PN-ABZ-389

SUSTAIN

SHARING UNITED STATES TECHNOLOGY TO AID IN THE IMPROVEMENT OF NUTRITION

WORKSHOP: FRUIT & VEGETABLE PROCESSING

HONDURAS

August 14 - 18, 1995

SUSTAIN Volunteer

Pedro Sole, Ph.D.
Vice President, QA/QC
Chiquita Brands International

This publication was made possible through support provided by the Office of Health/Nutrition; Bureau for Global Programs, Field Support and Research, U.S. Agency for International Development, under Cooperative Agreement No. DAN-5120-A-00-1066-00. SUSTAIN is No. 936-5120 under Food Technology Enterprise Project, Office of Health/Nutrition.

NCBA/SUSTAIN Project 111.053/611.053

SUSTAIN enlists volunteers from U.S. corporations and scientific institutions to enhance the quality, safety, and availability of food in developing countries. In collaboration with the U.S. Agency for International Development, SUSTAIN helps businesses, community organizations, and other related groups apply appropriate technologies and strengthen skills. SUSTAIN addresses these concerns through problem solving, technical assistance, and training, and by organizing expert advisory panels and conducting scientific studies.

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I. INTRODUCTION

A. SUSTAIN

SUSTAIN *(Sharing U.S. Technology to Aid in the Improvement of Nutrition)* provides access to U.S. expertise in food processing to help improve the nutritional quality, safety, and availability of food in developing countries. Technical assistance, training, and needs assessments are conducted by executives and technical specialists from U.S. food companies, universities, and professional associations who donate their time and expertise.

SUSTAIN is supported through the generosity of its sponsors at the U.S. Agency for International Development (USAID) and cash and in-kind contributions from foundations, corporations, international partners, and individuals. The activity described in this report was supported by USAID's Food Technology & Enterprise project (No. 936-5120) through a cooperative agreement with USAID's Office of Health and Nutrition (No. DAN-5120-A-00-1066-00).

B. WORKSHOP ON THE PROCESSING OF FRUITS & VEGETABLES

At the request of the Chamber of Commerce of Northern Honduras (Intercham), SUSTAIN volunteer Pedro Sole gave a three-day workshop on the processing of fruits and vegetables in August 1995. It covered processing principles, the export market for processed food products, and the regulations of the importing countries. Improving Honduras' fruit and vegetable processing techniques will allow more of the country's food products to reach internal and international markets. Thirty-four managers, supervisors, and technicians from medium and small companies, as well as small entrepreneurs, participated in the workshop.

II. REPORT

by

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MANAGEMENT CONSULTANT

SHORT COURSE REPORT FRUITS AND VEGETABLE PROCESSING
INTERCHAM SUSTAIN FHIA LA LIMA HONDURAS AUG 15-17 1995
P. SOLÉ 8-20-95

SUBMITTED TO MS ELIZABETH TURNER, EXECUTIVE DIRECTOR, SUSTAIN

SUMMARY

We conducted a Fruits and Vegetable Short Course at the facilities of the Honduran Foundation for Agricultural Research (FHIA) covering processing principles, export markets considerations and regulations of the importing countries. Up to 38 people signed for the course but attendance was 33-35. The participants were mostly employees of local food processing industry, they came from large companies such as Alimentos del Valle, the largest cannery in Honduras, and DOLE, to small entrepreneurs trying to start or diversify small operations. About 25% of the participants were recent University graduates who had not been able to get a job yet. Due to the large number of participants, the afternoon experimental session was split in two groups. This allowed a more manageable situation but created a dead time for those in the second experimental session.

Based on the evaluation by the participants (31 questionnaires were recovered) and my own opinion, the short course was a success. The only negatives registered, dealt with the two session issue and the lack of adequate equipment. On the positive side, the participants brought up several good points for discussion and participated enthusiastically both during the conferences and the experimental sessions.

It has become apparent, that this type of short course with an experimental part requires a prior visit by the instructor to insure that the equipment is adequate. While the FHIA facilities were well suited for the purpose, the equipment was not. I am especially grateful for the efforts of Ing. Héctor Aguilar from FHIA, who made possible the experimental part by substituting the lack of equipment with enthusiasm and adapting of available resources to our needs.

Overall 30 of the 31 respondents to the evaluation questionnaire indicated that the short course had been worthwhile and the remaining one indicated that he/she was not sure.

1. PURPOSE

The objective of the short course is to help improve the fruit and vegetable processing techniques in Honduras so as to allow more food products to reach the markets both internally and for export. An important part of the short course is to have the students participate in actual canning experiments "learning by doing", applying the theory presented in the mornings to the experiments in the afternoons. This contrasts with the normal experience in Central América which more often than not includes only learning from books or lectures.
Another objective of the course is to give an overview of the export markets for processed food products and of the regulations of the importing countries.

2. ITINERARY/SHORT COURSE AGENDA

The Spanish version of the short course agenda is attached. Summarizing what was covered/done was:

First Day Morning
World markets for processed fruits and vegetables
Importing countries regulations
Processing of fruit juices. Part 114 of FDA regulations for acidified foods.
First Day Afternoon
Pineapple Juice canning using a boiling water process

Second Day Morning
Pineapple Juice canning. Presentations by the team leaders. Discussion.
Canning and preservation of fruits.
Canning and preservation of vegetables. Part 113 of FDA regulations for low acid foods.
Second Day Afternoon
Canning of Black Beans in brine using an autoclave process.

Third Day Morning
Black Beans in brine canning. Presentations by the team leaders. Discussion.
Manufacture of purees, concentrates and marmalades. aseptic processing. Video on Good Manufacturing Practices Part 110 of the FDA regulations.
Evaluation of short course questionnaire filled out by participants.

Third Day Afternoon
Distribution of Certificates to the participants.
Canning of Diced Mango in heavy syrup (Group I)

Canning of Diced Papaya in heavy syrup (Group II)
(It is noteworthy that, although the certificates had been distributed, practically all the participants stayed until their experimental session was completed, those of Group II until approximately 5:30 pm).

The short course outline and materials distributed are attached. Also attached are the original questionnaires recovered from the participants. Also a copy of what Intercham distributed to the participants.

3. MATERIALS

The morning conferences were presented by means of around 44 text overheads and 20 addendum overheads. The hand outs included all of these. Approximately 25 sets of FDA forms 2541, 2541a and 2541c for establishment registration and process filings were distributed. Also 25 sets of Instruction Booklets to fill the above forms. These had been obtained and sent by E. Quinn from SUSTAIN to Intercham at my request. Three Video tapes were used. Two provided by Intercham and one belonged to SUSTAIN which was at Incap and I brought back to the U.S. with me and I will be mailing to SUSTAIN. These latter is titled "On The Line", it is dubbed in Spanish and covers Good Manufacturing Practices. There was a strong demand to copy this Video,which I could not allow since it is copyright protected. Copies of the February issue of SUSTAIN Notes were also distributed as well as reproductions of a sheet describing what SUSTAIN is. Unfortunately the sheet for requesting SUSTAIN assistance was among the materials that I lost when my briefcase was stolen at the Guatemala airport. Apparently it was not among the materials which SUSTAIN faxed to Intercham in Honduras so I could not distribute it.

The experimental equipment used included:

1. Dixie Canner hand can seaming machine lent by Alimentos del Valle, Comayagua, Honduras. The cans were supplied by course participants too.
2. Brown laboratory finisher, lent by Alimentos del Valle. This unit could not be operated because of lack of 3 phase power at the laboratory used. It was only opened and shown to the participants.
3. Hand peeling machine for pineapple. This machine simulates the action of a Ginacca at the laboratory. Lent by a participant in the short course.
4. Laboratory Autoclave, pH meter, refractometers, thermometers and other furnished by FHIA.
5. Plastic buckets, knives, gloves and other materials bought/ furnished by Intercham.

6. Fruits. Among them two varieties of Mangoes, Haden and probably Keitt, furnished by Juan C. Fiallos, from FREX Internacional, a course participant. Pineapples, papayas and black beans were bought/supplied by Intercham.

4. BENEFITS

A. Short Term

1. The **Entrepreneurial Participants** will profit in improving the technical level of their operations and perhaps allow them to consider new products. They are also more aware of what to expect in exporting to world markets and the regulations that they must comply with.

2. The participants from **Well Established Businesses** will also profit from better technical skills and may generate new product ideas for their firms. Particularly for export. These participants may also transmit to other peers part of the knowledge they acquired. In one specific case, a firm currently exporting fresh mangoes to the European market seems interested to export to the U.S. market too.

3. The participants **Recently Graduated from the University** have acquired a new dimension in their practical experience, which hopefully may allow them to interview more effectively and land a job. If this occurs, they will act as catalysts to improve the technical skills in the industries where they are hired.

4. The participants **Teaching at Universities or Working at FHIA** have gotten new ideas on how to plan experimental work in their teaching to lead to a more complete learning experience.

B. Long Term

Hopefully we have motivated all the participants into learning more about what is required to pack processed foods technically and efficiently; where to find the needed information on export market requirements and regulations, and also on the need for good maintenance and adequate spare parts inventories for the equipment in order to obtain reliable packs consistently, for both the local and the export markets.

5. ADDITIONAL NEEDS

It is my understanding that a HACCP course sponsored by SUSTAIN is planned for October. This should be helpful and I am glad that it is focused for particular food industry sectors.

Given the attendance, I believe this same Fruits and Vegetables Processing Short Course could be repeated in about one year time in a slightly different format. To make this more successful, FHIA should be equipped with a pilot plant where small food processing equipment can be installed and operated. We had to run the present workshop using mostly hand labor and primitive home canning style ways of doing things, as may be seen in the collection of photographs attached. While the principles of operation could be demonstrated that way, the use of small scale industrial equipment at the pilot plant level would make the short course a real workshop. It is believed that most of the equipment required can be obtained donated second hand from the industry in Honduras, nearby countries or sympathetic volunteers working with the food industry in the US.

To tie everything together a qualified person should be hired or assigned at FHIA. This person should have the assistance of a good mechanic, preferably with experience in a cannery and a small budget. Just a few hundred dollars and timely ordering of spare parts would have resulted in a much better performance of the available can seamer during the workshop. For the want of three phase 220 volts current, it was necessary to screen and extract by hand the juice from the pineapples. The appropriate unit of equipment was available, lent by a course participant, but no adequate 3 phase power was installed in the available space. Note that FHIA does have a good infrastructure to accommodate this. However, FHIA may have other priorities on how to allocate its resources.

As far as the needs of the course participants, they are very wide ranging. Management, Production, Quality Assurance and Statistical Quality Control, Industrial Engineering, Food Microbiology, Costs and Financial Analysis, etc. all are areas where particularly the recent graduates and the entrepreneurs would profit. However, in all fields, the importance of experienced and practical instructors/lecturers is paramount.

6. LIST OF PARTICIPANTS

The attached hand made lists (3 pages), includes those participants who were present the last day prior to distributing the certificates. A few participants may have had valid reasons for not being present the last day. A typewritten list (1 page) provided by Intercham is also attached.

7. PUBLICITY

Upon my arrival on 8-14-95 to the Intercham Offices I was interviewed by "El Periódico". The corresponding article published

on 8-16-95 is attached. Intercham seems to have publicized enough the course, judging by the attendance. However I did not receive clippings. Ms. Ana Kattan fell ill the last day of the workshop and could not make available to me the Sponsoring Entity Local Contribution form. I was advised by Dr. Luiz Elías from INCAP that he received information on the course but could not find any candidates. Possibly Ms. Kattan will send additional materials on this to SUSTAIN directly.

8. FOLLOW-UP

Several course participants indicated that they would be faxing me request for additional information. In particular the mango exporting firm FREX Internacional wants a list of mango importers to the USA, which I plan to supply. I also offered assistance in obtaining a copy of the Video "On the Line" in Spanish but gave them the address of the Food Processors Institute in case they want to order it directly.

9. WORKSHOP EVALUATION

A new questionnaire had to be improvised, having lost the other one with my briefcase. A copy is attached, as well as a copy of the tally sheet and of the summaries of the comments by the participants. The original questionnaires returned are also attached. Note most comments are in the backs of the questionnaires.

Summarizing, we recovered 31 questionnaires or 89 % based on 35 participants. Of those, 15 or 43 % contained general comments.

Overall, the short course was judged "worthwhile" by 30 out of 31 respondents.

The facilitator, the conference facilities, and most questions were given high marks.

The experimental facilities (equipment) was the only category where the participants indicated some disapproval in rating them:

	Number	%
Good	9	29
Fair	20	65
Bad	2	6

11

The system of working teams and presentations was considered

	Number	%
Effective	21	68
Confusing	1	3
May be improved	9	29

Six all different answers were volunteered on how to improve the system. List attached. Some of them reflect the fact that since we had to make two sessions, the presentations by the participants the next morning had to be repetitive and lengthier than if we had had just the one experimental session originally contemplated.

While signing up more participants brings in more money to the organizing entity, the number of participants must be limited to match the facilities and time available.

8-22-95
Eduardo Solé

SUSTAIN

SHARING UNITED STATES TECHNOLOGY TO AID IN THE IMPROVEMENT OF NUTRITION

SUSTAIN is a unique resource in mobilizing volunteers from the U.S. food industry to address international humanitarian and business needs. Founded in the late 1970's by the U.S. food industry and the U.S. Agency for International Development, SUSTAIN works to improve the quality, safety, and availability of food in developing countries. SUSTAIN combats the interrelated problems of hunger, diseases related to malnutrition and micronutrient deficiencies, poverty, and environmental degradation.

Many developing countries produce sufficient food, but it goes to waste due to a lack of food preservation technology and knowledge. Wasted food unnecessarily burdens the land, water, animal and human resources deployed for its production and introduces biological and chemical contaminants to the environment. Poor preservation techniques and unsanitary manufacturing conditions hamper the progress of many small food processing businesses. Through SUSTAIN, people in developing countries who are working to solve their own problems reach out to request assistance and expertise. SUSTAIN links these needs with skilled volunteers and staff, drawing upon many specialties and scientific disciplines.

More than 200 highly-skilled business executives and technical specialists are active as SUSTAIN volunteers. They have knowledge in such fields as food processing, preservation, packaging, fortification, microbiology, laboratory technologies, nutrition, pollution prevention, waste utilization, quality assurance, and marketing. SUSTAIN works with a variety of businesses, associations, scientific institutions, non-profit groups, and governmental agencies in developing countries. By addressing problems together, SUSTAIN volunteers and their developing country counterparts foster on-going business and professional relationships.

CAPACITY BUILDING CRITICAL TO SUSTAINABLE DEVELOPMENT

SUSTAIN's work is founded on the belief that improving nutritional well-being in developing countries is critical to achieving sustainable development. Building the capacities of local businesses and organizations contributes toward that goal. Through education, the application of appropriate technologies, and one-on-one problem solving, SUSTAIN volunteers help make food in developing countries safer, diets more diverse, and businesses and economies more viable. As a result, SUSTAIN's assistance contributes significantly to achieving these countries' nutrition, public health, economic growth, and environmental goals.

SUSTAIN's record of success increasingly is recognized nationally and throughout the world. Through the generosity of its sponsors at USAID's Office of Health and Nutrition, foundations, corporations, volunteers, and international participants, SUSTAIN continues to grow in size and significance. In conjunction with its partners in developing countries, SUSTAIN is creating a series of educational programs for ongoing delivery to their food industries. And in 1995, SUSTAIN began working with USAID to assess micronutrients used to fortify U.S. donated food for peace commodities and to suggest ways to reduce potential losses of nutrients in these foods.

As its resources are limited, SUSTAIN reviews assistance requests on a priority-needs basis. Guidance to SUSTAIN is provided by a steering committee representing a cross-section of the U.S. food processors and scientific institutions. When it responds to a request for assistance, SUSTAIN typically funds international travel costs, while USAID missions or host organizations provide in-country costs. SUSTAIN does not fund product or equipment purchases, nor does it provide financing for projects. For further information or to receive the food technology periodical, *SUSTAIN Notes*, please write:

SUSTAIN
1400 16TH STREET, N.W. · BOX 25 · WASHINGTON, D.C. 20036
202 328-5180 · FAX 202 328-5175

PEDRO SOLE, Ph.D. (Chemical Engineering, Polytechnic University of New York, 1965) is an international consultant in fruit processing (especially banana), technical services, quality control, and regulatory compliance. He retired from Chiquita Brands International, Inc. as Vice President of Quality Assurance and Control at the Processed Fruit Ingredients Division. He was responsible for quality control, technical services, and compliance with FDA and EPA regulations affecting the company's food products. Dr. Sole has extensive international experience in business management, fruit processing, equipment and plant design, quality control, and Good Manufacturing Practices. In 1991 he was involved in the design, equipping, and start-up of a new processed banana plant in Costa Rica. As Director of Technical Services for Chiquita, he coordinated technical aspects of purchases of international food ingredients in the Dominican Republic, Costa Rica, Mexico, Guatemala, and Thailand, and served as a liaison between Chiquita's Central American plants and clients in the U.S., Europe, Japan, and the Middle East. Prior to this he served with Chiquita subsidiary companies in Honduras and Costa Rica and with food companies in Puerto Rico, Spain, and Guatemala. Dr. Sole has four U.S. patents involving mechanical peeling, recovery of concentrated clarified banana juice, vegetable oil extraction, and coffee extraction. As a SUSTAIN volunteer, he participated in an assessment mission to Belize and taught workshops on fruit and vegetable processing in Guatemala and Honduras.

MIERCOLES
16 DE AGOSTO
DE 1995
PAGINA 18A

San Pedro Sula
LOCALES
el Periódico

Para exportación...

Pretenden mejorar procesamiento de frutas y vegetales frescos

SAN PEDRO SULA.- Para estar a tono con la globalización de mercados, actualmente se imparte un curso de capacitación en procesamiento de frutas y vegetales, dirigido a mandos intermedios de empresas dedicadas a esa actividad, informa Pedro Solé, experto consultor estadounidense que disertará en el marco de dicha actividad.

Agrega que el entrenamiento está patrocinado por la Cámara Internacional de Comercio, INTERCHAM, en colaboración con SUSTAIN, institución benéfica estadounidense que apoya el mejoramiento de la nutrición de los habitantes de países en desarrollo.

Con ello se pretende capacitar a los niveles medios de pequeñas industrias que tienen interés de mejorar sus métodos, procedimientos y la calidad de sus productos, subraya.

La reunión inició este martes y finalizará el próximo jueves en las instalaciones de la Fundación Hondureña de Investigación Agrícola, FHIA, de la Lima, Cortés.

"El primer día se cubrirán aspectos del requerimiento de los mercados de exportación y se hará un desglose de las regulaciones del mercado estadounidense, europeo y japonés", expresa.

Asimismo dice que el Japón es un mercado bastante estricto y que existe problema al traducir las regulaciones del japonés al español, pues se pierde parte de su contenido y se vuelven difíciles de entender.

Por tal razón, quien tenga interés de exportar hacia ese país debe asesorarse previamente y nombrar un representante que conozca muy bien esas normas.

De lo contrario podrían rechazarle el producto puesto en el Japón lo que significaría la pérdida total del mismo porque es más barato destruir dichos productos que regresarlos a Honduras, indica Solé.

* Pedro Solé, dice que el mercado japonés es muy estricto y quien pretenda exportar a ese país previamente tiene que asesorarse muy bien. F/R. Fúnez.

El entrenamiento también incluye prácticas en las empresas como contraparte de nuestro país, señala.

RECICLAJE DE ENVASES

Por otra parte, indica que también se tratará acerca del reciclaje de los envases que se usan para la conservación de alimentos. Informa que la tecnología tradicional es el enlatado pero que ahora hay envases de plástico, flexibles y laminados con barreras de aluminio que también permiten el envasado de alimentos en forma económica y a más bajos costos.

"En cuestión de reciclaje lo óptimo es la lata de aluminio porque se puede eliminar en un 95 por ciento", puntualiza.

CURSILLO SOBRE PROCESAMIENTO DE FRUTAS Y VEGETALES

FECHA: DEL 15 AL 17 DE AGOSTO
LUGAR: LA FHIA, LA LIMA

OBJETIVO

El objetivo de este curcillo es ayudar al mejoramiento de las técnicas de proceso de frutas y vegetales, con el propósito de utilizar los excedentes de producción, los cuales permitirán ampliar el mercado y la disponibilidad de los productos agrícolas.

CONTENIDO

1er. Dia

8:30	Perspectivas del mercado mundial de exportaciones para frutas y vegetales procesados. Regulaciones que afectan las exportaciones a los países importadores. **U.S.A. (FDA, USDA Y EPA)** **EUROPA (CEE, Codex Alimentarius y países individuales).** **JAPON**
10:15	RECESO
10:30	Procesamiento y preservación de jugos, Productos ácidos y productos acidificados. Parte 114 de las regulaciones FDA de USA. Llenado en caliente, procesamiento aséptico y concentrados congelados. Concentrados y jugos de naranja Concentrados y jugos de piña. Concentrados y jugos de mora Mezclas de jugos (100% y menos del 100% de Contenidos de jugo).
12:00	ALMUERZO
1:30	Actividad práctica, Enlatado de jugo tropical

BEST AVAILABLE COPY

2do. Dia

8:15	Discusión y evaluación del proceso realizado el dia anterior.
9:00	Enlatado y preservación de frutas. Piña (jugo, rodajas, trozos, bocados). Papaya (verde, cortada en trozos) Mango (Rodajas maduras, piezas verdes en salmuera) Otras frutas sugeridas por los participantes.
10:15	RECESO
10:30	Enlatado y preservación de vegetales. Productos de baja acidez, parte 113 de las regulaciones de FDA, USA. Chicharos, zanahorias, maiz y judías verdes Frijoles en salmuera. Frijoles fritos, tamales Otros según propuesta de participantes.
12:00	ALMUERZO
1:30	Experimento. Enlatado de frijoles negros en Salmuera o enlatado de piña en trozos en almibar.

3er. Dia

8:15	Discusión y evaluación de la actividad realizada el segundo dia.
9:00	Manufactura de purés, jaleas y mermeladas. Jalea de fresa y fresas en conserva Mermelada de naranja Puré aséptico de mango Puré aséptico de banano Pulpa congelada de guanaba.
10:15	RECESO
10:30	Buenas prácticas de manufactura parte 110 de las regulaciones FDA, USA.

BEST AVAILABLE COPY

11:00	Estimación de costos de producción Materias primas, rendimientos Costos directos Costos indirectos
12:00	ALMUERZO
1:30	Experimento. Enlatado de mango acidificado o algún otro puré de fruta tropical.
5:00	Discusión y evaluación del experimento anterior.
5:45	Evaluación del curso taller y sugerencias por los participantes.
6:00	CLAUSURA

CUPO LIMITADO

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HOW TO OBTAIN FDA REGULATIONS . . .

The Food and Drug Administration's (FDA) regulations are printed in *Title 21, Code of Federal Regulations*. In addition, FDA and all other Government agencies publish new regulations and proposals in the *Federal Register*.

FDA Regulations

Title 21, Code of Federal Regulations (21 CFR) is updated April 1 of each year. The 1993 edition contains eight volumes and is printed in paperback books. Instructions for ordering single volumes or the complete set appear in the box at the bottom of this page.

21 CFR 1-99. Price $15.00 ($18.75 for foreign mailing). General regulations for enforcement of the Federal Food, Drug, and Cosmetic Act and the Fair Packaging and Labeling Act. Color additives. Order #869-019-00066-6

21 CFR 100-169. Price $21.00 ($26.25 for foreign mailing). General regulations for food labeling (contains the new regulations for nutrition labeling that become effective on May 8, 1994). Infant formula quality control procedures and labeling. Food standards, and quality standards for bottled drinking water. Current good manufacturing practice regulations for food, bottled drinking water, low-acid canned foods, and acidified foods. Order #869-019-00067-4

21 CFR 170-199. Price $20.00 ($25.00 for foreign mailing). Food additives. Order #869-019-00068-2

21 CFR 200-299. Price $6.00 ($7.50 for foreign mailing). General regulations for drugs. Order #869-019-00069-1

21 CFR 300-499. Price $34.00 ($42.50 for foreign mailing). Drugs for human use. Order #869-019-00070-4

21 CFR 500-599. Price $21.00 ($26.25 for foreign mailing). Animal drugs, feeds and related products. Order #869-019-00071-2

21 CFR 600-799. Price $8.00 ($10.00 for foreign mailing). Biologics and cosmetics. Order #869-019-00072-1

21 CFR 800-1299. Price $22.00 ($27.50 for foreign mailing). Medical devices, radiological health, interstate conveyance sanitation, and control of communicable diseases. Regulations for the Federal Import Milk Act, Federal Tea Importation Act, and Federal Caustic Poison Act. Order #869-019-00073-9

Federal Register

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Hubert H. Humphrey Building, Room 721-B
200 Independence Avenue, S.W., Washington, DC 20201 Attn: PRA
and to Office of Management and Budget
Paperwork Reduction Project (0910-0037)
Washington, DC 20503

Please DO NOT RETURN this report to either of the two addresses to the left.

FORM APPROVED: O. 0910-0037
EXPIRATION DATE: November 30, 1995

TYPE OF SUBMISSION

- ☐ Initial Registration
- ☐ Relocation *(new registration required)*
- ☐ Change of Registration Information

Specify Type of Change _____ Enter Current FCE: *(If applicable)* _____

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Food and Drug Administration

FOOD CANNING ESTABLISHMENT REGISTRATION

FOR FDA USE ONLY	
FCE No.	Date Received by FDA
OOB Code / Date	District
Reference	

FOOD PROCESSING PLANT LOCATION

Establishment Name _____

Number and Street _____

City and State or Province (or other Subdivision) _____

Zip (or other Postal Code) _____ Country (If other than U.S.) _____

Telephone No. (___) _____ Telefax No. (___) _____

PREFERRED MAILING ADDRESS

☐ Same as Plant Location

Establishment Name _____

Number and Street _____

City and State or Province (or other Subdivision) _____

Zip (or other Postal Code) _____ Country (If other than U.S.) _____

Telephone No. (___) _____ Telefax No. (___) _____

LOW ACID AND/OR ACIDIFIED FOODS PROCESSED AT THIS LOCATION

Food Product Name, Form or Style, and Packing Medium

(Do not list meat and poultry foods under the jurisdiction of the Food Safety and Inspection Service of the U.S. Department of Agriculture.)

	(Check One) Low-Acid	Acidified

PLEASE SEND THE FOLLOWING:

Number of Copies

_____ Process filing forms used for low-acid aseptic processes

_____ Process filing forms used for all processing methods except low-acid aseptic.
NOTE: A separate form is required for each product-process combination.

_____ Registration and Process Filing Instructions

_____ LACF & Acidified Regulations (21 CFR 108, 113, 114)

See "Instructions for Establishment Registration and Process Filing for Acidified and Low-Acid Canned Foods" for guidance in completing this form. Forward *all* copies of completed form to:

LACF Registration Coordinator (HFS-618)
Center for Food Safety & Applied Nutrition (FDA)
200 C Street, SW
Washington, DC 20204

AUTHORIZED COMPANY REPRESENTATIVE

Name, Address and Title of Authorized Representative: _____

Phone Number: (___) _____ at ☐ Plant Location ☐ Mailing Address Signature: _____ Date: _____

NOTE: No commercial processor shall engage in the processing of low-acid or acidified foods unless completed Forms FDA 2541 and FDA 2541a or FDA 2541c have been filed with the Food and Drug Administration. 21 CFR 108.25(c)(1) and (2) and 108.35(c)(1) and (2)

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(Use FDA booklet titled "Instructions for Establishment Registration and Process Filing ... Acidified and Low-Acid Canned Foods" for completing Form FDA 2541a.)

FORM APPROVED: OMB No. ... 0037
EXPIRATION DATE: Novemb... 1995

FCE _ _ _ _ _ SID _ _ _ _ _ _ / _ _ _ (Y Y M M D D S S S)

A. PRODUC

Name, Form or Style, and Packing Medium: _____

Raw pH: [ ].[ ]

Governing Regulation:
- __ low-acid (21 CFR 108.35/113)
- __ acidified (21 CFR 108.25/114)

Type of Submission
- __ new
- __ replaces _ _ _ _ _ _ / _ _ _
- __ cancels _ _ _ _ _ _ / _ _ _

Process Use
- __ scheduled
- __ alternate for _ _ _ _ _ _ / _ _ _
- __ emergency for _ _ _ _ _ _ / _ _ _

B. PROCESSING METHOD

NAME OF STERILIZER (MFR. & TYPE) _____

HEATING MEDIUM (e.g., Steam, water immersion or spray, steam-air) _____

1. __ **Still**
   - a. __ Horizontal b. __ Vertical
   - Divider Plates (complete for a. or b.)
   - __ None
   - __ Solid __ Perforated
   - __ Crateless
   - Bottom Surface (complete for c.)
   - __ Solid __ Perforated

2. __ **Agitating**
   - a. __ End over End
   - __ Axial
   - b. __ Continuous
   - __ Batch

3. __ **Hydrostatic**
   - __ Inner Chain only
   - __ Outer Chain only
   - __ Both Inner and Outer Chain
   - __ Single Chain
   - __ Multiple Chains

4. __ **Flame**

5. __ **Other** *(explain)* _____

6. __ **Acidified**
   - Maximum Equilibrium pH: [ ].[ ]
   - Method of Acidification: _____
   - Concentration: [ ][ ].[ ]
   - Acidifying Agent: _____
   - Pasteurization Method: _____
   - Preservative Used: _____
   - Concentration: [ ].[ ], [ ].[ ], [ ].[ ]

CONTAINER TYPE:

1. __ Tinplate/Steel Can __ 2-piece __ Welded
2. __ Aluminum Can __ 3-piece __ Soldered
   __ Cemented

3. __ Glass or Ceramic
4. __ Flexible Pouch *(specify material)*: _____

5. __ Semirigid *(specify material)*: Lid _____ Body _____
   Seal Method _____
6. __ Other *(specify)*: _____

PROCESS ESTABLISHMENT SOURCE *(Limit entry to 30 characters)* _____

DATE LAST ESTABLISHED 19 _ _ _ _ (Y Y M M)

PROCESS RECOMMENDATIONS ATTACHED? __ YES __ NO

C. CRITICAL FACTORS: AS DELINEATED BY PROCESS AUTHORITY TO ASSURE COMMERCIAL STERILITY *(Check or Describe)*

None of the Following	NO __	
Maximum Water Activity (a_w)	MW __	(. _ _)
Consistency / Viscosity	CV	
Value		(_ _ _ _ _ . _ _ _)
Units		_____
Method Name		_____
Temperature		(_ _ _ .)
Container Position in Retort	CP __	_____
Nesting of Containers	NC __	
Fill Method *(check applicable method)*	FM	
Hand	__	
Machine	__	
Other (specify)	__	_____
% Solids	SO __	(_ _ . _)
Solid to Liquid Ratio (wt. to wt.)	SL __	(_ _ . _)
Drained wt./Net wt. Ratio	DW __	(_ . _ _)
Arrangements of Pieces in Container	AP __	_____
Formulation Changes	FC __	
Preparation Method	PM __	
Product Quality	PQ __	
Matting Tendency	MT __	
Layer Pack	LP __	
Max. Flexible Pouch/Semirigid Container Thickness in Retort	MP __	(_ . _ _)
Max. Residual Air (Flexible Pouch/Semirigid Container)	MR __	(_ _ . _) c.c.
Particle Size	PS __	_____
Syrup Strength	SS __	(_ _ . _)
Starch Added	SA __	
Max. %		(_ _ . _)
Type		_____
Other Binder	OB __	_____
Min. % Moisture of Dry Ingredients	MM __	(_ _ . _)
Other (specify)	OT __	_____

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SCHEDULED PROCESS (Do *not* write in shaded areas—Enter numerical values in boxes.)

FCE: _ _ _ _ _ SID: _ _ - _ _ - _ _ / _ _ _

CONTAINER DIMENSIONS			CAPACITY UNITS	SCHEDULED PROCESS (Check Only One in Each Column)					OTHER CRITICAL FACTORS TO ASSURE COMMERCIAL STERILITY PER SOURCE AUTHORITY									OTHER (Specify)
Diameter or Length	Height or Width	Height or Maximum Pouch or Semirigid Container Thickness		Step No	Temp (°F)	Process Time (Minutes)	Sterilization Temp (°F)	Least Sterilizing Value of the Scheduled Process	Thruput	Headspace	Speed: Reel Speed	Speed: Reel Diameter	Speed: Steps Per Turn of Reel	Speed: Chain / Conveyor Speed	Maximum Weight	Minimum Net Weight	Minimum Free Liq. at Closing	Minimum Container Closing Machine Gauge Vacuum
			___ Oz. ___ Gal. ___ ML ___ Other _____	LACF	___ Min. IT	Process Time	Process Temp.	___ F_0 ___ Other F Value										
				Acidified or a_w Controlled	___ Min. IT ___ Fill ___ Center ___ N/A	Process Time / Hold Time / Other / N/A	Process Temp / N/A	Death Rate (z) ___ Ref. Temp. (T) ___ IS Value ___ Other ___	___ N/A	___ Net ___ Gross ___ N/A	___ Feet ___ Carriers ___ Flights (per minute) ___ N/A				___ Drained ___ Fill ___ N/A	___ N/A	___ N/A	Temp. (± 3° F) ___ N/A
Inches & Sixteenths	Inches & Sixteenths	Inches & Sixteenths			°F	Minutes	°F		Containers per Minute	Inches	RPM	Inches	Number	Number	Ounces	Ounces	Ounces	In. Hg.

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MENTS:

FOR FDA USE ONLY

T NAME / ADDRESS

AUTHORIZED INDIVIDUAL

FULL NAME (Please Print)

TELEPHONE NUMBER ( )

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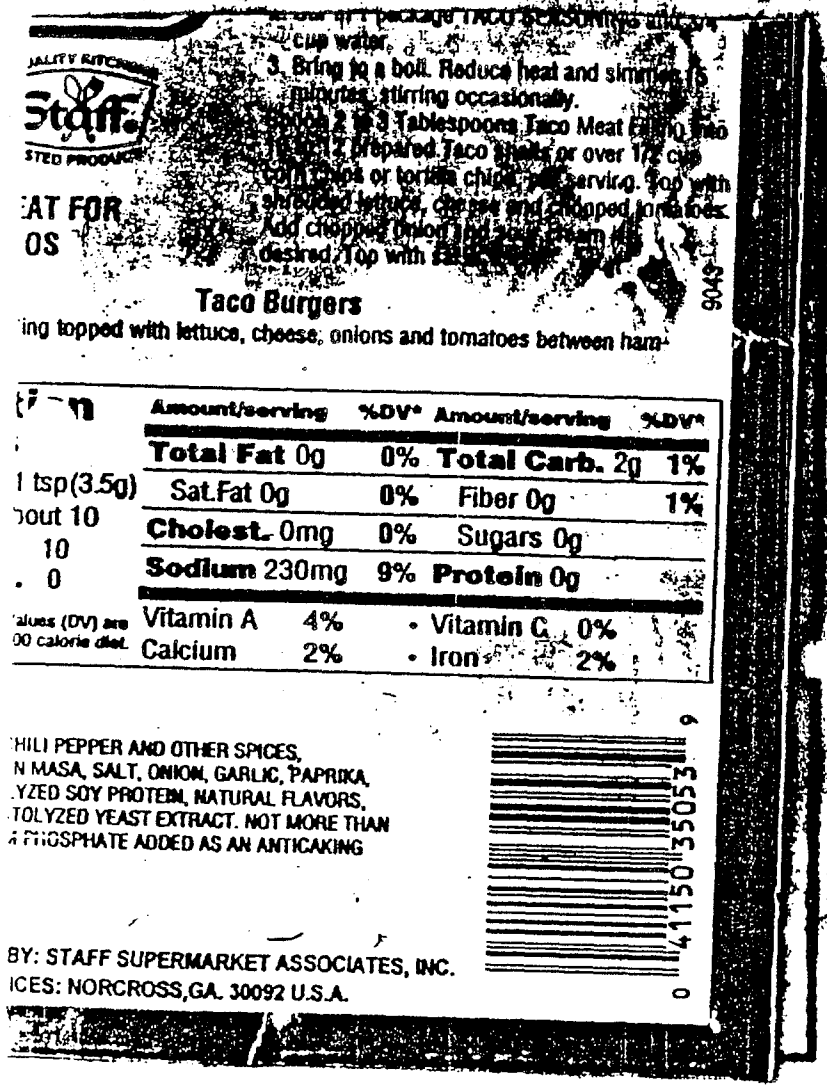
PREPARATION

the pre-cooked corn tortillas use a pan on the stove or pre-heat grill to medium temperature. Place each pan or grill turning them until warm (five to ten seconds per side). After warming wrap tortillas in a cloth n temperature until ready to serve. The tortillas may also be steamed or put into a microwave between els.

Corn tortillas may be eaten in place of bread to accent any meal or follow the suggestions below.



...package TACO SEASONING mix, ... cup water.
3. Bring to a boil. Reduce heat and simmer 15 minutes, stirring occasionally.
Serve 2 to 3 Tablespoons Taco Meat Filling, Taco ... 12 prepared Taco Shells or over 1/2 cup corn chips or tortilla chips per serving. Top with shredded lettuce, cheese and chopped tomatoes. Add chopped onion ... desired. Top with ...

Staff

...ATED PRODUCT

...AT FOR ...OS

9049

Taco Burgers

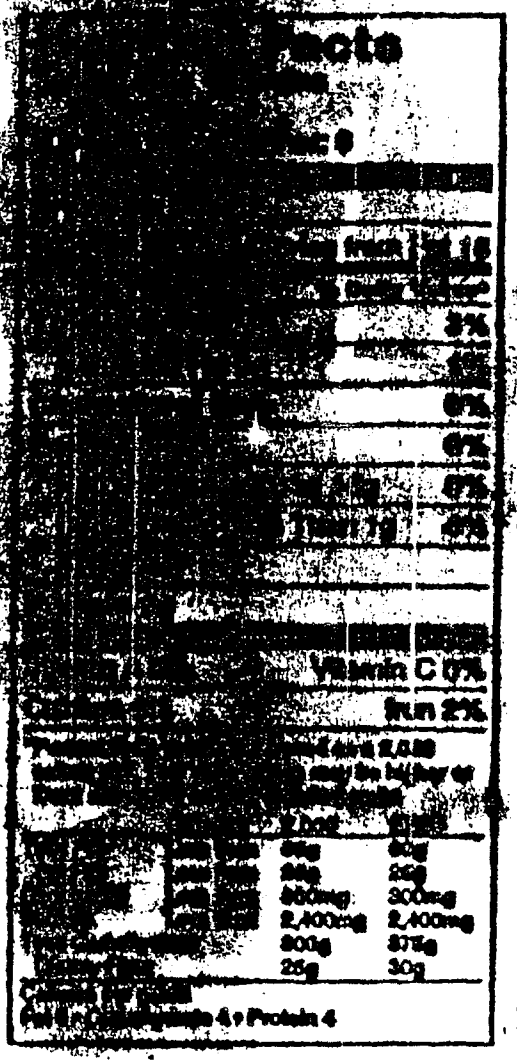
...ing topped with lettuce, cheese, onions and tomatoes between ham-

...tion	Amount/serving	%DV*	Amount/serving	%DV*
	Total Fat 0g	0%	**Total Carb.** 2g	1%
1 tsp(3.5g)	Sat.Fat 0g	0%	Fiber 0g	1%
...out 10	**Cholest.** 0mg	0%	Sugars 0g	
10	**Sodium** 230mg	9%	**Protein** 0g	
0	Vitamin A 4%		• Vitamin C 0%	
...alues (DV) are ...00 calorie diet.	Calcium 2%		• Iron 2%	

...HILI PEPPER AND OTHER SPICES, ...N MASA, SALT, ONION, GARLIC, PAPRIKA, ...YZED SOY PROTEIN, NATURAL FLAVORS, ...TOLYZED YEAST EXTRACT. NOT MORE THAN ...4 PHOSPHATE ADDED AS AN ANTICAKING

...BY: STAFF SUPERMARKET ASSOCIATES, INC. ...ICES: NORCROSS,GA. 30092 U.S.A.

0 41150 35053 9



...acts

...Vitamin C 0%
Iron 2%

	2,000	2,500
	65g	80g
	25g	25g
	300mg	300mg
	2,400mg	2,400mg
	300g	375g
	25g	30g

...Protein 4

Corn Tortillas is another of the authentic products from the Mexican Chef Pedro Fontova. ...uaranteed or your money back with proof of purchase and explanation.

FONTOVA FOODS
P.O. Box 236
Loveland, Ohio 45140

0 43808 00620 1

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AGUA

Nutrition Facts

Serving Size 8 oz. (240ml)
Servings Per Container about 16

Amount Per Serving	
Calories	0
	%Daily Value*
Total 0g	0%
Sodium 0mg	0%
Total Carbohydrate 0g	0%
Protein 0g	0%

Not a significant source of cholesterol, dietary fiber, sugars, vitamin A, vitamin C and iron.

*Percent Daily Values are based on a 2,000 calorie diet.

2% MILKFAT LOWFAT MILK

VITAMINS A & D ADDED • GRADE A
PASTEURIZED • HOMOGENIZED

Nutrition Facts

Serving Size 8 fl oz (240mL)
Servings Per Container 4

Amount Per Serving	
Calories 120	Calories from Fat 45
	% Daily Value*
Total Fat 5g	8%
Saturated Fat 3.0g	15%
Cholesterol 20mg	7%
Sodium 120mg	5%
Total Carbohydrate 12g	4%
Dietary Fiber 0g	0%
Sugars 11g	
Protein 8g	

Vitamin A 10% • Vitamin C 4%
Calcium 30% • Iron 0%
Vitamin D 25%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

INGREDIENTS: MILK, SKIM MILK, VITAMIN A PALMITATE, AND VITAMIN D3.

DISTRIBUTED BY THE KROGER CO., CINCINNATI, OHIO 45202
PROCESSED AT LOCATION STAMPED ON TOP OF CARTON

QUART – 946mL

Nutrition Facts

Serving Size ¼ Cup (62g)
Servings Per Container 7

Amount Per Serving	
Calories 20	Fat Cal. 0
	% Daily Value*
Total Fat 0g	0%
Sodium 14mg	1%
Total Carb. 5g	2%
Fiber 1g	4%
Sugars 3g	
Protein 1g	

Vitamin A 15% • Vitamin C 20%
Iron 4%

Not a significant source of cholesterol, saturated fat or calcium
*Percent Daily Values are based on a 2,000 calorie diet

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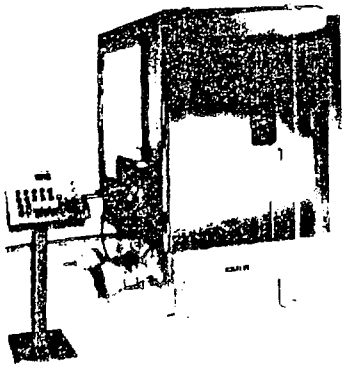

DELS 121L, 101L and 81L

ioed to meet the high speed product on rements of liquid and semi-solid products, the ines of automatic seamers operates at rapid ng speeds. The 12 spindle Model 121L is the t of the series, seaming cans at 1600 + per e cans from 200 (50.8 mm) to 303 (81 mm) meter, up to 800 (203.2 mm) high. The Model seams cans from 200 (50.8 mm) to 401 mm) in diameter, up to 800 (203.2 mm) high eeds of 1200 + cans per minute. An 8 spindle n of the 121L, the 81L seams cans 200 mm) to 404 (107.9 mm) in diameter and up 0 (203.2 mm) high at speeds up to 800 cans inute.

MODEL 41L

This intermediate speed seamer, 400 cans per minute, incorporates all of today's most desired features. This high quality machine will provide years of production efficiency and trouble free service. The 4 spindle 41L closes cans from 200 (50.8 mm) to 404 (107.9 mm) in diameter and up to 800 (203.2 mm) high

relus has been building the highest lity seaming and can manufacturing chines. Over the years we have kept east of changing technology and as ances were recognized we incorpo- d them into the design, engineering manufacturing process. Please call or te for complete information and speci tions and find out why—Angel is is the mer of choice!

Member

THE ALMANAC

OF THE CANNING, FREEZING, PRESERVING INDUSTRIES

1995

78th Compilation of Basic References for the Canning, Freezing, Preserving and Allied Industries

■

$65 in USA
$75 Canada & Mexico
$89 Other Countries

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Updated to May 1, 1995

EDWARD E. JUDGE & SONS, INC.
P.O. Box 866
Westminster, MD 21158
U.S.A.

Phone 410-876-2052
Fax 410-848-2034

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Factors	Points
Color	20
Defects	40
Flavor	40
Total Score	100

(d) The essential variations within each factor are so described that the value may be determined for each factor and expressed numerically. The numerical range for the rating of each factor is inclusive (for example, 17 to 20 points means 17, 18, 19, or 20 points) and the score points shall be prorated relative to the degree of excellence for each factor.

§52.1767 FILL OF CONTAINER

The standard of fill of container is a fill of not less than 90 percent of the total capacity of the container except when the food is frozen. Juice or juice from concentrate that does not meet this requirement is "Below Standard in Fill".

§52.1768 REQUIREMENTS FOR GRADES

TABLE I.—PINEAPPLE JUICE

Factors	Grade A	Grade B
Quality:		
Color	Very good	Good.
Score points	17 to 20	14 to 16.
Defects	Practically free	Reasonably free.
Score points	34 to 40	28 to 33.
Flavor	Very good	Good.
Score points	34 to 40	28 to 33.
Total score (minimum)	85 points	70 points.

Factors	Grade A		Grade B	
	Unsweetened	Sweetened	Unsweetened	Sweetened
Analytical:				
Acid (maximum)	1.10g/100ml	1.10g/100ml	1.35g/100ml	1.35g/100ml.
Brix (minimum)	12.0°	12.5°	10.5°	11.0°
Soluble pineapple juice solids (percent by weight of finished product prior to addition of sweetener) (minimum).		12.0		10.5.
Brix/acid ratio (minimum)	12.0:1	12.0:1	12.0:1	12.0:1.
Finely divided insoluble solids (percent by volume): Range.	5 to 26%	5 to 26%	5 to 30%	5 to 30%.

TABLE II.—PINEAPPLE JUICE FROM CONCENTRATE

Factors	Grade A	Grade B
Quality:		
Color	Very good	Good.
Score points	17 to 20	14 to 16.
Defects	Practically free	Reasonably free.
Score points	34 to 40	28 to 33.
Flavor	Very good	Good.
Score points	34 to 40	28 to 33.
Total score (minimum)	85 points	70 points

Factors	Grade A		Grade B	
	Unsweetened	Sweetened	Unsweetened	Sweetened
Analytical:				
Acid (maximum)	1.10g/100ml	1.10g/100ml	1.35g/100ml	1.35g/100ml
Brix (minimum)	12.8°	13.0°	12.8°	13.0°
Soluble pineapple juice solids (percent by weight of finished product prior to addition of sweetener) (mini-		12.8		12.8

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CONTAINER DIMENSIONS, CAPACITIES AND CONVERSION FACTORS

(Source: National Food Processors Association and USDA FSQS)
NOTE: This table revised with 1981 Almanac for more exact conversion.

Name of Container 1	Diameter x Height 2	Total Capac. Avoir ozs. Water at 68°F 3	Factors for converting stated size: No. 303 Can Equiv. 4	No. 2 Can Equiv. 5	No. 2½ Can Equiv. 6	No. 3 CyL Can Equiv. 7	No. 10 Can Equiv. 8
ANS							
z Mushroom	.202x204	3.60	.2136	.1756	.1210	.0696	.0329
	.202x214	4.80	.2849	.2341	.1613	.0928	.0439
Z	.202x308	6.00	.3561	.2927	.2017	.1161	.0548
z Pimiento	.211x200	4.90	.2908	.2390	.1647	.0948	.0448
z Mushroom	.211x212	7.15	.4243	.3488	.2403	.1383	.0653
z Short	.211x300	7.90	.4688	.3854	.2655	.1528	.0722
Tall	.211x304	8.65	.5134	.4220	.2908	.1673	.0790
Picnic	.211x400	10.90	.6469	.5317	.3664	.2108	.0996
No. 211 Cyl.	.211x414	13.55	.8042	.6610	.4555	.2621	.1238
Pint Olive	.211x600	16.95	1.0059	.8268	.5697	.3279	.1549
z Pimiento	.300x206	7.50	.4451	.3659	.2521	.1451	.0685
z Mushroom	.300x400	13.55	.8042	.6610	.4555	.2621	.1238
No. 300	.300x407	15.20	.9021	.7415	.5109	.2940	.1389
No. 300 Asparagus	.300x409	15.65	.9288	.7634	.5261	.3027	.1430
No. 300 Cyl.	.300x509	19.40	1.1513	.9463	.6521	.3752	.1772
No. 1 Tall	.301x411	16.60	.9852	.8098	.5580	.3211	.1517
No. 303	.303x406	16.85	1.0000	.8220	.5664	.3259	.1540
No. 303 Cyl.	.303x509	21.85	1.2967	1.0659	.7345	.4226	.1996
No. 1 Flat	.307x203	8.89	.5276	.4337	.2988	.1720	.0812
No. 2 Vac (12z Vac)	.307x306	14.70	.8724	.7171	.4941	.2843	.1343
	.307x309	15.60	.9258	.7610	.5243	.3017	.1425
No. 2	.307x409	20.50	1.2166	1.0000	.6891	.3965	.1873
Jumbo	.307x510	25.70	1.5252	1.2537	.8639	.4971	.2348
No. 2 Cyl.	.307x512	26.35	1.5638	1.2854	.8857	.5097	.2407
29Z	.307x700	32.50	1.9288	1.5854	1.0924	.6286	.2969
Quart Olive	.307x704	33.70	2.0000	1.6439	1.1328	.6518	.3079
32Z (Quart)	.307x710	35.50	2.1068	1.7317	1.1933	.6867	.3243
No. 2½	.401x411	29.75	1.7656	1.4512	1.0000	.5754	.2718
No. 2½ Tall	.401x602	39.63	2.3519	1.9332	1.3321	.7665	.3621
No. 3 Vac	.404x307	23.85	1.4154	1.1634	.8017	.4613	.2179
No. 3 Cyl. (46 oz.)	.404x700	51.70	3.0682	2.5220	1.7378	1.0000	.4724
No. 5	.502x510	59.10	3.5074	2.8829	1.9866	1.1431	.5400
No. 5 Squat	.603x408	68.15	4.0445	3.3244	2.2908	1.3182	.6227
No. 10	.603x700	109.45	6.4955	5.3390	3.6790	2.1170	1.0000
No. 12 (Gal.)	.603x812	138.35	8.2107	6.7488	4.6504	2.6760	1.2640
GLASS CONTAINERS*							
4z		4.88	.2896	.2380	.1640	.0944	.0446
8z		8.50	.5045	.4146	.2857	.1644	.0777
Pint		17.18	1.0196	.8380	.5775	.3323	.1570
303		17.70	1.0504	.8634	.5950	.3424	.1617
1½ Pint		25.52	1.5145	1.2449	.8578	.4936	.2332
		29.50	1.7507	1.4390	.9916	.5706	.2696
					1.1412	.6567	.3102

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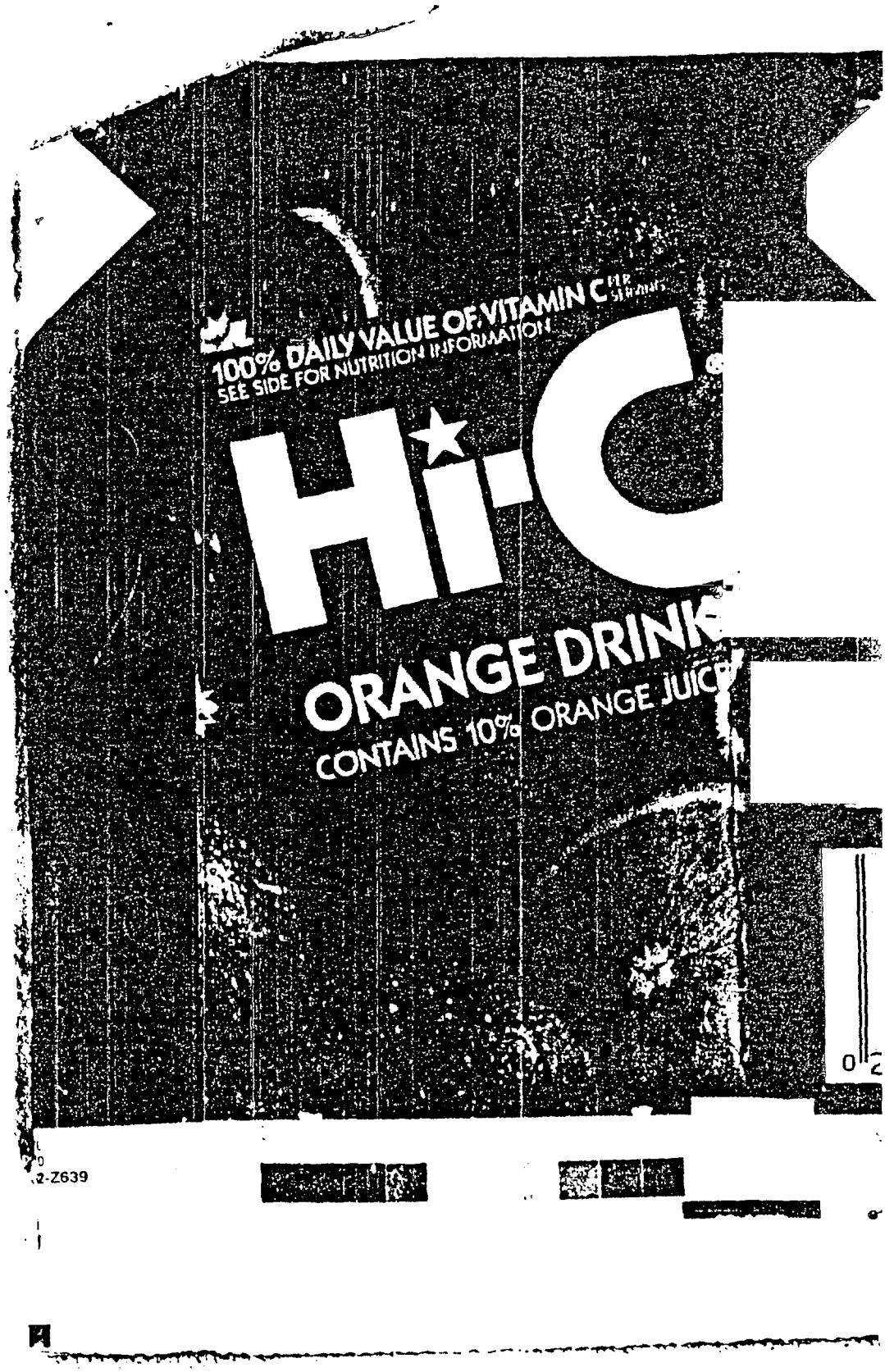

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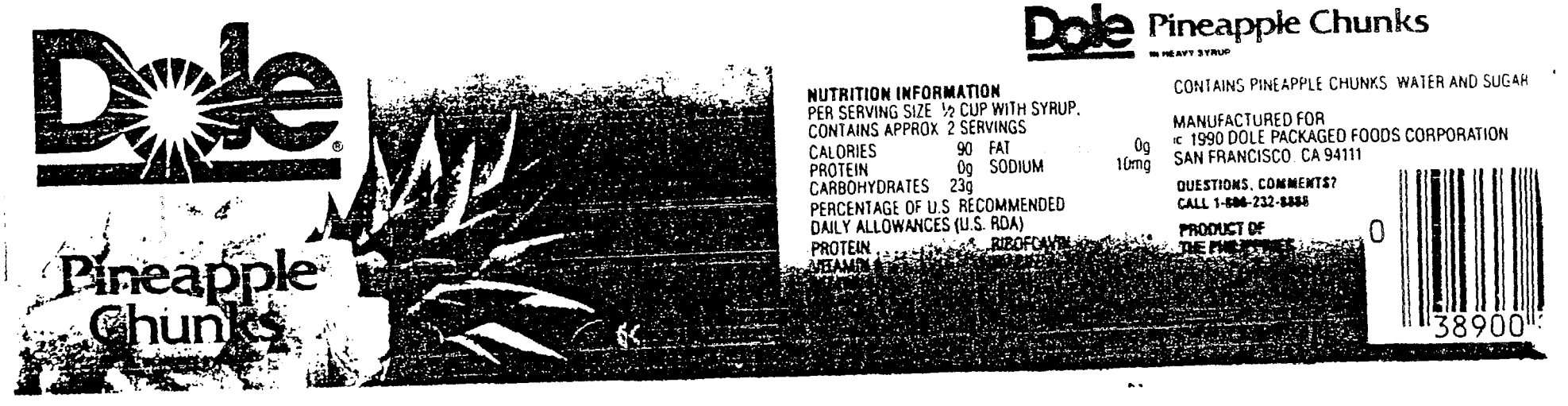


Dole Pineapple Chunks
IN HEAVY SYRUP

NUTRITION INFORMATION
PER SERVING SIZE ½ CUP WITH SYRUP.
CONTAINS APPROX 2 SERVINGS

CALORIES	90	FAT	0g
PROTEIN	0g	SODIUM	10mg
CARBOHYDRATES	23g		

PERCENTAGE OF U.S RECOMMENDED DAILY ALLOWANCES (U.S. RDA)
PROTEIN * RIBOFLAVIN *
VITAMIN A

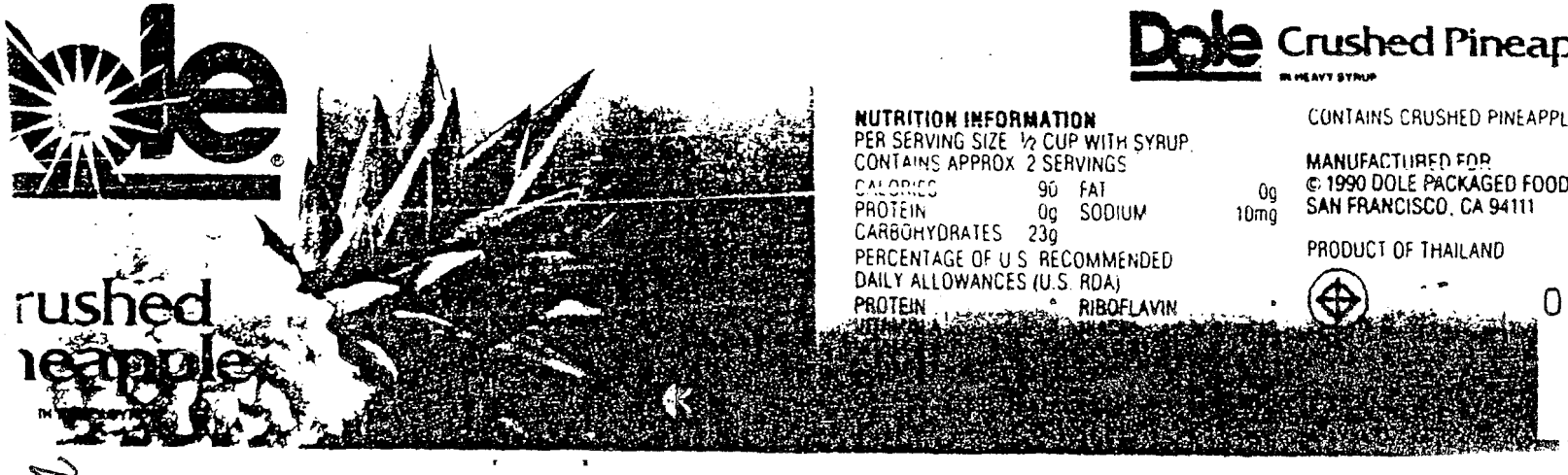
CONTAINS PINEAPPLE CHUNKS WATER AND SUGAR

MANUFACTURED FOR
© 1990 DOLE PACKAGED FOODS CORPORATION
SAN FRANCISCO CA 94111

QUESTIONS, COMMENTS?
CALL 1-800-232-8888

PRODUCT OF
THE PHILIPPINES

0 38900



Dole Crushed Pineapple
IN HEAVY SYRUP

NUTRITION INFORMATION
PER SERVING SIZE ½ CUP WITH SYRUP.
CONTAINS APPROX 2 SERVINGS

CALORIES	90	FAT	0g
PROTEIN	0g	SODIUM	10mg
CARBOHYDRATES	23g		

PERCENTAGE OF U.S RECOMMENDED DAILY ALLOWANCES (U.S. RDA)
PROTEIN * RIBOFLAVIN *
VITAMIN A

CONTAINS CRUSHED PINEAPPLE SUGAR WATER AND CITRIC ACID

MANUFACTURED FOR
© 1990 DOLE PACKAGED FOODS CORPORATION
SAN FRANCISCO, CA 94111

PRODUCT OF THAILAND

0 38900 00609

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Dole Pineapple Slices

IN HEAVY SYRUP

NUTRITION INFORMATION
PER SERVING SIZE: 2 SLICES WITH SYRUP;
CONTAINS 4 SLICES (2 SERVINGS)

CALORIES	90	FAT	0g
PROTEIN	0g	SODIUM	10mg
CARBOHYDRATES	23g		

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)

PROTEIN	*	RIBOFLAVIN	*
VITAMIN A	*	NIACIN	*
VITAMIN C	6%	CALCIUM	*
THIAMIN	6%	IRON	*

*CONTAINS LESS THAN 2% OF THE U.S. RDA OF THIS NUTRIENT.

CONTAINS PINEAPPLE SLICES, WATER AND SUGAR

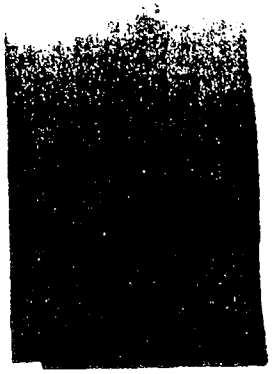
MANUFACTURED FOR
© 1990 DOLE PACKAGED FOODS CORPORATION
SAN FRANCISCO, CA 94111

QUESTIONS, COMMENTS, RECIPES? CALL DOLE FREE: 1-800-232-8800. IN CALIFORNIA 1-800-232-8888.

‡WEIGHT OF PINEAPPLE MEANS WEIGHT BEFORE ADDITION OF LIQUID NECESSARY FOR CANNING.

PRODUCT OF THE PHILIPPINES

0 38900 00109



Elegant Fruit Compote •

1 can (15-1/4 oz.) DEL MONTE® Pineapple Tidbits In Its Own Juice
1 DEL MONTE Banana, sliced
1 cup quartered strawberries
1 kiwifruit, sliced or seedless grapes
1 cup jicama pieces or apples
Orange-flavored liqueur

Drain pineapple reserving juice. Moisten banana with juice to prevent browning; drain. Arrange fruits in dish; drizzle with liqueur. Garnish with sprigs of fresh mint, if desired.

4 to 6 servings

Freshlike

• WHOLE KERNEL •

SWEET CORN

NUTRITION INFORMATION PER SERVING	
SERVING SIZE	½ CUP
SERVINGS PER CONTAINER	2
CALORIES	80
PROTEIN	2 g
CARBOHYDRATE	19 g
FAT	1 g
SODIUM	320 mg
POTASSIUM	150 mg

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)	
PROTEIN	4
VITAMIN A	6
VITAMIN C	10
THIAMINE	2
RIBOFLAVIN	4
NIACIN	6
CALCIUM	0
IRON	2
PHOSPHORUS	6
MAGNESIUM	4

*WEIGHT OF CORN (5.0 OZ.) BEFORE ADDITION OF LIQUID FOR PROCESSING.

INGREDIENTS: CORN, WATER, SUGAR AND SALT

PACKED BY © THE LARSEN COMPANY
P.O. BOX 19027 GREEN BAY, WISCONSIN 54307-9027

MICROWAVE DIRECTIONS:
Pour Contents Into Glass or Ceramic Dish, Cover and Microwave On HIGH For 2 to 2½ Minutes. Season and Serve.

CONTAINS RECYCLED STEEL.
PLEASE RECYCLE AGAIN.

0 14500 04002 2

Freshlike

SWEET PEAS & CARROTS

NUTRITION INFORMATION PER SERVING	
SERVING SIZE	½ CUP
SERVINGS PER CONTAINER	2
CALORIES	50
PROTEIN	3 g
CARBOHYDRATE	12 g
FAT	0 g
SODIUM	340 mg
POTASSIUM	170 mg

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)	
PROTEIN	4
VITAMIN A	100
VITAMIN C	8
THIAMINE	6
RIBOFLAVIN	4
NIACIN	4
CALCIUM	2
IRON	4
PHOSPHORUS	4
MAGNESIUM	4

*WEIGHT OF VEGETABLES (5.5 OZ.) BEFORE ADDITION OF LIQUID FOR PROCESSING.

INGREDIENTS: WATER, SWEET PEAS, CARROTS, SUGAR AND SALT.

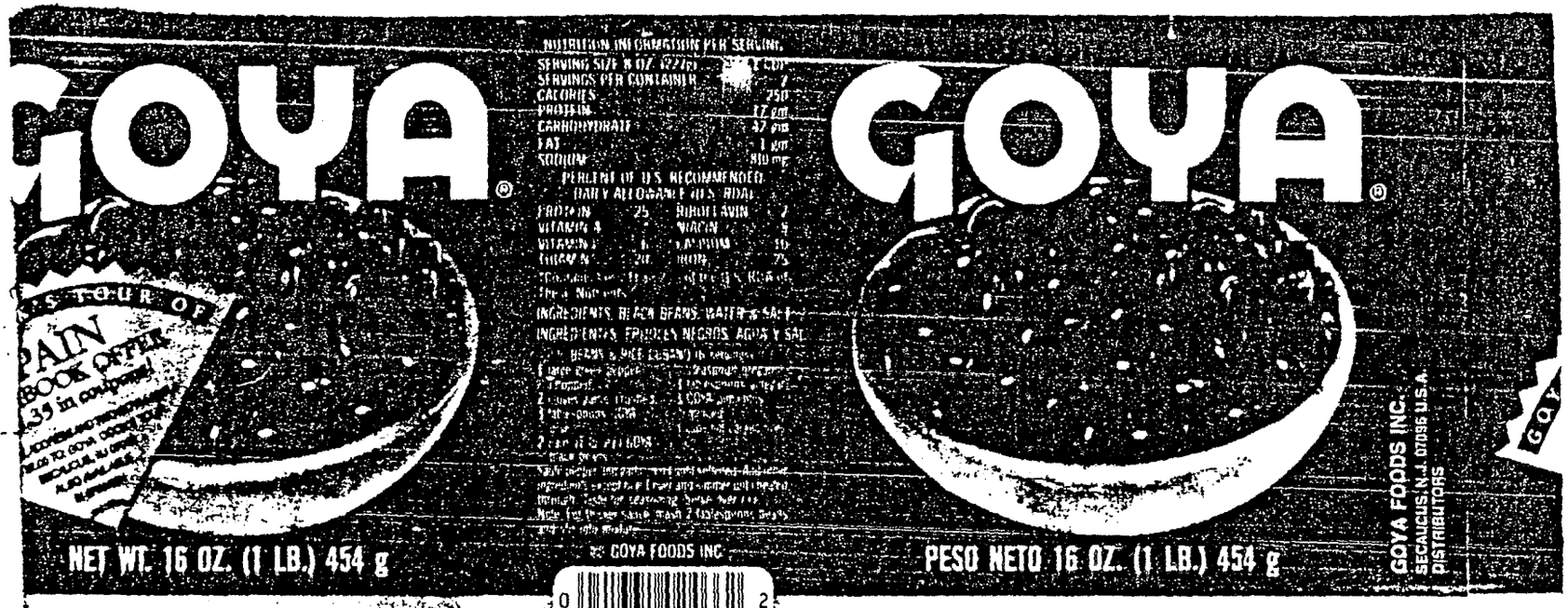
PACKED BY © THE LARSEN COMPANY
P.O. BOX 19027 GREEN BAY, WISCONSIN 54307-9027

MICROWAVE DIRECTIONS:
Pour Contents Into Glass or Ceramic Dish, Cover and Microwave On HIGH For 2½ to 3 Minutes. Season and Serve.

CONTAINS RECYCLED STEEL.
PLEASE RECYCLE AGAIN.

0 14500 04152 4

31



BLACK BEANS

FRIJOLES NEGROS

32

BEANS, OR PEAS, DRIED OR MATURE, SOAKED, With or Without Snaps, In Brine, No Added Starch or Other Thickener

Can Size	Maximum Fill Weight (ounces)	Minimum Initial Temperature (°F)	Minutes at Retort Temperature 240°F	245°F	250°F
300 × 407	7.8	70	41	29	21
303 × 406	8.7	100	40	27	19
307 × 409	10.5	140	38	25	17
401 × 411	15.0	70	47	32	23
		100	44	30	21
		140	41	27	18
300 × 407	9.2	70	66	50	38
303 × 406	10.2	100	62	46	35
307 × 409	12.4	140	55	39	29
603 × 700	54.0	70	62	45	33
		100	59	42	30
		140	54	37	26
603 × 700	60.0	70	89	66	49
		100	82	59	43
		140	71	49	35

The New Nutrition Label

Here is an example of what the new FDA-required label will look like.

Nutrition Facts

Serving Size 1/2 cup (114g)
Servings Per Container 4

Amount Per Serving

Calories 260 Calories from Fat 120

	%Daily Value*
Total Fat 13g	**20%**
Saturated Fat 5g	**25%**
Cholesterol 30mg	**10%**
Sodium 660mg	**28%**
Total Carbohydrate 31g	**11%**
Dietary Fiber 0g	**0%**
Sugars 5g	
Protein 5g	

Vitamin A 4% • Vitamin C 2%

Calcium 15% • Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

For more information on how Hazleton can help you prepare *your* label, call us at 608-242-2615.

DEPARTMENT OF HEALTH AND HUMAN SERVICES ■ Public Health Service ■ Food and Drug Administration

FOOD PROCESS FILING FOR LOW-ACID ASEPTIC SYSTEMS

(USE FDA BOOKLET TITLED "ASEPTIC PACKAGING SYSTEM SUPPLEMENT")

(TYPE OR PRINT ALL INFORMATION REQUESTED. IF AN ITEM DOES NOT APPLY ENTER "NA". FILE ACIDIFIED ASEPTIC (pH 4.6 or BELOW) ON FORM 2541d)

1. FCE: _ _ _ _ _

NOTE: No commercial processor shall engage in the processing of low-acid foods unless complete FDA 2541 and FDA 2541c have been filed with the Food and Drug Administration, 21 CFR 108.35 (c)(1) and (2).

FORM APPROVED: OMB No. 0910-0037 EXPIRATION DATE: 11/30/95

FDA USE ONLY

DATE RECEIVED BY FDA

2. ESTABLISHMENT NAME

ADDRESS (No. and Street)

CITY | STATE | ZIP CODE | COUNTRY

3. SID: _ _ _ _ _ _ _ / _ _ _

4. __ NEW __ REPLACES __ CANCELS _ _ _ _ _ _ _ / _ _ _

5. ____ SCHEDULED ____ ALTERNATE FOR _ _ _ _ _ _ _ / _ _ _

6. SUP SID: _ _ _ _ _ _ _ / _ _ _

FDA USE ONLY

7. PRODUCT NAME, FORM OR STYLE, AND PACKING MEDIUM

8. NAMES OF STERILIZING SYSTEMS

1. Product:[1] _____

2. Packaging: _____

9. PROCESS ORIGIN

SOURCE	YEAR AND MONTH
1. _____	1. _____
2. _____	2. _____

10. CONTAINER TYPE (Check one)

1. ☐ TINPLATE OR STEEL CAN
2. ☐ ALUMINUM CAN
3. ☐ GLASS
4. ☐ OTHER (specify in 22) _____

11. MAXIMUM WATER ACTIVITY[2]	12. pH Normal	12. pH Maximum[3]	13. Value at 77 ± 2°F	Value at Other Temp	Other Temp (°F)	Units	Method Name	Viscosity Characteristic	14. SPECIFIC GRAVITY AT 77 ± 2°F	15. INSIDE DIAMETER OF HOLDING TUBE (Inches)	16. HOLDING TUBE LENGTH (Inches)
0.	.	.	.					N ____ P ____ D ____	.	.	.

17. OTHER CRITICAL CONTROL FACTORS (Check all that apply)

- 61 ☐ PERCENT SOLIDS
- 62 ☐ RATIO OF SOLIDS TO LIQUIDS
- 63 ☐ SYRUP STRENGTH
- 68 ☐ METHOD OF PREPARATION
- 70 ☐ FORMULATION
- 71 ☐ REHYDRATION (specify method in 22)
- 72 ☐ PARTICULATES (specify maximum size in 22)
- 73 ☐ OTHER (specify in 22)

	18. CONTAINER DIMENSIONS (Inches and Sixteenths) DIAMETER OR LENGTH	HEIGHT OR WIDTH	HEIGHT	19. SCHEDULED PROCESS MINIMUM INITIAL[4] TEMP (°F)	TIME (sec)	TEMP (°F)	LEAST STERILIZING VALUE (F_o) OF THE SCHEDULED PROCESS[5]	FLOW CORRECTION FACTOR	20. MAXIMUM FOOD FLOW RATE (gal / min)	21. THRUPUT (Containers / min)			
01					.		.						
02					.		.						
03					.		.						
04					.		.						
05					.		.						
06					.		.						

22. COMMENTS:

AUTHORIZED COMPANY REPRESENTATIVE

NAME (Type or Print)	TITLE	SIGNATURE	PHONE NUMBER	DATE
			( )	

[1] For steam injection, enter volume increase and thermal expansion factors in 22.
[2] If reduced water activity is used as an adjunct to the process, specify the maximum water activity.
[3] Where acidification is followed for normally low-acid fruits, vegetables or vegetable products for the purpose of thermal processing, specify the maximum finished product equilibrium pH.
[4] If a critical factor in the process.
[5] Or equivalent scientific basis of process adequacy.

FORM FDA 2541c (8/93) PREVIOUS EDITION IS OBSOLETE.

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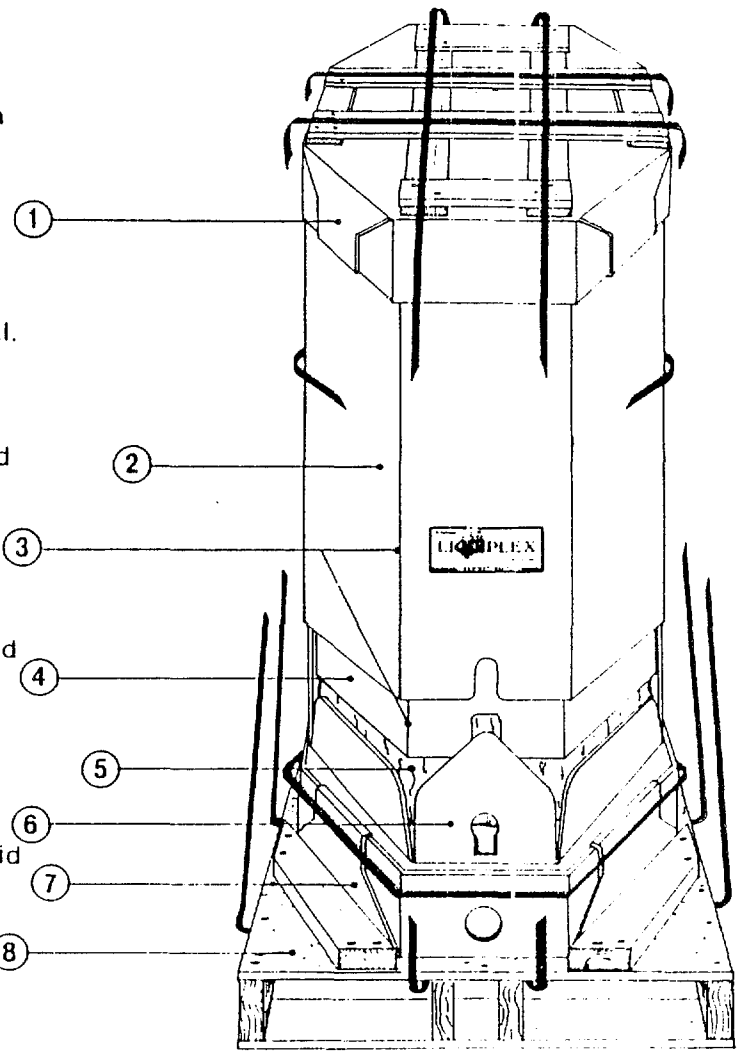
TYPICAL LIQUIPLEX CONSTRUCTION



① **TOP CAP** — Heavy weight fibreboard, self locking for easy setup. The top and bottom caps are identical for simplified inventory and bin assembly.

② **OUTER TUBE** — Heavy weight multi-wall corrugated fibreboard. The strong octagonal shape can be reinforced with buried bands of strapping material.

③ **FOLDING SCORES** — The score locations are printed on the outside of the tubes as an aid to set up.

④ **INNER TUBE** — Construction similar to outer tube. Score locations are of a different color to aid assembly, visually differentiating between inner and outer tubes.

⑤ **PLASTIC BAG LINER** — A variety of styles, sizes and materials are available to suit your liquid product.

⑥ **BOTTOM INSERT** — High strength solid fibre is a major contributor to the outstanding performance of the LIQUIPLEX BIN. It provides shape stability and puncture resistance. On bins with drain fitment, the solid fibre insert locks the fitment in place during filling, shipping and probing at destination.

⑦ **BOTTOM CAP** — The same as the top cap.

⑧ **PALLET WITH DIAGONAL CLEATS AND STEEL STRAPPING** — These complete the LIQUIPLEX BIN. All the parts go together quickly and easily to make an excellent disposable shipper for bulk liquids.

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[redacted] FOODS, INC.

CODE : ESCO641 PRODUCT : PAPAYA 24/303
COST-CENTER : 31-01 YIELD : 95.00
ACCT CLAS : 35

STANDARD

RAW MAT CODE	DESCRIPTION	QUANTITY	STD. UNIT COST	STD. COST FORMULA	STD. COST PER CASE
CTPL911	PLAIN 24/303	95.0000	.1550	15.3104	.1599
ECCN005	PLAIN 303 X 406 - 15 OZ	2304.0000	.07658	176.5707	1.8403
ECTR022	ENAMEL 303	2304.0000	.01404	32.3482	.3370
LACO641	PAPAYA 303	2304.0000	.00455	10.7135	.1115
MPCO002	CANELA	.1200	2.50000	.3000	.0031
MPCO010	AZUCAR	1454.5700	.22000	320.0054	3.3334
MPCO024	HIDROXIDO DE SODIO	.0500	.55000	.0335	.0004
MPCO025	BICARBONATO DE SODIO	4.5500	.10000	.4550	.0048
MPCO027	BENZOATO DE SODIO	.1000	.42000	.0420	.0004
MPVE113	PAPAYA FRESCA (VERDE)	902.0000	.18750	170.2500	1.7734
COST-INGREDIENTS AND PACKING MATERIAL :				727.1329	7.5743
RAW MATERIAL WASTE FACTOR (%)				2.00%	.1515
DIRECT LABOR					.6500
FRINGE BENEFITS OF DIRECT LABOR				45.13%	.2999
MANUFACTURING OVERHEAD-VARIABLE			40.00% OF TOTAL OVERHEAD OF	1.3000	.5200
TOTAL VARIABLE COST					9.1957
MANUFACTURING OVERHEAD-FIXED				50.00%	.7800
TOTAL MANUFACTURING COST					9.9757
SELLING PRICE					.0000
COST OF SALES					.00%

BENEFITS OF DIRECT LABOR

31

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DATE : 01-01-78 PAGE : 4

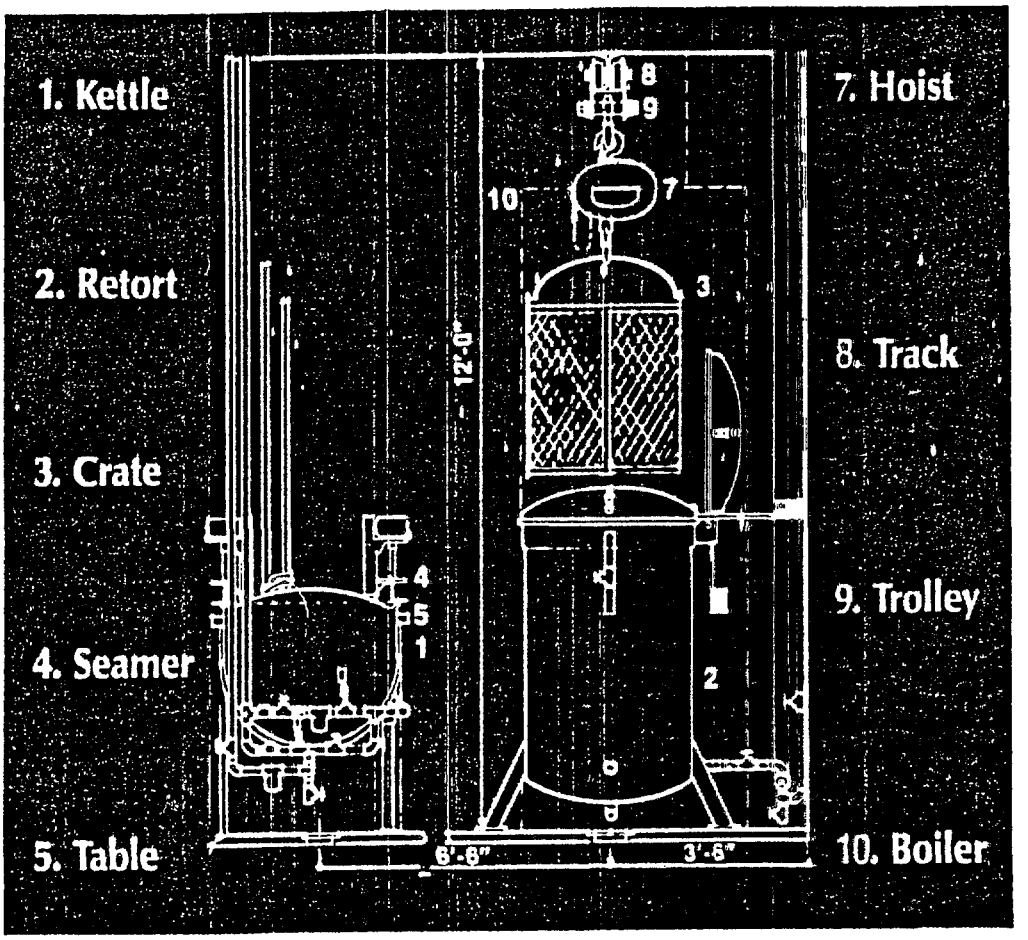
[redacted] FOODS, INC.

CODE : GRCA532 PRODUCT : NEGRAS A/S 24/303
COST-CENTER : 20-08 YIELD : 140.00
ACCT CLAS : 20

STANDARD

RAW MAT CODE	DESCRIPTION	QUANTITY	STD. UNIT COST	STD. COST FORMULA	STD. COST PER CASE
CTCA907	PLAIN 4L 24/303	140.0000	.15254	21.3556	.1525
ECCN006	PLAIN 303-X-406--16-OZ	3360.0000	.07583	254.7888	1.8199
ECTA022	ENAMEL 303	3360.0000	.01485	49.8960	.3564
LRCA532	NEGRAS A/S 24/303	3640.0000	.00525	19.1100	.1365
MPCD664	SAL TABLETS	28.7200	.28495	8.1838	.0585
MPGR206	HABICUELAS NEGRAS	1000.0000	.30000	300.0000	2.1429
COST-INGREDIENTS-AND-PACKING-MATERIAL				653.3342	4.6667
RAW MATERIAL WASTE FACTOR (%)				2.00%	.0933
DIRECT LABOR					.2313
FRINGE BENEFITS-OF-DIRECT-LABOR				46.13%	.1067
MANUFACTURING OVERHEAD-VARIABLE			40.00% OF TOTAL OVERHEAD OF	.8000	.3200
TOTAL VARIABLE COST					5.4180
MANUFACTURING OVERHEAD-FIXED				60.00%	.4800
TOTAL MANUFACTURING-COST					5.8980
SELLING PRICE					.0000
COST OF SALES					.00%
GROSS MARGIN					.00%

DIXIE EQUIPMENT FOR R&D AND SPECIALTY CANNING

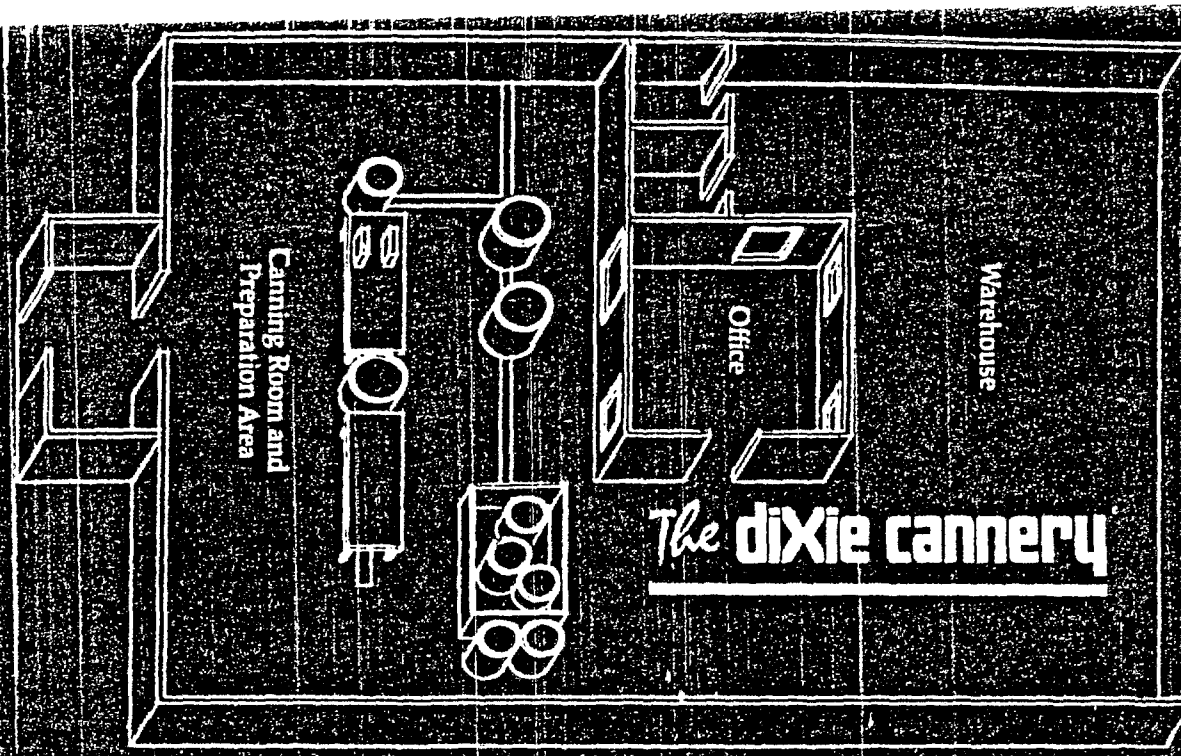


SINCE DIXIE 1914

dixie canner equipment company

BOX 1348 • 786 EAST BROAD STREET
ATHENS, GEORGIA 30603-1348 USA

PHONE: 706-549-1914 FAX: 706-549-0137

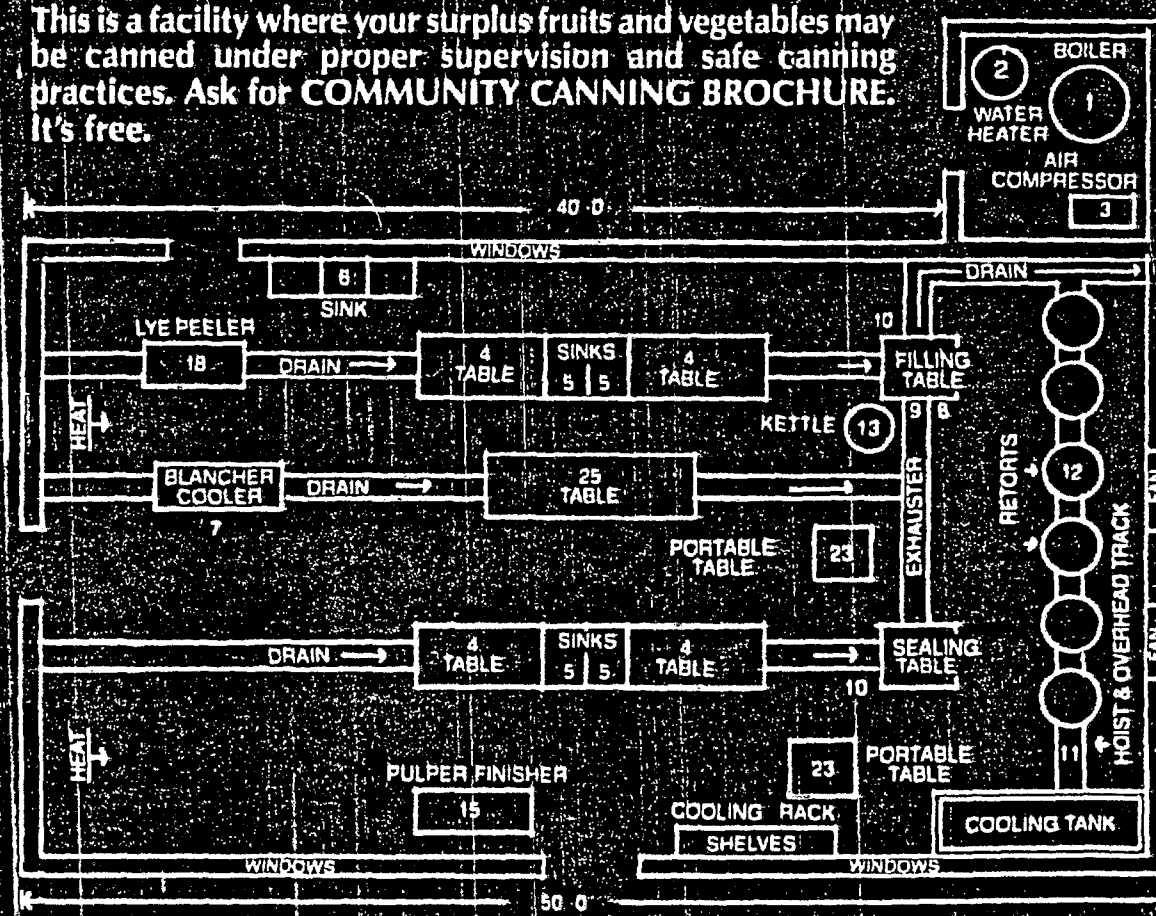


The dixie cannery

A facility for canning 50 gallon batches of soup, chili, bean and sauce recipes. Two or more batches may be canned daily. A 16 page booklet tells you how and what's needed. The booklet is free.

ELIMINATE WASTE AND ERADICATE HUNGER

This is a facility where your surplus fruits and vegetables may be canned under proper supervision and safe canning practices. Ask for COMMUNITY CANNING BROCHURE. It's free.



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SHORT COURSE FRUITS AND VEGETABLE PROCESSING
TALLY SHEET COURSE EVALUATION P. SOLÉ 8-18-95
QUESTIONNAIRES RECOVERED 31

1. DID THE SHORT COURSE MEET MY REQUIREMENTS ON THE TOPICS COVERED?

YES	NO	NOT SURE	TOTAL
28	0	3	31

2. THE MATERIALS DISTRIBUTED ARE

BAD	FAIR	GOOD	
0	7	24	31

3. THE PRESENTATION AND EXPLANATIONS OF THE FACILITATOR WERE

BAD	FAIR	GOOD	
0	2	29	31

4. THE CONFERENCE ROOM FACILITIES (FHIA) WERE

BAD	FAIR	GOOD	
0	2	29	31

5. THE EXPERIMENTAL FACILITIES (FHIA) WERE

BAD	FAIR	GOOD	
2	20	9	31

6. THE SYSTEM OF WORKING TEAMS AND PRESENTATION OF RESULTS IS

EFFECTIVE	CONFUSING	MAY BE IMPROVED	
21	1	9	31

7. ALLTOGETHER WAS THE SHORT COURSE

WORTH IT	NOT WORTH IT	NOT SURE	
30	0	1	31

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SHORT COURSE EVALUATION P. SOLÉ 8-18-95

6. A SUMMARY OF COMMENTS OF THOSE WHO FEEL THAT THE SYSTEM OF WORKING TEAMS AND PRESENTATIONS MAY BE IMPROVED. SEE 6. ABOVE

COMMENT	FREQUENCY
a. USING EQUIPMENT THAT FULFILLS THE REQUIREMENTS (OF THE SHORT COURSE)	1 = 1
b. MAYBE USING DIDATIC (VISUAL?) AIDS	1 = 1
c. TOO MANY PARTICIPANTS TALK AND REPEAT THE SAME THINGS. SHOULD REDUCE THE NUMBER OF PRESENTERS	1 = 1
d. NAME AND SUPERVISE THE GROUP LEADERS	1 = 1
e. MAKE FIELD TRIPS TO (FOOD) PROCESSING INDUSTRIES TO SEE EQUIPMENT AND FLOW DESIGN	1 = 1
f. MOTIVATE THE MEMBERS OF THE TEAM TO WORK NAMING ONE OR TWO GROUP LEADERS SOMETIMES IS UNDERSTOOD AS "ONLY THE LEADERS WORK"	1 = 1

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PEDRO SOLÉ, Ph.D.
9375 SW 154 PLACE
MIAMI, FLORIDA 33196
U.S.A.

TEL (305) 382-7257 FAX (305) 382-7309

MANAGEMENT CONSULTANT

SHORT COURSE EVALUATION FRUITS AND VEGETABLE PROCESSING
P. SOLÉ 8-19-95

SUMMARY OF GENERAL COMMENTS BY THE PARTICIPANTS. 31 QUESTIONNAIRES RECOVERED. 15 CONTAINED ONE OR MORE GENERAL COMMENTS.

	Comments		Frequency
1.	Working teams idea is good	X	1
2.	Two experimental sessions undesirable, waste of time waiting for late experimental session	XX	2
3.	Short course very valuable experience/ very interesting/important/positive	XXXXX	5
4.	Presenter with good experience/very accessible/ encouraged questions and comments/provided ample explanations without waiting for questions, clarifying many doubts	XXXXXX	6
5.	Exp. equipment not in good condition/ Improving the experimental equipment would help to better attain the course objectives/equipment and laboratory facilities should be checked ahead to meet the needs in accordance with the number of participants	XXXX	4
6.	Congratulations!/... the course was didactic, practical and participative	XXX	3
7.	Should start on time	X	1
8.	Should shorten the presentations of the group leaders	X	1
9.	Very good lunches!	X	1
10.	This short course should be five days/ longer or topics reduced	XX	2
11.	Give more orientation for the laboratory experiments	X	1
12.	Some/All of the handouts should have been in Spanish	XX	2
13.	Use more video screens to facilitate viewing	X	1
14.	The experimental part should be improved so that each individual gains more from the experience	X	1
15.	The laboratory should be closer to the conference room	X	1
16.	Thanks for everything!/Thanks!	XXX	3
17.	Conferences somewhat monotonous, need more participant to partic. interaction	X	1

PEDRO SOLÉ, Ph.D.
9375 SW 154 PLACE
MIAMI, FLORIDA 33196
U.S.A.

TEL (305) 382-7257 **FAX (305) 382-7309**

MANAGEMENT CONSULTANT

August 22, 1995

Ms. Elizabeth Turner
SUSTAIN
National Cooperative Business Center
1401 New York Ave., N.W. Suite 1100
Washington D.C. 20005-2160

Dear Liz:

Please find attached the report on the Short Course on Fruits and Vegetables Processing held recently in Honduras.

After having the briefcase stolen at the Guatemala Airport, on the way to Honduras, I had the help of Claudia and other staff at Intercham to complete the hand outs and reproduce part of the presentation from the overheads. Intercham was without electric power, but Ms Kattan made arrangements for us to make copies in a nearby office equipped with an emergency generator.

We are also indebted to Ing. Héctor Aguilar
FHIA
La Lima Nueva, Cortés
Honduras C.A.

He worked hard to compensate and improvise solutions to a number of problems with the equipment.

When you visit FHIA, you may want to spend some time also with Lic. Mario Pfaeffele who is working in the AID sponsored Marketing Program that I mentioned and with Dr. Dale Krisgvold, who has recently been appointed to head Research efforts at FHIA. Both of these persons are old friends from my time in Central America.

Personally we received the help from Ing. Isidro Badía who drove me back and forth and provided some hand outs for the participants.

We received also help from several participants who supplied units of equipment and materials for the course and from Lic. Elena Núñez and Ing. Jorge Bográn from Compañía Agrícola de Río Tinto (Chiquita), who supplied a seamer mechanic for several hours. Unfortunately, the seamer used could not be made to give good quality seams because of lack of spare parts.

From my stand point, I appreciate the help of SUSTAIN, FHIA and INTERCHAM to make this short course a success. It was a rewarding personal experience and very much worth my time and efforts.

Sincerely,

8-22-95 Pedro Solé

LISTA FINAL DE PARTICIPANTES AL SEMINARIO SOBRE PROCESAMIENTO DE FRUTAS Y VEGETALES

1.	PEDRO YAÑEZ	RINAGRO	52 6357	
2.	NOE RAMOS	RINAGRO		
3.	JORGE BALDEMAR	ALIMENTOS DE CORTES	52 9920	
4.	RAFAEL RODRIGUEZ	ALIMENTOS DE CORTES		
5.	RODOLFO COJULUM	EL ZAMORANO	76 6150	
6.	LIGIA PADILLA	INFOP	56 1469	
14 ~~7~~.	NELSON GONZALEZ	ALIMENTOS DEL VALLE	72-1382/85	
8.	MARTHA CACERES	ALIMENTOS DEL VALLE		
9.	GLADYS MEJIA	ALIMENTOS DEL VALLE		
10.	FRANK TOSTA	ALIMENTOS DEL VALLE		
11.	NAHUN GALEAS	ALIMENTOS DEL VALLE		
12.	ENRIQUE FONSECA	PIMANSA/STANDARD F.	43 0511	
13.	GUSTAVO ROSALES	PIMANSA/STANDARD F.		
7 ~~14~~.	PATHY ORTEZ	PRODUCTOS DEL TROPICO	53 4913	
15.	KARLA BRAVO	PRODUCTOS DEL TROPICO		
16.	RICARDO BUSTILLO	AGUA AZUL	59 0775	
17.	LEONEL HERDOCIA	AGUA AZUL		
18.	CRISTOBAL SIERRA	LACTHOSA	53-0005	NO
19.	LUIS OSEGERA	LACTHOSA		NO
20.	KLAUS KRAMMER	FRUTAS DEL CARIBE	58 0333	NO
21.	HANS KRAMMER	FRUTAS DEL CARIBE		NO
22.	LAURA ROMERO	FRUTAS DEL CARIBE		NO
23.	ROBERTO RIVERA	RIVERA AGRO-INDUSTRIAL	57-8436	
24.	NASRY SIWADY	PARTICULAR	52 6204	
25.	CLAUDIA CARBAJAL	PROGRAMA CAPS	33 5121	
26.	KELLYN NUÑEZ	PROGRAMA CAPS		
27.	SUSANA SIERRA	PROGRAMA CAPS		
28.	JENNY ACEITUNO	PROGRAMA CAPS		
29.	ROSA PEREIRA	PARTICULAR	51 0513	
30.	YOLANDA PLATERO	DRA. EN QUIMICA	72 0322	
31.	REYNA NOLASCO	FHIA LA ESPERANZA	68 2846	
32.	MARIO PINEDA	ALIMENTOS MARVISA	52 7071/72	NO
33.	JOSE MANUEL ANDINO	→ ALIMENTOS ~~DEL~~ VALLE		~~NO~~ SI
34	RUTH COLAÑOS			SI

~~Dr. Pedro Sobé, con el Ing. Héctor Aguilar de la FHia hemos hecho tres grupos de 11 participantes.~~

35	HECTOR LANEEAC		SI
36	ADALBERTO HERNANDEZ	VEGETALES LA ESPERANZA	SI
37	JUAN CARLOS FIALLOS	FLEX INT	
38	CILIAN CASTILLO	PROGRAMA CAPS	
39	LUISA CHAI-HAM	COBRA LA CEIBA	

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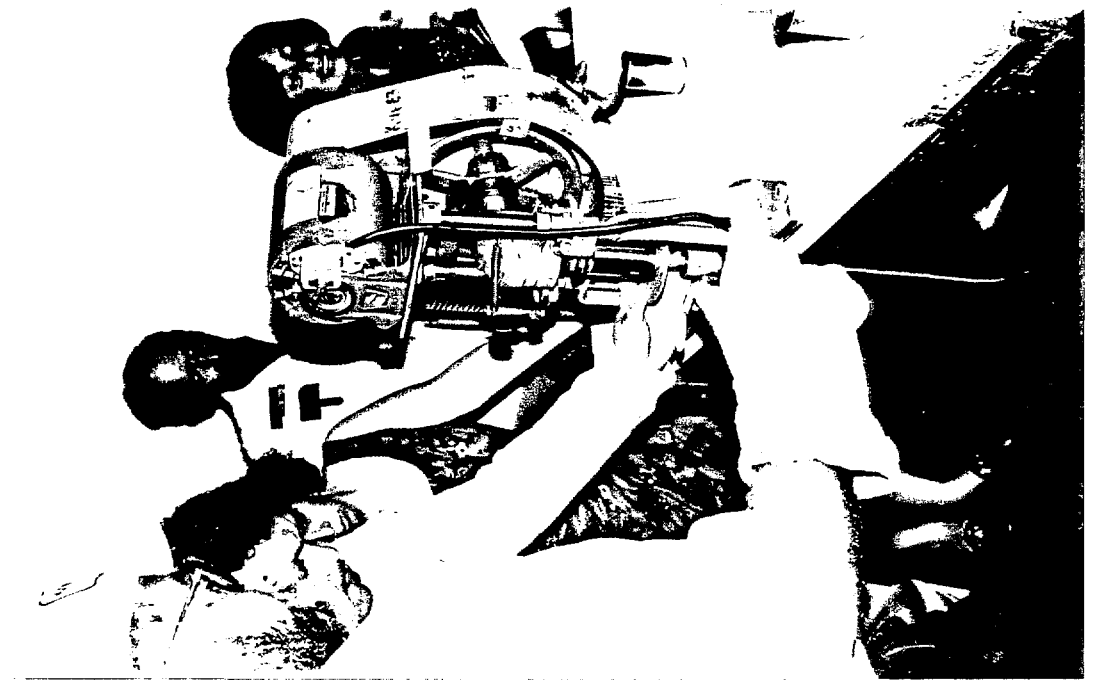

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