

PERISHABLES

10M 38146

Activities Report

Postharvest Institute for Perishables

University of Idaho

Moscow, Idaho 83843

Cooperative Agreement AID/DSAN-CA-0265

Project Title: Storage and Processing of
Fruits and Vegetables

Prepared for the
United States Agency for International Development

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A. Introduction

This is the third operations report from the Postharvest Institute for Perishables and presents a review of activities for the 21-month period October 1, 1982 to June 30, 1984. The activities were related to the scope of work specified in Cooperative Agreement AID/DSAN-CA-0265 between USAID and the University of Idaho. The separate categories of the scope of work will be addressed individually in this report.

During the first two years of PIP's existence, considerable effort was made to acquaint the many AID Missions and AID offices in Washington with the services that PIP could provide. This effort was accomplished by means of descriptive brochures that were mailed to all missions at periodic intervals. The brochures were also translated into Spanish and French in order to facilitate discussions between AID Mission personnel and host-country representatives.

The result of the publicity program for PIP was that the missions became quite aware of the available services and requested them frequently. This was particularly true of technical assistance and workshops. There were 25 responses completed or in progress from PIP for technical assistance teams over the 21-month period, whereas the cooperative agreement specifies only a total of 20 to 30 teams during the entire 5-year life of the agreement. In addition, PIP organized or participated actively in 12 workshops or short courses over the same period, whereas the cooperative agreement specifies 10 such courses over the entire 5-years.

It is important to note that all technical assistance and workshops were done in response to mission requests. Therefore, it is clear and evident that the missions have a great need for such assistance and place great importance on it. Moreover, there is reasonable expectance that the demand will continue, or even increase.

The Information Center in PIP has experienced a similar growth in demand for its services. From October 1980 until July 1983, for example, 386 individualized bibliographies were prepared at client request from developing countries. In the next year, however, the requests nearly doubled to 686. Furthermore, developing-country client requests for literature or information documents numbered 11,213 for the first 22 months of operation of the Information Center, but in the next 12 months the requests went up to nearly 19,000.

The growth rate continues in the Information Center, with no evidence that the number of requests is beginning to plateau. The number of documents filed in the system has far surpassed that specified in the cooperative agreement, and the number of acquisitions continues to grow and be in demand.

There were a few changes and additions to the PIP core staff in the last few months, so at present it is composed of:

- Dr. Robert Skiles - Director
- Dr. Robert Julian - Field Director
- Dr. Ronald Curtis - 25% Agricultural Economist*
- Ms. Paulette George - Information Specialist
- Mr. Ken Hoyt - Training Coordinator*
- Mr. Fred Kessel - 25% Assistant Agricultural Economist*
- Ms. Gleanne Wray - Administrative Secretary
- Ms. Doris Kayser - Numerical Records Clerk
- Mr. Joseph Dvorak - Micrographics Technician*

*College of Agriculture personnel assigned to PIP.

The supporting staff of PIP is composed of the hundreds of experts and specialists in the many phases of postharvest technology of perishable crops whose names appear as consultants in the PIP computerized XPRT roster. These people are located at the University of Idaho and many other institutions, both public and private, around the world.

B. Goals and Objectives of the Cooperative Agreement

Cooperative Agreement AID/DSAN-CA-0265 between the U.S. Agency for International Development (AID) and the University of Idaho was negotiated on September 30, 1980, for the purpose of establishing the Postharvest Institute for Perishables (PIP) at the University. The goals and objectives are:

1. To increase the availability of fruits, vegetable, root and tuber crops, and to enhance the basic diet of people in developing countries by reducing postharvest food losses.
2. To reduce the costs of these perishable commodities by improving marketing efficiency.
3. To encourage the development of fruit, vegetable, root and tuber crop industries and processing.

C. Scope of Activities and Responsibilities

The means for attaining the defined goals and objectives of PIP are twofold:

1. PIP will function as an international base to organize General Technical Service teams that will identify, assess and reduce the problems associated with the storage, marketing and processing of perishable crops.

2. PIP, in conjunction with AID, will design projects on activities which will reduce food losses, reduce costs and improve market efficiency, and/or encourage and enhance economic growth through agri-business development in the labor intensive perishable crops industries and through foreign exchange earnings from the export of these commodities.

These two broad categories have been subdivided into the following ten specific areas of activity:

1. Organize General Technical Service teams
2. Adapt research to developing countries
3. Develop a documentation system for dissemination of information
4. Develop and distribute manuals on postharvest loss reduction
5. Conduct short courses and workshops in postharvest loss reduction
6. Organize international meetings related to loss prevention in developing countries
7. Develop an international voluntary network of groups associated with food loss reduction in perishable crops
8. Coordinate placement of developing country graduate students in the U.S.
9. Develop cooperation with the Peace Corps in developing countries
10. Cooperate with other financial institutions interested in promoting postharvest loss control in perishable crops

The activities in PIP during the past year that related to the above ten categories will be discussed in detail in the sections that follow.

D. General Technical Service

AID Missions and other agencies commonly refer to General Technical Service as Technical Assistance (TA). During the period covered by this report there were 25 TA teams that had responded to mission requests to PIP, or were still in the field working on projects. Each team prepared a report for distribution to the appropriate people upon completion of a project.

1. Jamaica - AID/Kingston. In October, 1982, a private consultant was contracted by PIP to assist the mission in reviewing a portion of an Agricultural Marketing Development Project. It was concerned with the provision of 25 assembly and grading stations for fruits and vegetables. Recommendations were made for equipment specifications used in washing, drying, waxing, rot control, grading, pre-cooling and storage of fruits and vegetables. Report No. 12 (not distributed, at the request of the Mission).

2. Thailand - AID/Bangkok. From October, 1982, to May, 1983, PIP contracted two private consultants in response to a mission request for assistance in investigating and assessing the export market development potential for various processed fruits and vegetables produced in Thailand. The export markets that were studied were Hong Kong, Japan, Singapore and the U.S., with the U.S. being of primary interest. An appropriate study was made with consideration being given to production costs and potential, market prices and demands, and related factors. Report No. 13

3. Jamaica - AID/Kingston. In April, 1983, the consultant involved in the project described above returned to Kingston to participate in a pre-bid conference and later the evaluation of bids submitted for the equipment specified. At the request of the Mission, no report was issued.

4. Pakistan - AID/Islamabad. A team of 4 private consultants was contracted by PIP in April - May, 1982, to assist the mission in planning the establishment of a fruit and vegetable marketing board that would address problems associated with orderly marketing, storage, storage management,

provision of imports and research and extension on production, processing, storage and organized marketing. The team assisted the mission in the development of a Project Identification Document. Report No. 14, issued by Development Alternatives, Inc.

5. Pakistan- AID/Islamabad. A team of 4 consultants was contracted for varying lengths of time from December, 1982, to March, 1983, in furtherance of the project described above. They formed part of a design team that assisted the mission in the preparation of a Project Paper for the Design for Fruit and Vegetable Component of Agriculture Production, Distribution and Storage Project in Pakistan. The report that was prepared became part of the Project Paper.

6. Thailand - AID/Bangkok. A packaging specialist was contracted by PIP in March, 1983, to assist the mission and the Thailand Institute for Scientific and Technological Research in handling and packaging problems in tropical fresh fruit exports. An analysis was made of the package testing facilities at the Institute and recommendations were made for improvements, modernization of capabilities, and training of personnel. The consultant also spent one day in Manila assisting the mission in a similar project with the National Food Authority of the Philippines. Report No. 17.

7. Yemen - AID/Sanaa. A postharvest specialist was contracted by PIP in April, 1983, to provide assistance to the mission, the Ministry of Agriculture, and the Yemen Marketing Association through a collaborative program sponsored by the Consortium of International Development. Assistance was provided in postharvest handling, transportation, storage and marketing of vegetables and fruits. Constraints in the system were identified and recommendations were made for the implementation of a training course to reduce the problems. In May - June, 1983, the same consultant returned to present a course described under "Short Courses and Workshops" below. Report No. 18.

8. Haiti - AID/Port-au-Prince. A private consultant specialist in coffee-processing equipment was contracted by PIP in April, 1983, to assist the mission in evaluating the specifications for some equipment to aid a small-farmer cooperative enter the export market. Bids to supply the equipment were also evaluated and appropriate recommendations were made for alterations. Report No. 19.

9. Philippines/Indonesia/Thailand/Taiwan. Dr. Robert Julian from PIP and an agricultural education specialist from the University of Idaho visited the missions in the Philippines, Indonesia and Thailand in March - April, 1983. The purpose was to make a needs assessment for training in postharvest management and perishable crops loss reduction. Recommendations were made for assistance to Food Terminal, Incorporated, and Visayas State College of Agriculture in the Philippines; the Bureau of Logistics in Indonesia; and the Thailand Institute of Scientific and Technological Research. In addition the team visited the Asian Vegetable Research and Development Center in Taiwan to initiate collaborative research on the development of a loss assessment methodology for perishable crops in developing countries. Report not issued, at the request of the Mission.

10. Indonesia - AID/Jakarta. In April - May, 1983, Dr. Robert Julian returned to Indonesia in relation to the program described above. TA was provided to the mission for work with Directorate General of Food Crops, Ministry of Agriculture, in the national planning for assessment of postharvest losses in vegetables and fruits. He also participated in a planning conference with officials of the Bureau of Logistics regarding postharvest management activities of selected cooperatives. Report No. 25.

11. Taiwan - Asian Vegetable Research and Development Center. In September, 1983, two consultants for PIP visited AVRDC to initiate a loss assessment methodology that could later apply to the AVRDC outreach programs in the Philippines, Indonesia and Thailand. One member of the team was

provided by the Inter-American Institute for Cooperation on Agriculture. AVRDC also provided the assistance of a plant physiologist and the three members made an assessment of a small segment of the perishable crops system in Taiwan. Report No. 26.

12. Jamaica - AID/Kingston. In November, 1983, Dr. Ronald Curtis from PIP and another consultant responded to a mission request for assistance in the evaluation of the components of the agricultural marketing project associated with upgrading the marketing infrastructure of Jamaica. In particular, an evaluation was made of a phase of the project which was designed to establish a network of assembly and grading stations for perishable crops handled by produce marketing organizations. Also some subterminal wholesale distribution markets were studied and their functions were evaluated. Report No. 28.

13. Seychelles - AID/Nairobi. A team of three people - two contracted by PIP and one from AID/Employment and Small Enterprise Division/S&T - responded in November, 1983, to a mission request for assistance in a cinnamon project. In previous years the Seychelles was a major exporter of cinnamon and the team made a feasibility study for reviewing the industry. The study considered technical aspects, and labor markets and employment. Report No. 29.

14. St. Vincent - AID/Bridgetown. In November, 1983, PIP contracted the services of two consultants to assist the mission in the design and cost of an appropriate sweet potato storage facility in St. Vincent. Handling and storage of sweet potatoes was given high priority, so the team developed the parameters of storage requirements and blueprints for construction. Report No. 30.

15. Guatemala - AID/Guatemala. In November, 1983, PIP contracted the services of a private consultant refrigeration and storage expert to respond to a mission request accompanied by two other consultants from ACDI and RTI, respectively. The assistance involved packing and storage facilities for fresh produce, as well as pre-cooling techniques, warehousing, grading, sorting, packaging and docking facilities for three small highland cooperatives near Guatemala City. Report No. 31.

16. Honduras - AID/Tegucigalpa. In October - November, 1983, PIP contracted the services of a private consultant to assist the mission in identifying postharvest problems with perishable products, primarily agricultural exports. Increasing agricultural production for export is of concern to the mission, so the consultant addressed constraints in some vegetable and fruit systems, and made recommendations for numerous interventions. Report No. 32.

17. Belize - AID/Belize City. In January, 1984, PIP contracted a private consultant to provide technical assistance to the mission's efforts to aid the private sector in developing winter crops for export to the U.S. Basic assistance was provided for harvesting, grading, sorting, packaging, icing and transportation of melons. Report No. 34.

18. Niger - AID/Niamey. In March and again in April, 1984, PIP contracted the services of a private consultant to assist the mission doing a study of markets, handling, and transport of fresh vegetables. Also of concern was the possible conversion of farms of various sizes to high cash crop production. The work was done as the vegetable marketing component of the Niger Irrigated Agriculture Subsector Assessment. Important consideration was given to the growing demand for vegetables, especially in urban areas, and the resulting confusion in marketing systems and perishable food preservation. Report No. 43.

19. Mali - AID/Bamako. In March, 1984, PIP contracted the services of a private consultant to assist the mission in assessing the potential for increasing vegetable production to serve domestic needs better. Attention was directed toward food preservation and transport in the tropical environment, and ways to improve the marketing system. Report No. 36.

20. Ecuador - AID/Quito. In February, 1984, Dr. Ronald Curtis from PIP responded to a mission request for assistance and advice on small-scale fruit processing, on-farm storage of potatoes, and small-scale vegetable canning.

The consultant studied the marketing systems and constraints, marketing and production options and channels, and processing alternatives for food preservation. Report No. 37.

21. Panama - AID/Panama. In March, 1984, PIP contracted a private consultant to provide assistance to the mission and Panama's Ministry of Agricultural Development in studying and making recommendations for upgrading the country's onion storage and drying facilities. Panama now imports onions valued in excess of \$2 million, and recommendations were made by the consultant for various ways for local production to reduce imports. Report No. 41.

22. Caribbean - AID/S&T/AGR. In February, 1984, PIP contracted a private consultant who became one of a three-man team to investigate the effects in the CBI region of the pending legislation against the use of EDB for fruit and vegetable fumigation. Subtropical or tropical fruits, such as papaya and mango, were the principal crops of concern, as well as the short- and long-term effects of the EDB ban on exports of these crops to the U.S. Report No. 39. (Report not issued by PIP because it became part of a larger, more comprehensive one).

23. Costa Rica - AID/San Jose. In May, 1984, PIP contracted the services of two consultants to assist the mission and a local cooperative in the storage and marketing of yams with a view toward export marketing. In addition, one member of the team collaborated with a representative from USDA in exploring opportunities for crop diversification in the country. The latter was directed at the potential for export marketing of local tropical or exotic crops. Report No. 45.

24. Peru-AID/Lima. In May - June, 1984, PIP contracted the services of two consultants to respond to a mission request for assistance in an exotic fruit and spice feasibility study. An investigation was made of production and market potentials for individual products or product groups, as well as investment potentials, product volume requirements for export and the potential for joint ventures for export. Report No. 44.

25. Honduras - AID/Tegucigalpa. Beginning in May, 1984, PIP responded to a mission request for assistance in design of an Export Development and Services Project. A 10-person consulting team has been contracted to address export marketing systems, cacao, citrus, vegetables, extension training and information networking. Two members of the team are Dr. Ronald Curtis and Ms. Paulette George from PIP, plus Mr. Fred Kessel from the University of Idaho. The report will probably become part of the Project Paper.

E. Workshops and Short Courses

AID Missions and developing-country agencies are becoming more aware of the value of training as an integral subcomponent of development projects. Consequently, during the period covered by this report there were 12 workshops or short courses presented partially or entirely by PIP in response to mission requests. In addition, PIP participated in a course presented at the University of Idaho.

1. Paraguay - AID/Asuncion. In October, 1982, PIP contracted two private consultants to assist the mission and the Paraguay Ministry of Agriculture in training host-country personnel in the basic principles of cold storage of fruits and vegetables. The purpose was to develop a nationwide plan for Paraguay. There were 12 participants in the course which was presented in Spanish. Cold storage management was the principle focus of the course. Report No. 11.

2. Panama - ACDI. In January, 1983, PIP contracted the services of a private consultant, Spanish-speaking to participate in a workshop on Cooperative Marketing in Latin America. The workshop was held in Panama in collaboration with the Panamanian Cooperative Institute and was presented for the benefit of participants from 5 Latin American countries. The PIP consultant addressed the subject of Appropriate Technology for the Postharvest Handling of Agricultural Products in Latin America. Report No. 15.

3. Ecuador - AID/Quito. In February - March, 1983, PIP contracted the services of a private consultant to assist the mission in the presentation of a workshop on Postharvest Handling and Processing of Apples. The workshop was organized in collaboration with the Universidad Tecnica de Ambato, Ecuador, the University of Florida, and the Consejo Nacional de Ciencia y Tecnologia, Ecuador. The workshop was part of a Rural Appropriate Food Technology Development project. Report No. 16.

4. Yemen - AID/Sanaa. In May - June, 1983, PIP contracted the services of a consultant to assist the mission in the presentation of a short course on

Postharvest Handling, Storage, Transportation and Marketing of Fruits and Vegetables in the Yemen Arab Republic. The course was presented in collaboration with the Consortium for International Development and the Yemen Ministry of Agriculture and Fisheries. The training manual that the consultant prepared was translated into Arabic for the benefit of the host-country participants. Report No. 18.

5. Thailand - AID/Bangkok/Manila. In June, 1983, PIP contracted the services of a private consultant to assist the missions in the presentation of a workshop in Bangkok in collaboration with ASEAN. The workshop covered Transportation and Handling Techniques for Horticultural Produce and was presented for the benefit of participants from 5 South East Asian nations. The consultant from PIP addressed the subjects of the role of temperature and relative humidity in storage of fruits and vegetables, and factors affecting market quality of horticultural produce. Report No. 21.

6. Thailand - AID/Bangkok. In July - August, 1983, PIP contracted the services of two consultants, one of whom was from the University of Idaho, to assist the mission in the presentation of a workshop in collaboration with the Thailand Institute of Scientific and Technological Research and the Tropical Development and Research Institute (TPI, at that time). One PIP consultant taught factors which affect the postharvest life of fruits, vegetables and root crops; methods of delaying fruit ripening; and sea transportation. The other taught extension needs in low-cost technology, and implementation of fruit and vegetable loss reduction programs. PIP also printed about 150 copies of the workshop manual after it had been translated into Thai. Reports No. 22 and 23.

7. Philippines - AID/Manila. In June - August, 1983, PIP contracted the services of two consultants from the University of Idaho to assist the mission and Visayas State College of Agriculture on Leyte, in a training course on Preservation of Tropical Fruits and Vegetables by Solar Drying with Supplemental Heat. Extension personnel from the Visayas State College participated in the course, then they took the information to three small villages to teach solar dryer construction and use to the villagers. A training manual was written in English and Cebuano. Report No. 24.

8. Indonesia - AID/Jakarta. In September, 1983, PIP provided the services of a consultant from the University of Idaho to assist in the presentation of a workshop on Postharvest Handling of Tropical Root and Tuber Crops. The workshop was presented for 32 Indonesian participants from the Bureau of Logistics, the Government Agricultural Cooperatives and extension workers from various parts of Java. Report No. 27.

9. Indonesia - AID/Jakarta. In November - December, 1983, PIP provided the services of three consultants from the University of Idaho to assist the mission and Universitas Sam Ratulangi in the presentation of a short course on A Solar Dryer with Supplemental Heat for Food Preservation. The course was basically the same as the one described under 7, above, for the Philippines. The course was requested for presentation in Manado, Sulawesi, in Indonesia, because information was received locally concerning the success of the Philippine course. A training manual was written for the course. Report No. 33.

10. Jamaica - AID/Kingston. In February, 1984, PIP provided the services of 8 consultants, plus Dr. Robert Julian and Ms. Gleanne Wray from PIP, to assist the mission and the Jamaica Ministry of Agriculture in the presentation of a workshop on Appropriate Postharvest Technologies and Export Strategies for the Caribbean. It was presented in collaboration with Ronco Corporation, and there were representatives from 9 Caribbean countries present at the workshop. The motivating influence for the presentation of the workshop was the Caribbean Basin Initiative. Report No. 35.

11. Panama - AID/Panama. In March, 1984, PIP contracted the service of a Spanish-speaking consultant to present a three-week short course at the Universidad de Panama. The course focused on postharvest handling and marketing of tropical fruits and was presented to 13 participants, some of whom were employees of the Ministry of Agriculture and others were graduate students in the university. Report No. 38.

12. University of Idaho. PIP collaborated with the USDA/OICD in the presentation of a 5-week short course on Postharvest Loss Reduction of Perishable Crops in September - October, 1983. There were 11 participants in the course from 10 developing countries. USDA/OICD has requested that PIP and the University of Idaho present the course again in the fall of 1984, so plans are being made to do so. Report No. 40.

F. Information and Documentation Services

The cooperative agreement specifies that 5000 documents should be filed in the information system during the 5-years of the agreement. This goal was surpassed in February, 1983, and at present there are nearly 7500 documents on file and available for developing country use.

Currently the Information Center has about 550 user clients representing 87 countries. Since the establishment of PIP those clients have requested a total of 18,894 documents; 14,240 of them have been requested during the period covered by this report. Furthermore, the clients have requested 686 individualized bibliographies on various specific topics related to postharvest loss reduction in perishable crops. This is adequate testimony to the popularity of the Information Center, and the requests continue to arrive.

In June 1983, the Information Center published a comprehensive bibliography (more than 950 citations) entitled "Export Marketing." This was done primarily because desk officers and others in AID expressed a need for such information in view of the current strong interest in assisting developing countries to become exporters in the world market. More than 1000 copies were sent to people in more than 50 countries.

Another bibliography entitled "Exotic Fruits" was assembled (610 citations) and published by the Information Center in December, 1983. This was done to assist developing countries in their evaluations of local, tropical or subtropical fruits that could have potential value for export trade. This bibliography was completed in time for distribution at the export marketing workshop in Jamaica.

Work is currently in progress in the Information Center to assemble data for a bibliography on "Irradiation for Perishable Food Preservation". It is anticipated that it will be published in September of 1984.

"New Titles" was published 10 times during the period of this report. It is published quarterly (formerly it was bimonthly) and is the medium for notifying clients of new acquisitions in the Information Center. Commonly there are 350 to 425 new documents in each issue. The degree to which developing-country clients use "New Titles" can be easily judged by the wave of literature requests that arrive at the Information Center after each new issue.

In November, 1983, the Information Center initiated the publication "PIP News" (see Annex I). It was designed for general information about PIP and its activities, and was distributed to about 1000 agencies or individuals in more than 80 countries. Also, AID missions and directors, as well as AID/W desk officers received it. Comments on the newsletter have been quite favorable and another issue is scheduled for July, 1984.

G. Adaptive Research

PIP collaborated with Dr. A. Helton in the Plant Pathology Section in the Department of Plant, Soil and Entomological Sciences at the University of Idaho in assembling, indexing, and making available for teaching or short courses a collection of slides on postharvest pathology of perishable crops. There are several hundred slides that were obtained from a wide variety of authoritative resources on the subject.

In preparation for the short courses on construction and use of a solar dryer with supplemental heat, PIP collaborated with Dr. L. Reisenberg in the Department of Agricultural Engineering at the University of Idaho. Some basic construction variables were studied in order to ascertain that the dryer would be an effective and efficient appropriate technology for village use. Some additional work is still in progress with different parameters being evaluated.

Another small project in the Department of Agricultural Engineering at the University of Idaho concerned the possibility of developing a fail-safe pressure cooker for village use. PIP collaborated with Dr. J. Dixon in the Department in doing a literature and patent search of ways in which a mechanism might be devised for attachment to a pressure cooker so as to ensure complete sterilization of processed foods.

PIP has collaborated with Dr. C. Peterson, also in the Department of Agricultural Engineering at the University of Idaho, in the evaluation of a mobile oil press that could be used in developing countries for production of vegetable oils for local human consumption.

H. Graduate Training

PIP is currently sponsoring two students from developing countries for M.S. degrees at the University of Idaho.

Ms. Carmen Paterno, Philippines
Department of Bacteriology and Biochemistry

Mr. Shahid Perwaiz, Pakistan
Department of Agricultural Economics.

Drs. Robert Julian and Robert Skiles collaborated with USDA/OICD in procuring fully-funded developing country students for participant training in degree and non-degree studies at the University of Idaho. The students are from Indonesia, Egypt and Somalia. Two other students from Mauritania and Ethiopia are in the process of acceptance at the university. The assistance provided to them from PIP usually consists of orientation upon arrival, contacts with faculty advisers, and contacts with AID or other sponsors.

I. Loss Reduction Manuals

At present there are three loss reduction manuals in various stages of preparation.

"Empaque Para Productos Hortifrutícolas: Normas y Medidas Recomendadas" (Packaging for Horticultural Products: Standards and Recommended Measures). This will be published in Spanish by PIP in collaboration with the Ministry of Agriculture and Animal Science, San Jose, Costa Rica.

"Solar Dryer Construction and Its Use for Food Preservation". This manual will be directed at audiences of the agricultural extension level.

"Postharvest Management Systems for Potatoes"

J. Multinational Cooperation

Cooperation with various international organizations covered a broad range of activities in PIP during the period covered by this report. Numerous new linkages were developed that proved to be mutually beneficial in providing assistance to developing countries.

1. Thailand Institute for Scientific and Technological Research (TISTR). PIP has assisted this organization before, and the relationship continued by PIP contracting consultants to assist in a postharvest short course and in improving packaging research capability.

2. Food Terminal, Incorporated (FTI) and National Food Authority (NFA), Philippines. Carmen Paterno, the graduate student studying for an M.S. degree under PIP sponsorship at the University of Idaho was employed by these two organizations prior to coming to the U.S. She will probably return to them after she receives her degree. Also, PIP provided some brief packaging assistance to them.

3. Visayas State College of Agriculture (VISCA), Philippines. The University of Idaho developed a cooperative agreement with VISCA, and PIP assisted VISCA personnel in the presentation of a solar dryer short course.

4. Universitas Sam Ratulangi, Indonesia, and Washington State University Indonesia project. PIP collaborated with these institutions in presenting a short course on solar dryer construction and use.

5. Bureau of Logistics (BULOG), Ministry of Agriculture, Indonesia. PIP collaborated with this agency in the development of a needs assessment for training in postharvest management and perishable crop loss reduction. Also assistance was furnished for a planning conference on postharvest management activities of cooperatives.

6. Consortium for International Development (CID). PIP collaborated with CID in a study of postharvest handling, transportation, storage and marketing of vegetables and fruits, and in the presentation of a short course on the subject in Yemen. The course also involved collaboration with the Yemen Ministry of Agriculture and Fisheries.

7. Association of South East Asian Nations (ASEAN). PIP collaborated with ASEAN in the presentation of a workshop in Bangkok, Thailand on the subject of transportation and handling techniques for horticultural produce.

8. University of Panama (Universidad de Panama) and Panama Ministry of Agriculture. PIP collaborated with these organizations in the presentation of a short course that addressed postharvest handling and marketing of tropical fruits. In another area of collaboration, PIP provided assistance to the Panama Ministry of Agriculture for studying and making recommendations for upgrading the country's onion storage and drying facilities.

9. Universidad de Costa Rica and Centro de Investigaciones en Tecnologia de Alimentos (CITA) (Food Technology and Research Center). PIP has initiated collaboration with these agencies for the purpose of exchange of information and improving Costa Rican postharvest research and training facilities.

10. Universidad de Ambato, Ecuador; Ecuador Ministry of Agriculture and University of Florida. PIP has collaborated variously with these organizations in the presentation of a short course on postharvest handling and processing methods for apples, and in the initiation of postharvest appropriate technology efforts by means of a cooperative agreement with the Universidad. The latter is in the process of confirmation between the University of Idaho, PIP, and the Universidad de Ambato.

11. Cornell University. PIP is collaborating with Cornell through use of a faculty member who will be on sabbatic leave. He will work on the development of a loss assessment methodology in Taiwan, Thailand, Philippines and Indonesia.

12. USDA. PIP collaborated with USDA in a study that was done in Costa Rica that explored opportunities for crop diversification in the country. The focus was on potentials for export marketing of local tropical or subtropical crops.

13. Ronco Corporation, Jamaica Ministry of Agriculture and International Food Storage Corporation. This collaborative effort involved PIP, a private consulting corporation, a private sector storage organization subcontracted by PIP, and a governmental agency. The purpose of the combination was to present a workshop in Jamaica that concerned Appropriate Postharvest Technologies and Export Strategies for the Caribbean.

14. Belize Winter Produce Ltd. At the request of the mission, PIP worked with this private sector organization in improving their capabilities for export marketing of melons.

15. Peace Corps. PIP is currently collaborating with Peace Corps in a study of the effects in CBI nations of the pending legislation that will ban EDB use. Earlier PIP collaborated with Peace Corps in the potential development of solar dryers for perishable food preservation at an appropriate technology level.

16. Tropical Development and Research Institute (TDRI) (formerly Tropical Products Institute - TPI). PIP collaborated with TDRI in the presentation of a short course on postharvest food handling and preservation at the Thailand Institute for Scientific and Technological Research. PIP has also initiated steps to collaborate with TDRI in the development of postharvest loss assessment methodologies.

17. Agricultural Cooperative Development International (ACDI) and Research Triangle Institute (RTI). PIP collaborated with these organizations in postharvest marketing and storage study done in Guatemala for the mission. Also ACDI and PIP collaborated in the presentation in Panama of a short course on cooperative marketing in Latin America.

18. Asian Vegetable Research and Development Center (AVRDC) and Inter-American Institute for Cooperation on Agriculture (IICA). These two institutes and PIP collaborated in Taiwan in the developmental work that was done on a methodology for loss assessments in perishable crops. The collaboration with AVRDC is planned to continue into the Philippines, Thailand and Indonesia where outreach programs are in effect.

17. Volunteers in Technical Assistance (VITA). PIP collaborated with VITA in the preparation of a proposal for a project in the Central African Republic to reduce postharvest losses in perishable root crops and plantain. Also, PIP is collaborating with VITA on a technical assistance project for yam storage and marketing.

K. Additional Activities

In April, 1984, Dr. Skiles visited the AID Missions in Honduras, Ecuador and Guatemala to discuss with them some of the services available from PIP and to see some local postharvest problem areas where PIP could be of assistance.

In May, 1983, Dr. Skiles attended the AAAS Annual Meeting in Detroit, Michigan where he was invited to present a paper on PIP. A similar paper was presented at the annual meeting of the American Association of Agricultural Engineers in Bozeman, Montana in June, 1983.

Ms. Paulette George attended two workshops to improve the capabilities of the PIP Information Center. One was a DIALOG up-date session in Los Angeles, California in June, 1983, and the other was a session in Cheney, Washington in August, 1983. There Follett Publications held a workshop on microcomputer-based library management systems.

Dr. Skiles attended a conference in Miami, Florida in September - October, 1983, where numerous private and public sector representatives from Caribbean countries were introduced to the Caribbean Basin Initiative. A short talk was given to the audience to present PIP and its capabilities. Also, several hundred "Export Marketing" bibliographies from PIP were distributed.

Dr. Julian attended the Western Regional Meeting of the American Association of Teacher Educators in Agriculture in Tucson, Arizona in April, 1983. There he presented a paper on "International Agricultural Development: An Expanded Role for Agricultural Education".

In October, 1983, Mr. Kris Oswalt, a private consultant employed by AID/New Delhi, spent a few days in the PIP offices analyzing the management information system. He devised a microcomputer spreadsheet for management use and developed it so that the different accounting systems of AID and the University of Idaho would be compatible.

Dr. Julian was recently appointed to the Board of Directors of a newly-founded organization named the Association for International Agricultural Education. He attended a founding meeting in Oklahoma City in May, 1984. Also, he was invited to announce and describe the new organization at the annual meeting of the Association of U.S. Directors of International Agricultural Programs which was held at Washington State University in June, 1984.

ANNEX

The PIP Concept

The world hunger situation, as complex as it is, has been addressed in various ways by numerous governmental and donor agencies, such as the U.S. Agency for International Development (USAID), the Food and Agricultural Organization of the United Nations (FAO) and the Tropical Development and Research Institute (TDRI) in London, to name only three of many.

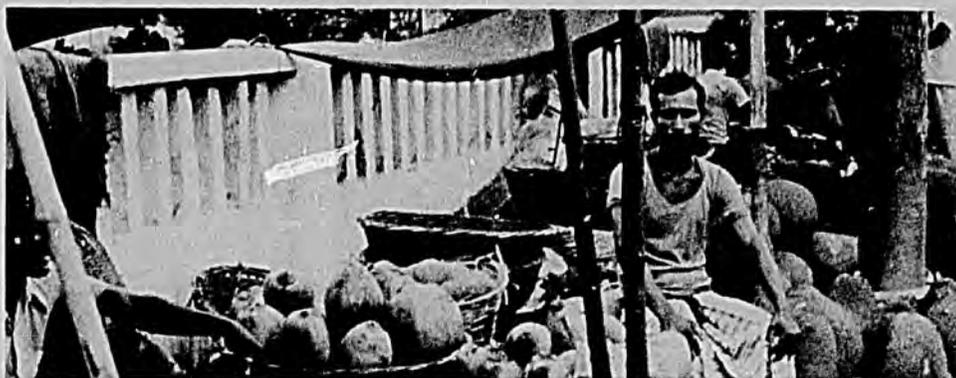
One of the traditional and principal approaches to the solution of massive food shortages in developing countries has been to increase production by various means. The Green Revolution is one well-known phase of these efforts. Other approaches have included putting more land into cultivation, as well as the use of new crops or crop varieties, fertilizers, irrigation, pest control measures and other cultural factors.

More recently, however, many authorities have recognized two important facts in programs designed to greatly increase food production in developing countries. First, there are limits to available land, the yield characteristics of new varieties and the amount of fertilizer that crops can tolerate productively. The other fact is that food losses after harvest in developing countries are in the magnitude of millions of tons per year. This volume is so great that the problem obviously merits organized and concerted attention on a worldwide scale.

USAID became committed to the program, and implementation was initiated, in part, by the establishment of the Postharvest Institute for Perishables (PIP) in the University of Idaho College of Agriculture. The administrative office of the institute is located in Morrill Hall on the campus, and the PIP Information Center is in the Library Building.

PIP was founded under terms of a cooperative agreement between USAID and the University of Idaho for the purpose of developing methods for postharvest perishable food loss reduction in developing countries. The term "perishable foods" refers to fruits, vegetables, roots, tubers, nuts and spices. Work on grains and hardseeded legumes is done at Kansas State University in an institute similar to PIP.

Perishable foods by their very nature are subject to tremendous postharvest losses in developing countries. This is so because the



Above: Merchants offer fruit and vegetables in the open-air market in Jakarta, Indonesia.

hot, humid environments that are often encountered are highly favorable to the development of rotting organisms that follow injuries to crops sustained during improper harvest, shipment, handling, packing and storage. In addition, rodents and insects exact a heavy toll, as well as moisture and nutrient losses that occur throughout laboriously slow and inefficient marketing systems.

PIP addresses these problems by responding to requests from USAID missions in developing countries. Assistance is provided by means of short-term technical assistance teams, workshops, graduate training and, very importantly, by information services.

A large percentage of the world's literature on postharvest technology is in a computer file in the PIP library, and access to most of the remainder can be gained through various databases. Through these means the PIP Information Center is in great demand to furnish documents to individuals and libraries in developing countries which will advance their knowledge of available loss reduction technologies.

In regard to technical assistance teams and workshops, PIP has been active in Paraguay, Dominican Republic, Barbados and neighboring island-countries, Panama, Ecuador, Nicaragua, Philippines, Thailand, India, Bangladesh, Pakistan, Haiti, Indonesia and the Yemen Arab Republic.

The people who have served as consultants for teams and workshops have been selected from a roster of specialists that is kept in the PIP office. The roster contains the names of experts in any and all phases of postharvest

technology, whether economics, physiology, entomology, pathology, engineering or other related fields.

Some team members were selected from the faculty at the University of Idaho, and others came from other universities or from industry. Their activities involve various methods of loss reductions such as improvement of storage or refrigeration facilities, improvement of marketing systems or channels, food processing by solar dehydration or other means to prolong storage life and teaching host-country professionals the appropriate technologies that could help them resolve their local postharvest problems.

Education of capable students from developing countries is an extremely important part of the philosophy in PIP because ultimately it is probable that education will be the key to the solutions of developing country problems. This concept is playing a major role in the future plans of USAID and other multinational donor organizations.

In this vein PIP constantly searches for promising students who can learn postharvest loss reduction technologies at U.S. universities. Then, they return to their respective countries and become the teachers of the future. PIP sponsors two students at the University of Idaho this fall—one in the bacteriology and biochemistry department, and one in the agricultural economics department.

PIP has been in existence only two and a half years, but is already making headway. Finding ways to keep food from spoiling may make the life-and-death difference in the struggle against world hunger. □





Pictured above front row Ronald Curtis; middle row Paulette George, Doris Kayser, Gleanne Wray; back row Shannon Proctor, Robert Julian, and Robert Skiles.

Introducing

This is the first issue of the PIP Newsletter and we anticipate that it will be a semi-annual communication from our office to you. In future issues we plan to include comments on PIP's projects and activities, summaries of noteworthy publications, other peoples' activities of interest or note, and other current topics.

By way of introduction of PIP personnel, the core staff comprises four professionals and five people in the support staff.

Dr. Robert Skiles, the Director, came to PIP after having spent a large part of his professional career in the agricultural chemical industry. There he was involved in international research and development for a number of years.

Dr. Robert Julian is the Field Director and came to PIP from Kansas State University. Many of you probably knew him there as the Coordinator of the Food and Feed Grain Institute.

Dr. Ronald Curtis is employed by USAID and has come to PIP and the University of Idaho from assignment in Pakistan where he was Chief of the Office of Agriculture and Rural Development.

Paulette Foss George is the Information Specialist in PIP and has designed the PIP Information Center - a completely computerized system with worldwide database linkages. She is also editor of this newsletter.



University of Idaho

PIP News is a semi-annual publication of the Postharvest Institute for Perishables, a non-profit organization funded by the United States Agency for International Development (USAID) and the University of Idaho (UI). This publication is available without charge to decision-makers in developing nations who are interested in perishable crops. Contributions of news items and meeting announcements are solicited from readers. Contributions or requests for subscriptions should be addressed to: Postharvest Institute for Perishables, 216 Morrill Hall, University of Idaho, Moscow, Idaho 83843 USA. Telex: 510 776 0923 / UI CID MOCW. Telephone: 208-885-6791.

PIP-Sponsored Students

Miss Carmen Paterno, matriculated in August, 1983, at the University of Idaho in the Department of Bacteriology and Biochemistry where she will study for a Masters' degree. Carmen comes from the Philippines where she earned a B.S. degree from the University of the Philippines and was employed by the Food Terminal Incorporated. She plans to do studies in food technology and write a thesis on a related subject.

Sponsoring qualified students from developing countries is one of PIP's functions. Usually two new graduate students are selected each year from candidates that are recommended to PIP.

In January, 1984, Mr. Shahid Perwaiz from Pakistan will enter the University of Idaho to study toward an M.S. degree in Agricultural Economics. □

WARNING!

To all users of VITA Technical Bulletin No. 51064-TB, "Waste Oil-Fired Kiln," and

To readers of the April 1983 VITA News story, "Ceramic Kiln Burns Waste Oil."

We have just received *urgent warning comments* on the use of waste oils as fuels.

Please Note

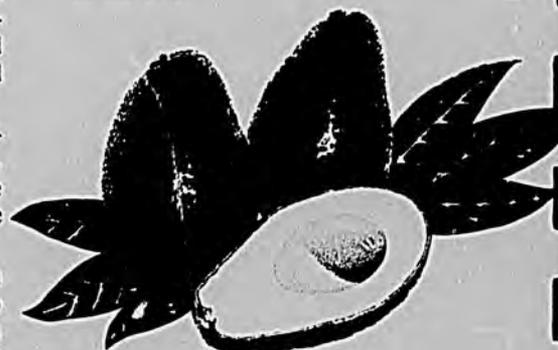
1. Under no — repeat, no — circumstances should transformer lubricant be used as fuel. There is grave risk of the release of highly toxic PCB (polychlorinated biphenyl) and dioxin compounds.
2. Use of crankcase (gearbox) lubricant as a fuel may risk lead contamination in the pottery fired in the kiln. It may also expose kiln workers to lead released into the air they breathe.
3. VITA suggests that samples of pottery fired in a kiln of this type be tested for lead content.
4. Do not use crankcase oil to fuel space heaters or food dryers.

For more information, contact:
Volunteers in Technical Assistance (VITA)
1815 North Lynn Street, Suite 200
Arlington, Virginia 22209 USA
Phone: (703) 276-1800
Cable: VITAINC
Telex: 440192 VITAU □

Visitors to PIP

Dr. Samuel Cooper, USREP/JECOR, visited PIP on March 9, 1983, while in the U.S. for his post in Saudi Arabia. Some interesting discussions evolved from training requirements.

On April 5, 1983, PIP received a visit from Dr. Kamal Dow who is Chief-of-Party for the University of Florida project on Appropriate Technology in Ecuador. Dr. Dow accompanied Mr. Angel Matovelle and Mr. Alfredo Recalde, both from the Ecuadorian National Council for Science and Technology, on a tour of several universities in the U.S. □



Recent Projects at PIP

Pakistan PIP collaborated with Development Alternatives, Inc. (DAI), in sending a group of experts to the Northwest Frontier Province of Pakistan to develop a mechanism for the establishment of a fruit and vegetable marketing board. The board would address problems of marketing, storage, storage management, research, extension and other postharvest aspects of potato production and vegetable seed production.

The production of potatoes and potato seed is particularly intriguing because a regional program would have to be developed to produce disease-free seed. At present the growers move their plantings up and down the mountainsides with the seasons. In so doing, they plant seed that they have saved and that has become heavily infested with viruses from severe insect infestations. Consequently, yields are extremely low.

PIP consultants working in Pakistan were Dr. Richard Ohms, Dr. Robert Thornton, Mr. William Bolton, and Dr. David Creech.

Dominican Republic The agricultural strategy for the Instituto de Estabilizacion de Precios (INESPRE) (Institute for Price Stabilization) in the Dominican Republic calls, in part, for reducing postharvest losses of perishable commodities. PIP assisted in the project by providing technical assistance for a review of the marketing system for onions and potatoes to determine the major cause of losses. Two specialists (Dr. Neil Meyer and Mr. William Simpson) from the University of Idaho evaluated storage infrastructure and crop handling capabilities for the purpose of recommending additional storage installations, alternative methods of storage or modifications to existing storage facilities. Also they made recommendations concerning operational measures and institutional arrangements to improve the functions of the perishables division in INESPRES.

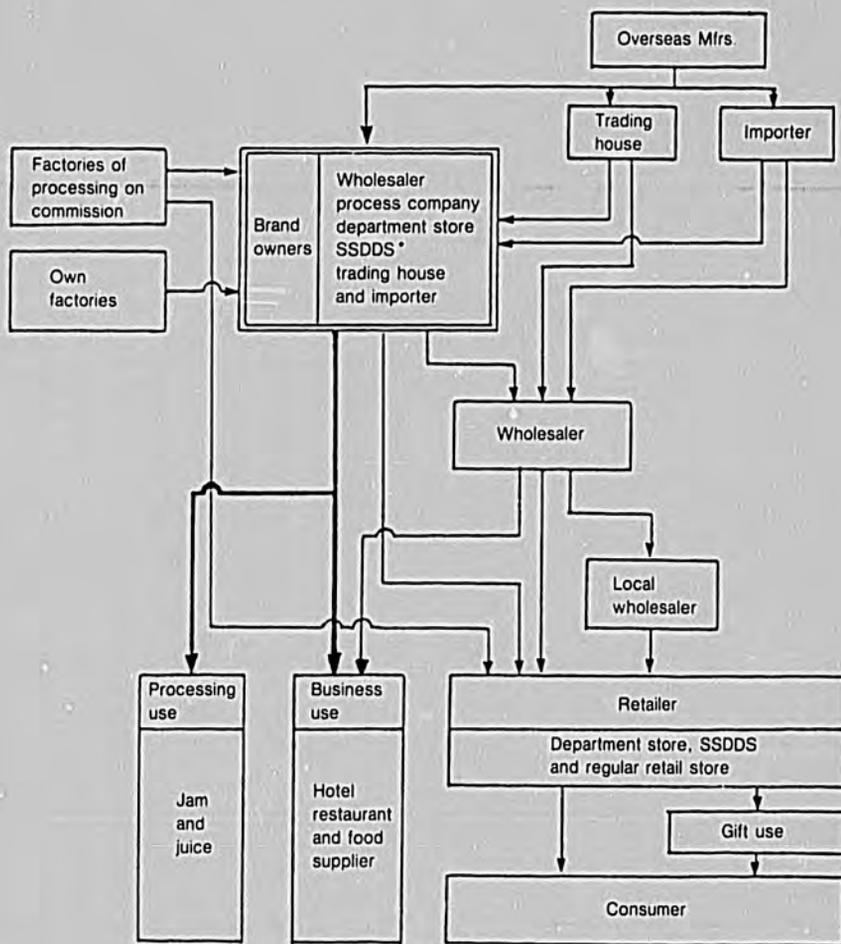
Bangladesh The Bangladesh Agricultural Research Institute (BARI) requested technical assistance in the identification and reduction of potato storage and processing losses. PIP, in collaboration with the International Potato Center (CIP) contracted Mr. Roy Shaw to determine low-cost methods for processing potatoes into a long shelf-life commodity. Mr. Shaw found that there was a need for improved potato varieties and adequate cold storage facilities. In regard to processing, however, he found an inexpensive and effective solar dehydration technology being used by some farm families.

It was recommended that the potato dehydration technology be expanded into a cottage industry. This would provide the longer shelf-life commodity that was sought and would also provide additional income for farm families as well as providing an outlet for excess potatoes at times of peak harvest. One advantage of the development of such a cottage industry would be the very low level of capital required to initiate it.

Thailand A market survey of Thai fruits and vegetables was done for PIP by Mr. Harvey Neese and Mr. Donald Leeper. The purpose was to identify market demand or market potential for processed Thai fruits and vegetables in Thailand, Singapore, Hong

Kong, Japan and the U.S. The detailed study covered many variables that would influence a market potential, such as price, quality, production, volume and continuity, competition, existing and potential demand, and related topics. □

Distribution Channels for Imported Processed Fruits and Vegetables



*SSDDS: Self Service Discount Department Stores

Source: The Distribution Systems Research Institute, Japan.

From: Marketing Survey of Thai Processed Fruits and Vegetables by Harvey C. Neese and Donald S. Leeper, Agri-Food Systems International, Inc. for the Postharvest Institute for Perishables. GTS Report No. PIP/Thailand/Nov. 82/No. 14, May, 1983.

Coming Events

This column will be used to list various meetings that might be of interest to PIP's readers. Unless indicated, PIP has no active role as sponsor or participant. For further information, please contact the person indicated. Please inform PIP of any meetings you would like to see listed.

December 1983

Symposium on Spices and Medicinal Plants. (Angers, France.) Sponsor: International Society for Horticultural Science. Contact: Dr. Parviz Maghami, Technical Institute for Medicinal, Aromatic, & Industrial Plants, P.O. Box 38, 91490 Milly-la-Forêt, FRANCE

December 13-16

American Society of Agricultural Engineering. Winter Meeting. (Chicago, Illinois, USA) Contact: M.J. Muldoon, Meetings Coordinator, American Society of Agric. Engineering, 2950 Niles Road, St. Joseph, Michigan 49085 USA

January 1984

International Symposium on Post-Harvest Technology of Agricultural Products. No specific dates given) Taipei Taiwan, ROC. Contact: CAPD (Council for Agricultural Planning and Development, 37 Nanhai Road, Taipei, Taiwan, ROC)

Symposium on Vegetable Production for Processing. (Davis, California, USA) (No date given.) Contact: Dr. V. Rubatzky, Department of Vegetable Crops, University of California, Davis, California 95616 USA

February 21-25

AMFA Asia: Asian International Mining, Forestry and Agriculture Exhibition. (Kuala Lumpur, Malaysia) Contact: ISE Managements Pte. Ltd., Suite 1413, Floor 14, Shaw Towers, 100 Beach Road, Singapore 0718 SINGAPORE

March 26-30

Practical Control of Ethylene in Flowers, Fruit and Vegetables. 39th Easter School. (Nottingham, UK) Sponsor & Contact: G. Tucker, Dept. of A.B. and F.S., School of Agriculture, Sutton Bonington, Loughborough, Leics., UK

April 2 to June 22

Basic Food Microbiology. (London, U.K.) Contact: TDRI Training and Visitors Unit, 127 Clerkenwell Road, London EC1 5DB, United Kingdom Note: (January 1984 application deadline.)

May 7 to June 29

Vegetable Crop Production and Marketing. (Open to participants from developing countries only.) Sponsor: U.S. Department of Agriculture. Contact: David P. Winkelmann, USDA/OICD*

May 14 to June 29

Soybean Processing for Food Uses. (Open to participants from developing countries only.) Sponsor: U.S. Department of Agriculture. Contact: David P. Winkelmann, USDA/OICD*

May 21 to July 13

Management of Government Organizations in Developing Countries. (Entry to mid-level managers only.) Sponsor: U.S. Department of Agriculture. Contact: David P. Winkelmann, USDA/OICD*

June

Symposium on Vegetable Quality. (Aas, Norway) Contact: H.J. Rosenfeld, Norwegian Food & Research Institute, P.O. Box 50, N-1432 Aas-Nih; NORWAY

June-August (tentative) 9 weeks

Potato Production and Postharvest Management Systems Training Course. (Moscow, Idaho) Sponsor: Postharvest Institute for Perishables and U.S. Dept. of Agriculture, Office of International

Cooperation & Development. Contact: Postharvest Institute for Perishables.

June 11 to August 10

Development & Operation of Agricultural Extension Programs. (Developing country participants only.) Sponsor: U.S. Department of Agriculture. Contact: David P. Winkelmann, USDA/OICD*

June 18 to July 27

Management and the Role of Women in Development. (Open to senior women officials from developing countries only.) Sponsor: U.S. Department of Agriculture. Contact: David P. Winkelmann, USDA/OICD*

July 9 to August 31

Training of Trainers for Agriculture and Rural Development. (Developing country participants only.) Sponsor: U.S. Department of Agriculture. Contact: David P. Winkelmann, USDA/OICD*

July 30 to September 7

Management of Agricultural Research Facilities and Organizations. (Developing country participants only.) Sponsor: U.S. Department of Agriculture. Contact: David P. Winkelmann, USDA/OICD*

August 5-11

American Society for Horticultural Science and Canadian Society for Horticultural Science Annual Meeting. University of British Columbia, Vancouver, B.C.

September 3-7

10th International Congress of Agricultural Engineering Budapest, Hungary) Contact: G. Szalai, CIGR Congress Coordinator, Comite National Hongrois de la CIGR, Kos Suth Lajos Ter 6-8-IV-425, 1372 Budapest V HUNGARY

September 3 to November 9

Development & Operation of Agricultural Extension Programs. (Developing country participants only.) Contact: David P. Winkelmann, USDA/OICD*

September 10 to October 12

Postharvest Loss Prevention in Perishable Crops. Sponsor: Postharvest Institute for Perishables and U.S. Dept. of Agriculture, Office of International Cooperation & Development. Contact: Postharvest Institute for Perishables.

October

Meeting of Inter-American Association of Agricultural Librarians and Documentalists. Brasilia, Brazil) Contact: A.M. Paz de Erickson, Executive Secretary, ICA-CIDIA, Turrialba COD 7170 COSTA RICA

October 21-24

Conference on Agricultural and Food Chemistry. (Las Vegas, Nevada, USA) Contact: G.E. Inglett, USDA/ARS Northern Regional Research Center, 1815 North University St., Peoria, Illinois 61604 USA

December 1984

Meeting on Mechanization for Field Vegetables. (Munich, Germany) Sponsor: International Society for Horticultural Science. Contact: C.J. van der Post, Chairman, Working Group on Mechanization, P.O. Box 43, 6700 AA Wageningen NETHERLANDS

Symposium on Tropical Fruit & Vegetable Research. (Brisbane, Australia) Sponsor: International Society for Horticultural Science. Contact: N.S. Kruger, Director of Horticulture, Dept. of Primary Industries, Williams Street, Brisbane QLD 4000 AUSTRALIA

* Mr. David P. Winkelmann, Deputy Administrator for International Training, Room 4118 Auditor's Building, Office of Int'l. Cooperation & Development, United States Department of Agriculture, Washington, DC 20250 USA (Telex: AGR1/WASH 64334, Winkelmann OICD)

Books of Interest

The Postharvest Institute for Perishable Information Center (PIPIC) is not able to supply entire books due to copyright restrictions. There are, however, some new publications worth looking at for your own collections. The following list is not meant to be exhaustive. Copies may be available in local libraries or purchased either from the publisher or through book sellers in your own country.

van den Bor, Wout (ed.) *The Art of Beginning: First Experiences and Problems of Western Expatriates in Developing Countries with Special Emphasis on Rural Development and Rural Education.* Wageningen, Netherlands: Pudoc, 1983. 174 pages. ISBN: 90-220-0817-7.

Branch, Alan E. *Economics of Shipping Practice and Management.* London and New York: Chapman and Hall, 1982. 242 pages. ISBN: 0-412-23580-3 and 0-412-16350-0 (paperback).

International Trade Centre. *Export Product Development.* Geneva: International Trade Centre UNCTAD/GATT, 1979. 159 pg. (Available free to developing nations from ITC, PO Box 30, CH-1211, Geneva 21, Switzerland.)

International Trade Centre. *Introduction to Export Market Research.* Geneva: International Trade Centre UNCTAD/GATT, 1978. 257 pg. (Free to developing nations from ITC, PO Box 30, CH-1211, Geneva 21, Switzerland.)

International Trade Centre. *ITC Core List: Basic Documentation for Trade Information Services.* Geneva: International Trade Centre UNCTAD/GATT, 1982. 220 pg. (Free to developing nations from: ITC, PO Box 30, CH-1211, Geneva 21, Switzerland.)

Plucknett, Donald L. *Small-Scale Processing and Storage of Tropical Root Crops.* Boulder, Colorado, USA: Westview Press, 1979.

Steinkraus, Keith H. *Handbook of Indigenous Fermented Foods.* Based upon papers submitted to the Symposium Workshop on Indigenous Fermented Foods, held in Bangkok, Thailand, Nov. 21-27, 1977. New York & Basel: Marcel Dekker, Inc. 1983. 671 pages. ISBN: 0-8247-1848-8. LCCN: 83-1941.

Wills, Ronald and Terry Lee. *Postharvest: An Introduction to the Physiology & Handling of Fruit and Vegetables.* Westport, Connecticut: AVI Publishing Co. 1981. 163 pages. ISBN: 0-87055-402-6. (AVI is for North America only. In most developing countries, it is available from Grenada Publishers in London. The University of New South Wales Press was the first publisher & is the Commonwealth distributor of this volume.) □

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From the PIP Information Center

First, a thanks to each of you for frequent help. Blue survey cards and green surveys and pink surveys and letters have all come pouring in. All of this feedback has been extremely valuable to the staff in the PIPIC. A very special THANK YOU goes to each of you who has sent us materials for the collections. The unpublished research studies, the papers delivered at local symposia, the theses, and the extension publications you have contributed have added immensely to the relevance of the PIPIC collection which now includes more than 6000 documents.

As you who are regular users know, there have been several changes during the last year. The amount of information appearing in the *New Titles* has been increasing. With the October issue of *New Titles* (volume 3, number 1) we are experimenting with a totally new format. We will be announcing complete bibliographic information for each entry (authors and sources). There is, however, a trade-off. In order to keep the length manageable, there must be fewer documents announced. If the authors and sources are to be announced each issue, only half of the materials arriving in the PIPIC will be announced. We will be asking your opinion of this change in the October *New Titles*.

There are now 450 regular users in 76 countries to whom we send some 700 documents each month. Since April, 1981 we have

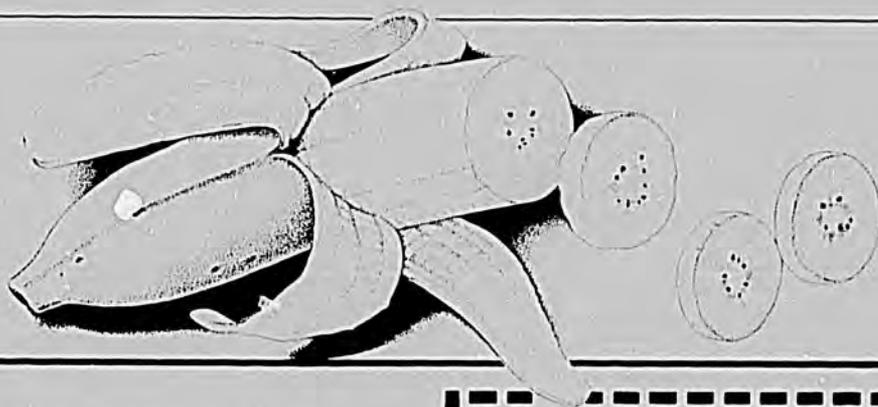
delivered nearly 13,000 documents to you. About 75% of them are photocopies. We have also sent in excess of 400 individualized bibliographies. You are encouraged to send us requests for subject printouts on whatever currently interests you. This will be particularly important if we discontinue listing all newly arrived materials in *New Titles*. Please, give us as much information as possible on the subject you need. A request for "storage" will give you in excess of 1160 documents from our files today. A more focused request for "Storage of Mangoes" or even "Storage of Tropical Fruits" will result in a more relevant list being sent to you.

This summer *Export Marketing: A Bibliography* was published. It is a listing of over 950 documents designed to introduce the field of export marketing, with an obvious focus on perishable crop exports. If you have not received a copy, please request one from PIP. If you have any comments on the bibliography (or on anything else) please feel free to write to us. By the way, while there are two addresses on PIP materials: 216 Morrill Hall and 314 Library, you can send any correspondence to either address. With only 9 on our staff, we will quickly get materials to the right place.

For those of you interested, here is a summary of the Client Surveys (the blue

postcards) for the last year. 45% of you did return one or more cards to us so we tallied 301 responses.

- The focus of the materials seems to be "adequate" with 2% says they were too general and 1% saying too specific.
- The usefulness of the material is quite high. 10% said 100% of the materials were relevant. Only 3% said less than half was useful.
- Only 7% of you judged copy quality to be less than acceptable. (The staff disagrees—we feel that the copies should be better and are investigating ways to improve them.)
- Delivery time was faster than expected for 23% of you. Only 2% arrived to late for usefulness. (Please let us know if you have a deadline beyond which materials will be of no use. We'll try to hurry things if we can. Also please note the 175 page limit for air mail. Short orders not only arrive faster, but are also usually filled before longer orders.)
- Half of the materials are used for research with 29% being used for teaching, 16% for extension, 1% for export businesses and 14% end up in libraries. (Totals are more than 100% since some have multiple uses.) □



PIP Consultant Roster Continues to Grow

Since its beginnings in 1980, PIP has contacted experts in all areas of postharvest loss prevention for placement on its computerized roster for possible consultancies. New names are continuing to be added as PIP grows and becomes more well-known.

The form that was sent out originally was updated in 1982 sent out again. While both sets of forms have been kept in the PIP computer, the revised forms give PIP more accurate information for responding to specific requests from developing country clients through the USAID Missions.

If you have not completed a new form and wish to do so, or if you have new information which you would like changed/added to the XPRT file, please complete the following form and return it to the PIP offices.

PIP ENCOURAGES YOU TO KEEP COPIES OF ANY INFORMATION THAT YOU SEND TO US. It is not practical for PIP to ask you to revise your forms every six months, but PLEASE send any new information pertinent to your consulting skills whenever it is necessary.

NAME _____

ADDRESS _____

_____ The above address is new.

_____ Please remove my name from the PIP roster.

_____ Please send me the new PIP XPRT Roster forms.

_____ Please send the PIP XPRT Roster forms to the following:

_____ This is new information (degrees, foreign experience, language capabilities, etc.), to add to my file.

(Please print clearly or type.)

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Training Activities

Specialists in solar dryer construction and food technology, Ken Hoyt and Marilyn Swanson, returned August 30, 1983 from two months at Visayas State College of Agriculture on the island of Leyte in the Philippines. There they trained extension and college faculty in construction and operation of solar dryers with supplemental heat sources and the processing, storage and rehydration of dried tropical foods.

Preliminary research on the construction and testing of the solar dryer with a supplemental heat source was done under the guidance of Dr. Louis Riesenbergs of the Department of Agricultural Engineering at the University of Idaho. (The March, 1984 *PIP News* will focus in depth on this project and PIP's follow-up activities.) □



Pictured above front row Robert Skiles, Richard Ohms, Ronald Curtis, David Arap-Some, Dudung Muhidin, Marc Mandari; middle row DeoNath Yadav, Paulette George, Tayseer Assi, Ponniah Sivapalan, Kent Parham, Ana Victoria Román, Djajeng Sumangat, Pierre Fontaine; back row Raymond Miller, Lou Riesenbergs, Robert Julian, and Ken Hoyt. Not Photographed: Kehinde Agbaje and Juvenal Kabilligi.

In Memorium

The PIP staff was saddened recently to learn of the sudden death of Dr. Gordon Yaciuk of IDRC. Dr. Yaciuk was highly respected in many nations - his intellect, enthusiasm and good humor will be missed.

Recent PIP Short Courses

A five-week training program in Postharvest Loss Reduction of Perishable Crops was conducted at the University of Idaho in Moscow and its research stations during September 12 through October 14, 1983 for international participants. The course, sponsored by USDA/OICD Programs, was conducted by the Postharvest Institute for Perishables and

the International Agricultural Programs Office. There were 11 participants representing 10 countries: Nigeria, Nepal, Indonesia, Belize, Jordan, Kenya, Costa Rica, Sri Lanka, Rwanda and Burundi. The course included 3 weeks of on-site visits in Idaho and Washington as well as coursework on the campus of the University of Idaho. □



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