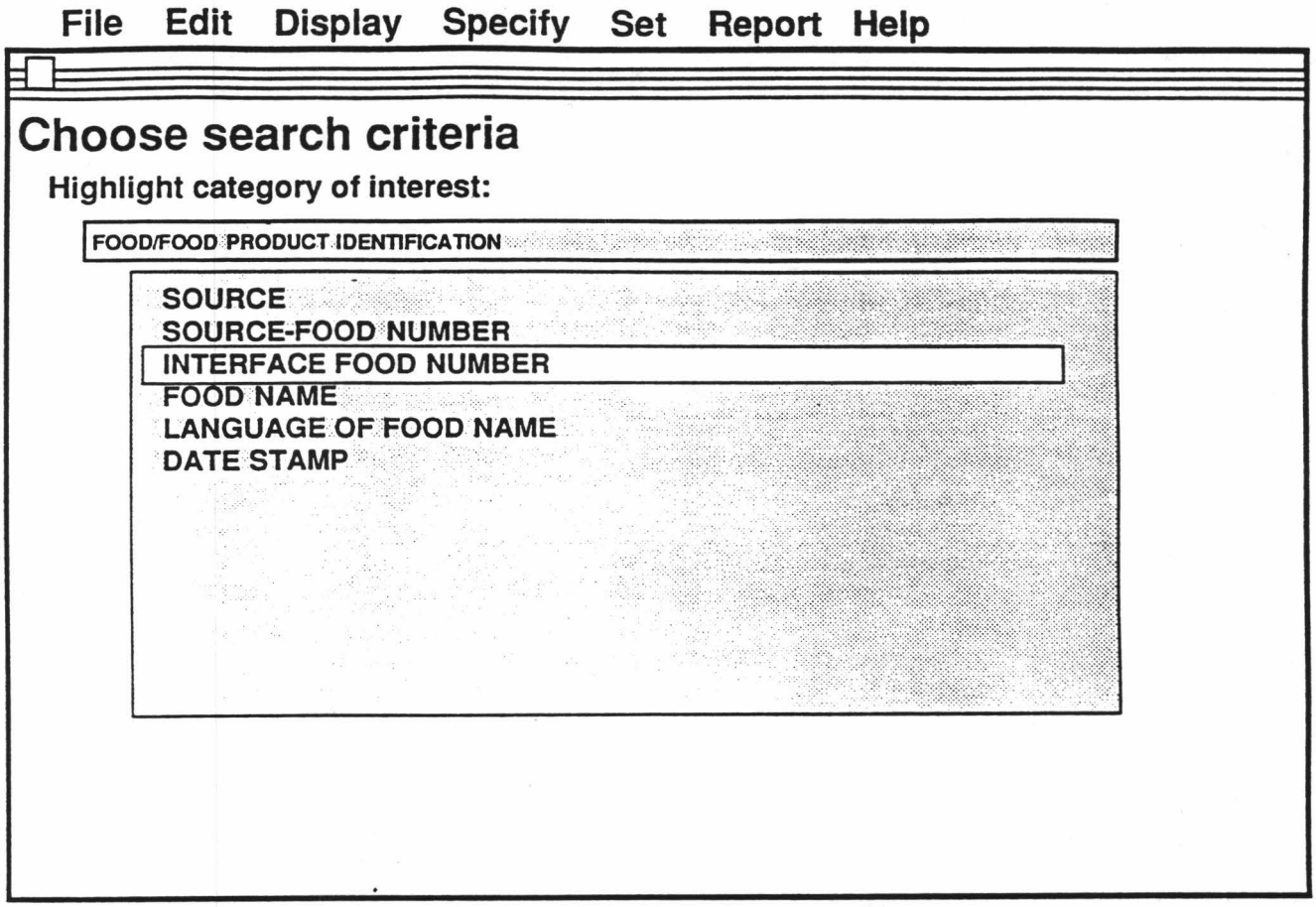
000001-8 Mutton chop, untrimmed, grilled
000001-9 Trout, steamed, flesh only
000001-10 Buckwheat flour, in paper bag
000001-11 Puffed rice breakfast cereal (e.g. Rice Krispies); in
Search

File Edit Display Specify Set Report Help

Query sets

	Search criteria	No. of foods
Set 1:	(FOOD/FOOD PRODUCT IDENTIFICATION: SOURCE NUMBER = 000002)	234
Set 2:	(FOOD/FOOD PRODUCT IDENTIFICATION: SOURCE NUMBER = 000001) AND (FOOD/FOOD PRODUCT IDENTIFICATION: FOOD NUMBER = 6)	1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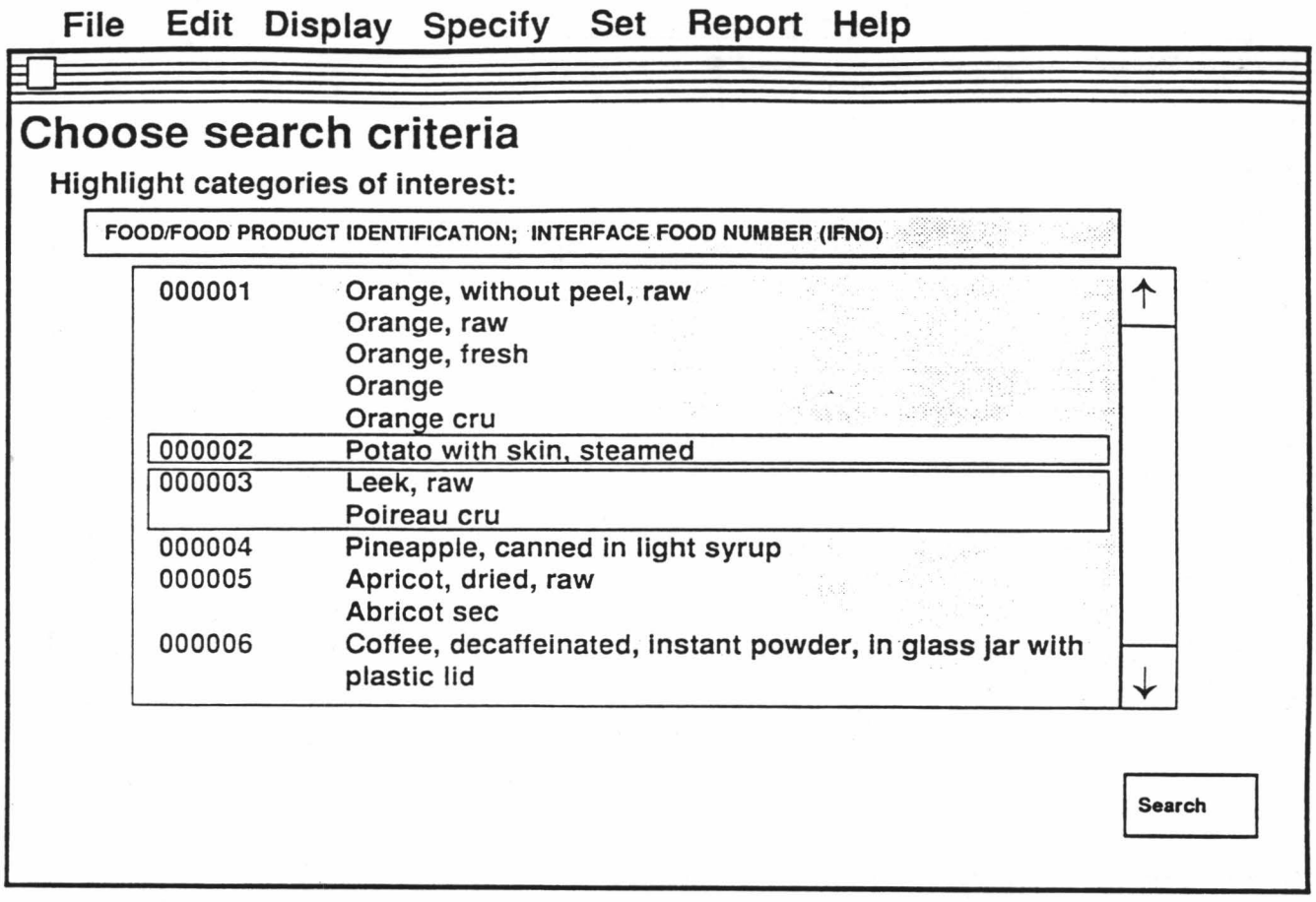
FOOD NAME
LANGUAGE OF FOOD NAME
DATE STAMP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Choose search criteria
Highlight categories of interest:
FOOD/FOOD PRODUCT IDENTIFICATION; INTERFACE FOOD NUMBER (IFNO)
000001 Orange, without peel, raw
Orange, raw
Orange, fresh
Orange
Orange cru
000002 Potato with skin, steamed
000003 Leek, raw
Poireau cru
000004 Pineapple, canned in light syrup
000005 Apricot, dried, raw
Abricot sec
000006 Coffee, decaffeinated, instant powder, in glass jar with plastic lid
Search

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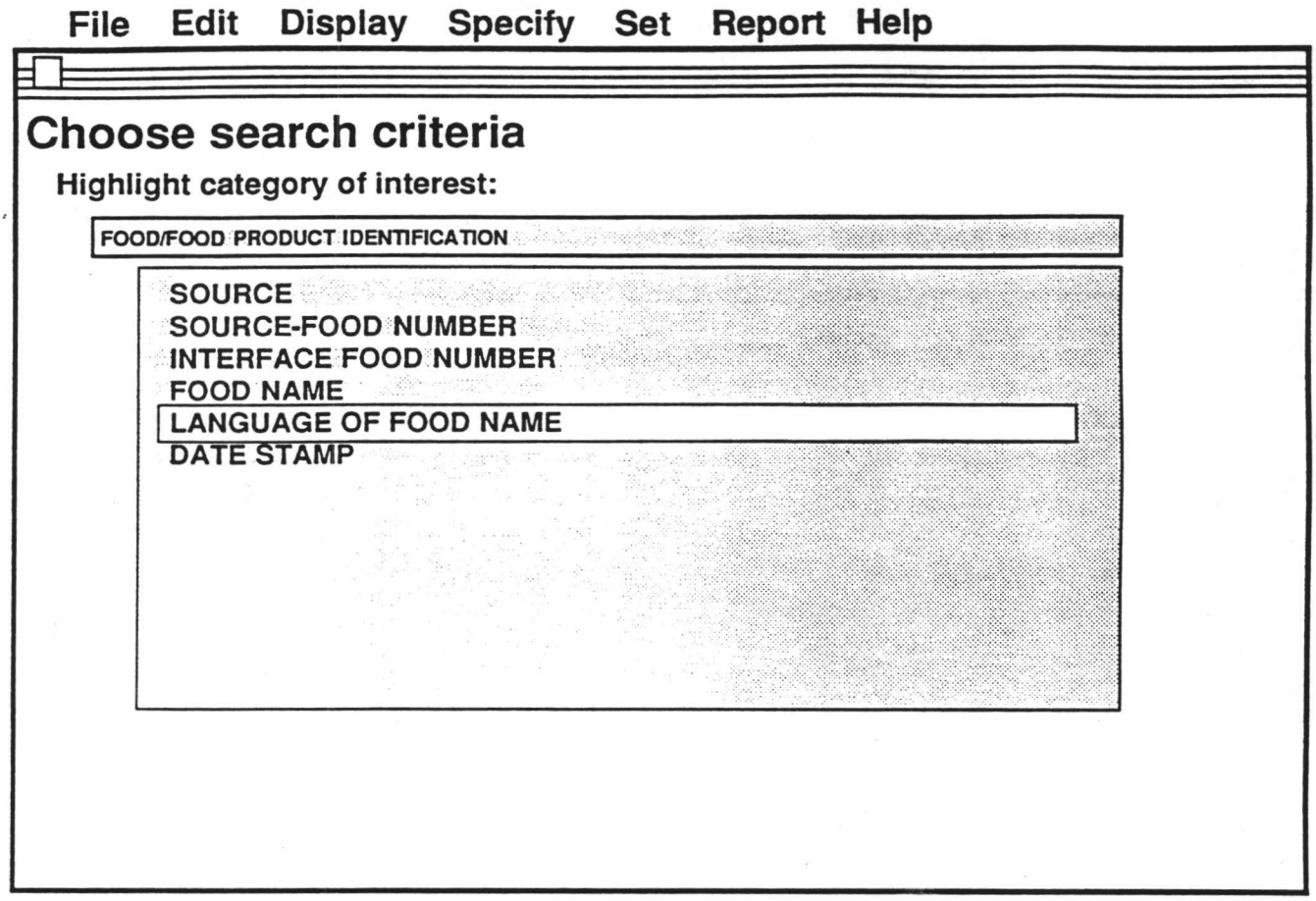
Query sets

	Search criteria	No. of foods
Set 1:	(FOOD/FOOD PRODUCT IDENTIFICATION: SOURCE NUMBER = 000002)	234
Set 2:	(FOOD/FOOD PRODUCT IDENTIFICATION: IFNO = 000002) OR (FOOD/FOOD PRODUCT IDENTIFICATION: IFNO = 000003)	2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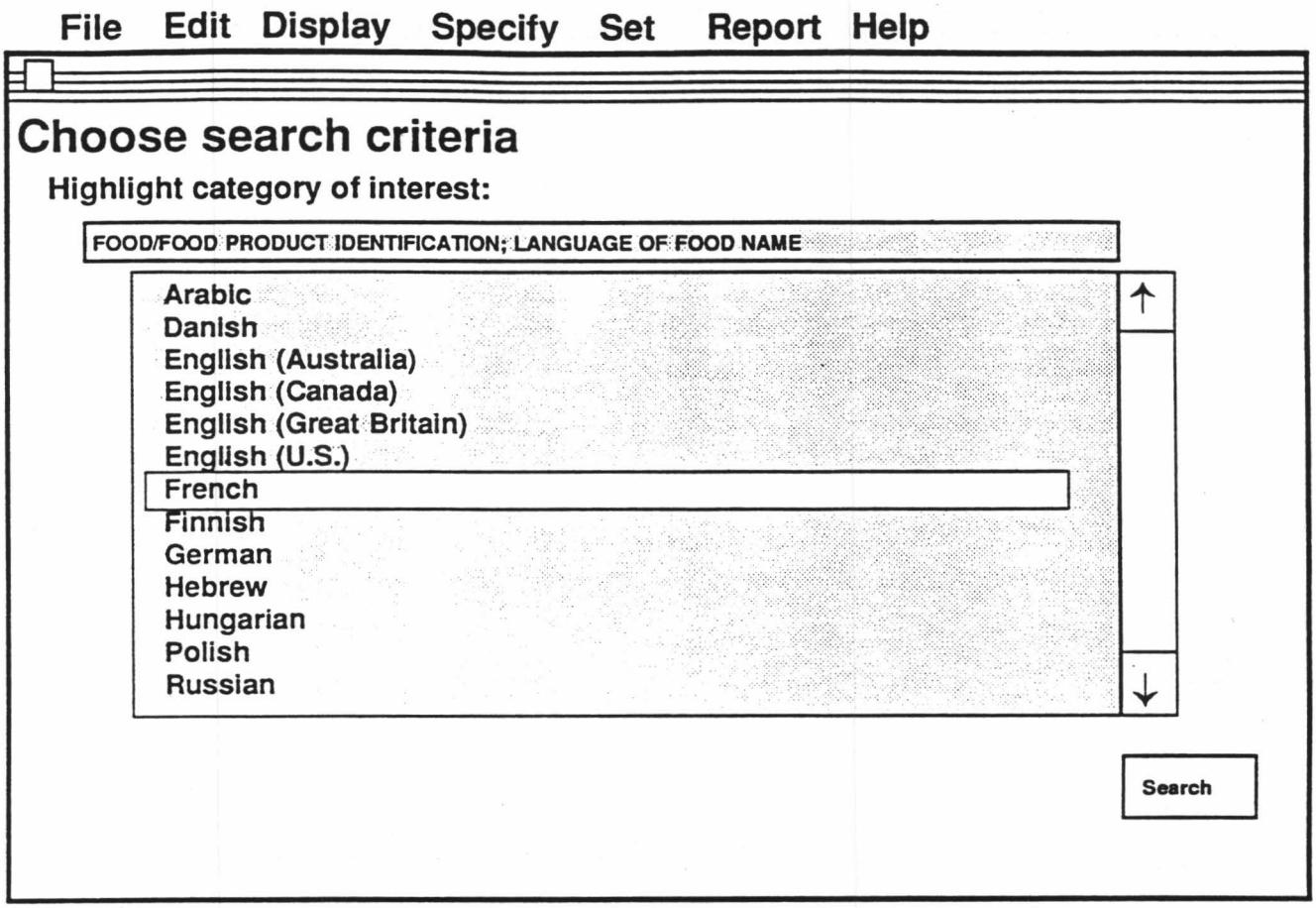
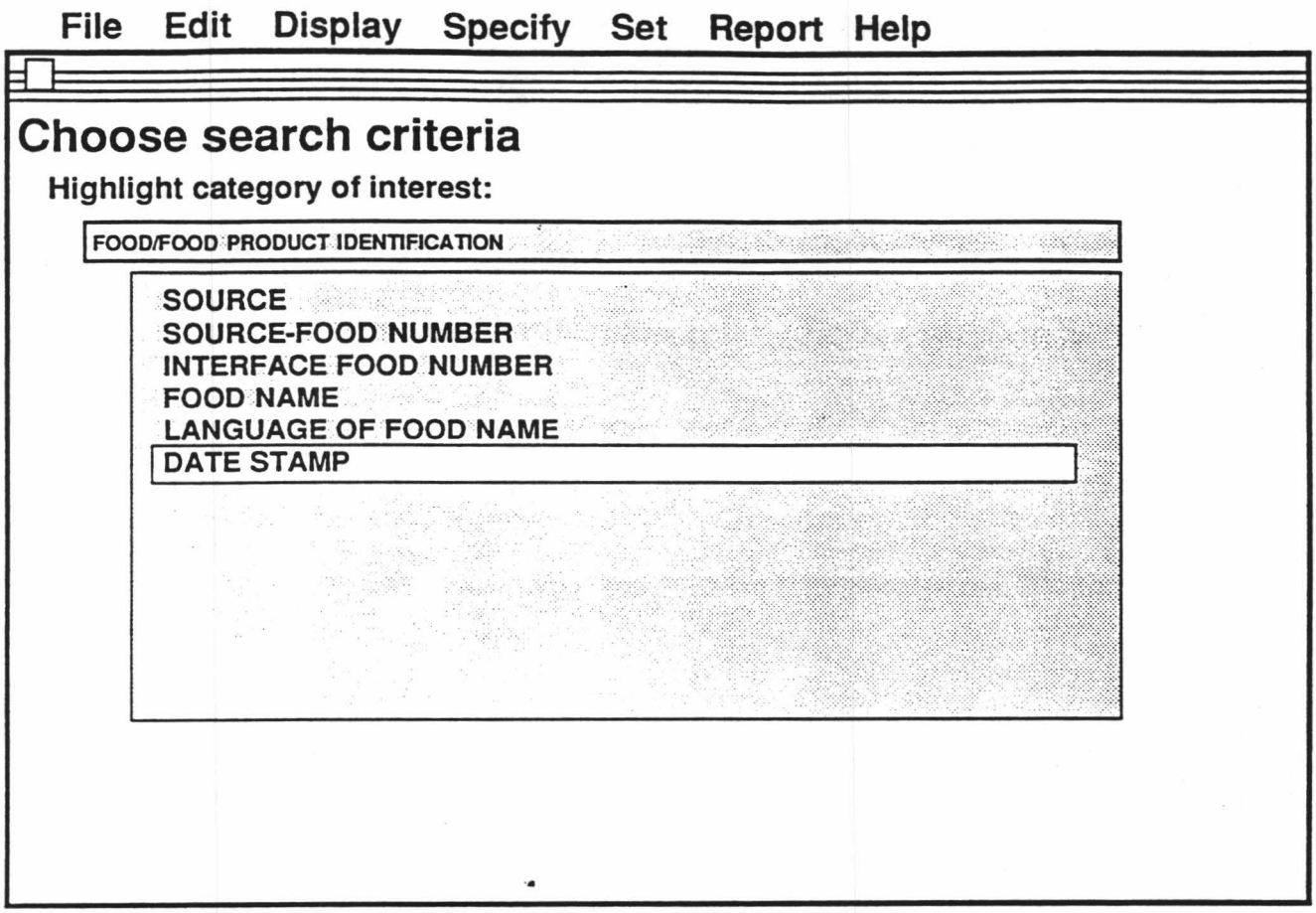
Choose search criteria
Highlight category of interest:
FOOD/FOOD PRODUCT IDENTIFICATION
SOURCE
SOURCE-FOOD NUMBER
INTERFACE FOOD NUMBER
FOOD NAME
LANGUAGE OF FOOD NAME
DATE STAMP

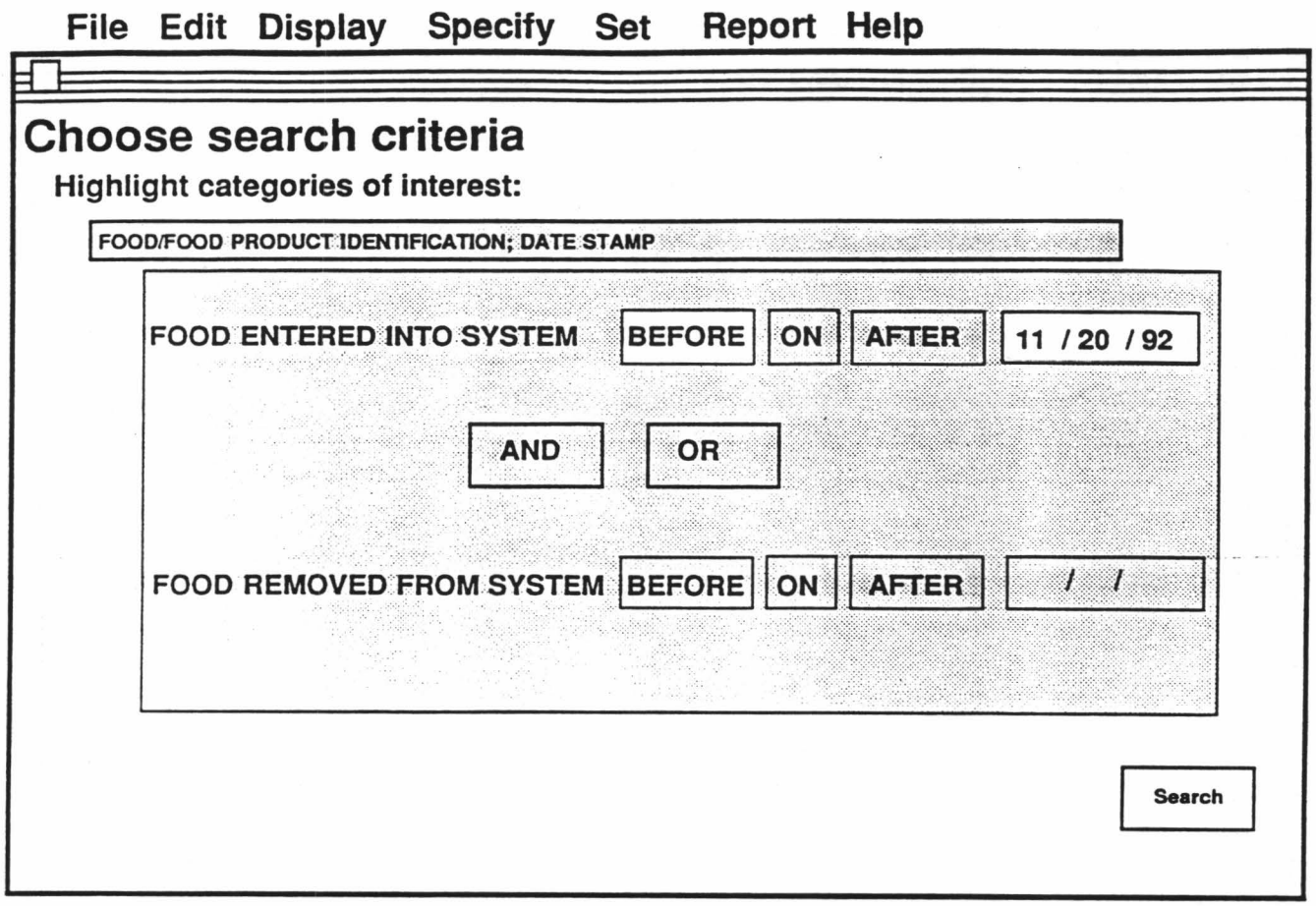

File Edit Display Specify Set Report Help
Choose search criteria
Highlight category of interest:
FOOD/FOOD PRODUCT IDENTIFICATION; LANGUAGE OF FOOD NAME
Arabic
Danish
English (Australia)
English (Canada)
English (Great Britain)
English (U.S.)
French
Finnish
German
Hebrew
Hungarian
Polish
Russian
Search

File Edit Display Specify Set Report Help

Query sets

	Search criteria	No. of foods
Set 1:	(FOOD/FOOD PRODUCT IDENTIFICATION: SOURCE NUMBER = 000002)	234
Set 2:	(FOOD/FOOD PRODUCT IDENTIFICATION: LANGUAGE OF FOOD NAME = French)	30


File Edit Display Specify Set Report Help
Choose search criteria
Highlight category of interest:
FOOD/FOOD PRODUCT IDENTIFICATION
SOURCE
SOURCE-FOOD NUMBER
INTERFACE FOOD NUMBER
FOOD NAME
LANGUAGE OF FOOD NAME
DATE STAMP


File Edit Display Specify Set Report Help
Choose search criteria
Highlight categories of interest:
FOOD/FOOD PRODUCT IDENTIFICATION; DATE STAMP
FOOD ENTERED INTO SYSTEM
BEFORE
ON
AFTER
11 / 20 / 92
AND
OR
FOOD REMOVED FROM SYSTEM
BEFORE
ON
AFTER
/ /
Search

File Edit Display Specify Set Report Help

Query sets

	Search criteria	No. of foods
Set 1:	(FOOD/FOOD PRODUCT IDENTIFICATION: SOURCE NUMBER = 000002)	234
Set 2:	(FOOD/FOOD PRODUCT IDENTIFICATION: DATE STAMP, B < 11/20/92)	30

S. Lahlou (CRÉDOC, France)

Appendix 3.2

The LANGUAL Experience at CRÉDOC

CRÉDOC has been charged by the French Government to conceive, realize and manage the database of the Food Consumption Observatory ("Observatoire des Consommations Alimentaires" : OCA), in cooperation with INRA. The OCA has the task of estimating repartition curves of the consumption of foods or food components (products, ingredients, nutrients, additives, contaminants) in the French population. The OCA database gathers existing surveys (national food surveys, commercial panel data, food intake surveys, etc.) at the individual level, and integrates them in a single database, makes them coherent, and corrects the biases. Then statistical analyses are performed. Presently, the database contains data from the national food surveys, which is a very detailed panel survey (8000 households declaring all year round their food purchases at the level of branded products - around 30 000 references). This means several millions of weekly product conusumption records each year.

Work began in 1990, and it soon became clear that a powerful and flexible food description system was necesary. After evaluation of the existing systems, and an attempt to make a custom system, it was realized that LANGUAL was the appropriate tool. CIQUAL introduced us the CFSAN, and there Tom Hendricks, Betsy Smith, and Brad Rosenthal kindly provided help, advice, and full access to extensive information. Morover, they provided 23000 coded foods, and this capital helped us to make the first codifation system "CITOCA" (running on Macintosh). After 18 months, a new codification system was developed, again based on LANGUAL, and proved satisfactory. This system ("CODIT") is developed on UNIX workstations (SUN 10), with the 4th generation language ABF of the INGRES DBMS which was used for the database. The system is based on the pinciple of prototypic coding (coding by changing marginally the codes of the nearest matching already coded food), and enables user-friendly but reliable and accurate coding. This idea is similar to the AUTOFACTOR developed by the CFSAN, and benefits from some technical progress from the new computer softwares.

A few features were added to the coding model to make and extende LANGUAL (Eurolangual ?), the most important of which are a recipe system, and a list af other "local codes" that ensures that our model is compatible with existing systems. The recipe part solves a lot of the coding difficulties and allows advanced information retrieval facilities, e.g. finding all the products that contain a certain ingredient, even if this is an ingredient of an ingredient (tomato in ketchup in a hamburger for instance). We hope that this recipe system will soon be adopted by the LANGUAL Technical Committee.

At CRÉDOC, a software programme was developed to make sets of products with specific characteristics, also using LANGUAL. Our model follows the International Standard Interface for Food Codification requirements.

The CRÉDOC database now has more than 70 000 references, of which about half are coded in LANGUAL, coding food of recipes is being completed. So far, the OCA has produced statistics on subjects such as the consumption of various food components : 3 major artificial sweeteners, fat in meats, 285 pesticide residues, Lemon extracts, glass/plastic packaging in non-alcoholic berevages and consumption of a wide range of foods at less detailed level. LANGUAL proved quite useful in this purpose.

A new project, EURALIMENT (multicentric coding of all food in Europe on a centralized database with the "Eurolangual") is going to be submitted for funding to the AIR.

SURVEY EXPERIENCES WITH LANGUAL IN HUNGARY

Prof. I. Varsányi
University of Horticulture and Food Industry, Budapest

The Project Management Group of FLAIR EUROFOODS-Enfant program gave the possibility of Hungary to join the program effectively. Both the Ministry of Agriculture as the supervising authoriy and the National Committee for Technical Development (NCTD) as the Governmental representative entrusted the University of Horticulture and Food Industry, Faculty of Food Industry with the establishment of computerized food component data bank. The task includes the organization of the data base by utilizing the hardware of the University Computer Centre as well as the determination of food components according to the recommendations of INFOODS and in addition to control the data received by laboratories inside and outside of University and supply them into the data bank.

The realization of the above mentioned duties needed financial support and a part of contribution arrived in the mid of 1992 when the contract was signed by NTCD. In 1992 our colleague participated in the test of Langual organized by FLAIR EUROFOODS- Enfant program. We also participated in the Eurocode II. test by correspondence form. On basis of our experiences upto now it can be stated that both systems can be well used in Hungarian

foods coding. However, it can also be stated that there are some uncertainities, too. The uncertainities have risen mainly in the fields of preservation and packaging. The explanation of technological procedures from the aspects of their effects (e.g. canning), and the characterization of packaging caused some problems. In accordance with our work plan the data supply will start this year, therefore we would like to use a well tested coding system which would be accepted by all the program participants.

For the improvement of coding we wish to summarize our experiences with Langual and Eurocode II. systems as it follows:

Langual:

- The results of coding system using are considerably influenced by the understanding an interpretation of descriptors. The harmonization of interpretation requires experts work.

- The system cannot be applied as a food code in each case because depending on the interpretator dealing with the coding work, a food can be identified in several ways, which may cause confusions.

- Coming from the national character a certain part of foods cannot be implemented unambiguously into the coding system. I would be one of the national expert tasks to arrange the modification on the base of international experts group recommendation.

Eurocode II:

- The 3, in connection with foods the 4 fields standing at disposal seem to be insufficient. It would be another task of experts to plan new fields.

- We suggest to give code numbers in order of implementation and not in sequence of numbers, otherwise problems may occur when data are checked up. The expert committee should deal with this matter as well.

- It is not clear what will be the function of the missing and marked (with*) identifying code;, how will be place assured in the Eurocode system.

- The elements of the describing system contain the same item in several cases, it means that food can be described in several ways. An agreement needs also experts' work in this matter.

In the following we give the hardware list of the Computer Centre of the University of Horticulture and Food Industry and of the Department of Canning Technology, it is also being in charge with the program coordination:

University Computer Centre

1. DEC 5500, RISC processor
   32 MB memory
   1 GB fix disc
   ULTRIX operation system
2. Micro WAX 3100 server
   16 MB memory
   1 GB fix disc
   600 MB CD
   VMS operation system

Department of Canning Technology

1. 486 DX2-50 256 KB chache
   16 MB memory
   500 MB SCSI fix disc
   CD ROM driver, internal
   1 MB VGA driver

2. 386 DX-33 Notebook 32 k chache
   4 MB memory
   120 MB fix disc

3. 386 DX-40
   8 MB memory
   120 MB fix disc

4. 1 pc 286-AT
   1 pc XT

We have also joined the EuroNIMS activities and we wish to apply and use the EuroNIMS 1.0 software developed by N.V. Logimed. Unfortunately due to unforseen obstacles it is not ready yet so we do not have any experiences. We hope that in the frame of EuroNIMS we will get a good possibility of experience exchanging and the software trial will be realized during this year and we can finalize our software background.

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For the future we suggest a permanently acting expert group for development and maintenance of the chosen coding system to ensure the international data-, and information exchanges.

We explained earlier how important would be to organize an international expert committee of which would operate as an "ad hoc committee" in order to solve the coding problems. We call this committee as an "ad hoc committee" or otherwise "committee" with ordinary (permanent) and temporary (for specific problems) members because "temporary" members would be changed according to the taks of committee. We think a successful and smooth cooperation needs a team on international level to coordinate the implementation of the coding system and to ensure the comparability of various national data bases. The establishment of such and international experts' group could also promote the continuous development and maintenance of both the identifying and the describing systems. We think that for the sake of the effectiveness of their work - before starting their activities - the suggested identifying and describing system would be tested on 100-300 various foods pro country with a special regard to the national food habits and on the base of experiences achieved the system should be reviwed and finalized.

The international identifying and describing systems should operate as open ones. The precisification and modifications will be carried out in the national systems by the experts according to the recommendation of committee who take part in the work of the experts' group. We think that the experts team operating this way would be the warranty of continuous and well-coordinated work on international level.

For the improvement of food component identification the analytical methods should also be surveyed regularly and proposals could be elaborated by the expert group for the adequate data exchanging. It would also be very important to outline proposals for the various recipes and menues development regarding to the food habits of different consumer groups.

Common efforts are also needed for the success of the international activities to find financial support on international level for research, development, coordination and information-exchange, because the national sources cannot cover the costs of that activities. We think that the common efforts can help to realize the plans of future.

The Food & Nutrition Atlas of the European Community

NUTRISCAN-EURONUT-EUROPE AGAINST CANCER

Project Co-ordinator:
Louise Byrne.

Nutriscan Limited, The O'Reilly Institute, Trinity College, Dublin 2, Ireland.
Tel: 353-1-770395 Fax: 353-1-6798039

NUTRIFILE - An EC Food and Nutrient Database

NUTRIFILE, when completed, will be the largest collection of data on food and nutrient intakes of the EC member states. Included are national surveys, SENECA and MONICA studies, and large regional and local studies.

The concept of NUTRIFILE arose through the EC concerted action programme EURONUT. The project was partly funded by Europe Against Cancer and the contract managed by Nutriscan Ltd., a non-profit making campus company of Trinity College Dublin.

NUTRIFILE is computer-based with a "multi-map" system designed to integrate a standard relation database containing information on nutritional intake across Europe with a GIS type interface to support map based query of the database together with the facility to create thematic maps.

Work on the project began initially in April 1991 and the program was first demonstrated in June 1992 at the FLAIR Eurofoods - Enfant Project meeting in Dublin. In January 1993 a prototype of the program plus a draft manual was sent to 50 scientific groups for initial assessment.

Based on the responses to the prototype, a number of modifications have been made to the software and manual. Also, with the help of those sent the prototype the number of studies in the database has been substantially increased. More studies are still welcome! Inclusion criteria established for the studies - not less than 50 healthy subjects, a sufficiently wide range of nutrients, published no earlier than 1980 - meant that a number of qualitative and descriptive studies or those with too few subjects had to be excluded.

The final version of NUTRIFILE plus improved user manual will be available in October 1993. Nutrition journals will be used for promotion of the project and the software will be available at cost price.

Appendix 3.5

Working Group on the Langual Food Coding System
(IARC, Lyon, 24-26 June 1993)

E. Riboli, IARC

Slides

WHERE DO WE COME FROM ?

NATIONAL FOOD AGENCIES
NUTRITION RESEARCH CENTRES
PUBLIC HEALTH INSTITUTES
CANCER RESEARCH CENTRES
..... etc.

WHAT ARE OUR GOALS?

TO INVESTIGATE FOOD CONSUMPTION FOR ECONOMIC STUDIES
TO INVESTIGATE FOOD CONSUMPTION FOR PUBLIC HEALTH STUDIES
TO INVESTIGATE FOOD CONSUMPTION FOR NUTRITIONAL STUDIES
TO INVESTIGATE FOOD CONSUMPTION FOR CANCER RESEARCH
TO INVESTIGATE FOOD CONSUMPTION FOR .....

WHAT ARE OUR COMMON NEEDS ?

TO MEASURE FOOD CONSUMPTION
TO STORE THE INFORMATION
TO RETRIEVE THE INFORMATION
TO LINK FOOD WITH NUTRITIONAL
TOXICOLOGICAL
TECHNOLOGICAL
..... DATA

WHAT ARE THE MAIN DIFFERENCES IN OUR ACTIVITIES ?

SOURCE OF THE DATA
LEVEL OF DETAIL ON FOOD
METHODS OF DATA COLLECTION
FINAL USE OF THE DATA

WHY DID WE AT I.A.R.C. BECOME INTERESTED IN LANGUAL ?

USE OF LARGE DATA BASES ON FOOD CONSUMPTION
INTEREST IN FOOD CHARACTERISTICS OTHER THAN NUTRIENT COMPOSITION
COMMUNICATION OF DATA BETWEEN COUNTRIES/SYSTEMS/LANGUAGES
STANDARDIZATION OF FOOD DESCRIPTION AND IDENTIFICATION ACROSS COUNTRIES

WHAT IS NEW (ON FOOD) AT THE EUROPEAN COMMUNITY LEVEL ?

- END IN 1993 OF F.L.A.I.R. (FOOD LINKED AGRO-INDUSTRIAL RESEARCH)

- POSSIBILITY TO CONTINUE EUROFOOD-ENFANT PROJECT UNDER C.O.S.T (COOPERATION IN SCIENCE AND TECHNOLOGY) PROGRAMME FROM 1994 TO 1999 ON 2-3 SELECTED AREAS OF ACTIVITIES:
  e.g. FOOD CODING/FOOD DATA BASE SYSTEMS
  + FOOD COMPOSITION DATA BASES
  + FOOD CONSUMPTION SURVEYS

- C.O.S.T CAN FUND : MEETINGS OF "MANAGEMENT COMMITTEES"
  : WORKSHOPS
  FOR PARTICIPANTS FROM C.O.S.T. COUNTRIES

- EXPECTED FUNDING : $ 100,000/year x 5 years
  FOR ALL EUROFOOD-ENFANT ACTIVITIES

GOALS OF THE MEETING:

1. REVIEW CURRENT ACTIVITIES ON LANGUAL AND RELATED FOOD DATA BASE SYSTEMS AT THE NATIONAL LEVEL

2. REVIEW AND DISCUSS THE RESULTS OF THE LANGUAL CODING TEST

3. IDENTIFY AND DISCUSS NEEDS AND REQUIREMENTS FOR ESTABLISHING:

   - AN INTERNATIONAL NETWORK OF FOOD DATA BASES
   - LARGE DATA BASES OF FOOD DATA FROM DIFFERENT COUNTRIES

4. DECIDE ON:
   COMMON TARGETS
   SCIENTIFIC COOPERATION
   "ADMINISTRATIVE" SUPPORT
   SHARE OF AVAILABLE RESOURCES
   SEARCH FOR ADDITIONAL RESOURCES

   ..... WHERE DO WE GO FROM HERE - AND HOW ????????