FOODSAFE: A FOOD SAFETY INFORMATION PROJECT SERVING PRODUCERS AND EXPORTERS OF THE AMERICAS IN THE 1990'S

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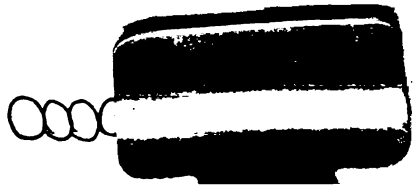
School of Agribusiness and
Environmental Resources (SABER)
Center for Agribusiness Policy Studies (CAPS)
In Cooperation With
INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE (IICA)



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I. Executive Summary

The Arizona State University School of Agribusiness and Environmental Resources (SABER), its Center for Agribusiness Policy Studies, and FOODSAFE: AN Interamerican Institute for Cooperation on Agriculture (IICA) jointly propose to establish an Inter-American clearinghouse and database for information concerning government regulations and import restrictions relating to pesticide usage, pesticide residues, and food contaminants and related matters. The primary purpose of the program is to make this crucial information accessible to those Latin American firms, cooperatives, and other agribusiness enterprises attempting to increase exports of food products to the U.S., the EEC and other markets. Longer-term the beneficiaries will include consumer groups throughout the Americas as well as the various government agencies in all the countries.

Latin American and Caribbean nations have long had difficulty acquiring information concerning approved applications, tolerances, and residue levels for pesticides. Regulatory requirements are continually changing, and the reregistration process taking place in the U.S. presages greater changes in the future. This proposal facilitates an important step in accomplishing such objectives.

By connecting directly to the existing databases in regulatory agencies, this project will provide an information system permitting immediate access from anywhere in the Americas. In addition, a skilled and experienced person will be assigned to work in-country, initially at the selected beta (demonstration) sites, to help relevant agencies, firms and institutions learn how to use the system. A major goal of this project is that all information in **the database will be available in Spanish as well as English.**

A special feature of the program will be the organization of an oversight committee comprised of knowledgeable persons familiar with the all aspects of food safety from medical hazard to the minutiae of regulations. Besides providing regular external review of the program, the committee will be employed as a resource to answer questions and provide interpretations not readily accessible in the database or in the exporting country governmental or private agency support network. The committee will be chaired by a distinguished physician, expert in the areas of food safety and toxicology. It will also include a number of recognized experts in the matter of pesticide application, food additive usage, and the other areas included in the database, since nearly all tolerance violations have been shown to be due to incorrect application or use of the regulated material.

II. Program Objectives

The School of Agribusiness and Environmental Resources(SABER) at Arizona State University, in cooperation with the Inter-American Institute for Cooperation in Agriculture (IICA) proposes to establish an Inter-American communication center, information depository and accessible database for use by IICA member countries. The purpose of the communication center will be to make information needed to satisfy the import regulations of countries which purchase agricultural products from the IICA member country. Initially the database will contain information regarding pesticides, covering applications and residues permitted on each crop, so that the material shipped will be safe for human consumption as defined in the several statutes and issued regulations. Subsequently, regulations covering such matters as food additives or contamination by microorganisms and their toxins will be incorporated into the database. Finally, other requirements imposed by such agencies as FDA, USDA, and The Bureau of Fisheries (Department of Commerce) covering other materials and foreign (extraneous) matter will be incorporated into the database.

> *N.B.: Initially, only U.S. regulations will be incorporated into the database, noting EEC or Japanese regulations when they impose more stringent requirements than U.S. regulations.*

In the establishment of the database, SABER and IICA will work closely with the U.S. Environmental Protection Agency (EPA), the U.S. Food and Drug Administration (FDA), and the regulatory arms of the U.S. Department of Agriculture (USDA) and the Bureau of Fisheries (Department of Commerce). In particular, the project contemplates direct electronic on-line transfer of the information from the relevant agency's database to the system to be devised. Also built into the program is continuous on-line update of regulations so that users can have the most timely information regarding rules and regulations covering the product to be exported.

The beneficiaries of the project will be the producers, processors, packagers, marketers and shippers of the products to be exported located in the IICA member country. The goal is not only to increase the trade of the IICA countries with the U.S., but with the help of U.S. State Department (Agency for International Development) and other agencies increase trade with the rest of the world as well.

III. Background

A. Need for Information on Pesticide Use and Residues

While information on pesticide restrictions exists for the U.S. and other major world markets, it is often either not readily accessible, relevant or comprehensible for specific producer market needs within the countries comprising IICA. Even within a given country, it is often difficult to locate and interpret such information. Furthermore, applicable government criteria, requirements and restrictions are subject to continuous change in both substance and interpretation. This lack of information often results in enormous losses when shipments of agricultural products are rejected by local government officials at their destination. A primary goal of this program is to remedy that situation by making information available to meet the specific needs of producers, marketers, processors and consumers.

On a global scale, trade alliances are forming, or are already in place. For this reason, the Initiative for the Americas demonstrates that the United States regards Latin America and the Caribbean as natural trading partners, both as exporters and importers of products. Agribusiness in the Americas has been slow to realize the potential for exporting value-added, processed food and other agricultural products to major world markets. As a result, European and Asian firms have captured the greater share of this much more profitable business. For this reason, countries in this hemisphere are increasingly emphasizing the development of non-traditional export crops as a way of generating the foreign currency to purchase needed imports and service foreign debt.

Differences in pesticide regulation exist within the nations of the Americas, but requirements for importation into the United States will, due to the sheer size of the U.S. market, tend to become, de facto, the criteria for the hemisphere. Moreover, nations of the Americas are expressing increasing concern over misuse of pesticides because of the dangers of exposure to their own farm workers. They are also concerned by the negative impact upon foreign trade if crops for export are rejected due to pesticide residues or other contaminants that exceed allowable tolerances. Finally, the massive pesticide reregistration process now underway in the United States is certain to complicate the situation.

Pesticide and other regulations for European markets are becoming standardized through the European Economic Community (EEC). At the present time there are important differences in some of these regulations(particularly for pesticides) between European countries within the EEC as well as between the EEC and the U.S. Whether these differences will ever be resolved and whether they will mesh completely with U.S. requirements remains to be determined. As GATT

standardizes requirements, FOODSAFE can attempt to flag the most significant differences that remain. In this way FOODSAFE can become an important information resource for Latin American and Caribbean producers to increase IICA member global competitiveness.

B. Discussion

Since producers from Latin America and the Caribbean must direct their marketing efforts both to the U.S. and the EEC, it is imperative that reliable information be available concerning such restrictions or criteria so that compliance can be planned and achieved, beginning with the planting of crops and the feeding of animals. In this way, errors of both omission and commission may be avoided, resulting in increased public acceptance of imported products and reduced costs of litigation and rejected product.

Restrictions on the use of pesticides exists at some level in every country within the Americas and the Caribbean. While efforts to standardize pesticide regulation are underway, much work remains to be done. Current producers, however, cannot wait for standardization to develop; they must be certain that the products they are now shipping conform to the regulations that are now in effect in the country that will be receiving the products. Furthermore, even with standardization, changes in law, regulation, registration, and enforcement will continue to come about as technologies change and more is learned about the long and short term effects of pesticides.

C. New Restrictions Anticipated as the Result of Re-Registration

Of particular concern are recent changes in the regulation of pesticides and their residues in foods in the United States. In 1988 Congress amended the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and directed the EPA to require all manufacturers of pesticides to submit studies that will enable them to re-register nearly 25,000 pesticide products based on about 600 different active ingredients. The target date for re-registration decisions on these chemicals and products is 1997. These studies create a high degree of uncertainty with regard to the status of pesticides that are now being used. It is economically important that pesticide usage continue, but only under conditions that meet these changing regulatory requirements. Timely knowledge of, and compliance with such changes as they develop will prevent seizure of products that do not comply. In addition to existing legal requirements, the current session of the U.S. Congress is considering legislation restricting the export of pesticides not approved for use in the United States. The stated purpose of this legislation is to prevent the contamination of U.S. food imports.

Thus it is becoming quite obvious that a more efficient mechanism must be

developed for the rapid and widespread dissemination of reliable data concerning pesticide tolerances, exemptions and limitations. The National Agricultural Chemicals Association is developing various forums for the dissemination of such information, its outreach is limited by its resources. What is needed is a major effort that can serve more remote and less developed nations of the Americas, providing them information on a timely basis.

IV. Proposed Program

The program proposed will provide a centralized database, in both Spanish and English, of all pertinent regulations governing import requirements in the U.S., the EEC and Japan for pesticides, food & color additives, sanitary requirements, etc. The database will be the core of an inter-American clearinghouse for consultation by (hemisphere) exporters of food products to the U.S. The clearinghouse will provide information concerning U.S. regulations pertaining to the import into the U.S. of foodstuffs such that they are deemed, under various sections of the law, as safe for human consumption; i.e. are in compliance with FIFRA and its amendments (Chapter 40, Code of Federal Regulations) sections 408, 402, 406, 512, 401 etc. of the Food and Drug Acts of 1958 as subsequently amended, the several sanitary provisions of the USDA and certain standards of the Department of Commerce(Bureau of Fisheries) governing the importation of fish and crustacea.

After a short pre-project planning phase, the database will first be built around existing regulations governing the use of pesticides for crops being imported into the U.S. The primary focus will be to provide information to the exporting country's growers, processors, shippers, and exporting firms concerning EPA and other regulations governing pesticide use. The goal is to make sure that the exporting country organizations, agencies and firms know what is required to produce crops that contain residues below the limit permitted by regulation. Once the system is demonstrated at one or two beta-sites, it will be put on line, country by country. At the same time, arrangements will be made with the EPA to arrange for continuing update of the database, as regulations are added or amended over time. In a similar fashion databases will be built for regulations promulgated by FDA, USDA and DOC governing importation of food into the U.S. so that it is fit for human consumption and does not represent a hazard to human health. A final phase will include incorporation of European and Japanese regulations when such are more severe as to residue level or conditions of use than permitted by the U.S. or where such regulations apply to crops and pesticides not covered by U.S. regulation. The program is outlined as follows:

A. Pre-Project Planning Phase:

1. Access to Data Bases: Detailed discussions with the agency are required to establish the nature of the data available for public dissemination by means of electronic transfer directly from agency databases. Discussions are also required to define the architecture and software requirements of the information system(see implementation). Agency views will be sought as to the procedure to be used for the continuous updating the database will require if it is to be continually useful as well as continuously online.

2. Definition And Selection: Since, when promulgated, each regulation has a voluminous file associated with it, decision rules have to developed as to what portion of each regulation should be excerpted for translation and incorporation in the FOODSAFE database. Difficulties of processing and transferring the data electronically have to be assessed.
C- Beta Site Selection: One or two countries, readily accessible, have to be selected where there is a reasonably competent information network as to both pesticide regulation and information management. This will permit more precise definition of the in-country requirements as to amount of data required, nature of access, availability of local technical expertise, intelligibility of the translation system employed, etc.

B. Data Base Creation Phase:

In order to provide the complete service that exporting countries require, the final database will include, where defined with respect to regulated agricultural imports:

1. Categorical restrictions, prohibitions and other absolute bars to the import of a crop treated, processed, packaged or otherwise brought into contact with a forbidden substance or material.

2. Permitted Levels of foreign substances including:
   i. Pesticides,
   ii. Bacteria, fungi, other microorganisms and their toxins,
   iii. Contamination with foreign matter(e.g. dirt, insect parts, etc),
   iv. Food, color, and other intentional, unintentional, and incidental additives.

   N.B. *Permitted levels are usually associated with regulations governing conditions of use to be observed by the grower, processor, packer, shipper, etc. which the exporting country is expected to be able to prove or certify were employed.*

3. Packaging, Shipping and Storage Requirements:
   i. Permitted packaging materials for each use,
   ii. Required containers for each use(where specified),
   iii. Shipping and storage requirements,
   iv. Information required on the label by each regulation, generic marking, as required by port of entry, etc.

4. Enforcement and Inspection Policies:

i. Certification Procedures where required, by country

ii. Inspection, self-monitoring, third party inspection requirements by material and conditions of use, by crop and country as required by specific regulation.

C. Referral and Advisement Service--Technical Oversight:

Built into the database will be the names of specific resources available in the exporting country concerning the several regulatory requirements, particularly for qualified testing laboratories and exporting country certification procedures. Questions concerning changes or amendations to regulations, interpretations thereof, etc. will be referred to the management team which includes a strong technical advisory and oversight committee.

To provide ongoing program review and advice, a blue-ribbon Technical Review Committee will be organized. It will review the program on a regular basis from a number of different points of view. Of greatest concern is potential exposure of the consuming public to unsafe levels of residue or other contaminants. For example, the committee might well advise adopting more stringent requirements than required by a particular importing country. To that end, the committee will be chaired by a distinguished physician, expert in the areas of food safety and toxicology. It will also include a number of recognized experts in the matter of pesticide application, food additive usage, and the other areas included in the database, since nearly all tolerance violations have been shown to be due to incorrect application or use of the regulated material.

The committee will also include persons familiar with the regulatory process from an administrative and legal point of view. They will be particularly helpful in dealing with questions from users of the database that are not readily apparent from study of the regulations themselves. These persons are also essential when it comes to pleading the case of growers and processors in the Americas who require pesticides, additives, and other materials not required in the U.S. or other country where the exporting country's produce is being marketed. Since representatives of the Center for Agribusiness Policy Studies will also serve on this committee, one special task that a university group can undertake is the analysis of new policies to cover special problems, such as those involving the interaction between U.S. regulation and ex-U.S. situations.

As indicated above, the committee will also serve as a resource to the users and to the agencies supplying the data. Clearly there are going to be questions emanating from accessing the database. While the database will contain a list of

agencies, firms, and persons who are knowledgeable in each country to whom one might turn for help, even so, it is recognized that, from time to time, difficult questions will have to be referred to the committee. It should be added that questions of analysis, monitoring for the particular level of a specific pesticide or additive, will not be directly dealt with, except by referral to local, regional or national laboratories maintained by private firms, universities, research institutes and governmental agencies.

D. Discussion and Comments:

Virtually all exporting countries have policies, personnel, agencies and firms in place to help the exporter. It is recognized that the present acute need of exporting firms and enterprises is to make sure that they are in compliance with the ever-evolving nature of pesticide regulation (hard to keep abreast of in any developing country). It is recognized that there are certain international requirements for sanitation and cleanliness as well as regulations governing the use of certain food and color additives for processed, packaged, semi-finished or final foods shipped into the U.S. in the U.S. or the European Common Market (EEC) that are also of immediate concern. Therefore, after the preliminary scoping of the technical and management information requirements required to launch the project, beta-site operation should also reveal priorities for the next general category to be added to the database.

V. Implementation Plan

FOODSAFE will be implemented in five steps following the planning phase:

1.) inventory of existing databases (6 months);
2.) initial system design (6 months);
3.) initial loading (6 months);
4.) pilot testing and system revision(3-6 months); and
5). final implementation and operation (3 years).

A. Inventory of Existing Databases:

The first step in the development of FOODSAFE will be to determine the sources of data for U.S. food safety regulations, primarily federal agencies , including EPA, FDA, and USDA. Sources of data for food safety regulations outside the United States will be identified following completion of the U.S. inventory. This task will be the primary responsibility of the regulatory liaison in Washington and the Project Director at ASU. Examples of existing data sources are listed in Appendix I.

B. Initial System Design:

Once existing databases, their structure and format have been identified, a computer database management system will be designed with three basic principles in mind:

1.) ease of access for final users;
2.) ease of updating from existing sources (electronic and print); and
3.) ease of cross referencing the data (eg regulations by chemical, by food product, or by country).

The system will be designed to operate on international computer networks or on independent microcomputer based systems using data distributed on CD-ROMs. This step will be implemented at ASU by a database management specialist under the guidance of the Project Director and SABER faculty. This activity will be closely coordinated with regulatory agencies to ensure compatibility with existing agency databases.

C. Initial Loading:

Following the design of the system, data will be loaded, first from existing electronic regulatory databases followed by data which are only available in print or microfilm formats. As English language data is loaded into the system it will be translated into Spanish (the use of recent innovations in translation software will be explored as means of speeding this process). International data will be loaded as it becomes available.

D. Pilot Testing:

After loading the initial databases, the system will be pilot tested with selected user groups, first at ASU, followed by field tests at a selected Beta test site in Central America under the joint supervision of IICA and ASU. Feedback obtained during the pilot tests will form the basis for evaluation and modification of the initial system before proceeding to the final implementation of the system.

E. Final Implementation and Operation:

The final implementation of the system will consist of loading any remaining data on international regulations, establishing training programs for end users, making the system available in countries beyond the original Beta test site(s) and the maintenance and operation of the system for the remaining lifetime of the five year project. The ultimate goal, hopefully to be realized by the end of the timespan in this proposal, is for FOODSAFE to become self-sufficient, funded by exporting governments, user fees, etc.

VI. Statement of Qualifications

A. Background Information on ASU-SABER and IICA

Arizona State University (ASU) and its School of Agribusiness and Environmental Resources are located in the heart of a $30 billion agribusiness industry in the American Southwest. From this central vantage point, ASU is well situated to carry out studies and provide assistance with respect to the financing, regulation, marketing and transportation of agribusiness goods and services, particularly with respect to international trade and trade with Latin America and the Caribbean. The University has more than 43,000 students with over 6000 focusing on Foreign Languages. More than 2000 students have Spanish as their original language.

The **School of Agribusiness & Environmental Resources (SABER)** focuses on the increasingly global nature of agribusiness markets environmental challenges. SABER faculty bring a strategic approach to the management, marketing, and financial assessment of agriculturally-oriented businesses, cooperatives and government entities.

As a unit of the College of Engineering and Applied Sciences, SABER interacts and draws on the expertise and experience of many applied disciplines including Computer Integrated Manufacturing, Construction Technology, Telecommunications, Computer Science, Energy Systems and Transportation and Aerospace.

The **Inter-American Institute for Cooperation on Agriculture (IICA)** is the specialized agency within the Inter-American System responsible for promoting and supporting agricultural development programs in its member states. All countries in the region, with the exception of the Commonwealth of the Bahamas and Belize, are members of the organization. With headquarters in San Jose, Costa Rica, IICA has offices in all member countries, including the U.S. and Canada. It carries out programs in five general areas:

1. Agricultural policy and planning,
2. Science and technology generation and transfer,
3. Rural Development,
4. Agri-industry and marketing, and
5. Animal health and plant protection.

The core operating budget for IICA is derived from quota contributions from member states of approximately $24 million annually. IICA generates additional revenue by carrying out a number of programs for the Inter-american Development Bank, CIDA of Canada and the U.S. Agency for International Development (AID).

ASU and IICA are working together to ensure that all nations in the Americas and the Caribbean will benefit from the activities of the FOODSAFE project described below. IICA, with its offices in Washington, D.C. and all member countries will serve as a key referral point and contributor to the information network to be established under the proposed FOODSAFE program.

The renewed interest in market economics and non-traditional export crops in Latin America and the Caribbean is creating new opportunities for rural economic development. ASU-SABER and IICA are well qualified to assist in harnessing the critical elements required to revitalize agriculture and agribusiness as an engine for economic growth. In the case of IICA, this is in fact the mission mandated to it by its highest governing body, the Inter-American Board of Agriculture (IABA), composed of representatives from all Member States.

Within SABER, special importance is placed on analyzing the impact of public policies on the agricultural sector and the environment. Of interest are the impacts of policies set by U.S. agencies such as EPA, FDA, and USDA, as well as the impacts created by multilateral agreements between nations. IICA is similarly concerned with the effects and impacts of multilateral agreements on its Member States as they affect IICA's areas of responsibility. Together, SABER and IICA will create an efficient and effective management entity building on both organizations parallel and complementary knowledge, skills and interest.

B. IICA Personnel and SABER Faculty and Staff Resources

Mr. David Black, North American Director of IICA

As the Chief of Mission for IICA, David focuses 20 years experience of engineering and technical assistance in the Americas. Currently, as head of IICA David is responsible for coordinating the Agricultural Research arm of the Organization of American States. Located in Washington, he will provide the interface with the agency on information needs and provide overview advise to both the university and the Latin American Countries.

Dr. Eric P. Thor, Director and Professor (Global Finance and Trade)

Specializing in global finance and trade, Dr. Thor has been involved in both research and management for a number of public and private entities including the Bank of America, Crocker National Bank, the U.S. Treasury and the U.S. Department of Agriculture. He has specialized in financial restructuring and has successfully completed difficult management assignments in many areas of agribusiness, both domestic and international.

Dr. Neilson C. Conklin (Agricultural Policy Analysis).

An Associate Professor in the School of Agribusiness and Environmental Resources at Arizona State University, has a broad background in agricultural economics research, public policy analysis, and adıninistration. Dr. Conklin has extensive experience managing research units and communicating research results to senior policy officials in USDA and the White House. During 1988 and 1989 Dr. Conklin served as the Chief of the Agriculture Branch in the Office of Management and Budget where he was involved in the regulatory review process in addition to his responsibilities for the USDA budget. Prior to his tenure at OMB, from 1984 to 1988 he was a senior policy analyst and Deputy Division Director in the Economic Research Service of USDA.

Dr. Richard S. Gordon, Professor (Agribusiness and Public Policy Development)

A former Vice President of the Monsanto Company, Dr. Gordon has worked extensively on removal of technical, economic and regulatory barriers for both government and the private sector. As a past Vice Chairman of the Board on Agriculture, NAS/NRC, and as a member of many governmental and industry task forces, Dr. Gordon has been heavily involved in preparing legislative and regulatory recommendations addressing issues of food quality, food safety, environmental protection, and consumer information.

Dr. Albert Kagan, Professor (Management Information Systems)

With a strong background, teaching and research experience in agribusiness, Dr. Kagan in recent years has turned his attention to information systems development, particularly focusing on management information systems for small businesses. He has developed, jointly with IBM, new user-friendly applications which are particularly applicable to agribusiness firms without access to large computing networks. He will be the principle manager of building the information, Spanish-English language, database. He will focus particularly on the matter of expediting multiple site accessibility.

Dr. Kenneth H. Maddy, Associate Professor (Agribusiness and Information Management)

Dr. Maddy has particular expertise in the areas of government regulations, policy analysis and the development of computer-based simulation and optimization models for agribusiness operations. Dr. Maddy has had twenty-seven years of experience in private sector research, new product development and management including four years with BASF and nineteen years with the Monsanto Company, during which time he pioneered the use of computer models to develop animal feed formulations optimized for cost and growth. Dr. Maddy is an expert in those government regulations.

Dr. Moshe Raccach, Associate Professor (Agribusiness and Food Quality Assurance)

Dr. Raccach's areas of expertise include food safety, food hygiene, post-harvest handling and processing of perishable products and food quality assurance. He has spent several summers as a visiting professor at the University of Costa Rica and, for the past two years, has taught short courses in Costa Rica on technical skills for the handling and exporting of food products. Dr. Raccach's approach provides course participants with both an understanding of the microbial processes involved in food safety and food quality management as well as practical techniques for controlling and testing food quality which do not rely on expensive and possibly unavailable testing equipment.

Mr. Daniel Shaffer, Research Associate

Daniel Shaffer, a SABER Faculty Research Associate, has had 16 years' experience in rural economic development and business consulting. Mr. Shaffer has master's degrees in business administration (MBA) and cultural anthropology. He speaks Spanish, is familiar with Latin American economic development, and did field research in an ejido in the Mexican state of Veracruz. He is currently working on several projects with the Yaqui Indian Tribe of Rio Yaqui, Sonora, Mexico and the Quechan Indian Tribe of Imperial County, California and Yuma County, Arizona. Mr. Shaffer has completed agribusiness marketing feasibility studies and business plans related to agroforestry, vegetable production, aquaculture and new product opportunities in the dairy and horse care industries.

VII. Budget

A. Budget Estimates

The first two years of the project, will require the acquisition of capital equipment and a substantial investment in data acquisition through the regulatory liaison. In the last three years, as the project's emphasis shifts to implementation and training of end users, costs of regulatory liaison will decline while the costs of training activities and beta testing increase. Travel to visit key resource agencies and sources of information in various parts of the world will also be required. Travel funds will also be required for beta testing, training, and implementation in target countries.

Preliminary estimates[1] indicate that $337,000 to $414,000 annually will be required to establish and maintain Foodsafe. This sum includes the costs of computer hardware, software, data acquisition and input, staffing, and university indirect costs. Budget projections and staffing plan with estimates of the funding needed for Years 1 through 5 are shown in Tables 1 and 2.

B. Potential Sources of Funding

Grant funding is being sought from the U.S. Agency for International Development and other agencies. The purpose of the funding is to establish and staff the Clearinghouse and build its database of computerized, microfilmed and hard copy information. It is anticipated that on-going support will be provided by national government and international agencies as a means of encouraging and supporting export-oriented agricultural development. Private firms will also be able to access this data in return for appropriate user fees.

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[1] All estimates are preliminary and the capital cost estimates are conditional on a more complete evaluation of equipment needs as a part of the planning phase.

Table 1. Preliminary Budget Estimates for Foodsafe

Item	Year 1	Year 2	Year 3	Year 4	Year 5
Direct Costs:					
Salaries and Benefits	$215,539	$263,066	$252,887	$262,032	$271,633
Capital Equipment	$15,000	$15,000	$3,000	$3,000	$3,000
Travel	$15,000	$15,000	$15,000	$15,000	$15,000
Operating Expenses					
Computer Services	$5,000	$10,000	$10,000	$10,000	$10,000
Materials and Supplies					
Data Acquisition	$6,000	$7,500	$7,500	$7,500	$7,500
Telephone	$5,000	$6,000	$7,000	$8,000	$8,000
Office Supplies	$5,000	$5,000	$5,000	$5,000	$5,000
Postage	$1,000	$2,400	$4,000	$5,000	$6,000
Total Direct Costs	$267,539	$323,966	$304,387	$315,532	$326,133
ASU Indirect Costs @ 27.5%	$69,448	$84,966	$82,881	$85,946	$88,862
Grant Total	$336,987	$408,931	$387,269	$401,478	$414,995

Table 2. Preliminary Staffing Plan for Foodsafe

Position	Base Salary	Benefits	Total	Year 1	Year 2	Year 3	Year 4	Year 5
Project Director	$45,000	$13,500	$58,500	$58,500	$61,425	$64,496	$67,721	$71,107
Database Specialist	$35,000	$10,500	$45,500	$45,500	$47,775	$25,082	$26,336	$27,653
Secretary/Translator	$25,000	$7,500	$32,500	$32,500	$34,125	$35,831	$37,623	$39,504
Graduate Res. Asst.	$8,000	$240	$8,240	$8,240	$8,652	$9,085	$9,539	$10,016
Regulatory Liason 1./	NA	NA	$40,000	$40,000	$40,000	$20,000	$20,000	$20,000
Training Specialist	$40,000	$12,000	$40,000	NA	$40,000	$42,000	$44,100	$46,305
Tech. Adv. Committee	NA	NA	$50,000	$25,000	$25,000	$50,000	$50,000	$50,000
Faculty Release	$68,219	$13,644	$68,219	$5,799	$6,089	$6,393	$6,713	$7,049
Total				$215,539	$263,066	$252,887	$262,032	$271,633

Appendix I. Existing Data Sources

The following are examples of relevant information sources which may be merged and utilized in the project:

1. Codex Alimentarius Commission (CODEX) for foods.

2. International Office of Epizootus (IOE) for animal health.

3. International Plant Protection Convention (IPPC) for plant health.

4. Food and Agricultural Organization (FAO) of the United Nations, specifically as it coordinates the above activities.

5. U.S. National Agricultural Library.

6. U.S. Department of Agriculture, Food and Drug Administration and Environmental Protection Agency.

7. University of Brussels (coordinator for the European Economic Community food and drug regulations).

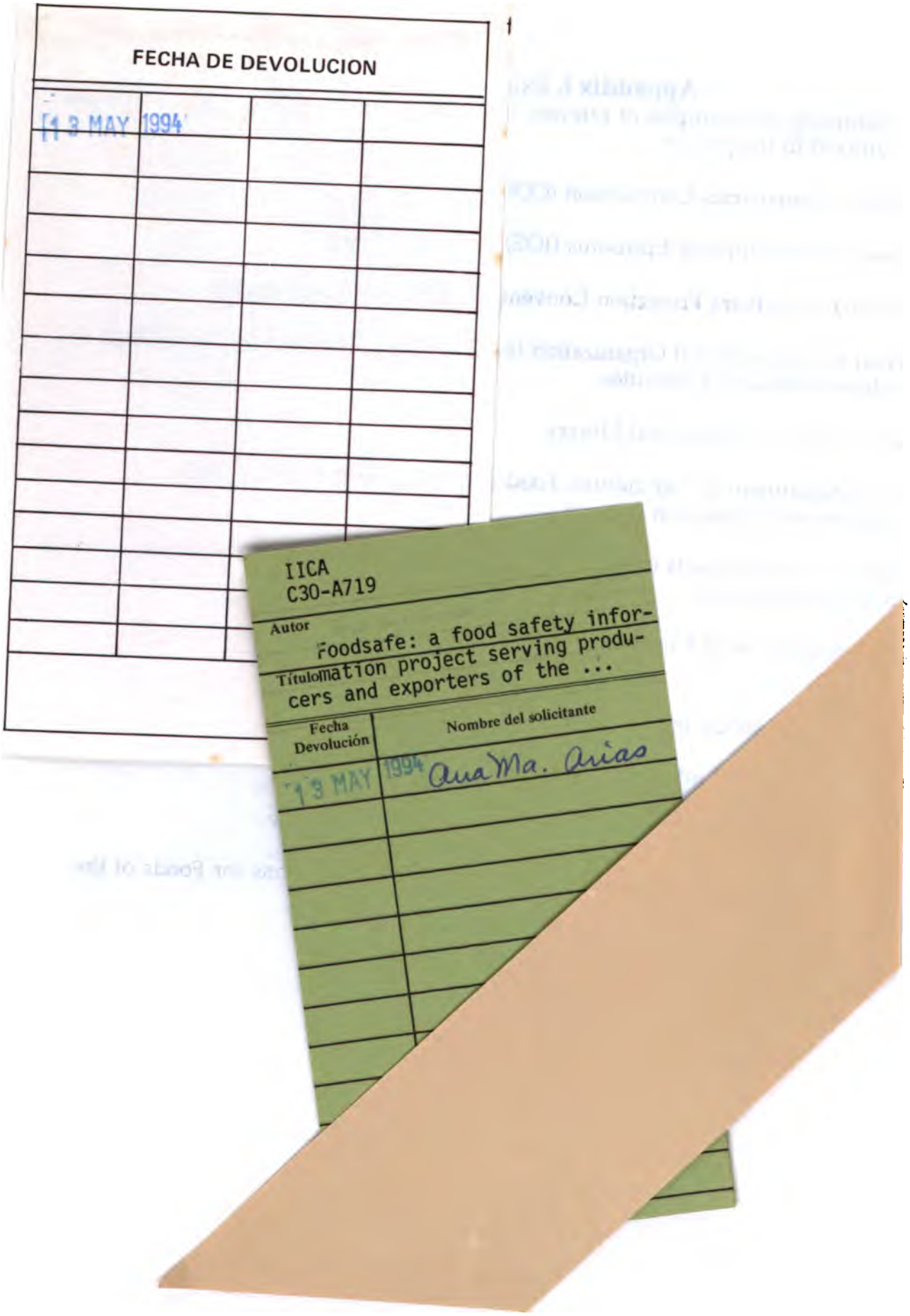
8. Pesticide Chemical News Guide, Food Chemical News Guide and related publications.

9. National Pesticide Information Retrieval System.

10. AGRICOLA and other relevant bibliographic databases.

11. Food Chemicals Index of the National Academy of Science.

12. International Commission on Microbiological Specifications for Foods of the International Association of Microbiological Society.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Fecha Devolución
Nombre del solicitante
13 MAY 1994 Ana Ma. Arias