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**POSTHARVEST INSTITUTE FOR PERISHABLES**

REPORT ON WORKSHOP  
REDUCTION OF POSTHARVEST LOSSES

by

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GTS Report No.  
PIP/Panama PH Course/Oct. 86/No. 81



**University of Idaho**

in cooperation with  
**United States Agency for  
International Development**

Report on Workshop  
Reduction of Postharvest Losses

Presented by

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## Report on Workshop

### REDUCTION OF POSTHARVEST LOSSES

Presented in Panama

By

Miguel A. Jiminez and William E. Bolton

January 26 - February 6, 1987

#### Introduction

A two week long workshop on "Reduction of Postharvest Losses" was offered at Alanje, a small village located about 25 miles southwest of David, Panama. Both David and Alanje are in the Province of Chiriqui, which borders Costa Rica. According to Ministry of Agriculture (MIDA) personnel, the workshop was transferred from David to Alanje in order to accommodate participants who could not commute every day. In addition, Alanje had an inexpensive dormitory and eating facilities. However, during the first week only four of the students used such accommodations, and the number decreased to only two the second week. Most of the participants preferred to go home at the end of the day.

The total number of workshop participants was small (14 men and 1 woman), and did not represent a cross section of the agribusiness sector as requested by the trainers. Nine of the participants were employed by MIDA. The person doing the recruiting, a MIDA employee, commented that 25 invitations were sent out early in January, and all of them were accepted. However, at the opening of the training course 10 of the prospective participants did not show up.

The training site was spacious, well illuminated and air conditioned. It had armchairs, a blackboard, a flipchart stand and audio-visual equipment (16mm film projector, Hi-Fi sound speakers, slide projector, movie camera and a large screen). All this equipment had to be moved from David each day, as it could not be left in Alanje for security reasons.

Hot lunches and break-time refreshments were served each day, along with

breakfast to those who stayed in the dormitory.

Secretarial assistance (typing and duplicating) was available, but MIDA's budget for copy paper was soon exhausted. The instructors had to purchase copy paper from a local store. The material, in English, was translated into Spanish, and the same was done with video cassettes used in connection with the slide presentations.

The methodology used for the workshop consisted of short lectures, demonstrations, case studies, and, especially, problem-solving situations identified by participants. The "small group" technique was employed almost daily, along with films, slide shows, video programs, etc. The audio-visual materials sent by PIP and the USDA/OICD/ITD were very appropriate for the course and well received by the participants.

Daily attendance was very good, and participants showed genuine interest in the subjects discussed. Handmade posters were displayed in the classroom after each lecture so that the participants could take notes if desired.

A completed set of the course outline was given to each student. Extra sets were distributed to: a) MIDA's training office at David, b) USAID Panama, and c) USDA/OICD/ITD/Washington.

### Field Trips

Two scheduled field trips consisted of a one-day visit to the Boquete area and a one-day visit to the Cerro Punta area. The two field trips were well organized by MIDA's training office, which arranged transportation and luncheon details as well.

At Boquete, a visit was made to an agricultural cooperative, whose director addressed the group on the training course. The co-op's crop expert gave a short talk. Dr. Mark Gaskell (Rutgers University), who is presently under contract with USAID Panama, was present and explained his solar drying work with onions and displayed the unit he designed and was testing. Other sites visited at Boquete were: an onion field equipped with a simple solar dryer,

a lettuce harvesting operation, an experimental asparagus production plot, and a fruit preserves plant (the owner participated in the workshop).

The Cerro Punta visit included a stop at IDIAP laboratories (the technical branch of the Panamanian Ministry of Agriculture). The laboratory director showed the facilities and explained the type of work done by his staff. The visitors also spent time at a cold storage facility donated to Panama by the German Federal Republic. Operations and maintenance procedures were explained. Other sites visited were as follows: a) a cut flower and florist greenery business, b) a strawberry packing house which is equipped with small refrigerated trucks for transporting to Panama City, and c) a modern french-fried potatoes plant that supplies nine McDonald's fast food outlets and other establishments in Panama City.

### Evaluation

The students conducted an evaluation of the workshop at the end of the first week. The results showed their enthusiasm and interest in the subjects presented as well as some comments regarding the quality of noontime meals served.

The final evaluation was not made due to unforeseen circumstances. However, questionnaires were left in the charge of Dr. Jack Traywick (USAID liaison in David), who promised to have them filled out by the workshop participants. He will then send them to USAID Panama City. This material will be forwarded to Ms. Veronica Priddy, USDA/OIGD/ITD, Washington, D.C.

### Closing Ceremony and Summary

The closing ceremony was attended by MIDA's Regional Director at Chiriqui, Ing. Said Diaz, as well as other guests from David. Copies of the paperback book titled Tu Comida y Tu Salud (Your Food and Your Health) by Traywick and Traywick were graciously presented to each participant by the authors. A special luncheon was served and a movie was filmed during the presentation of certificates. Complimentary remarks were made regarding the USDA certificates received from Washington. The recipients were particularly impressed with the

gold seals and blue ribbons. Short speeches were made by MIDA's Regional Director, the two instructors, and one of the workshop participants chosen from among the group of students.

In summary, despite some minor difficulties encountered prior to starting the training course, the participants learned methods for reducing postharvest losses along with new business strategies and the objectives of the course were fulfilled. The objectives of the course were for participants to gain an understanding of the following areas:

1. Improved handling of fresh produce
  - Factors that contribute to postharvest losses
2. Postharvest in-field handling and transport
3. Cleaning, grading and packing
4. Storage and transportation
5. Developing quality control and maintenance programs
  - For establishing quality control systems
  - For training personnel
6. Understanding distribution and marketing systems
  - Domestic
    - . Wholesalers and other middle men
    - . Different retail outlets
    - . Seasonal over-production
  - Export
    - . Regulations, restrictions, tariffs
    - . Promotion and market penetration
    - . Negotiation of purchase/sales contracts and claims
7. Continuing research to improve agronomic, postharvest and marketing practices

## COURSE STRUCTURE

### Monday, Jan. 26

8:30 - 10:00	Registration
10:00 - 11:00	Welcome & Introductions
11:00 - 11:30	Factors that contribute to postharvest losses/M.A.J.*
11:30 - 1:00	Lunch
1:00 - 2:00	Continued (Factors that contribute to Postharvest losses)
2:00 - 2:30	"Fruit Salads of the World" - slides w/audio
2:30 - 2:45	Break
2:45 - 3:30	Continued (in-field, cleaning, packing, etc.)/W.E.B.*
3:30 - 4:00	"Melon Project Choluteca, Honduras" - slides w/comments

### Tuesday, Jan. 27

8:30 - 9:00	Storage, transportation and cooling
9:00 - 9:45	Systems for cooling - slides w/audio (portion of 80) discussions
9:45 - 10:00	Break - coffee
10:00 - 10:45	Form groups for workshop session covering numbers 1 and 2 in Course Objectives
10:45 - 11:30	General discussion of workshop
11:30 - 1:00	Lunch
1:00 - 2:00	Workshop sessions (numbers 3 and 4 in Course Objectives)
2:00 - 2:30	General discussion of workshop
2:30 - 2:45	Break
2:45 - 3:30	"Cooling Systems"; 80 slides w/audio
3:30 - 4:00	Question/answer session

\* M.A.J. refers to Miguel Jiminez; W.E.B. refers to William Bolton

Wednesday, Jan. 28

8:30 - 9:45      Quality control and maintenance programs - purposes  
(divided)

9:45 - 10:00     Break

10:00 - 10:30    Q.C. purpose continued, training, inspection & grading  
25 min. film

10:30 - 11:30    Question & answer on session above

11:30 - 1:00     Lunch

1:00 - 2:00      Packing - types & advantages

2:30 - 2:45      Break

2:45 - 3:30      Workshop sessions (number 5 in Course Objectives)

3:30 - 4:00      General discussion on above

Thursday, Jan. 29

8:30 - 4:00      Field Trip to Boquete; itinerary arranged in David the  
week of Jan. 20-24. Quality control in action, solar  
drying, new market penetration, visit to fields - harvest,  
pre-selection in-field packing, etc.

Friday, Jan. 30

8:30 - 9:45      Review field trip & discussion

9:45 - 10:00     Break

10:00 - 10:30    Solar drying - slides w/comments

10:30 - 11:30    Video tapes (2) & discussion

11:30 - 1:00     Lunch

1:00 - 2:00      Guide for handling perishable produce

2:00 - 2:30      Video

2:30 - 2:45      Break

2:45 - 3:30      Discussion of tape and guide for handling perishable  
produce/general discussion for subjects of week

3:30 - 4:00      Evaluation (first week - see evaluation survey of  
participants)

Monday, Feb. 2

8:30 - 9:45 Project design - producer to consumer/W.E.B.  
9:45 - 10:00 Break  
10:00 - 11:00 Workshop sessions (number 6 in Course Objectives)  
11:00 - 11:30 General discussion of above  
11:30 - 1:00 Lunch  
1:00 - 2:30 Presentation of individual problems as related to course  
2:30 - 2:45 Break  
2:45 - 4:00 Presentation of individual problems continued

Tuesday, Feb. 3

8:30 - 9:45 Grain, handling & storage  
9:45 - 10:00 Break  
10:00 - 11:00 Fumigation on silos, etc., slides w/audio  
11:00 - 11:30 Discussion on above  
11:30 - 1:00 Lunch  
1:00 - 1:30 Examples: presentation - agribusiness with national & international sales  
1:30 - 2:30 Workshop session for above & discussion  
2:30 - 2:45 Break  
2:45 - 3:30 Produce expositions & fairs  
3:30 - 4:00 Video tape & discussion

Wednesday, Feb. 4

8:30 - 4:00 Field trip to Cerro Punta; visit to Veprosa - potato processing factors, cold storage facilities and potato handling.

Thursday, Feb. 5

8:30 - 9:45      Field trip review  
9:45 - 10:00     Break  
10:00 - 10:30    Video presentations (2) USDA vegetable packing & grading  
10:30 - 11:00    Research - agronomic, postharvest & marketing practices  
                     slides w/comments  
11:00 - 11:30    Evaluation  
11:30 - 1:00     Grains - in-field; transport, handling, storage, losses,  
                     grain drying & grades  
1:00 - 2:00      Lunch  
2:00 - 3:30      Presentation of diplomas and close of course

Friday, Feb. 6

5:00 - 12:30     Return to Panama City  
12:30 - 2:00     Luncheon  
2:00 - 4:30      Final report & oral presentation to USAID

Saturday, Feb 7

10:00            Depart Panama for USA

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EVALUATION SURVEY (by participants)

	<u>Week One</u>		
	<u>Unsatisfactory</u>	<u>Satisfactory</u>	<u>Very Satisfactory</u>
Classroom/Facilities	—	<u>14</u>	—
Material Presented	—	—	<u>14</u>
Explanations	—	—	<u>14</u>
Subject Matter/Objectives	—	—	<u>14</u>
Instructors	—	<u>6</u>	<u>8</u>
Food/Quarters	<u>12</u>	<u>2</u>	—

	<u>Week Two</u>		
Classroom/Facilities	—	<u>15</u>	—
Material Presented	—	—	<u>15</u>
Explanations	—	—	<u>15</u>
Subject Matter/Objectives	—	—	<u>15</u>
Instructors	—	—	<u>15</u>
Food/Quarters	<u>1</u>	<u>9</u>	<u>5</u>