
PROEXAG II



EXPORT INDUSTRY TECHNOLOGY SUPPORT PROJECT (AGRICULTURAL COMPONENT)

TECHNICAL REPORT ON GREX'AN'S COMMERCIAL TRIAL SHIPMENTS
OF RAMBUTAN FROM PANAMA TO ENGLAND

PREPARED BY:

Marcos Moreno

THROUGH

Chemonics International Consulting Division
2000 M Street, Northwest
Suite 200
Washington, D.C. 20036

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REPORT ON THE RESULTS OF THE PROEXAG II, GREXPAN COMMERCIAL SHIPMENT TRIAL FROM PANAMA TO ENGLAND, 1992

Rambutan (*Nephelium lappaceum*), known as Mamon Chino, was introduced into Panama over 10 years ago. Two members of GREXPAN (Gremial de Exportadores de Productos No Tradicionales de Panama) have plantings of it in the province of Chiriqui, and it was in April of 1992 that one of them, Emilio Kieswetter, asked GREXPAN for help in obtaining information as to how to export it.

In May of 1992, GREXPAN, through PROEXAG II, brought three specialist consultants in the production of exotic fruits to Panama. They offered a seminar on the identification and production of several non-traditional orchards. They specified the following aspects for rambutan to be exported:

1. Only red or bright pink fruit.
2. Brix...12-15
3. Uniform ripeness in the panicle.
4. Loose panicles so as to avoid insect problems, especially "cochinillas harinosas".
5. Aril which comes off easily from the seed.
6. Small seed, not larger than normal.
7. Long or short hairs, but not damaged.
8. Less than 2% of the fruit with brown or black stains.

The plantings in Chiriqui were at the flowering stage. Once maturation had started, trees with favorable characteristics were marked. These were considered for future grafting of buds, a method suggested by the consultants.

As the plantings started to produce fruit, further possibilities of exportation were looked into, and the following stages were followed:

- I. Reviewal of price lists, and selection of the best markets.
- II. Availability of airlines towards those markets.
- III. Post harvest and packing investigation.
- IV. Elaboration of exporting costs.
- V. Elaboration of the infrastructure availability of pre-cooling, warehouse necessitites and refrigerated transportation.
- VI. Contact with brokers.

- VII. Contracting airlines.
- VIII. Coordination of technical assistance in carrying out the first shipment, crop aspects, classification, post-harvest treatment, packing and transportation.
- VIX. Communication with broker and follow up of shipments.

I. HISTORY OF LIST PRICES

A Data Base of Prices was used and it was possible to obtain rambutan sales information since 1989 in European markets. PROEXAG II provided information of the Canadian market and because of the good prices, efforts were concentrated on investigating this market.

II. AIRLINES

No direct routes exist from Panama to Canada, and due to rambutan's inadmissibility into the U.S.A. and the many complicated issues involved (USDA permit, transferring product from Kennedy to La Guardia airport, etc.), the Canadian market was eliminated.

Later, when it was decided to export to England, KLM was consulted for its rates and this airline provided the best alternative for shipping to the UK. KLM has two weekly flights out of Panama to Amsterdam and the cargo could be placed in cold storage rooms in Amsterdam awaiting the connecting flight to London. The cost of air freight for a minimum of 1,000 kilos was around \$2.05. A special tariff of \$2.50 was agreed upon for shipments of 500 kilos.

III. HARVEST - POST HARVEST - PACKING

The early morning hours are the best for harvesting. The fruit is cut and carefully placed in baskets lined with polyfoam. Care must be taken not to mishandle the fruit so as to avoid damaging it.

It is cut off the branch with pruning scissors always taking care to leave a bit of the stem on. Then it is selected by size, color and whether it has any physical damage (peduncle pulled off, blemishes caused by ants or due to fungus).

Once selected, post-harvest treatments were applied:

1. Washing with water/clorox at 0.01%
2. SEMPERFRESH liquid wax at 1.0%

In each of the three shipments, these post-harvest treatments were modified depending on the reports received from Francisco Stargardter/PROEXAG in London who inspected the first two shipments.

FHIA in Honduras provided the Semperfresh. Because it comes in powder form, it is very important to be sure it is completely dissolved so as to avoid lumps in the mixing tank.

The fruit is first submerged in chlorinated water, and drained well before applying Semperfresh. It is again drained

well so as to avoid packing the fruit while it is still humid. It is very important to pack uniform-sized fruit in each box.

Carton boxes were decided upon as suggested by Andy Medlicot/FHIA. PROEXAG recommended loose packing. Distribuidora de Productos de Papel was the carton box factory that offered the best price for a small order of boxes. The following logo was chosen with red letters:

**EK'S TROPICAL EXOTICS
PRODUCT OF PANAMA
2 KG. NET WEIGHT**

1,000 small boxes and 15 "E" containers were ordered. "E" containers are carton boxes with the following specifications:

BOTTOM:

Size: 38.6875 X 28.625 X 25.8125 INCHES

Test: 275

TOP:

Size: 39.125 x 29.0625 x 5.125 inches

Test: 200

The small boxes came in bulks of 25 each and had to be assembled in the field.

The fruit of the first shipment was placed in "punnets" or plastic baskets and inside plastic bags which had 25 perforations each. Six punnets were placed in each carton box. Each punnet held approximately 9 fruits.

Polyfoam sheets were placed inside the "E" containers. 1/2 inch polyfoam allowed for a total of 54 boxes inside the "E" containers.

IV. COST ESTIMATE

Budget costs of packing, local and international freight, harvesting, packing and marketing had to be obtained. Based on these costs and the prices quoted in the English market, shipping to London seemed feasible. Following are the costs calculated for a 2-kg. box of rambutan sent to London:

INTERNATIONAL TRANSPORTATION	\$5.00
PAPER	\$0.14
BOX	\$0.63
FRUIT	\$2.40
LOCAL TRANSPORTATION	\$0.20
BAGS AND MISC.	\$0.12
M/O PACKING	\$0.25
REFRIGERATION	\$0.05

TOTAL	\$8.79

V. PRE-COOLING, REFRIGERATION AND LOCAL TRANSPORTATION

The pre-cooling stage was the most difficult to work out. The producers did not have refrigerated rooms. Those available in Boquete, Panama, (COOHMERC) were too far away, and IMA's installations in David, Panama, were completely abandoned.

Refrigerated trucks was another problem as the availability of refrigerated transportation from Chiriqui to Panama did not coincide with the availability of flights to Europe.

"E" containers with previously frozen Gel Packs turned out to be the solution to the problem. There isn't a distributor of "Gel Packs" in Panama, but some were obtained through a distributor of veterinary products - Hoestch of Panama.

Upon the cargo's arrival from Chiriqui at Tocumen airport, it was immediately placed in KLM's refrigerated room until the flight's departure. KLM explained that the temperature while in flight would be around 8 C, and the airline was instructed to maintain the rambutan compartment at 10 C.

VI. CONTACT WITH BROKER

Francisco Stargardter provided a list of European brokers of exotic fruit, and Wealmoor Ltd. provided the best alternatives. Their brokerage fees were:

a. Commission of gross sales	10%
b. London airport fees	7 penicas/kl = \$0.13
c. Customs fees	30 LE = \$75.30
d. Cargo & distribution handling	15 penicas/kl = \$0.29

From this point on, communication between producer and broker was constant.

VII. CONTRACTING THE AIRLINE

KLM's has flights to Amsterdam on Saturdays and Mondays. It was decided to ship on Saturdays. 48-hr notice of reservation was given, and the airline was provided with the approximate weight, number of boxes, shipper and consignee. KLM proceeded to assign and prepare the Airway Bill.

The first shipment was taken to the warehouse by 9 p.m. Friday, but with the other two shipments it was handed over just three hours prior to flight departure.

VIII. LOCAL PROCEDURES

The documents required by the Panamanian Government should be prepared at least 48 hours in advance. A phytosanitary certificate is necessary and is provided by Sanidad Vegetal of the Ministry of Agropecuarian Development. If the producer makes use of an Export Rebate Certification (Certificado Abono Tributario or CAT), it is necessary for an officer of the

Ministry of Hacienda y Tesoro to inspect the shipment. The customs broker was provided with a sales receipt of the product in order to finalize the sale. The broker also provides a certificate of origin. All of these documents are required by Customs and must accompany each shipment.

COORDINATION OF TECHNICAL ASSISTANCE

Because of lack of experience of planting rambutan in the country, PROEXAG was able to provide a pilot project through GREXPAN in order to minimize the risks of exporting and thus promote the exportations. It was agreed upon to purchase the fruit from the producer at a reasonable price. The costs of local transportation, labor, packing, and international transportation were covered by the project. If at the end a profit was obtained, this would be given to the growers.

Knowledgable personnel were brought to Panama to help train personnel in harvesting.

RESULTS

Three shipments were made to London:

1.	July 4, 1992	144 boxes	288 kilos of fruit
2.	July 17, 1992	293 boxes	586 kilos of fruit
3.	August 14, 1992	108 boxes	216 kilos of fruit
	TOTAL	545 BOXES	1090 KILOS

FIRST SHIPMENT

The first shipment of 144 2-kilo boxes was placed in three (3) "E" containers with 48 boxes each. Temperature registers were placed in two of the containers in order to monitor the temperature from the moment it left Panama until it arrived at its destiny.

Boxes treated with both Semperfresh and clorinated water and only with clorinated water were sent. Six frozen Gel Packs were placed in each container; however, the fruit was not able to be pre-cooled since the IMA cooling room had not been repaired on time.

The containers were transported in a pickup at night and remained in KLM's cooling warehouse for approximately 12 (hours) before departure.

Upon checking the temperature before removing the containers from the cooling room, the temperature had barely descended because the containers had remained sealed.

THE LONDON REPORT OF THE FIRST SHIPMENT

1. The boxes treated with Semperfresh (SF) did not show much difference to those not treated with it. An excess of humidity was noted in those treated with SF. This humidity probably

contributed to the fact that deterioration was noticed on some fruit.

2. In the boxes with the fruit treated with SF, the fruit should not have been placed in plastic bags. This contributed to excess humidity.

3. The temperature upon arrival was 28 C, which contributed to the deterioration of the quality of the fruit.

4. The weight of each box was more than the 2 kilos specified on the label. This naturally meant there were too many fruits per box. The fruit had thus been packed too tightly which caused some of the damage by rubbing against each other.

5. Comparing this fruit with the Thailand variabilities in the market, the Panamanian rambutan was inferior in quality. The size was smaller and was not as sweet as that from Thailand. The fruit did not come off the pit as freely as for the Thai fruit.

6. The box in which it had been shipped was not of the best quality since it could not be closed again without needing adhesive tape.

SECOND SHIPMENT

The second shipment consisted of 6 "E" containers. Containers 1 to 4 contained fruit packed in bags which had been treated with chlorinated water, but not with Semperfresh. Container #5 contained boxes with 6 "punnet" type pre-packs in each. Container #6 contained boxes loosely packed (without perforated bags). Versus the first shipment, this one did go through the pre-cooling process.

THE LONDON REPORT OF THE SECOND SHIPMENT

1. There was little difference between the fruit treated with Semperfresh and that not treated with it.

2. The loose packing (without bags) had a much better appearance as there was not as much humidity as with the fruit in bags. The product was dryer, and thus less defects caused by fungi.

3. The punnet packaging was similar to that of the loose and did not contribute more to the fruit. Francisco suggested using loose packing in order not to increase the cost of the product, given the fact that the fruit was of inferior quality to that of Thailand.

4. As to weights, this time the weight was less than that specified on the label (2 kg).

5. The quality of the fruit was generally better than that of the first shipment. The fruit had a brighter appearance, its flesh was more easily removable from the seed and had a sweeter flavor.

6. In general, the second shipment improved in all aspects, with exception to the weight. The fruit arrived in a better state when loosely packed and treated with Semperfresh. The fruit not treated with Semperfresh, but loosely packed, also arrived in good condition.

THIRD SHIPMENT

The third and last shipment consisted of two "E" containers with 54 boxes of 2 kilos in each.

The total amount shipped was the smallest of the three shipments because the fruit of one farm was late in ripening (Emilio Kieswetter), and there wasn't enough good quality fruit for shipping. However, since a commitment had been made with the broker to ship regularly, it was decided to ship if only a small quantity. After this 3rd. shipment, shipping was discontinued as Mr. Kieswetter's rambutan was delayed, and the size of the fruit was too small.

We explained our situation to Wealmoor who was understanding. We had established a quality in the market, and it had improved with each shipment. To start with inferior quality not only would bring in small returns but it would create a negative image for Panamanian rambutan.

THE LONDON REPORT OF THE THIRD SHIPMENT

This last shipment was not inspected by Francisco Stargardter but Wealmoor notified him that it had been the best of the shipments. This time the weights were correct; however, the sales were slow because of summer vacation.

COSTS PER 2-KILO BOX:

	1ST. SHIPMENT	2ND. SHIPMENT	3RD. SHIPMENT
FRUIT	\$1.60	\$1.13	\$1.37
LOCAL TRANSPORTATION	0.56	0.53	0.74
INTER. TRANSPORTATION	5.29	4.95	6.25
PACKAGING	0.31	0.18	0.17
FOAM	0.21	0.15	0.14
"E" CONTAINER	0.12	0.12	0.12
BOX	0.29	0.29	0.29
BAGS	0.02	0.02	0.00
TAPE/MISC.	0.02	0.02	0.05
LOCAL CUSTOMS	0.32	0.16	0.44
PHYTOSANITARY CERT.	0.06	0.02	0.07
REFRIGERATION	0.00	0.08	0.22
PUNNET BASKETS	0.00	0.08	0.00
TOTAL	\$8.80	\$7.73	\$9.86
IN LONDON:			
GROSS SALES	\$9.75	\$10.51	\$11.09
10% COMMISSION	(0.97)	(1.05)	(1.11)
LONDON LOCAL COSTS	(1.17)	(0.82)	(1.73)
TOTAL	\$7.63	\$8.64	\$8.26
LOSS/PROFIT	(1.18)	0.87	(1.94)

The above table shows the cost of each shipment. It does not reflect the total costs incurred because technical

assistance, communication, banking transactions and costs of all dynamics implemented to gather the required information are not included. However, it does show that the cost per unit is very sensitive to the volumes sent, because of transportation costs.

Even though the third shipment received a better price, because it was the smallest, the cost per box increased. The increase in sales prices reflects an improvement in the quality of the product more than an increase in the market's prices. Undoubtedly the experience of each shipment helped to contribute to all aspects. The second shipment reflected more realistic costs although some expenses can be decreased in the future with better control and planning on larger shipments (1,000 kilos). Better returns can be expected. Air freight alone can be decreased from \$2.50 per kilo to \$2.05.

Local transportation can also be decreased. During these shipments, special trips were made in order to take the containers to the airport, even with only small volumes. The trucks traveled with the cargo to Panama but returned empty. In the future less costly transportation can be contracted and using only one-way service.

The use of "E" containers could be eliminated if shipments of a minimum of 1,000 kilos are planned and using "LD3" containers. "E" containers can only be used to transport the product from Chiriqui to Panama. These units can be used over and over locally instead of wasting them with each exportation.

Placing a larger order of boxes could also reduce the unit price. A better design could be thought of so as to eliminate the need and added cost, of using tape.

The efficiency of the workers in classifying can be improved upon in order to reduce the cost of packing.

RECOMMENDATIONS

1. In order to continue increasing rambutan exportations, it is necessary to introduce improved genetic material. The varieties that are available in Panama at present are inferior to those of Thailand. All the trees identified as "masculine", with small fruit, acidic flavor, and other characteristics not desired for exportation, should be cut and grafted with selected materials.
2. It is necessary to prune the trees after harvesting in order to better shape the trees. This will allow for more vigor in the plant and greater fruit production.
3. Irrigation is necessary for the fruit to develop abundantly. A noticeable difference was observed between the planting that had been irrigated, and that which hadn't.
4. The size of the fruit is directly related to a good fertilization program. There is a large quantity of rambutan in the country, but not of large and uniform fruit.
5. The distance between plantings has to be regulated. In some of the present plantings, the trees must be planted sparsely in order for them to develop better.
6. Improve refrigeration alternatives in order to carry out

pre-cooling, and also work on more refrigerated transportation alternatives.

7. Communication with the broker is very important. The relationship between broker and producer must be one of mutual confidence. The broker's comments as to the state of the product upon arrival is very helpful in order to continue improving. It is very helpful to have a broker who is familiar with introducing new products. It is even more preferable when the broker is willing to work with the producer, and for both to solve the obvious obstacles that exist in a learning stage.

8. Quality is the basis for success. It is imperative to have quality consistency and always send large and uniform-sized fruit.

9. Rambutan prices in England have remained stable during the months from June to September. If rambutan is exported next year, it is necessary, however, to keep in mind that August is vacation time in Europe. During this month sales are very slow. This must be taken into account so as to avoid the peak of Panama's harvest taking place that month.

CONCLUSION

Exporting rambutan from Panama required a great effort. Although the returns did not reflect large profits, it did prove that exporting the product can be profitable if the necessary corrective measures are taken. The help that organizations like GREXPAN, and support help from projects such as PROEXAG can offer, are essential to successful development of non-traditional exportations such as rambutan.

An average producer would not have been able to gather so much required information in a short period of time about the production, harvesting, packing, marketing, etc. The producer would not have had the resources nor the contacts to carry out such a trial as this, which allowed for amply learning the necessary steps to develop the exportation. The English market turned out to be an interesting one. For the future there is a lot to be developed. There are other countries besides England that could also be explored, especially now that experience has been learned in the handling of the product.