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**REVIEW OF WINDWARD ISLANDS BANANA  
INDUSTRY'S FINANCIAL AND ECONOMIC  
STATUS, AUGUST, 1981 AND PRINCIPAL  
TECHNICAL ASSISTANCE, FUNDING AND  
ORGANIZATIONAL REQUIREMENTS FOR  
FINANCIAL RECOVERY UNDER CHANGING  
MARKET CONDITIONS**

*report to*

**U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT/  
BARBADOS AND THE WINDWARD ISLANDS  
BANANA GROWERS ASSOCIATION**

**CONTRACT NO. AID/SOD/PDC-C-0390,  
WORK ORDER NO. 4**

**C-86393**

**NOVEMBER 1981**

Arthur D. Little, Inc.

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FINANCIAL AND ECONOMIC STATUS, AUGUST, 1981  
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## i. Definitions

- Monetary values in this report unless otherwise stated are in Eastern Caribbean dollars. Thus for example any reference to U.S. currency would appear as US\$ (1 US\$ = 2.7 EC\$) and English currency appears as £ (1£ = 4.96 EC\$).
- Units used in measuring banana production include both metric tons (2205 lbs.) and long tons (2240 lbs.). The former is used by Winban in estimating amounts to be harvested (production) in contracting for shipments with Geest. The latter is used by Geest to report on amounts shipped and thus being paid for. In the information available from the industry, it is not always clear which base is being used. Every effort is made in this report to establish a difference.
- The term "banana production" is rather loosely used throughout the industry. Throughout this report this term will be used to refer to amounts harvested by farmers. The term "Exportable Production" is used in this report to refer to banana production purchased by the Banana Growers Associations and represents production for which growers are paid. The term "Production Shipped" is used in this report to refer to exportable production received by Geest at the dock and represents production for which the Associations are paid for. In referring to "yields", this report will use "banana production" per acre as a base.

- Banana shipments in general are made on a weekly basis. Shipment information is grouped into four week shipment periods, of which there are 13 in a calendar year. Frequently in this report this information has been reorganized and presented on a monthly basis to allow for the use of a common and well understood reference scale, the calendar year. Months and periods are specified where required.
- An average or typical production year is hard to establish for the industry due to the number of economic and natural forces impacting on it. Nevertheless to make estimates of physical volumes and cash flows in order to quantify the relative importance of recommended programs, a realistic acceptable base is needed.

Therefore, this report uses as a base the production shipped (approximately 127 thousand long tons) from the Windward Islands in 1978 (the last year in which there was no major natural disaster) (the last year in which there was no major natural disaster) adjusted for production shipped from Grenada (approximately 17 thousand long tons). The typical production year for the banana industry addressed by this report, is represented by 110 thousand long tons (246.4 million pounds) of production shipped. (Monthly shipments for 1981 have been running slightly higher than for similar periods in 1978; not a surprising fact given that large amounts of fertilizer were applied under the hurricane reconstruction program and plant population density was reduced by the hurricane, increasing plant response to the fertilizer applied.

- The industry is basically a price taker, and as such has little impact on the market price. The trend of banana prices (green market price) in the United Kingdom (U.K.) market over the past 10 years has been steadily upward, nevertheless the exchange rate of the Eastern Caribbean dollar to the English pound has recently executed strong downward pressure on the price received by the industry. Winban expects that the upward trend of the Green Market Price (GMP) will continue and that the exchange rate will stabilize at a level which will result in an average f.o.b. price to the industry of 40¢ per pound of bananas, over calendar years 1981 and 1982. This price is used as a typical representative base for valuing production in this report. Thus, while these volume and dollar figures do not represent a particular period, they do provide realistic estimates which allow for comparing the relative size and impact of options facing the industry. The figures used for this purpose in this report should, therefore, not be taken as precise predictions of the industry's future sales and profits.
- Frequently data for St. Lucia (a base case) is used to illustrate problems facing the industry or the impact of recommendations being made. In general the problems faced by the three BGA's in the industry have similar characteristics, and differ only in level of intensity. Thus the solutions which are to be sought and the steps which must be taken to achieve them are also similar. It was not possible or necessary to review in detail the specifics of each Island Association. Where specific adjustments to the base case are required, the necessary observations are made.

## 1.0 EXECUTIVE SUMMARY, FINDINGS AND RECOMMENDATIONS

### 1.1 Background and Objectives

In August of 1981, the banana industry on the Windward Islands of Dominica, St. Lucia, and St. Vincent faced insolvency due to: (a) the rapid decline of the exchange rate between the English Pound (£) and the Eastern Caribbean Dollar (\$); (b) the maintenance of high payment levels to growers; and (c) certain management and operational differences which have been allowed to prevail over time.

Arthur D. Little, Inc., was asked by USAID/Barbados and the Windward Islands Banana Growers Association (Winban) to assist them in preparing an evaluation of the current economic, financial and management status of the industry on the three islands. Arthur D. Little was to concentrate on the broad questions faced by the industry, in view of the impending financial and economic crisis. In essence the objective of this report is to provide an expert evaluation of the up-to-date economic, financial, and business management status of the banana industry on the three islands, in light of the market conditions and farmer payment levels which have prevailed since the beginning of this calendar year.

### 1.2 Scope and Approach

The scope of consulting assistance to USAID and Winban consisted of four tasks. These tasks were addressed during two separate field visits to Winban headquarters in St. Lucia during the months of August and October. The first field visit was used principally to address Tasks 1 and 2, which focussed on the economic and financial situation of the industry. The second field visit concentrated on Tasks 3 and 4 which focused on prevailing management deficiencies.

The first task undertaken by the Arthur D. Little consultant team, in conjunction with Winban management was to review the current financial and economic circumstances of the Banana Growers Associations (BGAs) on the islands of Dominica, St. Lucia and St. Vincent. The updated information required for this task was collected by Winban during an auditing trip, with an accountant of Peat, Marwick, Mitchell and Company (PMMC), completed in early August. The Arthur D. Little consultants reviewed the impact of the market conditions, including the green market price and the exchange rate, and of the grower payment levels adopted by the BGAs, on the present financial and economic crisis. The implications of the Financial Projections prepared by BGAs for the period September 1, 1981, to June 30, 1982, were examined with specific attention to the financial consequences of (a) maintaining the current practices, (b) adjusting net grower payments (c) borrowing and infusing new funds through donor action.

The second task undertaken by the consultant team was to review present BGA practices in the management and operation of the "pre-paid" cess accounts and the newly established Input Revolving Fund (IRF). The current status of IRF accounts was reviewed, including collection procedures, current bank balances and projected balance increments. Based on the current status of the IRF accounts, the consultants examined past and future fund collections and evaluated the appropriate use of these accounts in light of the industry's present financial and economic crisis.

In addressing the third task covered by this report, the consultant team examined the present input procurement, supply and distribution system in

particular for fertilizer. The capability of the system to presently finance the procurement of recommended fertilizer levels was also examined. In addition the capability of the system to accommodate individual grower's account balances and an "on-lending" program was examined. The impact of fertilizer cess deductions and costs of production on returns to farmers was reviewed. Particular attention was paid to options available for reducing input costs and increasing returns to growers, while maintaining present levels of production.

The final and fourth task addressed by the consultant team was that of identifying technical assistance, funding and industry organization requirements needed for the BGA's to recover financially and remain viable under anticipated changing market conditions. The role of Winban in relation to the BGA's in providing financial and managerial guidance and assistance was reviewed. Specifically addressed and detailed was the necessary information flow required between the different organizations in the industry, to strengthen its ability to forecast, carry out financial analysis and long-range planning, as well as assess the impact of market price changes on BGA operations. Information presently and regularly available from Winban, the BGA's and Geest was reviewed. Procedures were reviewed for strengthening production estimates, as a means of reducing "left-on-bank" fruit; decision rules for setting cesses and growers' payment levels in response to changes in market prices were examined, as were procedures for the management of fertilizer stocks to ensure a distribution responsive to industrial grower's "pre-paid" cess accounts.

### 1.3 Principal Findings

The Windward Island banana industry is facing insolvency and will require some refinancing, as well as strengthening of its present organization, if it is to survive in viable form into the future. While the present situation was brought to a point of confrontation by a long and steady drop in the exchange rate (EC\$ to £), ample time was available to assess its impact, and viable alternatives to the course events have been allowed to follow were available and could have been implemented. We were deeply concerned over the "business as usual" attitude which appeared to prevail among those interviewed and the willingness to accept the view that forces external to the industry, and therefore out of its control, were the major cause. In part we attribute this attitude to the unbelievable fact that the financial control system of the industry had not identified a financial crisis prior to the Winban/PMMC auditing review of early August, carried out in support of our visit. We also attribute this attitude in part to the decision making system within the industry, in which accountability is so murky that no effective responsibility structure exists. A subtle game of shared responsibility is played between BGA Management, BGA Boards and Island Governments to the point that divided responsibility is essentially no ultimate responsibility.

Throughout the industry there is an absence of the relevant timely flow of information from management required for responsible decision making by growers, Boards and Governments. Costs in general are not known and are out of control. Often misinformation due to a total lack of information by design and by default, is the rule. The grower, whose interests all parties (Managements, Boards, and Governments) feel they are responsible for guarding, is the

last entity to receive information or an exploration of the situation. It is this claimed sense of responsibility that has resulted in a concerted effort by the island Governments to gain control of BGA boards, without having clear firm policies on the industry.

Managerial weaknesses, and particularly financial management weaknesses, are probably the major cause for the occurrence of the situation described above, as will become evident in the report. This lack of management strength has allowed the industry to concentrate more on techniques for maximizing production rather than on stabilizing the industry's profitability. Financial policies adopted have resulted in the unauthorized expenditure of grower/donor funds held in trust. Managerial weaknesses are not new and have been well documented in the past. We note that in 1975, St. Lucia and Dominica were refused loans from the Caribbean Development Bank (CDB) totaling approximately \$1,000,000 due to BGA unwillingness to accept conditions relating to organizational change. In a 1976 report to Winban by UJG consultants, The Windward Islands Banana Industry, many of the weaknesses and problems which prevail today and have contributed to the impending insolvency, were identified and solutions were recommended. Yet implementation action is still lacking today.

In a private sector insolvency of the nature present in Dominica and St. Lucia, a court appointed Trustee in Bankruptcy would customarily be appointed to furnish the necessary leadership for effectively dealing with the crisis at hand. In this situation it does not appear likely to us that creditor action will bring about court intervention. Therefore, we believe the leadership vacuum which exists will prevail and a patchwork of short-term

decisions will be made, robbing the industry of any potential that may exist for long-run viability.

Considering the hazardous financial situation of the industry, the progressive development of the following scenario could easily take place:

1. Production and productivity levels decrease as the procurement and supply of fertilizer and other inputs by BGA's dry up. Meanwhile, scarce funds continue to be directed toward maintaining grower payment levels and BGA operating costs.
2. Grower margins continue to be squeezed, prompting the larger growers, who account for 40-45% of production and face high labor costs, to abandon their fields, laying off increasing numbers of workers.
3. As production falls, the fixed costs per pound of banana packed and shipped will rise at an increasing rate, squeezing the margin of the small and medium farmer.
4. The quality and size of shipments become unacceptable to Geest and regular shipments are reduced.
5. The supplies of Windward Island fruit become sporadic, so that the UK government finds it increasingly difficult to retain the protected market status, without which the industry collapses.

Rather than concentrating on treating the symptoms, that is, solving each of the problems encountered, this report concentrates on the requirements for the industry to achieve an acceptable and financially viable condition. These requirements imply objectives, which in turn suggest strategies and programs. Once the requirements for the industry have been identified it is

possible to set priorities for all participants in the industry in order to make recommendations for necessary management and financial structures.

The first requirement is to establish some industry leadership. In our judgement, Winban represents the logical base from which crisis leadership can come. The effectiveness of Winban in this role will first require BGA (industry) acceptance of its crises intervention authority. In addition, Winban will require some modifications in the composition of its professional staff, as well as short-term technical assistance to increase its capability commensurately with its expanded role.

Simultaneously the industry must confront two basic decision areas impacting on long-term performance. The first concerns BGA finances and the conflict between decisions based on the integration of business, financial and economic factors, as compared to decisions based blindly on socio-political factors. This conflict is particularly strong with respect to the minimum or floor price to be paid to growers. In addition it concerns the BGA's reaffirming their respect for the fiduciary trust concept, and turning their present banking and trust functions over to financial institutions, while concentrating on the physical marketing of production.

The second issue relates to the cost effective allocation of the limited resources available to the industry. This will require the prioritizing of possible action steps by adopting the concepts of strategic management. Simply, this means that industry management must adapt its priorities and activities to the strategies which are most important in achieving principal industry objectives. (This approach focuses on the banana industry as a total system rather than as a set of interrelated subsystems. See Table 1).

TABLE 1

EXAMPLES OF OPERATIONAL DEFICIENCIES IDENTIFIED WITHIN BANANA  
INDUSTRY SUB-SYSTEMS WHICH MAY MERIT FURTHER STUDY AS THE  
INDUSTRY REGAINS ITS FINANCIAL STABILITY

Input Procurement

- Inadequate funding
- Inadequate distribution of inputs
- Excessive number of out-of-stock situations

Production

- Permanent ratoon crops
- Husbandry/extension service quality
- Land tenure
- High labor costs

Harvesting/transport

- Quality control
- Scheduling
- Operating Management

Production Marketing

- Single product/single market constraints
- First market price set at the retail store
- High cost packing materials

Industry Management

- Responsibility Definition
- Forward planning
- Integrated, standardized information systems
- Price stabilization
- Disaster planning
- Credit extension
- Production forecasting
- Disaster Planning
- Shipping arrangements (Geest)
- Research

In addressing these two sets of concerns the industry should focus on, what in our judgment is its principal objective, that of regaining and maintaining industry financial health, over the medium term (5-7 years), under changing market conditions. Considering the expected increase in market competition as production in other producing countries increases<sup>1/</sup> and the comparative disadvantage, relative to these countries, faced by the Windward Islands due to high production costs, it would be unrealistic to state as an objective the realization of viability over the longer term or higher profits across the board.

Attainment of this objective would benefit the major industry participants. The Windward Islands would benefit from the political stability gained by the preservation of a major source of foreign exchange and employment. Banana growers and the labor they employ would benefit from an assured albeit modest source of cash income. Geest would benefit from a continued supply of fresh fruit tailored to its market. Industry creditors could refinance outstanding loans and re-incorporate a major industry into their financial activities. The international donor organizations would be able to focus loan and grant priorities to other sectors without fear of precipitating a major industry collapse. BGA and Winban management would have clear goals and feedback on their performance.

There are four major requirements which the industry must meet, to stimulate the complementary actions characterizing the financial stability status of the principal objective to be focussed on. These requirements and complementary actions are:

<sup>1/</sup> World Bank IRF Scheme, July 1980, and recent news report about Standard Fruit and the Government of Jamaica undertaking a joint venture to increase production by 170 thousand tons per year.

1. Production levels are maintained at close to present levels, allowing for a constant or growing volume of Windward Island fruit on the UK market. As a result,
  - a. The UK is encouraged to retain the protected market status for Windward fruit.
  - b. Socio/political stability in the Islands is preserved as the employment and foreign exchange earnings provided by the industry are maintained.
  - c. Geest's confidence in the continuity of supply is restored and continues to provide regular shipping service.
  - d. The industry can establish a system of scheduling and estimating production involving grower participation.
  - e. Alternative uses and markets for rejected fruit are developed, particularly through processing.
2. Industry operating costs are trimmed and maintained in line with f.o.b. revenue levels, such that:
  - a. The price level to the significant grower is high enough in the short run and predictable enough to warrant continued cultivation and harvesting.
  - b. The yearly peak of the price level is high enough in the longer run to warrant continued cultivation and harvesting. and improved production and harvesting methods.
3. The quality of fruit as delivered to the UK market continues to improve. As a result,
  - a. GNP rises as sales of premium fruit increase.

- b. A dual price system is established which provides an incentive to control quality from the field to the dock, raises the volume "shipped" by reducing rejects and losses, and reduces unit costs.
  - c. The industry's marketing operation becomes more cost effective.
4. Industry management re-establishes its financial responsibility.
- As a result,
- a. Trust accounts are established and maintained separately.
  - b. Books are kept current.
  - c. The market is maintained and reserves are built to deal with foreseen and unforeseen problems.
  - d. Accurate and uniform records on operations and costs are established and maintained.
  - e. A collection program for loans outstanding is established and enforced and a debt repayment program is undertaken.

#### 1.4 Technical Assistance, Funding and Organizational Requirements

Ten priority programs have been identified as providing the basis for industry's financial recovery. A first priority is the establishment of the Donor and Grower Input account as a means of ensuring that the input revolving fund monies are not dissipated into operating expenses and can be used as a means of supporting the industry's input requirements. Donor insistence that the terms of the grant agreement are respected is key to this effort. Funding requirements from outside the industry should not be required, and the organizational requirements are detailed in Section 3.3.

Second among priority programs is the establishment of a premium fruit program, which can increase annual revenue to the industry by some \$8.8 m. Details for the establishment of this program will require negotiation by Winban and Geest, possibly with input from BDD advisors at Winban. Some reorganization may be required in the handling of fruit packing. The cost of any modification at present packing stations would probably have to be donor funded.

Third among priority programs is the introduction of a double-layer field box which could increase revenue to the industry by some \$6.5 m dollars by raising the salable proportion of fruit harvested. Capital cost of boxes would have to be funded from outside the industry.

Fourth among priority programs is the introduction of a 39-lb carton and the resourcing of supplies as a first step in containing BGA operating cost increases. A study of both the effectiveness of this box and the resourcing possibilities will be required. Some reorganization of packing methods may have to be considered. The funding for this change would have to come from outside the industry. The savings to the industry could reach \$5-10 m dollars per year.

Setting up a program to skew production toward high price periods is a fifth priority, which could generate some \$4.6 m in extra revenue. It is clear that achieving this priority will not necessarily be quick and easy, nevertheless getting more of the small infrequent growers into the high price periods will increase revenue and income with little cost change.

Sixth among priority programs is finding productive uses for rejected bananas and determining means of adding value to the present production. This could offer alternative markets to the industry as well as alleviate

some of the time pressure presently found in the marketing of fresh fruit. A study of alternatives and funding would have to come from outside the industry.

Providing Winban and BGA boards with sufficient volume and price information to allow for meaningful GMP negotiation is a seventh priority, which can be achieved in part by requiring grower production forecasts with rewards and penalties. Just in savings from left-back and shut-out fruit, there are some \$3m to be to be reaped. Tying field box and fertilizer deliveries to information on production estimates could produce forecasts over 2-week, 3-month and 6-month periods. No direct donor action is required.

An eighth priority program is the identification of labor savings practices in the production of bananas. The trade offs of capital/labor would have to be evaluated by Winban, possibly with additional input from donor funded technical assistance. This program would directly benefit large growers who are most exposed by low price to abandoning production.

The placement of management advisors in each of the BGA's is seen as a ninth priority program which will require donor funding. It is important that these advisors be assigned as counterparts to BGA general managers and maintain a continuous liaison activity with Winban.

A tenth priority is the establishment of crop diversification programs and an extension service for the total agricultural sector in the Ministry of Agriculture. This will give these programs a more integrated impact and will reduce the cost burden to the industry of supporting its own programs. This will give BGA's the opportunity to reduce functions/services and thus operating costs. Donor assistance will be required in rebudgeting extension subsidies to integrate these activities into one service.

Funding from outside the industry will be required to set up grower payment levels set by a moving average method. Funds will also be needed to bring all industry books up to date and establish within the industry the capability to do this on a continuing basis. Funding may be required to cover projected deficits of BGA's while the Donor/Grower Input Account is fully established. All of the latter funding requirements can only be determined after reviewing the accounts of the BGA's as they presently stand. This activity should be easily carried out by the industry auditors.

## 2.0 REVIEW OF THE INDUSTRY'S CURRENT FINANCIAL AND ECONOMIC STATUS

### 2.1 Industry Structure

The banana industry on the Windward Islands of Dominica, St. Lucia and St. Vincent has an organizational structure similar to that illustrated in Figure 1. While this figure shows all of the major participants in the industry, the scope of this report is limited, and does not directly address the issues or activities which are particular to Geest and the fresh fruit market in the U.K. The focus of work being reported on in this document is the three grower associations (BGAs) which are responsible for the marketing of bananas on their respective islands and the provision of inputs and credit to their grower members. Growers (22,000 approximately), Winban, donors and banks are addressed only in relation to their impact on BGA operations and finances, and their concerns with BGA performance.

The industry on the islands of Dominica, St. Lucia, and St. Vincent, typically account for 86% (246.4 million pounds in 1978) of the banana production shipped from the Windward Islands to the United Kingdom. This production is collected, packaged and exported by the BGA's; 34% Dominica, 41% St. Lucia and 25% St. Vincent. As illustrated in Figure 2, the fruit is generally delivered (by the BGA or grower) from the field (in bunches or field boxes) to a boxing station (private or BGA owned) where it is inspected and de-handled. The fruit that is accepted is treated, packed and sent to the dock for delivery to Geest. Field packed fruit (about 20% of total production), however, is inspected and packed in the field and transported directly to the dock. Growers are paid for fruit accepted by the BGA and the BGA is paid by Geest for fruit accepted at the dock.

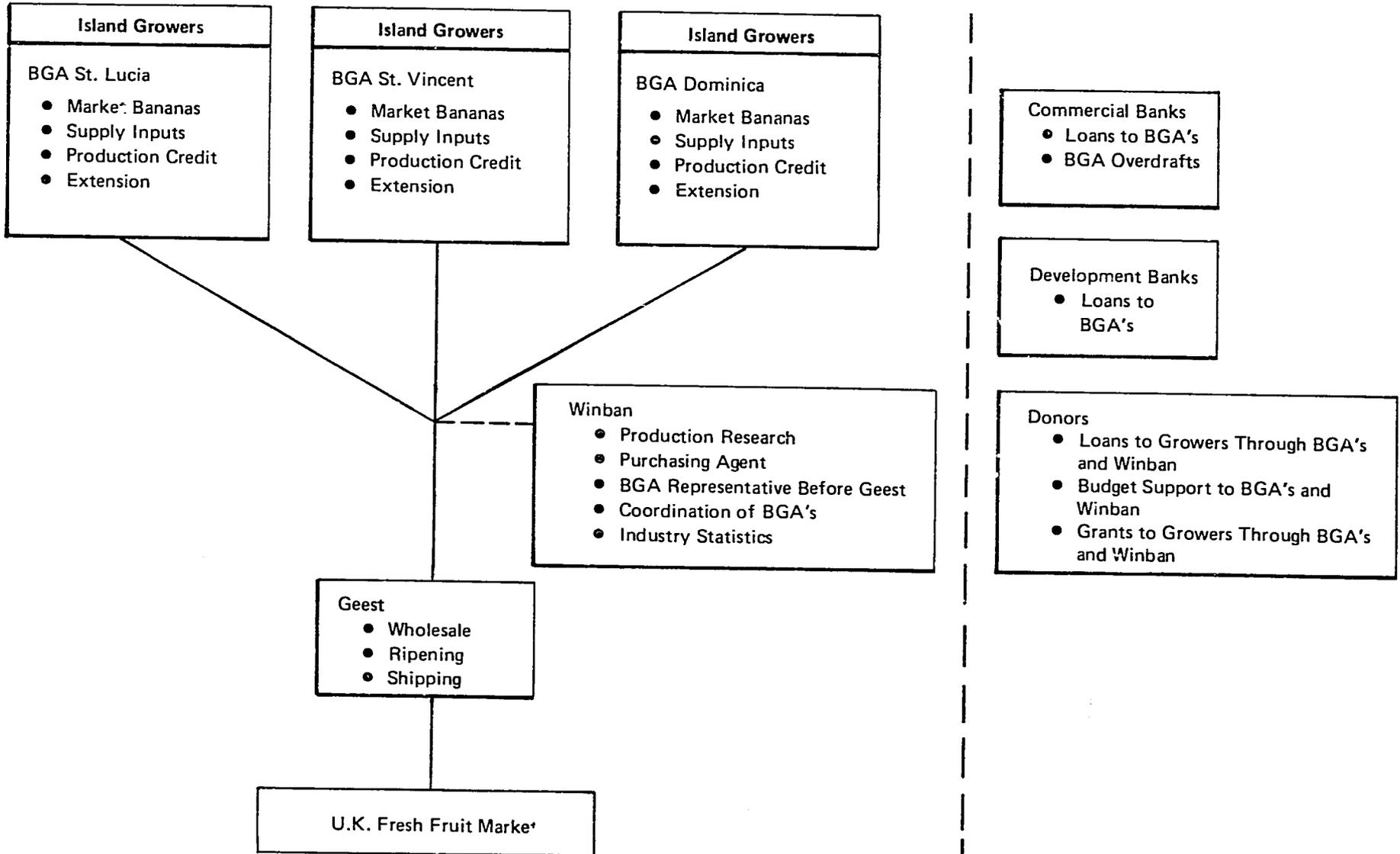
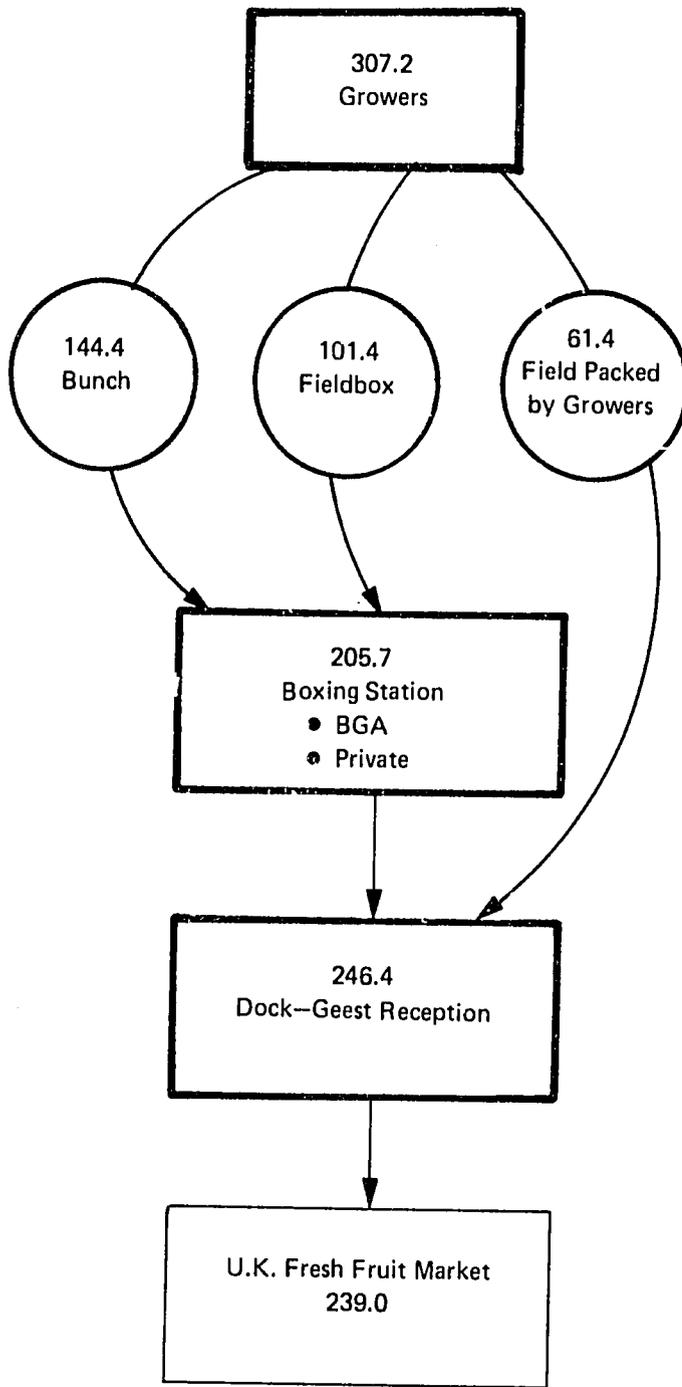


FIGURE 1 INDUSTRY STRUCTURE



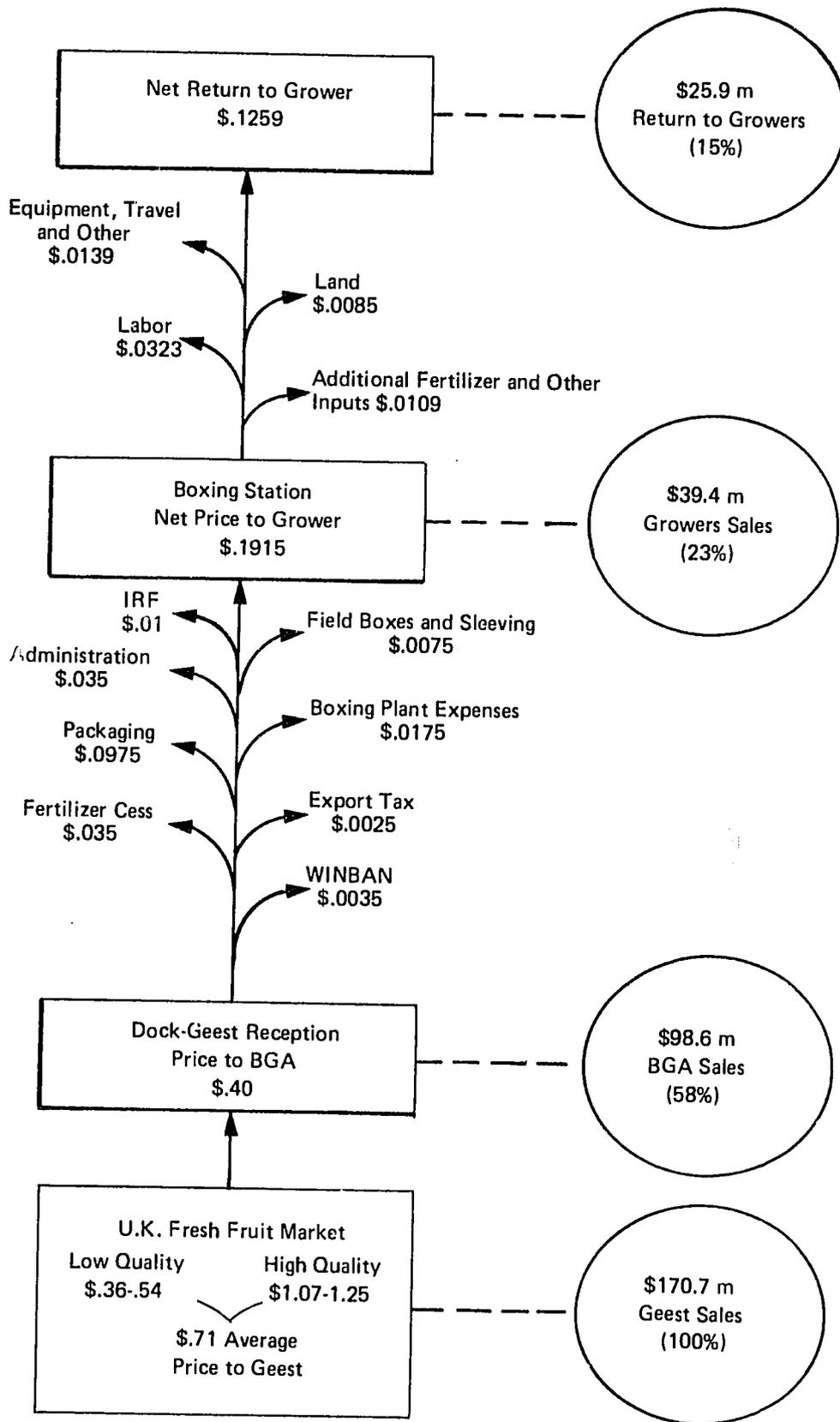
Key:  
 □ Major points in product flow  
 ○ Product handling methods

**FIGURE 2 PRODUCT FLOW FROM GROWER TO FRESH FRUIT MARKET IN MILLIONS OF POUNDS**  
 (Based on total shipments of 246.4 million pounds for 1978)

The nature of bananas requires that the fruit be cut a maximum of 48 hours prior to being shipped in the cooled holds of the Geest ships. Thus harvesting and packing is characterized by abrupt starts and stops, aggravated by the fact that deliveries to boxing stations are not scheduled. Shipments are generally made on a weekly basis, year-round, with each shipment being prepared in 2 or 3 days.

The industry provides one of the principal sources of foreign exchange for these island nations and one of the principal sources of income and employment for their populations. The cash flow generated by the industry's sales is shown in Figure 3. This report focuses on this stream, beginning with the price paid to the BGA at the dock. For illustrative purposes, a f.o.b. price of 40¢ per pound is used. In following the cash flow from the dock to the grower, Figure 3 shows the deductions made by the BGA from the f.o.b. price, and the major costs which a grower (medium size) would have to deduct from the net price received. Cess deductions and costs per pound are based on Winban estimates for August 1981.

Figure 3 also shows the annual value of sales and suggests that the net return to the grower is only 15% of the average unit price paid by the consumer. Shipping to the U.K. market absorbs 42% of this price, and BGA deductions and operating costs absorb another 35%. The approach taken by this report is that a major objective of the industry is to generate a profit for its grower members. Given the focus of our work this means reviewing losses in the production flow (grower to dock) and deductions in the sales returns (dock to grower). Losses are reviewed by examining operations management deficiencies, and deductions are looked at in terms of financial management deficiencies.



**FIGURE 3 SALES RETURNS AND DEDUCTIONS PER POUND,<sup>2</sup> AND ANNUAL VALUE OF SALES<sup>1</sup> AND PERCENTAGE OF TOTAL MARKET VALUE AT MAJOR POINTS IN PRODUCT FLOW, IN DOLLARS**

1. Based on production shipped of 246.4 million pounds.  
 2. Based on costs of production faced by medium size growers as estimated by Winban in August 1981, and BGA withholding for 1981 as per Table 3, p. 46.

## 2.2 Current Financial Condition of the Industry

In August of 1981, the banana industry on the islands of Dominica, St. Lucia and St. Vincent were facing insolvency. Nevertheless, slight increases in the exchange rate and the GNP in September and October have provided some respite. The following description of the industry's financial condition at the time clearly indicates that more than a respite is needed for the industry to regain its financial health. The information used in preparing this description was collected by Peat Marwick and Mitchell (PMM) and Winban during an audit of the industry, carried out the first week of August, 1981.

### 2.2.1 St. Vincent

The financial condition of the St. Vincent BGA has clearly been superior to that of the other two islands. The fiscal statement of December 31, 1980 disclosed a net operating profit (before reserve appropriations) of \$630,000 in contrast to the 1979 loss of \$2,025,000. The balance sheet of December 31, 1980 showed a total positive capital position of \$645,000, comprised of the following elements:

	(\$000)	<u>1979</u>	<u>1980</u>
Accumulated Deficit	(-)	898	(-) 1,182
<u>Reserves:</u>			
Hurricane Insurance		739	591
General Reserve		497	497
Price Stabilization Fund	(-)	51	457
Capital Reserves		141	141
Pension Fund		108	93
Rehabilitation Fund		46	46
Windstorm Disaster		<u>108</u>	<u>-</u>
Subtotal Reserves		1,661	1,827
TOTAL CAPITAL		763	645

The major reserve appropriation for 1980 was \$877,000 to the Price Stabilization Fund. This action served to restore this account to a positive condition. The \$645,000 of capital shown for 1980, appears to have been wiped out in 1981 by payments to growers for approximately \$1,175,000 in fruit purchased but "left on bank."<sup>1/</sup>

A comparison of the total debt position reported on the fiscal statements of 1979 and 1980, and the spot check by PMM/Winban on August 1, 1981 is as follows:

	(\$000)		
	<u>12/31/79</u>	<u>12/31/80</u>	<u>08/01/81</u>
Bank Overdraft	1,132	2,431	0
Accounts Payable	711	490	
Accrued Liability	83	108	2,200
Due Growers:			
Prepaid Cess	708	232	1,060
On Purchases	<u>381</u>	<u>117</u>	<u>250</u>
Sub-total Growers	1,089	349	1,310
Due IRF	-	-	35
Due CDB	<u>-</u>	<u>1,300</u>	<u>1,300</u>
TOTAL DEBT	3,015	4,679	4,845

From the information available, it appears that to clear the bank overdraft in 1981, the BGA elected to utilize trade credit and grower cess funds. In addition, the inventory on August 1, 1981 was estimated at \$700,000, as

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<sup>1/</sup> Fruit "left on bank" is fruit purchased by the BGA and packed by the boxing stations, but which has arrived at the dock after the ship has sailed, or exceeds the estimated tonnage to be shipped and therefore cannot be loaded.

against \$944,000 at year-end 1980, and an operating deficit of \$3,338,000 is forecast for the period September 1, 1981 to June 30, 1982. Finally, BGA management has had an overdraft capacity of \$3 million; this credit was used to weather the recent period of price depression.

### 2.2.2 St. Lucia

The financial condition of the St. Lucia BGA was somewhat weaker than that of St. Vincent. The Audits for the fiscal years December 13, 1978 and 1979 show operating losses of \$525,000 and \$1,350,000, respectively. Figures for fiscal 1980 have not yet been prepared. In its letter for the 1979 audit, Peat, Marwick, Mitchel & Co. states:

"As a result of recurring operating losses from fruit operations over the years, the Association is in poor financial health."

"The loss on fruit operations incurred in 1979 should be a matter of grave concern to the Board and growers alike."

"There is a shortage of real liquid resources . . . the true working capital position is affected by the presence of non-salable inventory of spares and supplies and other current assets that will not be easily converted into liquid resources."

The balance sheet of December 31, 1979 showed a total positive capital position of \$2,479,000 comprised of the following elements:

	(\$000)	1978	1979
Accumulated Deficit	(-)	306	(-) 1,167
Reserves:			
Disease/Pest Control		1,731	1,924
General Reserve		348	473
Aircraft Replacement		314	428
BDD Input Subsidy		370	344
Input Trading		295	295
Price Support		862	182
Aircraft Rebuilding		13	--
Sub-total Reserves		<u>3,933</u>	<u>3,646</u>
TOTAL CAPITAL		3,627	2,479

The total reserves of \$3,646,000 which appear on the balance sheet were specifically funded to the extent of \$1,523,000 with an unfunded reserve position of \$2,123,000. The price support reserve shown has decreased in the two-year period 1978 to 1979, by \$1,149,000, as price support payments exceeded the amount deducted from sales for this purpose. We believe, based on the information supplied by Winban, that operating losses in 1980 in combination with a 1981 loss of approximately \$1,200,000 in connection with "left on bank" fruit have completely eroded the 1979 capital base.

A comparison of the total debt position reported on the fiscal statement of 1979, and the spot check by PMM/Winban on August 11, 1981 is as follows:

	(\$000)	<u>12/31/79</u>	<u>8/1/81</u>
Bank Overdraft		995	1,900
Accounts Payable		2,001	3,300
Government Loan		247	250
Accrued Liabilities		123	725
Due Growers-prepaid cess			1,700
Due IRF			<u>103</u>
TOTAL DEBT		<u>3,367</u>	<u>7,978</u>

We understand from Winban, that the grower price support program implemented in August when f.o.b. prices bottomed out caused the Association to refrain from making price support fund deductions from sales; and utilize virtually all cash reserves available. It is our further understanding that the Association is at its limit with respect to all existing credit facilities. An operating deficit is forecast for the period September 1981 to June 1982 in the amount of \$2,698,000. While this

projection is not explicitly a cash flow projection, we believe it is reasonable to assume that capital expenditures and non-cash expenses will wash out for the period, and that the BGA faces a cash drain of approximately \$2,698,000. Operating cash at August 11, 1981 was \$225,000.

Our analysis of this projection indicates that an average weekly cash deficit of \$70,900 will fully consume available cash by October 1, 1981, and that unless immediate action is taken to squeeze cash from inventories and accounts receivable, the Association will shortly cease to be operationally viable.

Evidence of the extent of the present liquidity crisis is found in the fertilizer procurement situation. The BGA feels that normal monthly fertilizer requirements are 600 tons at a cost of approximately \$487,000. August supplies have been received, and 600 tons have been ordered and is in transit for use in September. However, present cash resources do not support collateralization of the \$487,000 Letter of Credit which will be required immediately to insure acceptance of an order for 600 tons to cover October's needs.

The prepaid fertilizer cess account had a book balance of \$1,700,000 on August 1 represented by \$1,200,000 in cash and \$500,000 in the form of a loan due from the operating fund. Letters of Credit totaling \$975,000 issued for the above August/September fertilizer purchases served to reduce the free balance to \$225,000. Thus, Mr. Michael Lansiquot, Acting General Manager, must find \$262,000 [\$487,000 less \$225,000] to collateralize a Letter of Credit for an October fertilizer order--without any consideration of the other ongoing operating expenses of the Association!

### 2.2.3 Dominica

The only statement available for our examination in assessing the financial status of the BGA in Dominica was the draft statement for the fiscal year ending December 31, 1979. The auditor's opinion was qualified, as "our examination indicated serious deficiencies in the accounting records, and the system of internal control" which might have "possible material affects on the financial statements". We understand a final 1979 statement is ready for release, but we have not been exposed to this document.

The balance sheet available to us for December 31, 1979 shows a negative capital position of \$7,114,000 comprised of the following elements:

	(\$000)			
		<u>1978</u>		<u>1979</u>
Accumulated Deficit	(-)	808	(-)	4,566
<u>Reserves:</u>				
Special Price Reserve		1,822		1,895
Banana Industry Insurance Fund		754	(-)	4,530
Winter Price Assistance Fund		<u>87</u>		<u>87</u>
Sub-total Reserves		2,664	(-)	2,548
TOTAL CAPITAL		1,856	(-)	7,114

The net operating deficit for 1979 was \$2,388,000 before transfer to reserves. The Special Price Reserve was maintained at approximately the same level during the year despite a cost of \$1,189,000 for bananas "left at boxing plants and depots" by an appropriation of \$1,243,000 to this reserve.

The Banana Industry Insurance Fund operated at a loss of \$5,284,000 despite grants of \$2,200,000 from the government, and \$676,000 from British Agencies, as farmer benefits totaling \$8,138,000 were paid out.

A comparison of the total debt position on the statements of 1978 to 1979 with the spot check report of PPM/Winban of August 1, 1981 shows:

	(\$000)			
	12/31/78	12/31/79	12/31/80	08/01/81
Current Liabilities	3,714	8,467	--	5,930
Long-term Liabilities	<u>680</u>	<u>3,085</u>	<u>--</u>	<u>11,327</u>
Total External Debt	4,395	11,552	--	17,257
Internal Debt:				
IRF				237
Growers--Prepaid Cess		1,159	503	2,486
Growers--July 31 sales	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
TOTAL DEBT	4,394	12,711	503	20,031

An important factor in the 1981 debt picture is a loan due the Caribbean Development Bank in the amount of \$5,351,000. This represents usage of total facility of \$6,069,000 with interest at 4% and five year payment moratorium. The Growers' Prepaid Cess Account showed that cess balances due growers of \$1,159,000 (1979), \$503,000 (1980) and \$824,000 (1981) have accumulated to date. It would appear that since 1979 the Association has continued to finance operating deficits with grower and external debt placement. The PMM/Winban forecast for the period September 1, 1981 to June 30,

1982 shows an operating deficit of \$4,512,000, and no funding sources for this deficit have been identified. The Association has no further credit available and must operate on a cash basis. (The only exception to this situation being an overdraft availability of \$1,000,000 at the Royal Bank of Canada against which only \$513,000 was outstanding in the above August 1st figures, due to the recent deposit of a Geest check for banana shipments.)

Evidence of current liquidity pressure is found in the fertilizer ordering situation. On May 12, 1981, a Winban review found 13,260 bags (approximately 600 tons) of Rehab stock on hand. This inventory was apparently issued in full to growers in June as an offset to the growers' prepaid cess position, and thus represents a loan from the IRF to the BGA. In July, 6,000 bags (300 tons) of fertilizer were order from the U.K., and this purchase will be distributed by early September. Financing is not available to support an August order of 500 tons or a September order of 400 tons, neither of which will be shipped by the supplier without letter of credit support.

#### 2.2.4 Insolvency - The Financial Problem

At the time of our visit in August 1981, the Banana Growers' Associations on all three islands were clearly insolvent (in the legal sense that their total liabilities were in excess of their total assets). This legal technicality, however, is not immediately relevant. The critical consideration is that as of August 30, Dominica and St. Lucia had completely exhausted their available liquid resources (with St. Vincent existing on bank overdrafts), and the industry was facing the problem of funding September 1981 to June 1982 deficits.

Dominica	\$4,512,000
St. Lucia	2,698,000
St. Vincent	<u>3,338,000</u>
Total	\$10,548,000

A figure of \$10,000,000 is our basic point of reference in defining the near-term financial problem. There may be some downward adjustment in this figure as farmer price support policies are eased off. More likely, there may be upward pressure as the lack of cash to procure fertilizer decreases actual production below forecast levels. It might be argued that St. Vincent should be excluded from our working figure, as this BGA apparently will be able to fund its farmers' price support program by means of bank overdrafts. In our judgment such a view begs the question that no rational program for future loan repayment has been structured for this BGA or those in St. Lucia and Dominica.

Our basic figure of \$10,000,000 should also be placed in perspective as follows:

1. Total, potentially available funds in the IRF were estimated at \$6 million of which \$4.5 million were forecast for collection by Aug. 1982. However, unauthorized use of collections to Aug. 1, 1981 in the amounts of \$35,500 in St. Vincent, \$103,000 in St. Lucia and \$80,000 in Dominica, (and the apparent action in Dominica of issuing the stock on hand balance of May 12, 1981 of 600 tons (i.e. \$487,000) against farmers prepaid fertilizer cess accounts) suggests that a significant dissipation of this capital will have taken place before the beginning of the forecast period.
2. Presently the existing debt of the island BGAs adjusted to finance this projected need will be:

(\$000)

	<u>Total Debt August 1981</u>	<u>Projected Deficit 1981/82</u>	<u>Total Debt August 1982</u>
Dominica	\$20,031	\$4,512	\$24,543
St. Lucia	7,978	2,698	10,676
St. Vincent	<u>4,845</u>	<u>3,338</u>	<u>8,183</u>
	\$32,854	\$10,548	\$43,402

3. If in a typical production year it is assumed the industry can ship 246.4 million pounds of fruit, distributed as follows: Dominica 83.8 million pounds, St. Lucia 101.0 million pounds, and St. Vincent 61.6 million pounds; and if a special levy of 1¢ per pound per year is established commencing in July 1982 to retire the total principal of debt outstanding, it will take the industry 17.6 years of production ( $\$43,402,000 \div 2,464,000$ ). This "bail out" from the present financial crisis makes no allowance for any new initiatives to improve industry efficiency, marketing, etc. The debt retirement period varies considerably depending on whether its viewed from an industry point of view or that of separate BGA's. St. Lucia's greater production supports its greater repayment capacity.

	<u>Total Debt August 1982</u>	<u>Annual Levy</u>	<u>Years of Production</u>
Dominica	\$24,543,000	\$838,000	29.3
St. Lucia	10,676,000	1,010,000	10.6
St. Vincent	<u>8,183,000</u>	<u>616,000</u>	<u>13.3</u>
	\$43,402,000	\$2,464,000	17.6

The industry's financial problem impacts on the efforts by Winban and the IRF donors to insure that adequate funds are available, through the fertilizer cess and the IRF, for the purchases of inputs required to maintain existing production levels. In this light, the problem becomes one where:

1. Insistence on continuation of a 1¢ IRF cess may force the BGA's to continue the practice of collecting the funds but diverting them to operational uses, through "unauthorized loans" or,
2. Insistence on a continuation of the 1¢ IRF cess may well result in a decrease in the amount of pre-paid fertilizer cess collections or increase in number of "unauthorized loans" from these cess funds, or
3. Acceptance of a discontinuation of IRF cess collections is viewed by the BGA's as an admission that the hurricane rehabilitation program was a grant and not a loan.

In all three cases the collection of monies for input purchases is deferred, as maintaining grower payment levels and covering the costs of operations are given preference. Since there is no iron clad way of enforcing cess collections, Winban and donors must compromise, accepting that IRF collections will be discontinued during periods in which f.o.b. prices, minus the BGA margin (cesses), do not cover grower price floors. Such action, of course, defers the build-up of available capital in the IRF system.

An alternative being proposed by Winban is that the IRF and fertilizer cesses be collected as a percentage of sales. This alternative does not resolve the problem of meeting established floor prices to growers, and

provides the additional problem that unless all growers sell fruit year round and the amounts sold by them are proportionally distributed similarly to total production, the collection of cess per grower would be distorted. Thus, for example, growers selling fruit in low price periods would only have to sell more fruit in order to accumulate the cess per pound required to buy the inputs they need. Growers selling fruit in high price, high value of sales periods, would accumulate more than the cess per pound required to buy inputs.

### 2.3 Causative Factors

In general it was found during interviews with industry representatives that the major causative factors cited for the industry's present liquidity crisis were exogenous. Highest on the list were usually the market conditions, followed by industry efforts to maintain a floor on grower payment levels. Rarely were management deficiencies identified as being a principal force in arriving at the present situation.

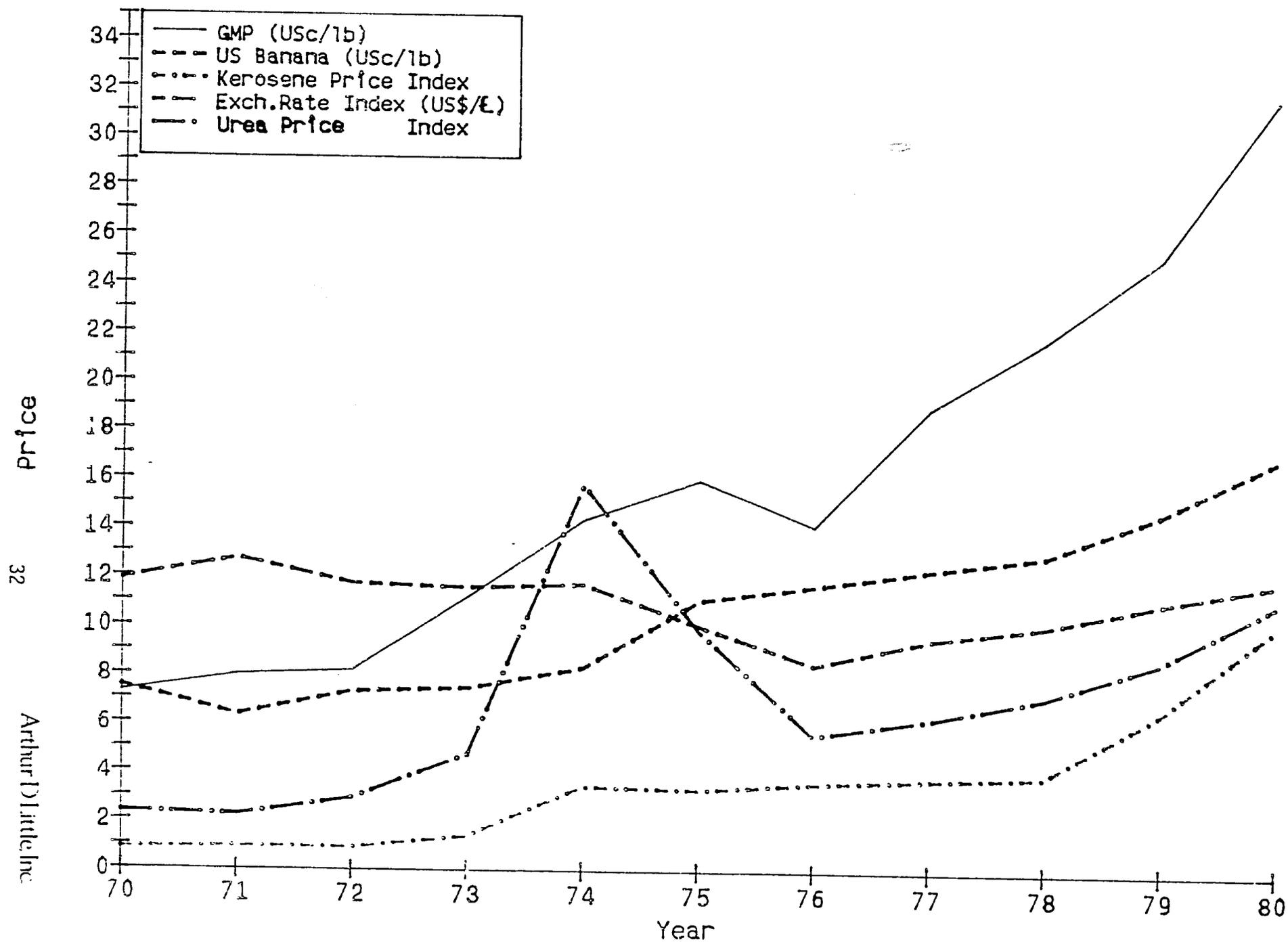
#### 2.3.1 Market Conditions

Major market conditions cited were the green market price (GMP), the exchange rate (EC dollar to pound sterling), the exchange base (changed from pound sterling to U.S. dollar in 1976) and a decrease in the real value of earnings. Using graphic displays of the information available, the trends in these market conditions were examined.

To assess the trend in real terms of banana prices (GMP) compared to fertilizer (urea) and kerosene prices, Figure 4 was prepared. Fertilizer represents about 3.5 cents per pound of bananas sold or 8% of the price received by the BGA's, and kerosene used for spraying represents 0.5 cents per pound of bananas sold as 1% of the price received by the BGA's. The

FIGURE 4

Prices for Bananas and Inputs  
1970-1980



ten years of data plotted show that the GMP has remained above the price for bananas in the United States, and has experienced much sharper increases especially since 1976. In fact, Figure 5, which compares the price information for both markets on a monthly basis for the period 1979-1981, shows that prices on the U.K market have tended most often to remain at higher levels, while prices on the U.S. market have tended to lower levels. The trends for kerosene and urea are rising, but their rates of change appear to be lower than that observed for GMP. In summary, the trends observed do not support the view that banana revenues have in real terms been losing ground to costs of inputs and do not support the view that the U.S. market offers a better alternative to the U.K. market.

Two other factors which have consistently been mentioned as having a negative impact on market conditions are the exchange rate and the exchange rate base. Figure 4 shows that the exchange rate has had a declining trend over most of the period under observation. In fact, while overall it appears that the exchange rate has exerted downward pressure on the GMP, in U.S. dollars the GMP is considerably above U.S. banana prices. The exchange rate trend has been present over the whole 10-year period and does not represent a new tendency in the market condition, or one that has historically suffered dramatic changes. The recent drop in exchange rate, in view of the trend would appear to be just a short term aberration.

The impact of the change in the exchange base can be observed in Figure 6. Since 1976, the value of GMP in U.S. dollars has been greater than it would have been tied to a fixed sterling exchange rate. As

FIGURE 5  
 Banana Prices (U.S. Cents per pound)  
 1979-1981

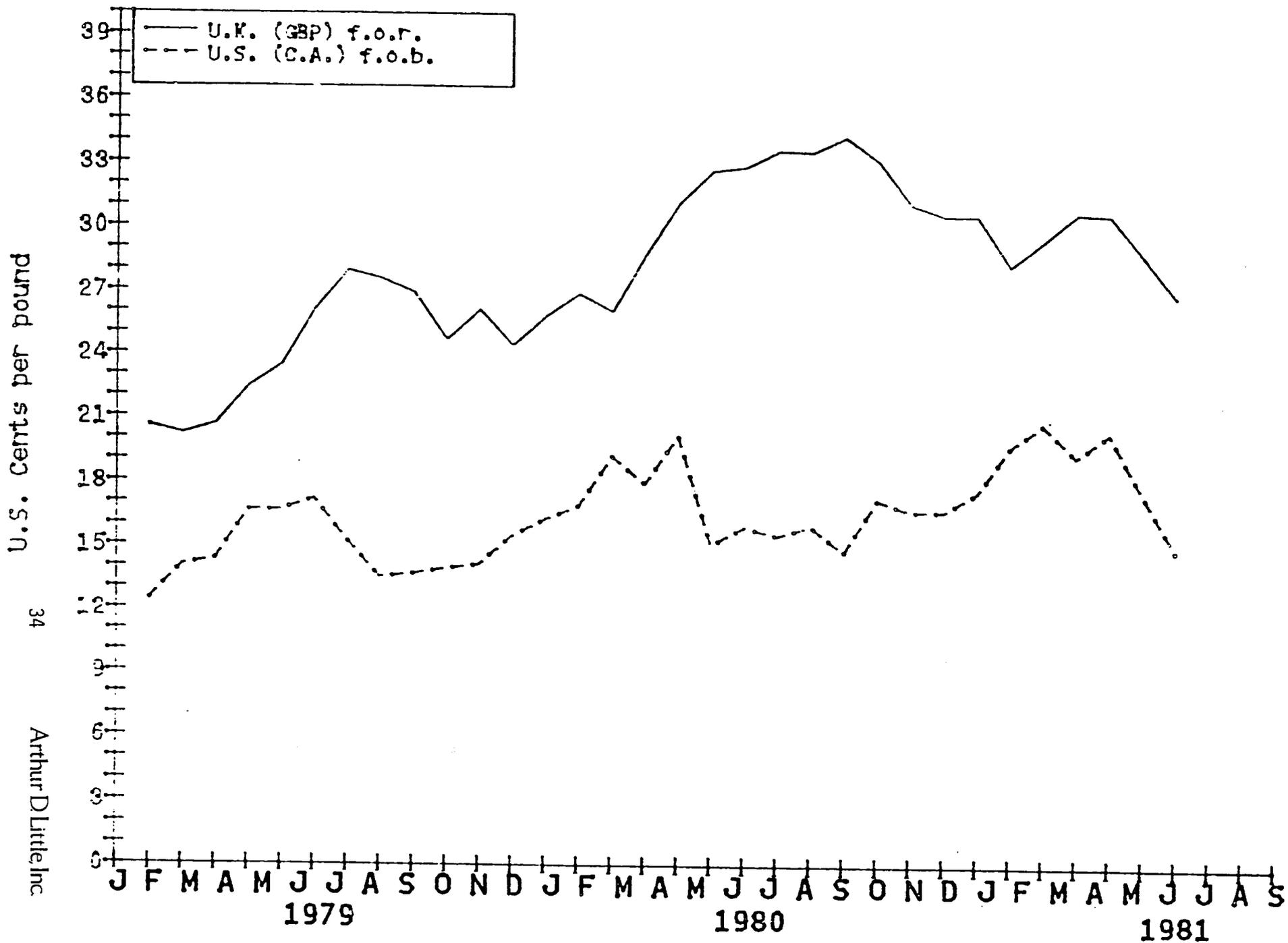
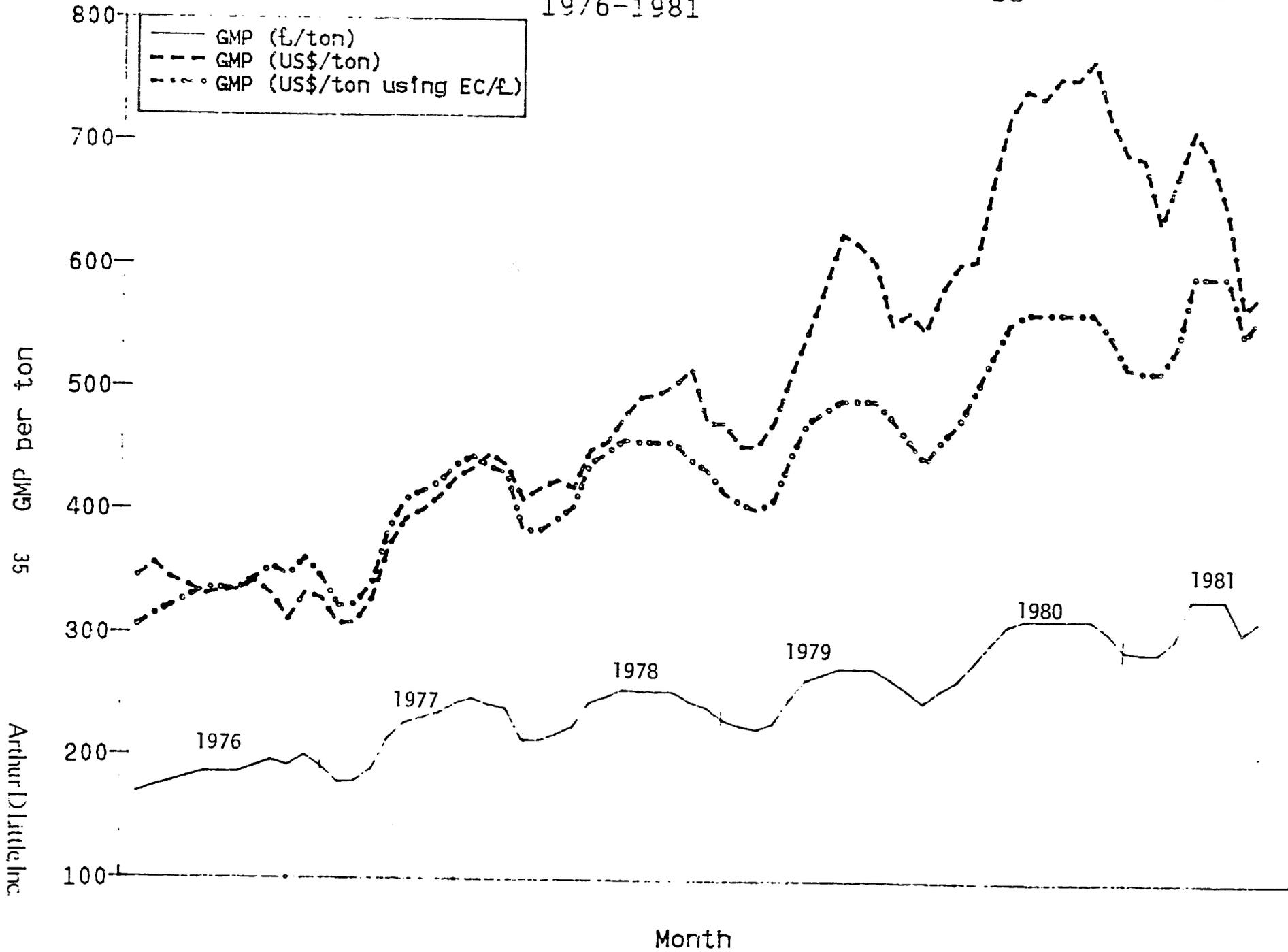


FIGURE 6

Green Market Price--in U.S. Dollars  
At Actual Exchange Rate and With EC Dollar pegged to Pound  
1976-1981



Arthur D. Little, Inc.

shown in Table 2, the industry has, since January 1, 1978, received more in revenue than it would have, had the EC dollar been pegged to the pound sterling. The added revenue per pound of production shipped by the industry was about 0.18 to 0.19 cents in 1980, and 0.10 to 0.11 cents in 1979, based on the information available for St. Lucia and St. Vincent. In summary it is difficult to accept from this information that the change in the foreign exchange rate has had an unfavorable impact on market conditions. The forces which are exogenous to the industry have tended to be favorable. If the trend observed for the past four years can be believed, and if it is assumed that the industry's operational efficiency has at best remained constant, the industry appears to have enjoyed a period of favorable market conditions which contradicts the financial crises presently observed.

### 2.3.2 Grower Payment Levels

The PPM/Winban review of the IRF status in August brought to light BGA efforts to support/subsidize grower payment levels using cash reserves and bank overdrafts. This practice should be differentiated from the practice by the BGA's of attempting to stabilize prices to growers. The latter action reduces the fluctuations in prices paid to growers; such that average prices paid are equal to the average GMP minus payments for shipping and BGA operating expenses. The former represents an attempt to raise the average price to growers and unless it is the result of operating efficiencies achieved within the industry, the result is a net cash outflow.

Figure 7 shows the pattern of GMP in pounds sterling, the exchange rate and the resulting GMP in EC dollars. It also shows that when both the GMP in pounds sterling and the exchange rate change simultaneously in the same direction, the impact on GMP in EC dollars is dramatic as

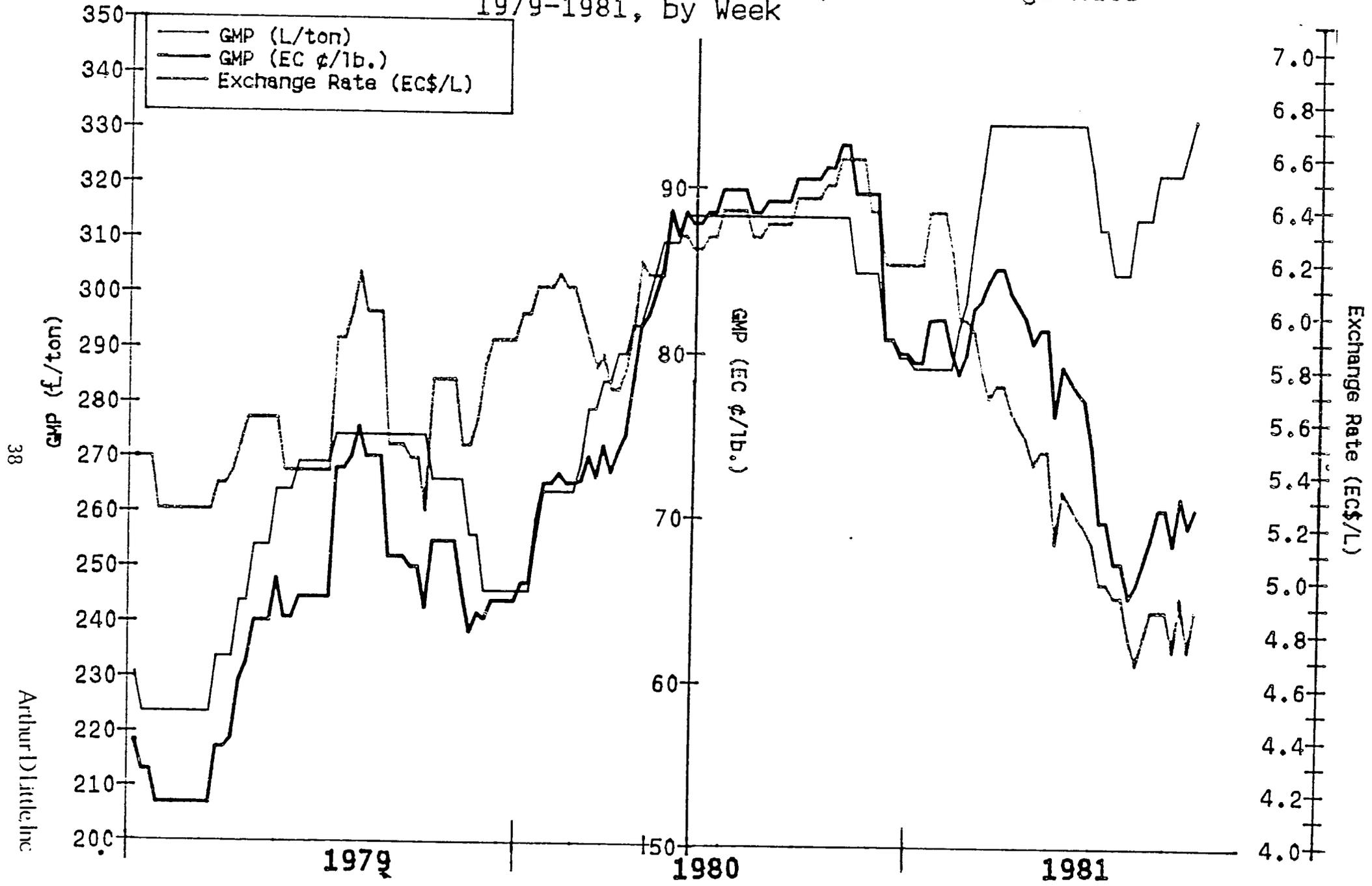
TABLE 2

GROSS INCOME FROM BANANAS, ACTUAL AND WITH EC DOLLAR PEGGED TO POUND  
ST. LUCIA AND ST. VINCENT, 1978-1981  
IN THOUSAND EC DOLLARS

YEAR	MONTH	-----ST. LUCIA INCOME-----			-----ST. VINCENT INCOME-----		
		UK PEG	US PEG	US -UK	UK PEG	US PEG	US -UK
1978	JAN	3,060	3,371	311	2,457	2,707	250
	FEB	3,737	4,083	346	2,726	2,978	252
	MAR	4,910	5,148	238	3,574	3,748	173
	APR	6,354	5,573	219	2,710	2,803	83
	MAY	5,906	6,079	173	3,041	3,130	89
	JUNE	6,703	7,043	340	3,642	3,827	185
	JULY	4,798	5,235	437	2,610	2,848	238
	AUG	3,995	4,383	388	2,305	2,530	224
	SEP	4,845	5,398	552	3,028	3,373	345
	OCT	4,500	5,312	812	2,004	3,145	481
	NOV	5,475	6,028	553	3,437	3,785	347
	DEC	4,300	5,011	650	3,150	3,620	470
YEAR		58,642	63,664	5,021	35,344	38,492	3,148
1979	JAN	4,251	4,791	541	3,026	3,411	385
	FEB	4,317	5,505	688	3,142	3,591	449
	MAR	5,298	6,192	893	3,208	3,749	541
	APR	4,634	5,386	752	2,077	2,415	337
	MAY	6,048	7,992	1,144	1,991	2,324	332
	JUNE	5,301	6,493	1,192	1,339	1,641	301
	JULY	4,462	5,750	1,288	839	1,082	242
	AUG	4,132	5,253	1,121	1,477	1,878	401
	SEP	3,631	4,507	876	2,094	2,599	505
	OCT	4,274	5,012	738	2,200	2,580	380
	NOV	5,191	6,438	1,247	3,034	3,763	729
	DEC	4,345	5,459	1,113	2,820	3,543	723
YEAR		57,184	68,777	11,593	27,248	32,573	5,325
1980	JAN	6,359	8,148	1,789	3,567	4,570	1,003
	FEB	5,094	6,557	1,463	3,052	3,928	876
	MAR	5,167	6,348	1,161	2,922	3,577	654
	APR	6,985	8,940	1,955	3,939	5,041	1,103
	MAY	6,205	8,166	1,961	3,746	4,930	1,184
	JUNE	5,343	7,129	1,786	3,322	4,432	1,110
	JULY	5,487	7,246	1,759	3,980	5,257	1,276
	AUG	0	0	0	451	610	159
	SEP	0	0	0	165	222	57
	OCT	0	0	0	309	426	117
	NOV	0	0	0	115	153	38
	DEC	0	0	0	686	925	238
YEAR		40,660	52,534	11,874	26,255	34,072	7,816
1981	JAN	0	0	0	1,194	1,609	415
	FEB	476	592	117	1,236	1,539	303
	MAR	3,460	4,387	926	2,834	3,593	759
	APR	6,063	7,330	1,267	4,280	5,175	895
	MAY	8,910	10,415	1,505	5,601	6,547	946
	JUNE	10,765	11,814	1,049	5,784	7,445	661
	JULY	6,347	6,054	307	4,860	5,095	235
			219	4,130	4,285	155	
TOTAL		198,333	232,212	33,879	119,706	140,425	20,659

### Banana Price Comparison

Green Market Price in L/ton, EC cents/lb, and Exchange Rate  
1979-1981, by Week



38

Arthur D Little Inc

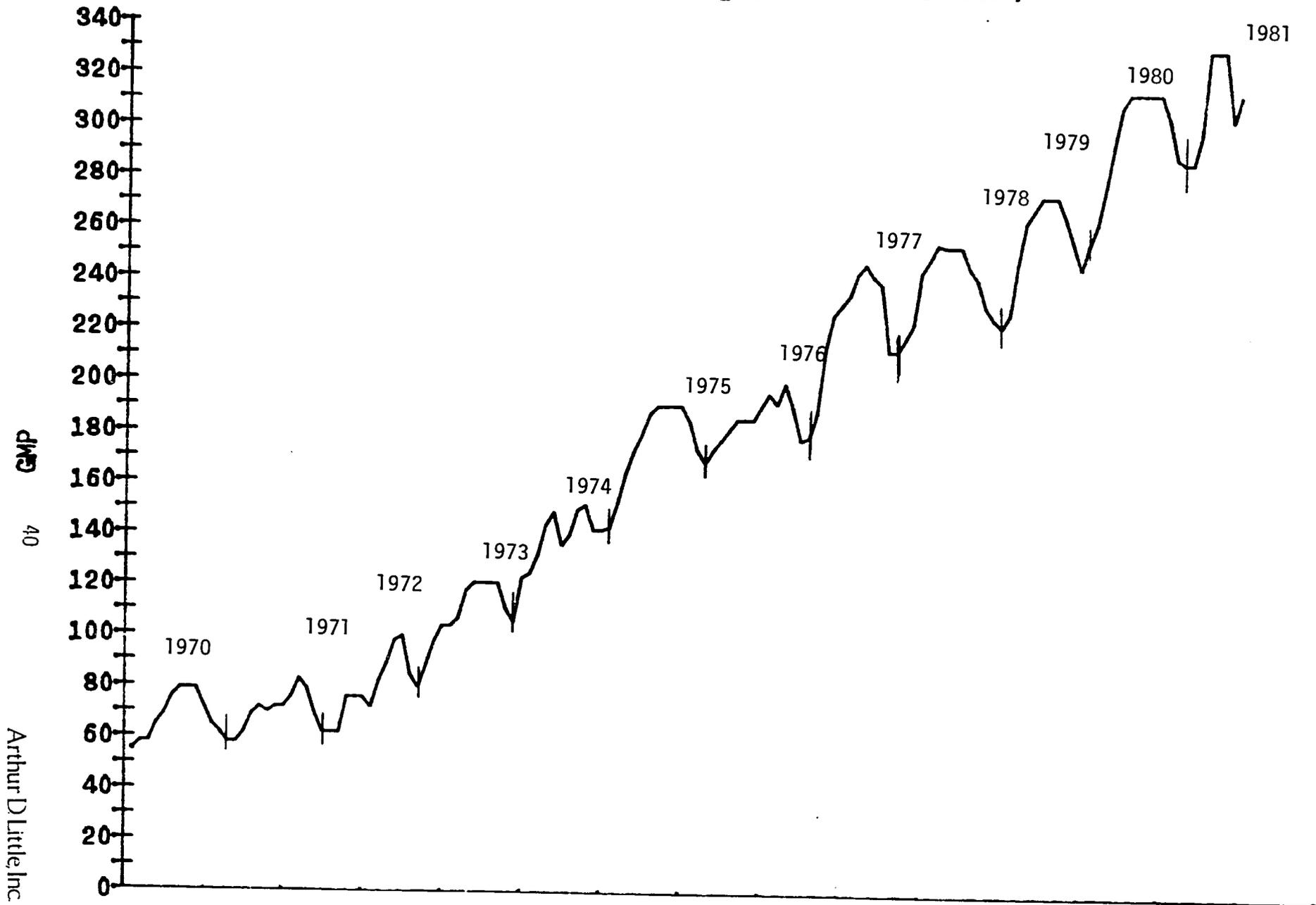
was observed this past summer. In addition it is apparent that due to these forces and the effects of changes in banana production the industry faces continuous and random fluctuation in the base price, (GMP minus shipping costs) from which it must set grower payment levels. What is not so apparent from this figure is, as shown in Figure 8, that GMP has had a rising trend and changes in banana prices tend to follow a seasonal pattern with high prices during spring and summer and low prices during fall and winter. Within the general seasonal pattern, the extent (amplitude and duration) of the variations (Figure 7) is not easily predictable and certainly not worth an attempt at forecasting as part of a stabilization formula.

There are many different approaches and associated formulas for the stabilization of prices of agricultural products. Based on the information provided in Figures 7 and 8, the banana industry could consider stabilization approaches to iron out both the well defined seasonal movements, as well as the random fluctuations within this pattern. Figure 9 shows that the St. Lucia and St. Vincent BGAs (which are representative of the industry) have been following an approach characterized by extended flat periods with infrequent and precipitous changes. The pattern seems to adjust only to fluctuations within seasonal movements. The criteria used for this approach seems to be informal, based principally on the general consensus of opinions, political or others, expressed at BGA board meetings.

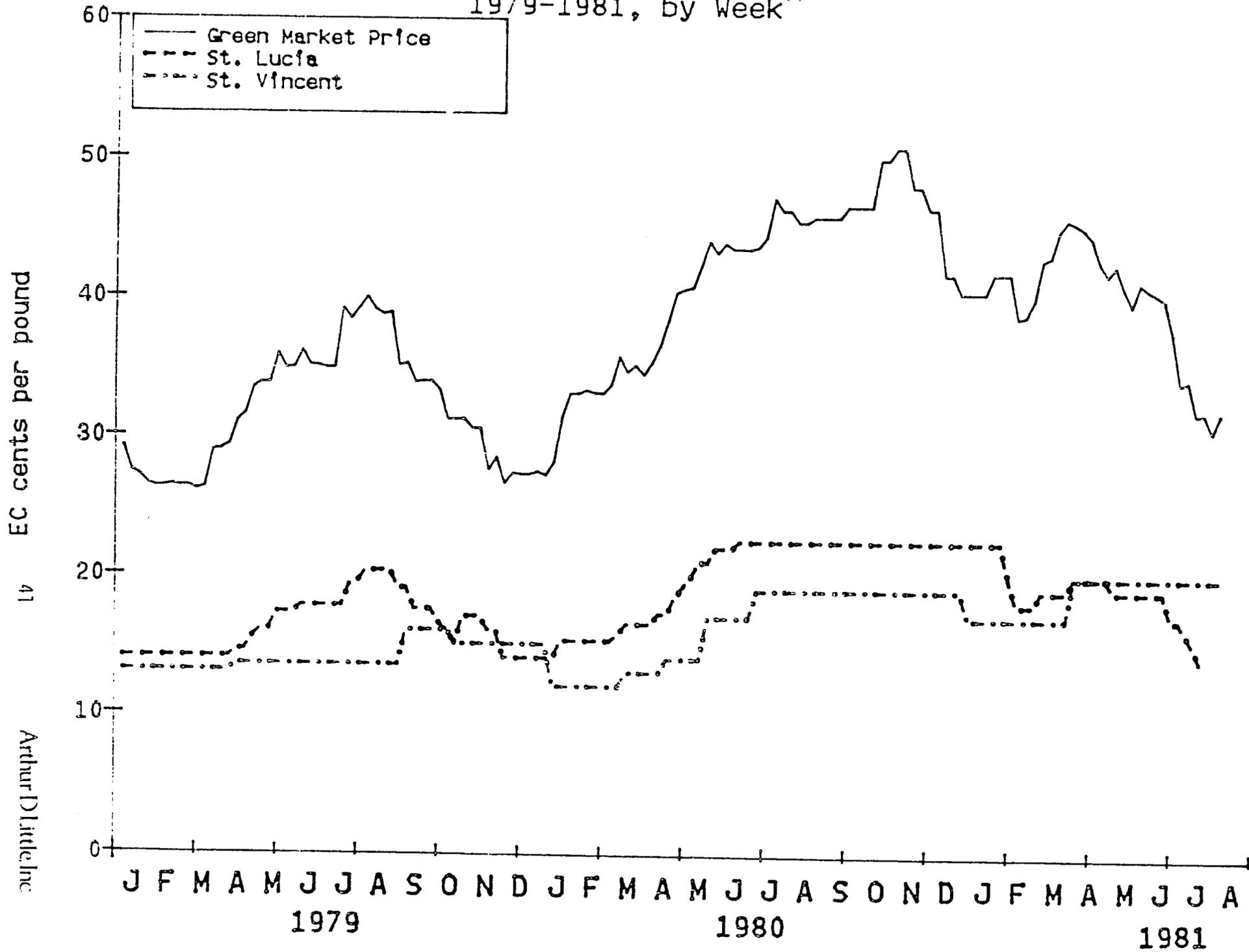
The smoothing of prices to be paid to growers can be affected entirely by reference to past green market prices in EC dollars, net of shipping costs. A moving average of the weekly GMP may be computed and updated weekly with the price paid to growers calculated from this

FIGURE 8

Green Market Price, 1970-1981, by Month  
(pounds sterling per metric ton)



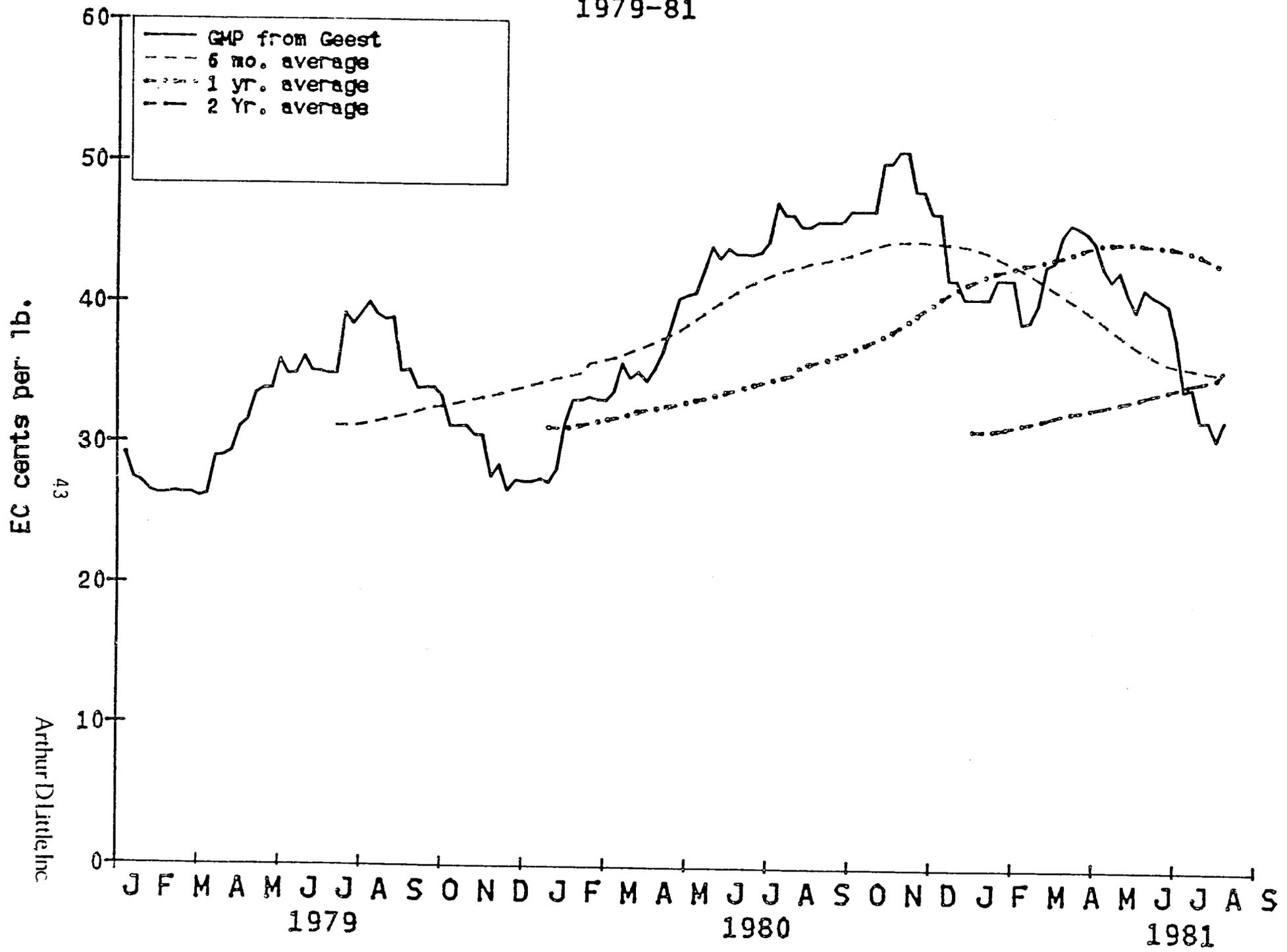
Banana Price Comparison  
 Green Market Price and Price paid to Growers  
 1979-1981, by Week



average, using the BGA margin of cesses and operating costs. Figure 10 shows the result of using a 6-month, 1 year and 2 year moving average of weekly GMP. While payment to growers based on such a formula will not provide a constant price, price changes to growers will be small and frequent. The six-month average seems to adequately adjust for the random fluctuations, while preserving some of the seasonal movement which Winban feels is desirable as an incentive to concentrating production in high price periods. Given that only three years of prices were available for analysis at this time, it is difficult to determine how the 1 year and 2 year moving averages perform. Using the latter averages, prices to growers lag significantly behind changes in GMP and could result in extended periods when price levels would be moving in the opposite direction as GMP. This approach would consider the management of large pools of reserve funds, which as indicated in the analysis above, is not one of the industry's strengths.

Figure 11 compares for St. Lucia, which is illustrative for the industry, what grower price levels would have been with the 6-month moving average as compared to the price level actually maintained by the BGA. The steps in the 6-month average price level, at the beginning of 1980 and 1981, reflect changes in the cess levels withheld by the BGA. This price line represents a simple average of weekly prices received by the BGA's. Table 3 presents cess deductions as derived from information in the St. Lucia BGA annual report for 1979, and the PMM/Winban report on the financial condition of the BGA in August 1981. Table 4 presents a comparison of the price level maintained by the BGA in 1980 and 1981

FIGURE 10 - ST. LUCIA  
 GMP PRICE FROM GEEST  
 ACTUAL AND 6 MO., 1 YR. AND 2 YR. AVERAGE  
 1979-81

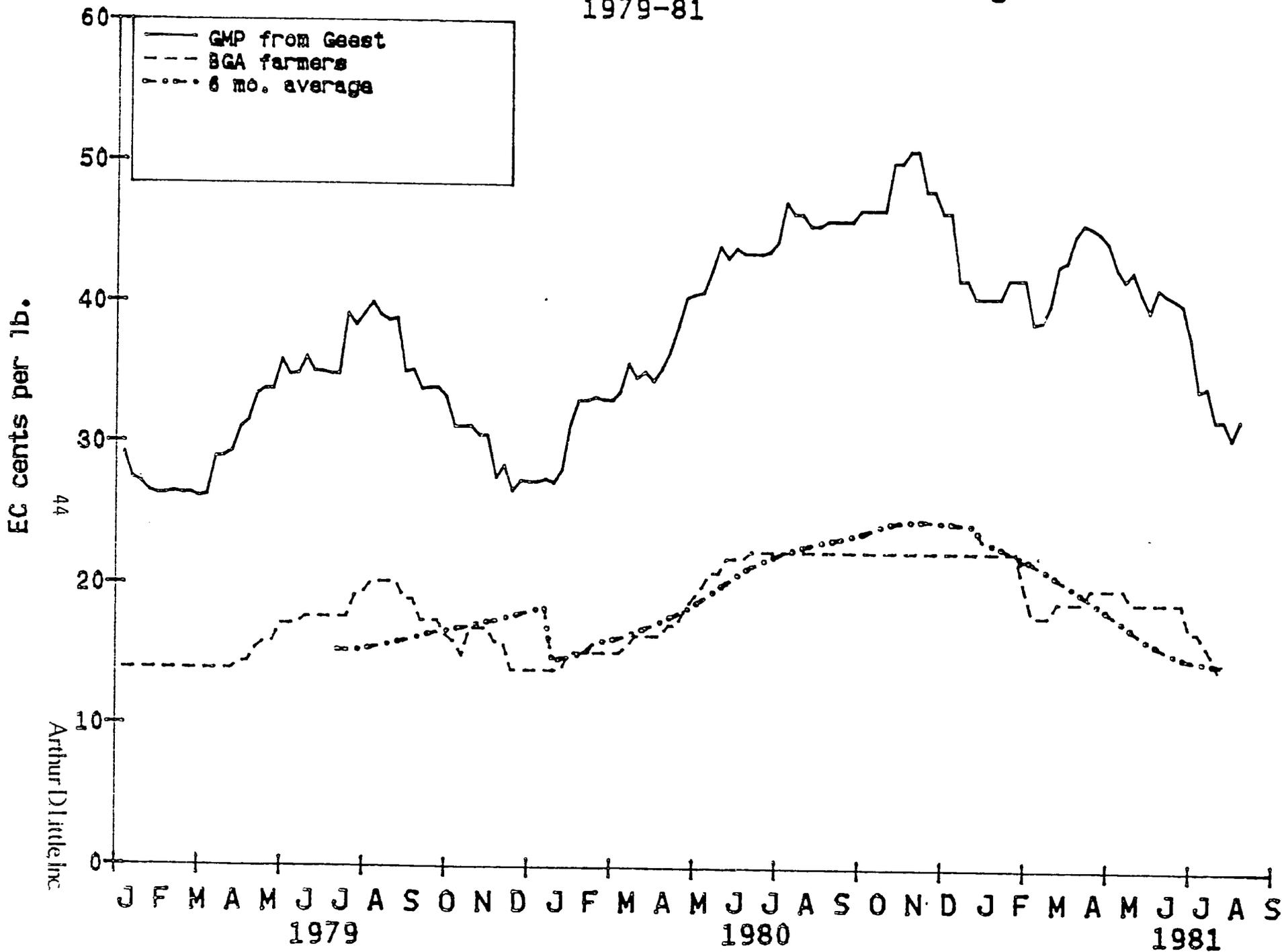


Arthur Dintelle Inc

FIGURE 11

St. Lucia

GMP from Geest Compared to Price paid to Growers  
 Actual and 6 Mo., 1 Yr, and 2 Yr. Average  
 1979-81



Arthur D Little Inc

TABLE 3

BUDGETED CESS DEDUCTIONS PER POUND OF BANANA<sup>1/</sup>

<u>Item</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
BGA Administrative Cess	3.5	3.5	3.5
Packaging Materials	7.0	9.75	9.75
Field Boxes and Sleeving	.25	.75	.75
Boxing plant expenses	1.75	1.75	1.75
Export Tax	.25	.25	.25
Winban contribution	.35	.35	.35
Input cess	2.75	3.5	3.5
Input Revolving Fund	<u>0</u>	<u>0</u>	<u>1.0</u>
Total Budgeted Deductions	15.85	19.85	20.85

<sup>1/</sup> PMM, Report as Financial Conditions of SLBGA 8/81 and Auditors report December 1979.

TABLE 4

ST. LUCIA 1980 AND 1981 - PRICE LEVELS:  
BUDGETED, ACTUAL AND USING 6-MONTH MOVING AVERAGE

<u>1980</u>	<u>Actual</u>	<u>6 Mo. Avg.</u>	<u>Budget</u>
Production (000 lbs.)	64,950		
Gross Revenue (000EC\$)	24,341		
Total BGA Margin (000EC\$)	12,652	12,648	12,893
Total Paid to Growers	11,689	11,693	11,448
Average Price from Geest	37.48		
Average BGA Margin (Cess)	19.48	19.47	19.85
Average Price to Growers	18.00	18.0	17.63
 <u>1981 (Jan-July)</u>			
Production (000 lbs.)	55,724		
Gross Revenue (000EC\$)	22,359		
Total BGA Margin (000EC\$)	12,048	12,738	11,619
Total Paid to Growers	10,311	9,621	10,740
Average Price from Geest	40.12		
Average BGA Margin (Cess)	21.62	22.85	20.85
Average Price to Growers	18.50	17.27	19.27

with the price level which would have been followed using the 6-month moving average. This information shows that in 1980 the St. Lucia BGA paid an average price (actual) of 18 cents per pound, when it had "budgeted" based on proposed cess deductions an average price of 17.63 cents. If the BGA had been using a 6-month moving average, the average price to growers would have been 18 cents per pound. Based on "budgeted" figures the BGA supported/subsidized grower prices by \$241,000. The 6-month moving average suggests a subsidy compared to the "budgeted" figure, but this would not be the case since the farmer represents a 6-month lag.

The figures for 1981 show that the BGA could have paid a budgeted average price above that which it had (actual) to August 1981. If the BGA had been using a 6-month moving average, the average price paid would have been 17.27 cents per pound. What this information also shows is that the funds withheld by the BGA were greater than budgeted by \$429,000 (\$10,740,000-10,311,000). This represents a reserve which contradicts the findings of the BGA's financial situation and indicates that grower payment levels in 1981 were not in themselves a major factor in precipitating the financial crisis.

One final observation which needs to be made is that the 6-month moving average would have been consistent (compared to the 1-year or 2-year average) with the market situation which actually has existed in 1981 (Figure 10). While the actual practice by the BGA suggested that prices were increasing or stable (period February-June) the situation was exactly the opposite as seen in Figure 11. If the basis

for setting prices to growers were the historical trend data in Figures 7 and 8, it is easy to see that the short rise in prices at the beginning of 1981 was a repetition of trends in previous years. The 6-month moving average would have helped in avoiding such a misleading conclusion.

### 2.3.3. Management Deficiencies

In order to more fully understand the role of the recommendations for the more efficient management of the industry operations, a description of the deficiencies in industry practices is necessary. This section, therefore will discuss the operations management deficiencies identified by concentrating on the flow of fruit from the field to the dockside.

Our findings indicate that the underlying cause of the majority of industry problems is the lack of management of growers by the BGA. Although the BGA's and Winban do not directly control the growers, they do influence their operational behavior in such a way as to impact, in a long-range sense, on their total profit. Only when growers receive sufficient revenue to cover their costs, providing profit levels comparable to those afforded by alternate uses of their land and labor, will bananas continue to be produced in sufficient volume to maintain the viability of the industry. Although secondary benefits could be sought by addressing issues such as maximizing employment and foreign exchange revenue, the survival of the industry in the medium term (5-7 years) is clearly the primary issue. Instead of developing management strategies which are designed to maximize long-term grower profits, the industry has tended to concentrate principally on maximizing the total annual gross tonnage at the roadside. The industry's management has neglected to address the crucial balance between maximum production volume, minimum

production costs, and increased product quality. Further, there appears to have been little attention to critical high-cost areas within marketing, such as packing cartons, and labor, which is especially critical on large plantations. Consistently the industry's scarce management resources have been used mostly on the day-to-day maintenance of the BGA's and Winban, and on studies designed to maximize production volume and temporarily solve short-term crises. The absence of grower management by the industry has one of its greatest financial impacts in the "left-on-bank" problem. The BGA's pay the grower on the basis of delivery at the boxing plant, and receive payment from Geest on the basis of deliveries accepted at the dock. The "left-on-bank" situation arises when fruit arrives at the dock after the scheduled departure of the ship, or when more fruit is available at the dock than can be loaded on the ship, or when a shut-out exists due to dock workers' strikes. The large "left-on-bank" expense of almost 3 million dollars, 11.5% of total losses during a typical production year, underscore the seriousness of the absence of grower management in the case of scheduling. The absence of scheduling means there is no control over the flow of fruit to boxing stations such that gluts may result towards the end of a shipping/packing period leading to the first "left-on-bank" situation described above. Scheduling would also ease the job of estimating future production more accurately which impacts on the second "left-on-bank" situation described above.

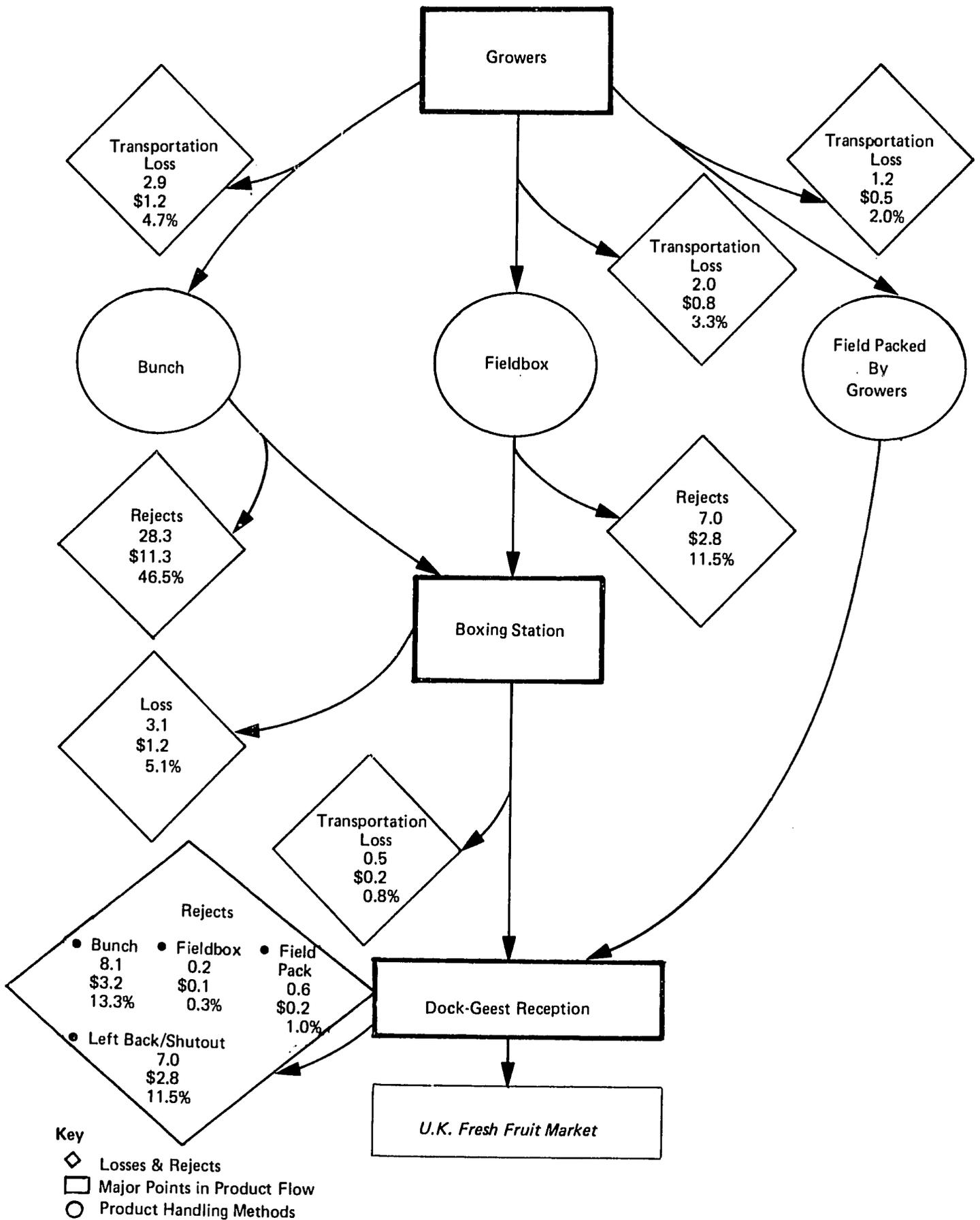
The August 1981 industry review by PMM and Winban determined the following historical situation.

	Value of Left-On-Bank	
	<u>1978</u>	<u>1979</u>
Dominica	\$438,900	\$1,189,600
St. Lucia	306,000	705,400
St. Vincent	<u>922,000</u>	<u>221,000</u>
TOTAL	\$1,666,900	\$2,116,000

It is our understanding from Winban that extremely large left-on-bank costs have been incurred by each of the BGA's in 1981, but these costs have not been fully quantified. If this is the case and the above information is illustrative of what these losses may be, it is easy to see that their impact on the industry in the recent period of low prices could be critical.

The product losses in the flow from grower to dock, as shown in Figure 12, total almost a quarter of fruit harvested (24.6%). Although the losses are primarily due to mishandling, rejection due to poor fruit quality, and left-on-bank situations, approximately 5% in-field losses (product which never gets to the roadside from the field) could be added. Losses in the field, however, are probably unavoidable because they involve such biological facts as odd-sized bananas.

About half of total losses, representing \$11.3 million in value as presented in Figure 12, occur in the rejection of bunches at the boxing plant reception area. Nearly 20% of the fruit in bunches which is dehandled is rejected. It is at this point that scheduling of grower deliveries would probably be most significant. Rejection rates at the same point are only about 7%. Furthermore, the rejection rate at the dock



**FIGURE 12 WINDWARD ISLANDS BANANA INDUSTRY ANNUAL LOSSES<sup>1</sup> IN MILLIONS OF POUNDS AND DOLLAR VALUES, AND PERCENTAGE OF TOTAL LOSSES<sup>2</sup> AT MAJOR POINTS IN THE PRODUCT FLOW**

1. Loss figures were estimated based on opinions and interviews.

2. Based on 1978 shipments of 246.4 million pounds and total loss of 60.6 million pounds.

of fruit originally in bunches (13.3%) accounts for \$3.2 million in losses, which is particularly large relative to the rejections at the dock of fruit originally in field boxes and field packed. In addition, the significant "left-on-bank" losses at the dock (11.5%) as described previously, are in part a result of scheduling problems, such that boxing stations receive a glut of fruit which cannot be packed in timely fashion. The \$2.8 million left-back expense is certainly a significant factor in the BGA operating results.

There is no complete compilation of reasons for losses in fruit (as compared to fruit rejected) but Winban has made some sampling studies which indicate that most of the losses come from mechanical damage occurring in transport (bruises and crushing) and from latex staining.

Absence of grower management by the industry is also reflected in revenue loss due to poor quality. The practice of paying bonuses of only 1-2¢ per pound (a 5-10% premium) of bananas received at the boxing station for premium fruit, for which the market awards a 50-60% premium for high quality is an example of where the ability to make higher bonuses available has not been used as an incentive to increase the quality of fruit delivered.

Figure 3 (p.19) shows that once the fruit arrives in the UK, it is sold at widely different prices depending on its quality. It is estimated that about 5% of boxing plant and 50% of field pack fruit (giving a total 14% weighted average for the industry) can be sold at the premium price of £6-7 per box. There is a 50-75% difference (£4-£7) in the UK market price between average and premium fruit (not to mention the very low price - £2-3 per box for low-quality fruit). The cost of producing premium quality

fruit is very little more than that of average or low quality bananas; the difference is due to additional care during handling and transport. Winban estimates that the extra revenue which could be gained by increasing the proportion of premium quality fruit, could reach \$8.8 million per year.

There is some evidence that Windward Island fruit occupies, in general, a lower quality position in the UK market than does dollar/fruit. The Government Price Commission, in its 1974 report, Prices and Distribution of Bananas, indicated that in Northern Ireland bananas were available interchangeably because of dollar/fruit's easy access through the Republic of Ireland. In this free market situation Windward Island fruit has been driven completely from the market.

We can conclude, therefore, that rejects and low quality are a major industry problem which, if solved, or even ameliorated, could have a major impact on industry viability.

### 3.0 THE INPUT REVOLVING FUND, THE PRE-PAID FERTILIZER CESS AND A GROWER/DONOR ACCOUNT

Over the years a major concern of Winban and as a result of the international donors [the British Development Division (BDD) and more recently USAID] has been the availability of inputs for growers, especially fertilizer. In 1974 the industry adopted, based on BDD recommendation, a prepayment system (pre-paid cess system) where deductions are made from grower sales and credited to individual input accounts which are in turn debited as growers remove fertilizer from BGA warehouses. Funds paid into cess accounts are held by the BGA's and are used in the procurement of inputs (basically fertilizer) to replenish inventories. At the beginning of this year, as part of a hurricane rehabilitation program, AID and BDD distributed to growers, through Winban and the BGA's, fertilizer on credit. Half of the value of fertilizer received by each grower was to be repaid by him into an input revolving fund (IRF). The monies in this IRF were to become supplemental to the grower funds in the pre-paid cess accounts, to insure availability of adequate supplies of fertilizer to the industry.

Due to the liquidity crisis being experienced by the BGA's, all special cess account accumulations (IRF and pre-paid fertilizer) were drained in an effort to maintain grower prices in a falling market. By reaching into every available cash pocket, without respect for the terms and conditions under which certain of these cash assets were granted, the BGA's have broken faith with the IRF donors and with their individual member growers, and cess funds will not be available for the operational uses intended. Given the

industry's current financial status (Section 2.2), the Winban forecast of grower repayments of disaster funds anticipated to be about \$6 million dollars are probably no longer totally recoverable.

### 3.1 The IRF, Current Status and Projections

To September 30, 1981, PPM and Winban, had established that deductions from grower payments totaled \$1,332,520, with \$524,811 (39%) deposited in separate IRF accounts, as per donor agreement terms. The situation for each of the three BGA's is:

#### 3.1.1 Dominica

Grower IRF cess payments have been deposited in a separate bank account in accordance with the terms of the grant agreement. This special account had a balance of \$191,854 as of September 30. The BGA has, since initiating IRF collections, withheld \$335,011 from payments to growers. This indicated that deductions made have not always been segregated out of the operations account. Such deductions amount to \$143,157, and technically should be considered an unauthorized loan from the IRF cess.

#### 3.1.2 St. Lucia

As agreed with the donors, grower deductions commenced on April 28, 1981. Deductions to September 30 amounted to \$660,715, while cash on deposit in the special IRF account totaled \$332,957. This indicates that an unauthorized loan of \$327,758 has been made to the operations account.

#### 3.1.3 St. Vincent

This BGA has established a separate bank account for IRF funds, as per the terms of the grant agreement, but has never made any deposits into it. Nevertheless, \$336,794 has been withheld from grower payments. These funds

have been maintained in the BGA's operations account and as such represent an unauthorized loan, payable to the IRF account.

### 3.1.4 IRF Projections

Winban's September progress report on the Hurricane Allen Rehabilitation Project, indicates that the information available on issues to growers during the Project is not in a form that allows calculation of the exact amounts due to the IRF accounts. Nevertheless, in Appendix I to Winban's March 24, 1981 study entitled "Proposal for the Operation of the Disaster Fund and the Input Revolving Fund," an estimate of the accumulation of funds over time is made. A comparison of this estimate to actual collections to September 30, 1981 shows:

<u>Collections</u>	<u>St. Lucia</u>	<u>Dominica</u>	<u>St. Vincent</u>
Estimate-Sept. 30, 1981	\$ 875,670	\$ 709,293	\$334,339
Actual -Sept. 30, 1981	660,715	335,011	336,794
Difference - Sept. 30, 1981	-214,955	-374,292	+ 2,455
Est. - Aug. 31, <u>1982</u>	\$1,979,500	\$1,603,400	\$959,600

We find, therefore, that St. Lucia and Dominica were behind the forecast for Sept. 30, 1981, with St. Vincent slightly ahead. The real issue is whether the \$807,709 in Operating Accounts as unauthorized loans are recoverable and whether future collections will serve to increase available IRF capital to the three islands by being deposited in the IRF accounts. Winban collection forecasts give detailed collection expectations through August 1982, when a total of \$4,543,000 should have accumulated. This amount is expected

to increase at some later point to \$6.7 million which is regarded as the maximum potential capital for IRF operations.

Many of the assumptions used to arrive at the above estimates have not held up. Prices have not reached assumed levels such that the sliding scale of cess withholdings has not been implemented. Production has reached, and in many cases exceeded, expected levels. Nevertheless, the low prices which have prevailed have forced the industry into a financial crisis which may impact on the availability of fertilizer and future production levels. To the extent that this occurs, even if prices regain some of their previous strength, it is doubtful that IRF accounts will reach estimated levels within previously expected time periods.

### 3.2 The Pre-paid Fertilizer Cess Current Status and Projections

To August 31, 1981, PPM and Winban have established that the reported pre-paid cess due growers by the BGA's totaled \$5,246,000. While this amount of funds represents the value of some 6,460 tons of fertilizer (\$812/ton), and represents the cess collected (3.5¢/lb) from 149.9 million pounds of production shipped, cash available to support the purchase of inputs is marginal at best in St. Lucia and non-existent in Dominica.

The situation faced by each BGA is as follows:

	<u>Balance Prepaid Cess</u>	<u>Purchases</u>	<u>Cash on Hand</u>	<u>Prepaid Cess Not Covered</u>
Dominica	\$2,486,000	-	0	\$2,486,000
St. Lucia	1,700,000	\$975,000	\$225,000	500,000
St. Vincent	<u>1,060,000</u>	<u>-</u>	<u>752,000</u>	<u>308,000</u>
	\$5,246,000	\$975,000	\$977,000	\$3,294,000

In projecting pre-paid fertilizer cess funds to be collected over the period August 31, 1981 to August 31, 1982, it is assumed that production shipped will be equivalent to that of 1978. Given that a cess of 3.5¢ per pound of fruit shipped is collected, the three BGA's will accumulate \$8,624,000, which if segregated from operating expenses and price support efforts is distributed as follows:

	<u>Production Million lbs/year</u>	<u>Cess/ lb.</u>	<u>Fertilizer Cess Funds</u>
Dominica	83.8	3.5¢	\$2,933,000
St. Lucia	101.0	3.5¢	3,535,000
St. Vincent	<u>61.6</u>	3.5¢	<u>2,156,000</u>
Total	246.4		\$8,624,000

If it is assumed that the amount of NPK distributed by the BGA's in this period is equivalent to amounts distributed in 1978 per pound of production shipped (94.4 tons NPK/000 metric tons production shipped) and the price per ton remains at \$812/ton, the following situation will exist where tons purchased are slightly greater than tons required.

	<u>Fertilizer Cess Funds</u>	<u>Tons Purchased Period</u>	<u>Per Month</u>	<u>Tons Required Using 1978 NPK Rates</u>
Dominica	\$2,933	3612	301	3587
St. Lucia	3,535	4353	362	4323
St. Vincent	<u>2,156</u>	<u>2655</u>	<u>221</u>	<u>2637</u>
Total	\$8,624	10,621	885	10,547

### 3.3 A Donors and Growers Input Bank Account

The actions of BGA's in the unauthorized use of IRF and pre-paid cess funds to maintain price levels to growers and cover operating expenses, can only be expected to raise demands by both donors and growers, that financial and managerial controls be implemented to ensure the operational integrity of cess funds. While these demands may raise delicate political and emotional claims of unwarranted interference, any justification which may have existed for such claims has long been foregone. The position of a BGA which forces a grower (through deductions) to make deposits out of his sales (so that funds are available to purchase inputs) is analagous to the fiduciary responsibility implicit in a banking arrangement. Just as a bank must ensure that it can honor the legitimate withdrawal requests of its depositors, so must a BGA ensure that cess funds are available to provide the inputs which growers have paid for and require to maintain production levels.

#### 3.3.1 Trust Nature of Cess Funds

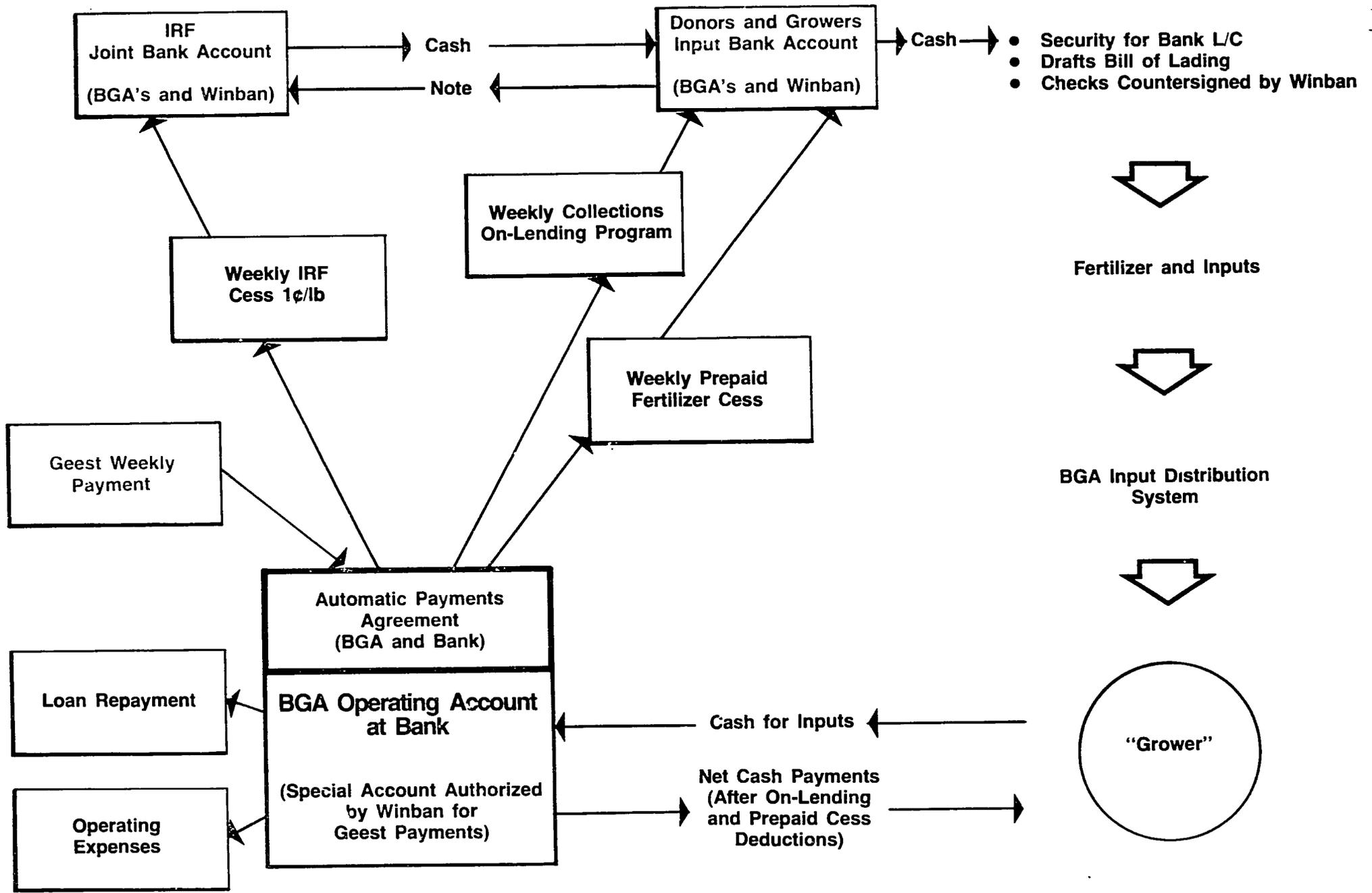
Both the IRF and pre-paid fertilizer cesses represent "trusts," where the funds are owned by the growers. The managerial and financial controls required to ensure their operational integrity are similar, and the objective of the monies in both funds issimilar. While the trustees of the two sets of funds are different, when the BGA's overcome the present liquidity crisis, all funds for input procurement should be managed through one account under the ultimate trusteeship of Winban.

The Limited Scope Grant Project Agreement executed on September 29, 1980 between USAID and Winban, and the BDD Project Agreement of the same period,

executed with the governments of Dominica, St. Lucia, and St. Vincent, created a restricted gift and clearly established a trust, where the banana growers on each island are the beneficiaries. Both agreements stated in exactly the same words that: "the BGA's participating in the Project will cooperate with Winban to establish a separate account with the monies collected from growers--this "Fund" will be administered by Winban and used only to procure additional inventory stocks of consumable inputs for BGA's to issue to growers." Thus, grower repayments to the IRF are to be in perpetual trust for their benefit. All transfers from this special account, captioned, "Winban Input Revolving Fund," must be approved by Winban and are subject to the degree of control and accountability necessary for Winban as trustee to insure their use for input purchases.

### 3.3.2 Use of IRF Funds

The funds which have been deposited to date in IRF accounts, as well as those that may be collected and deposited in the future provide a basis for strengthening the input procurement capability of the BGA's. The use of IRF funds to this end, on a controlled and monitored basis can be undertaken by establishing a joint Winban/BGA, Donors and Growers Input Bank Account (see Figure 13). Funds transferred from the IRF account to this new account need not include a provision for an interest payment by the BGA to the IRF, as such a payment would not be in the interest of the grower/beneficiaries. Thus, an interest free note should be used to transfer funds from one account to another. This note could initially be equal to the total amount of IRF collections to the date of transfer, and should be properly authorized by each BGA's board of directors, and made payable to Winban as trustee. The figure for the amount of the notes should be established by an auditor such as PMM, and



**FIGURE 13 DONOR AND GROWER INPUT ACCOUNT — ORGANIZATIONAL AND OPERATIONAL STRUCTURE**

should be equal to the total withholdings from grower payments.

Simultaneously with the signing of the notes the BGAs will have to accept certain financial controls. These include the presentation of an audited report establishing the amount of growers "accounts receivable," and agreeing that no additional grower credit will be extended except under the on-lending provisions of the IRF fund. These provisions basically state that: (1) the maximum loan allowable will be 50% of the borrower's Pre-paid Fertilizer Cess Account, with repayment at 50% of the Pre-paid cess rate; (2) credit purchases will be made with at least the same price differential from cash purchases as now exists.

In addition, the BGA's will on agreeing to the above, be required to furnish a detailed aging of grower "accounts receivable" based on the December 31, 1981 auditors report. At this time the BGA's will also agree to have operational by June 30, 1982, a program for reduction of the presently outstanding growers receivables. This program is to have a maximum repayment period of 15 months. Funds collected through deductions to grower payments would go into each BGA's operating account for repayment of BGA loans outstanding.

Finally the BGA's must agree to continue collecting the pre-paid fertilizer cess of 3¢ per pound of fruit sold. The BGA's should also agree that in the event that this rate of cess collection does not continue, a pro-rata adjustment (reduction) will be made in the amount of any future IRF loan applications which a BGA may make. This will help to discourage BGA's from replacing "pre-paid" funds with IRF funds.

The availability of funds in the IRF accounts will increase as the cess is collected. This will make more funds available which can be transferred to the Donors and Growers Account. To ensure that the conditions established above are implemented in the short run, notes initially negotiated will be due June 30, 1982. As BGA's satisfactorily carry out their responsibilities under the Donors and Growers Account Agreement, Winban can be expected to renew and extend the total indebtedness outstanding on June 30, 1982.

### 3.3.3. Donors and Growers, Account Operation

The key to the operation of this account and the enforcement of the financial controls established will be the acceptance by all parties (Geest, Winban, BGA and Bank) that an "automatic payments agreement" operate on each BGA's Operating Bank Account. Each BGA agrees to have only one Operating Bank Account. Once acceptance of this "agreement" has been established, any change would also have to be agreed to by the parties involved. Critical to its operation are the bank who should find that enforcement of this "agreement" will help to protect them as creditors. Geest's cooperation is also essential to seeing that payments for bananas shipped are made only to this account; they should find that cooperation will help ensure that the industry can procure the fertilizer and other inputs it needs to maintain quality and production at required levels.

As can be observed from Figure 13, the operation of the "automatic payments agreement" begins with Geest's weekly payment for bananas shipped being made into the BGA Operating Account at the bank. Once the funds have been deposited, the bank immediately withholds the cess amounts due

on IRF and Pre-paid Fertilizer and transfers these funds respectively into the IRF Joint Bank Account and the Donors & Growers Input Account. As the On-Lending Program gets under way, the bank will also withhold amounts due and transfer them to the Donors and Growers Account. The balances remaining on the weekly Geest check after the above withholdings and transfers have been made remain in the BGA's Operating Account and are not subject to the automatic payments agreement.

In summary, the automatic payments agreement ensures that the Donors and Growers (D/G) Account is replenished before any other grower or BGA demands are addressed. Since funds in the D/G Accounts are to be used by the BGA's for the procurement of fertilizer and other inputs, it is evident that ultimately this account will operate as a combined IRF and Pre-paid Fertilizer cess account. The D/G Account is designed (Figure 13) to have the following flows:

Cash In - (1) Cash transfers are made from the IRF Joint Bank Account. Each such transfer is offset by a non-interest bearing note from the BGA. (2) BGA transfers, through the automatic payments agreement, weekly prepaid fertilizer cess funds to the account to maintain balances required to secure Bank letters of credit for input procurement, or to cover drafts on bills of lading. (3) As the "on-lending" program becomes established, with the recovery and transfer of IRF funds, weekly deductions from payments to growers who have loans under the program, are transferred to the account, by the Bank, through the automatic payments agreement.

Cash Out - (1) Bank internal action to transfer funds to collateralize a letter of credit which it has been asked by a BGA to issue. (2) Bank honors checks on single signature of the BGA in payment of drafts with a bill

of lading attached. (3) All checks countersigned by Winban. (4) One overdraft permitted in the amount of the difference between the balance on deposit and the amount of the draft presented.

The financial control system proposed here is passive in that it allows funds to flow into a BGA account, leaving with them the responsibility to see that the Bank accurately carries out all required transfers, and issues weekly statements showing all payments made into and out of the D/G Account. Should a BGA decide to terminate the automatic payments agreement with the bank, the D/G Account would have a "stop-payment" order on all future draw downs from the account.

To effectively implement the "automatic payments agreement" the banks will need certain information from the BGA's. To transfer pre-paid fertilizer cess funds, the banks will need to know as a minimum the total amount of "exportable production" purchased from growers each week. Since the fertilizer cess is a fixed amount per pound (see 2.2.4) the banks simply compute the amount of fertilizer cess to be transferred based on "exportable production." For the banks to withhold the IRF cess, the BGA's will as a minimum have to provide them on a weekly basis with a total amount to be withheld based on their records of amounts of rehabilitation fertilizer issued to growers. If on any one week the BGA does not provide this information, the bank will withhold and transfer the amount of the preceding week. Finally, for banks to be able to withhold the "on-lending" program repayments, BGA's will have to provide on a weekly basis a figure for the total amounts to be withheld and transferred. The banks are to provide the BGA's and Winban with weekly statements of transactions completed with respect to the D/G Account. Winban as trustee of the funds in the D/G

Account should receive copies of all information provided to banks by BGA's on withholdings. This information should be reconciled weekly with the bank's statement of transactions and Winban should ensure that all discrepancies are resolved immediately. As trustee of the funds in the D/G Account, Winban should report to growers at least monthly on the status of the Account.

The process described in the paragraph above can also be automated and made more efficient if the banks were to absorb all banking operations presently performed by the BGA's. In such a case the BGA's would concentrate strictly on the marketing of fruit, and would limit themselves to recording amounts of exportable fruit purchased from each grower. This information would then go to the bank, which would maintain an input cess account and an IRF cess account for each grower. BGA's would transfer all records on issues made to growers so that banks can make the appropriate debits to grower IRF cess accounts. On issuing inputs to growers against their input cess account or as part of "on-lending" the BGA would first check with the bank to determine that the particular grower has an adequate balance in his account to cover inputs being purchased. On the advise of the BGA, the bank would debit the grower's account accordingly. Subsequently, the required credits would be made to the grower's account as BGA information on weekly purchases indicates the amount of the grower's sales. The bank would issue the grower a check or money envelope for the net value of his sales. These checks and envelope could be distributed to growers through BGA representatives at boxing stations.

The establishment of a D/G Account does not guarantee that IRF and/or pre-paid cess funds which have already been dissipated by the BGA's into operating expenditures and grower payments can be recaptured. The financial control system proposed here will only help to monitor and control funds that get into the D/G Account. If the BGA's can find ways of surviving the present liquidity crisis without having to use funds from the IRF Joint Bank Account, it is probably impossible to enforce any financial controls designed to strengthen the industries present financial situation. In addition, if donors or lenders are willing to provide the BGA's with funds outside of the D/G Account system, then controlling and monitoring trust funds will never be possible.

Once the above system has been established Winban, as ultimate trustee, is responsible for seeing that it operates to the satisfaction of all parties involved. To assist Winban in this role we recommend that an advisory committee made up of donors and lenders, government representatives and grower representatives be established to review renewal requests, examine grievances and report to the growers on the D/G Account operation. This committee, acting as a third party, could objectively represent growers in reviewing both Winban's and BGA's performance as relates to the Account. Possible members of this Committee would be the BDD, AID, CDB, the Agricultural Development Bank on each Island, Ministry of Finance on each Island, Ministry of Agriculture on each island, and two grower representatives. Again, this is an advisory committee to Winban and therefore Winban is not a member.

Winban as trustee, will incur expenses in performing its duties. Thus Winban should collect a management fee on procurements of fertilizer and other inputs made using D/G Account funds. This fee could come from commissions from suppliers.

#### 3.3.4 Real Value Protection

There remains a concern by some that the input system to be established with support of IRF funds demonstrates an ability to increase its capital over time in order to match inflationary pressures on input prices. It is expected that funds held in the Joint IRF Bank Account will be generating the maximum interest allowable by the banking system in the region. Additional supplementary support can be obtained by establishing some form of "value protection tax" on growers to maintain the real value of the IRF funds. Thus if the maximum potential of the IRF Account is \$6.7 million and the region is affected by 20% inflation, the accounts value would decrease by \$1.34 million. Based on a 1978 level of production shipped, the "value protection tax" would amount to at most 0.0054¢ per pound of fruit shipped. Another option is to capture windfall profits to cover losses in the real value of the funds (see Section 5.4.2).

#### 4.0 FERTILIZER PROCUREMENT AND INDUSTRY NEEDS

One of the major reasons for WINBAN's and the BGAs' existence is to provide a pooling mechanism to make possible the economic purchase and distribution of inputs such as fertilizer and nematicide. Island growers are too small and remote to carry this practice on themselves, and it can be argued that the industry is too important to the Islands to leave the question of input usage entirely in growers' hands.

##### 4.1 Fertilizer Procurement, Supply and Distribution

Besides funding, past experience has indicated that the key issues in fertilizer procurement are physical distribution and avoiding out of stock situations. We have found that the quality of information flow determines how successful the industry can be in addressing these issues. Most important and difficult is information on grower production estimates. To this end it is necessary to apply monetary incentives as a means of achieving accurate forecasts. Winban experience shows that while farmers are in a position to make accurate estimates (bunches appear three months before harvest so they can be counted, and the condition of mats six months before harvest is an accurate predictor of production), the record is that growers will not make accurate forecasts just to please people collecting the information.

It is a relatively simple matter to integrate estimates into boxing plant weigh-in forms and the equivalent for field packs because farmers or their representatives generally accompany the fruit to the plants and are therefore available to provide the information on estimates. The existing grower account computer programs, with small changes, could handle these estimates

and preserve them along with each grower's financial records. This would allow subsequent actual deliveries to be compared against forecasts, allowing for the development of increasingly accurate estimates of potential fertilizer demand with the added attraction to growers that the calculation and debiting or crediting of bonuses and penalties could take place automatically. The amount of monetary penalties or bonuses has no logical basis (except perhaps the relation to the value of left-backs and shut-outs mentioned above) but must be negotiated between Winban and BGAs.

The second most critical information flow required for fertilizer procurement distribution is the GMP estimate from Geest. Clearly there is an incentive for Geest to estimate high, thus eliciting heavy input use and production. This issue should be based squarely over the bargaining table. It might be possible to get Geest to guarantee that the actual price at any future date will be within a certain range of the estimate. This is possible because Geest has much to gain from a predictable banana supply, and they do have considerable control over banana prices in the UK.

In the fertilizer procurement system Winban should recommend a series of monthly fertilizer purchases (contained within supplier contracts negotiated for the minimum period which will give the most economical prices), which will be continually adjusted and updated by the changes in growers production estimates. The system of monthly deliveries minimizes Island stock, which in turn minimizes funding needs. The avoidance of out of stocks goes back to the accuracy of grower estimates and thus becomes the responsibility of growers, who are the only people who can really control out of stock once it is decided to keep only moderate supplies of inputs in the Islands.

The keys to a low cost fertilizer supply and distribution system are low average inventories through frequent deliveries and arm's length inventory control. Other factors are the linking of supply in times of input scarcity to individual production estimates and delivery of supplies to growers or at least to the nearest boxing plant.

The operation of the system is based on production estimates, captured in grower accounts as described above, which generate an estimate of input usage by grower. Thus growers' estimate of harvest dates and amounts implies input application dates and amounts. The latter is expressed in dollars of input per dollar of fruit produced. Fruit and input price estimates convert this data to pounds of input required on given dates. A grower is notified about two times per year of amounts projected for him and the extent to which this matches his expected cess contributions. If there is no response from him, this data forms the basis for the automatic shipment of his fertilizer as it becomes available at the warehouse. Growers whose accounts are in good standing are automatically delivered the amount as estimated above. This eliminates inventory holding costs. Changes (increases or decreases in amounts to be delivered) are possible at this point but only at a penalty to the grower.

The whole procedure uses the already-established computerized grower accounts and reports, with only small program and data requirement changes, to compute input needs. The major extra step is entering grower production estimates. The use of independent warehouses and truckers is not vital to the operation of the system. However the need to allow the BGAs to concentrate their functions and reported problems with inventory control prompts our recommendation for independent arrangements.

## 4.2 Financing Fertilizer Procurement and the Donor & Grower Account- Illustrations for St. Lucia.

In implementing the Donor and Growers Input Account, one of the main problems faced is that of maintaining the capital base in the system. When the IRF and prepaid fertilizer cess funds are combined into a single operational activity, a new cess rate needs to be enforced to maintain the integrity of capital until account agreements can be extended and renewed in June of 1982. Using the case of St. Lucia for illustrative purposes the following situation develops:

1. Capital funds to be maintained:

Due farmers on prepaid cess 8/1/81	\$1,700,000
IRF collections to 8/1/81	<u>435,000</u>
TOTAL CAPITAL	\$2,135,000

2. Turnover of Capital:

(A 4 month capital turnover period is assumed)

1 month - order placement backed by L/C

1 month - transit with draft payable on arrival

1 month - inventory distribution

1 month - recapture from production

Thus  $\frac{\text{Total capital available}}{4} = \$533,750$  monthly capital available

This figure compares with August 1981 fertilizer purchase rate programmed at 600 tons - Valued at \$487,000.)

3. Average Monthly Production:

Total production - Forecast, September - June 1982	41,884 tons
Average Monthly production	3,490 tons or 7,818,000 lbs.

4. Cess Rate:

$$\frac{\$533,750}{7,818,000} = \$0.0683 \text{ per pound}$$

5. Pro Forma Farmer Impact: Assuming (1) price/exchange situation remains as it was on August 20, 1981, (2) Association Cess is increased from 3.0¢ to 4.5¢ as above (3) IRF Disaster deductions of 1% are resumed, the pro-forma grower impact will be:

<u>(¢ per lb.)</u>	<u>Actual 8/31/81</u>	<u>Change</u>	<u>Pro-Forma</u>
Price Payable Assoc.	33.060	-	33.060
Fertilizer Cess	3.000	(+) 3.82	6.82
Assoc. Cess	3.000	(+) 1.50	4.50
(IRF) Collection	0	1.00	1.00
Sub-Total	6.000	6.32	12.320
All Other deductions	15.560	-	15.560
Balance paid to growers	11.500		5.180

6. Recovery of Dissipated Assets:

The capital figure used above of \$1,700,000 is based on total collections. Actual capital in the system at August 1, 1981 was only \$1,200,000 as \$500,000 had been borrowed (unauthorized loan) from the prepaid cess account for operating purposes. The program described above effectively forces (through a higher cess point No. 5 above) repayment of this \$500,000 over the 10-month period September-June 1982 by considering it part of the available capital.

7. The On-Lending Program:

The above calculation of capital turnover does not make provision for funding the proposed on-lending feature of the IRF program. The credit extension contemplated is equal to 50% of the grower's prepaid cess account, so maximum initial funding of \$850,000 is required ( $\$1,700,000 \times 50\%$ ) with an average outstanding balance of \$425,000 to be funded over time. It is thought that the forced recapture of capital discussed above is necessary if any ability to fund an on-lending program is to be achieved.

8. Continuation of the Disaster Collection Cess:

The pro-forma net cash price to the farmer projected earlier is so low that continuation of the 1% IRF cess collection at this time is neither economically nor politically feasible. It must be temporarily discontinued with agreement that it will be reinstated when the price per pound received by the Association reaches a predetermined level. Until such collections are reinstated, the on-lending feature of the IRF program cannot be implemented, as these collections (No. 7 - \$425,000) represent the additional capital in the system necessary to fund this activity.

#### 10. Winban Commissions:

At a monthly procurement rate of \$533,000 annual purchases for St. Lucia total \$6,396,000. We believe that Winban is entitled to a 1.5% commission on such purchases, to come from suppliers, and that the \$95,900 in income so generated should be used for technical assistance to implement a more sophisticated procurement and delivery system.

#### 4.3 Grower Account Balances

It is our understanding that prior to 1974 grower credit extension by the BGAs was the primary method of financing production input requirements. However, appropriate credit standards were apparently not established, or enforced, with ad hoc extensions of credit resulting in high loss experience.

Because of this situation, a basic change in the production credit system was recommended by the BDD and adopted. With only one buyer (the BGA) available to a grower it was possible to establish a uniform program in each island for mandatory prepayment of production inputs. This compulsory savings - or prepaid cess system - operates by deducting from the grower's weekly sales a predetermined amount per pound for credit to his input account.

In addition to this basic system it has remained possible for a grower to apply for and receive financing from the BGA. The situation with respect to grower credit is as follows:

Dominica: A figure representing the amount due by growers is not currently available as the ledgers have not been updated. The most recent information, from the draft audit of December 1979 shows:

	<u>1978</u>	<u>1979</u>
Amounts due from Growers	\$ 850,800	\$ 798,600
Less: Allowance for doubtful accounts	<u>200,000</u>	<u>500,000</u>
Net Position	\$ 650,800	\$ 298,600

(\*as determined on a general basis by the Committee of Management)

St. Lucia: Grower accounts receivable have increased from \$500,000 on December 31, 1979 to \$1,878,000 on August 1, 1981. Payment deductions of 3¢ per pound were discontinued after Hurricane Allen, and the Association does not propose to resume a repayment program until March 1982.

A specific problem has been the break-down of the computer system causing the 1978 re-introduction of a manual system with problems in the reconciliation of data.

St. Vincent: Grower accounts receivable experience has been:

	<u>December 31, 1979</u>	<u>December 31, 1980</u>	<u>August 1, 1981</u>
Gross	\$ 500,700	\$ 872,500	\$ 955,000
Less Reserve	<u>100,000</u>	<u>100,000</u>	
Net	\$ 400,700	\$ 772,500	

No cash credit is extended. A grower may receive input credits based on the recommendation of the extension officer and BGA analysis of his sales history and existing borrowing level. New credit approvals are normally based on debt repayment over 15 months at a rate of 2-2 1/2¢ per pound of production.

Our experience indicates that successful agricultural credit systems must be based on:

- simple, accurate accounting systems capable of providing both the lender and the borrower with both current and detailed historic information about their relationship.
- repayment terms which are reasonable in terms of the borrowers cash flow expectations, and enforced by a collection system providing for personal visits to delinquents.
- integration of the personal contact and resources of the field extension program with the credit extension program.

Any credit extension system which sets the precedent of periods of debt repayment forgiveness runs the risk that an individual grower, faced with some form of personal adversity, will feel that he is entitled to establish his own financial relief program.

Against this background, it is our recommendation that the "on-lending" component of the IRF project be closely controlled and monitored, and we feel that the recommendations contained in the Winban study of March 1981 accomplish this objective.

We further support the recommendation in the other report that a special committee of the BGA Board be established to oversee credit extension, and suggest that it be instructed to furnish a written quarterly activity report to both the Board and Winban.

As discussed later in this report, we recommend that a detailed audit of grower receivables at December 31, 1981, be carried out, that asset reduction programs be developed, and that no additional grower credit be extended outside the proposed IRF operating program (p.62 ).

#### 4.4 Recommended Fertilizer Cess Levels

We do not feel comfortable with the data available for forecasting the fertilizer cess level necessary to optimize crop production.

It is our understanding that Winban Research studies have not directly measured the sensitivity relationship between various levels of fertilizer application and related gains in production yield. Additionally, there is no valid census of producing mats per grower. Therefore, fairly gross estimates of fertilizer requirements in tons are the best available.

It is our belief that the pre-paid cess system of collecting funds for the purchase of fertilizer has been heavily biased in consideration of the level the grower could "afford" to pay (i.e. the impact of any deduction on the next cash price the grower would receive has been a primary consideration in the calculation.)

Moreover, the operation of the system since its inception in 1974 is very difficult to track. We are not sure of fund use relationships over time because:

- detailed accounting records are not available
- recently, at least, these special purpose funds have been diverted for purposes other than their intended use.
- currently cess levels are clearly being set on a basis which maintains a certain net cash floor price to the grower, rather than at a predetermined level required to meet the normal fertilizer needs of a BGA's growers.

The minimum financial goal of a properly controlled and administered prepaid fertilizer cess system must be a capability to meet the normal fertilizer purchase requirements of its participants. We have examined this requirement for St. Lucia and find that:

- The combination of a 3¢ prepaid fertilizer cess, and a 1¢ IRF cess, total fertilizer deduction of 4¢ in combination with a \$487,000 monthly purchase cost of fertilizer, yields a production break-even at 12,175,000 pounds. Island growers met such an average monthly production achievement in the April-June 1981 period (12,720,203 lbs).

<u>Month</u>	<u>Production shipped (lbs)</u>	<u>Fertilizer cess required</u>
February	762,084	.63
March	2,921,918	.16
April	10,822,726	.45
May	12,380,331	.039
June	14,957,553	.033
July	9,599,795	.051
Feb-July total	51,444,407	
Feb-July Average	8,574,067	.056
April-July Average	11,940,101	.041

Assuming the normal monthly fertilizer need of St. Lucia is 600 tons at a current cost of \$487,000, then:

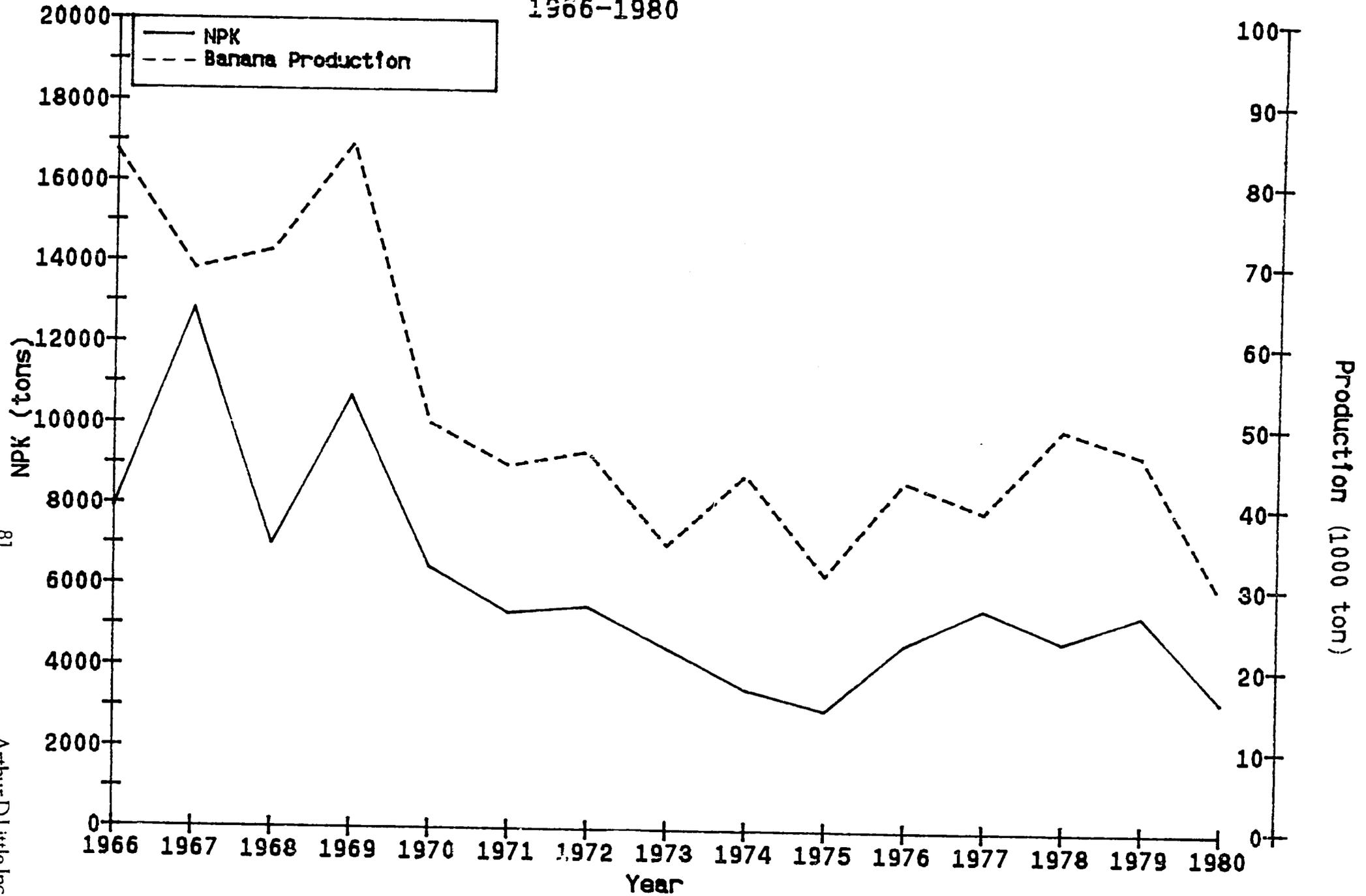
- 1) For the period Feb.-July an average fertilizer cess of 5.6¢ would have been adequate to fund the normal fertilizer requirement.
- 2) Excluding the post hurricane low production months of Feb.-March, a 4.1¢ cess would have been sufficient during the 4-month period April-July.

- 3) The break-even point on the present 3¢ fertilizer cess is an average monthly shipment of 16,233,333 pounds.

Presently there is talk of varying the fertilizer cess level with the price of fruit shipped and the cost of inputs. The suggestion is that cess should be expressed as a percent of growers' gross selling price, rather than in cents per pound of bananas sold, as at present. Winban estimates that the proper relationship is 17.5% of growers gross selling price. At present prices, this works out to be 3-4¢ per pound, which is about the same as the present cess level. One constraint to this approach is that with variations in prices and amounts shipped, growers who might not ship year around would find their cess amounts short, especially if they shipped fruit when prices were below the average annual price. Thus while the percentage approach works across the board for BGA production it will not necessarily work for individual growers. Keeping cess at a constant cents per pound allows for seasonal price increases to be passed on to growers in order to trigger enough cash flow during periods of high prices to encourage growers investment.

There is some doubt about the reliability of Winban recommended fertilizer use figures and the cess levels required to meet these. Historic data on the use of fertilizer and production levels reached by the industry do not shed much light on the issue. As Figure 14 shows, the curves parallel each other, nevertheless there is little evidence as to which is due to use level and which to effect. Fertilizer use can be expected to go down as production is cut back. However, if fertilizer use levels go down, production can be expected to go down as well. The industry does not have at this time yield data which supports or rejects one or the other of these situations.

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At this time there is no good reason to recommend an increase or decrease of present fertilizer cess practices. As was shown in the Section 3.2, a cess rate of 3.5¢/lb seems to adequately support a production level of 246.4 million pounds of bananas shipped per year, based on monthly fertilizer requirements of 362 tons and a price/ton of \$812.

#### 4.5 Fertilizer Cess, Cost of Production and Returns to Growers

Winban estimates (Mark Felton, Costs of Production, October 1981) the following grower total costs, in cents per pound:

<u>Farm Size Tons/Year</u>	<u>Approx. Percentage of Exports</u>	<u>Cost Per Pound</u>	<u>Treatment of Labor and Land Costs</u>
Small (2.7)	10	9.6	Labor unpaid, land cost not charged.
Medium (5.3)	47	11.7	52% of labor unpaid, land cost nominal (\$100 per acre per year).
Large (10.1)	43	18.5	All labor paid, management charged, land \$300 per acre per year.

The weighted average cost is 16.2¢ per pound, which agrees well with other estimates of 16-18¢. This represents a profit over the present grower gross price of 18¢. At a rough average land value of \$4,000 per acre and an estimated 16,500 pounds production per year, the return on land is 8.5% per year. If it is assumed that there is no other productive use for land, even large growers are making a profit because the cost estimate above carries a 1.32¢ per pound charge for land, thus reducing their cost from 18.5 to 17.2¢.

However it can be seen that 18¢ per pound is about the minimum price under present conditions. Below that price large farmers may begin giving up banana production. The industry, thus, has a high priority to avoid wholesale failures of large growers in case the price does fall. A principal strategy is to raise the productivity of labor. One possibility, an arbitrary 25% reduction in husbandry, saves 1.2¢ per pound, thus cutting cost by 6%.

Another way of increasing productivity is to cut the reject rate, assumed in the above calculations to be 30% for small growers, 20% for medium and 10% for large. The possibility of field boxes, for which the reject rate is 7% is a means of increasing total revenue, while decreasing unit cost.

Finally, a premium fruit program well adapted to large growers provides substantial profit possibilities. Winban has shown that the premium program could add \$7.7 million to present grower sales of \$48.1 million, which is equivalent to a rise in grower price from 18¢ to 21¢ per pound.

Thus we can conclude that at present 43% of production is dangerously exposed, but there are ready means to remove this danger if the industry adopts one or two sensible practices which we have recommended. In addition the level of fertilizer cess presently being withheld at 3.5¢ is not excessive when compared to other costs or savings which are obtainable from reducing labor costs or adopting improved handling and marketing practices.

## 5.0 MANAGEMENT FOR INDUSTRY FINANCIAL RECOVERY AND VIABILITY

The Windward Islands Banana Industry comprises diverse groups with varying interests, goals and abilities, as observed in the review of the industry's structure (Section 2.1). In addition it involves the interests and concerns of three Island governments. Initially in reviewing the industry situation, an approach based on the corporate model was considered, in which Winban was the executive and the BGA's were operating units, with growers as both suppliers and shareholders. This approach would clearly centralize management and financial decisions in Winban, and operations in the BGA's, and suggested the possibility of implementing a banking/bankruptcy reorganization effort in which the Donor organizations, Banks and Winban played the roles accorded to courts and reorganization committees in a corporate financial reorganization. Nevertheless given the diversity of interests within the industry, it soon became clear that such an approach was not realistic.

While there is a diversity of interests, it is clear that a common goal is the survival of the industry over the medium term. To a lesser extent, the concept of running the industry to increase grower profits also has common acceptance as a goal. Using these as a focal point, we concentrated on setting objectives, strategies and programs which could be implemented in reaching these goals, and suggest now that the industry will need to adopt management processes and procedures which converge on a system of strategies. This implies that the resource allocation process, industry organization, budgeting, reporting and control, performance measurement and reward, management information systems, internal communications and personnel development processes are all linked to and shaned by a system of strategies. This approach,

linked to renewed fiscal responsibility, will strengthen the industry's capability to survive over the medium term. Nevertheless, the industry's diversity of interests, lack of management depth in some areas, and the harsh realities of the market make it unlikely that any system will produce a thriving banana industry in the Windward Islands.

#### 5.1 Objectives, Strategies and Programs

Table 5 presents four major objectives which the industry should consider. Listed under each objective are major strategies which management should adopt. These strategies yield programs which should be carried out. Priority programs and their expected effect are presented in Table 6. Other programs which might be considered are presented in item 7 of the Appendix. We recommend that all of the programs identified eventually be carried out. Nevertheless, it is clear that because of the industry's present weak financial condition and because the management resources available will probably continue to be scarce in the near future, only a few of the recommended programs should be carried out at one time.

It is vital that, if the industry does nothing else, it institute at least priorities 1 and 2 of Table 6, within the next year. These should temporarily at least, solve the major pressing problems of BGA insolvency, lack of input funds and high costs (due to labor costs) experienced by large growers. Priority 3 should also be started, but not before it is certain that BGA and Winban management have had enough time to implement priorities 1 and 2. The industry should attempt in subsequent periods to undertake priority programs in groups of three or four, including programs listed in the Appendix.

TABLE 5. MAJOR OBJECTIVES AND STRATEGIES FOR MANAGEMENT

I. RETAIN UK PROTECTED MARKET STATUS

1. Maintain constant or growing volume despite high-cost growers leaving industry.
2. Raise quality close to that of dollar fruit but maintain smaller size.
3. Provide socio-economic information to Windward Island governments and others to encourage political pressure.

II. MAINTAIN AVERAGE GROWER MARGIN HIGH ENOUGH TO AVOID LOSS OF SIGNIFICANT PRODUCERS

1. Counteract expected long-term decline in inflation-adjusted UK price by:
  - a. Providing higher proportion of fruit which can be sold in UK at premium prices.
  - b. Raising salable proportion of harvested fruit.
  - c. Finding productive use for rejected fruit.
  - d. Containing BGA operating cost increases - cartons major cost.
2. Provide Winban, BGA boards and growers with sufficient volume, price and cost information to allow:
  - a. Winban to negotiate meaningfully over GMP.
  - b. Boards to responsibly set grower prices and control BGA costs.
  - c. Growers to make informed production decisions - skew production.
3. Encourage average grower cost per pound to rise no faster than price by:
  - a. Motivating marginal, high-cost growers to leave industry.
  - b. Providing input and cultivation information that allows maximizing grower net profit margins, not necessarily yield per acre.
  - c. Concentrating vital BGA services (spraying, etc.) on most productive segment of industry.
  - d. Selectively introducing into production and harvesting labor-saving devices such as double-layer field boxes.

III. MAINTAIN TOTAL INDUSTRY VOLUME DESPITE HIGH-COST GROWERS' CEASING PRODUCTION

1. Increase yield/acre by striving for yearly peak grower price enough above average to encourage investment in planting and selected inputs.
2. Raise salable proportion of produced fruit.

IV. RESTRUCTURE BGA AND WINBAN ORGANIZATIONAL SERVICES SO THAT INDUSTRY MAY BE SELF-FINANCED OVER MEDIUM TERM.

1. Centralize agriculture extension and routine research (e.g. soil tests for growers) in Ministry of Agriculture (cuts industry costs, encourages crop diversification, economies of scale).
2. Place expatriate management and financial advisors in BGA's but require measurable and measured program of counterpart training.
3. Restrict BGA functions to fruit handling, input pooling, disease prevention and perhaps disaster insurance.
4. Restructure cash flow and accounting procedures to maintain funds integrity - Donor/Grower Account.

TABLE 6 - PRIORITY PROGRAMS FOR MANAGEMENT AND EXPECTED EFFECTS ON INDUSTRY

<u>Program</u>	<u>Effect</u>
1. Establish grower/donor input account (Objective IV, Strategy 4)	Break present vicious circle of BGA insolvency, thus low input purchases or donations, thus expected decreases in production and increases in costs.
2. Establish premium fruit program (Objective II, Strategy 1a)	Increase industry revenue by \$8.8 MM (8.9%) and profit by \$7.7MM (if all farmers participate), build strong BGA and grower incentive to support further volume and quality-raising programs.
3. Introduce double-layer field boxes - reduce rejects (Objective II, Strategy 1b)	Increase industry revenue by \$6.5MM and profit by \$4.0MM.
4. Contain BGA operating cost increases - (Objective II, Strategy 1d)	Saving of \$5-10MM, introduce 39-lb carton but must dispose of St. Lucia boxing manufacturer.
5. Set up program to skew production into high-price months (Objective II, Strategy 2c)	\$4.6MM sales and profit increase.
6. Find productive use for rejected fruit (Objective II, Strategy 1c)	\$0.5MM revenue and profit increase, assuming 2¢ per pound selling price and priorities 2-3 introduced first (more revenue if program introduced under today's conditions).
7. Require grower production forecasts (Objective II, Strategy 2a)	Reduce \$3MM left-back/shutout, improve input ordering and distribution.
8. Encourage low-potential, high-cost growers to leave market. (Objective II, Strategy 3a)	Average grower costs fall (industry profit - improves \$3MM for each cent per lb average cost savings).
9. Place temporary expatriate management and financial advisors in BGA's (Objective IV, Strategy 2)	Improve BGA operations, especially communication with boards and rest of industry.
10. Restrict BGA functions to fruit handling, input pooling, disease prevention and perhaps disaster insurance. (Objective IV, Strategy 3)	Concentrate scarce BGA management time on top priority activities.

## 5.2 Implications of Strategies and Programs - Management Actions

While the accomplishment of the priority programs listed above (Table 6) will require the involvement of the management of all participants in the industry, it is mainly dependent on the involvement of Winban, and BGA general and middle management. To some extent they will need to free themselves partially from the pressures of day-to-day business. In part, this can be accomplished through donor funded management advisors to the industry (Priority Program #a); specifically one advisor at each BGA, working directly with the general manager, providing direction and support on the implementation of recovery programs (Objective IV, Strategy 2). Another effort in this direction is for the BGA's and Winban to transfer some of their functions, such as extension and other services, to other organizations, such as the Ministry of Agriculture (Objective IV, Strategy 1).

It will be necessary for the BGA's and Winban to adopt a general pattern of actions to follow in developing and implementing strategy related programs. The process should probably begin with Winban middle management or the research and development office informally discussing with the BGA managers and others (donors, Geest, governments and Banks) the recommended action programs, and in turn, recommending to Winban general management how implementation should proceed. Winban's general management then negotiates formally with the industry parties involved to define an agreed upon action plan; the donors being called upon when needed for support. During negotiations with Winban, the BGA's general manager should make sure that the interests of their member growers are protected and that program implementation procedures are practical (the proposed advisors participation is of importance here). Finally, the BGAs general managers, with assistance from their middle management, and their management advisor will sell the programs to their boards and members.

The actions to be carried out by the management of each of the industry's participants in accomplishing the priority programs identified are listed in the subsections below. While the number of proposed actions may seem excessive, it is not proposed here that all priority programs be implemented at once. Thus, for example, if as has been recommended, priority 1 (Objective IV, strategy 4) in Table 6, is implemented first, the number of actions listed below which need to be undertaken by the participants are: "Winban middle management" action A1; "Winban research office" action C1; "BGA general management: action A1; Donors action 1; Geest action 1. The following table provides a guide of how the management actions detailed in the following sections relate to priority programs and objectives/strategies.

Priority Program (Table 6)	Objective/ Strategy (Table 5)	Winban (5.2.1)	Management BGA (5.2.2)	Actions (Section 5.2.0)	
				Donor (5.2.3)	Geest (5.2.4)
1	IV-4	A1, C1	A1	1	1
2	II-1a	A2, A3, B1,C2,C3	A2,A3,A4	2,3	2
3	II-1b	A4,B2,C4	A5,A5,B1	4	
4	II-1d	C5	A7	5	3
5	II-2c	A5,B3,B4 C6	A8,B2	6	4
6	II-1c	A6	A9	7	
7	II-2a	A7, B5	B4	8	
8	II-3a	B6	A10	9	
9	IV-2	A8, C7	A11	10	
10	IV-3	A9,C8	A12	11	

## 5.2.1 Winban Management Actions

### A) Middle Management

- 1) Assure through informal discussions with banks and BGA management that all details of grower-donor account proposal are feasible.
- 2) Support Winban London representative in negotiations over premium fruit price differential with Geest.
- 3) Establish a plan for expansion of field packing sheds, instruction and certification programs. Discuss these with BGA's. Monitor and devise a plan for communication of the premium fruit program "success stories". Communicate plan to BGA's and donors.
- 4) Design double-layer field box handling methods, financial arrangements and communications program to get BGA concurrence. Run, evaluate and communicate box test results.
- 5) In consultation with Geest set minimum-maximum monthly shipment figures by Island by month to facilitate introduction of program to skew production into high-priced months.
- 6) Supervise and aid outside consultant in studying productive uses for rejected fruit. If study yields positive results, make 3-Island arrangements with joint venture partner to implement plan. (See 3, Appendix)
- 7) Provide details for recommended tying of field box and input ordering procedures into requirements for growers accurate production forecasts. Compile resulting forecasts.
- 8) BDD coordinator negotiate BGA advisor specific job description with BGA's and agree on advisors' relations with Winban. Advisor's major function is to help BGA's return to sound financial management and to open communication channels for information required for high-priority BGA decisions. Key skills are the ability to prepare and participate in presentations of BGA management to their boards; ability to strengthen BGA links to donors and banks, and participate in making unpopular decisions and still retain authority and confidence of BGA management.
- 9) Prepare feasibility study of reduction of BGA functions. Key functions are physical handling of fruit from boxing plant reception to dock, disease prevention and pooling of financing for input procurement.

## B) Research Office

- 1) Prepare WI standards for premium fruit selection and secure BGA approval of them. (See 1, Appendix).
- 2) Design field box and test. (See 2, Appendix).
- 3) Develop program for timing of planting and inputs to realize desired harvest pattern.
- 4) Express input/yield data in terms of ¢ of each input per mat per quarter, for ranges of banana prices. Prepare decision instrument for farmers, such as a "cow chart." (See 5 of Appendix).
- 5) Advise simple forecasting methods for growers to use and determine margins of error. Develop extension service package for instructing them.
- 6) Cooperate with extension service especially in helping large, high-cost but high-potential growers to improve operations.

## C) General Management

- 1) Discuss grower-donor account details informally with BGA general managers and donors. Make final changes and press for adoption. Provide presentation material for BGA boards.
- 2) Insure that Geest presents its UK standards for premium fruit and that they are consistent with suggestions from the WI London representative.
- 3) Negotiate need and character of possible BGA disaster fund to absorb some of profits resulting from premium fruit program.
- 4) Help locate lowest cost source of double-layer field boxes.
- 5) Determine with Geest and BGA's the feasibility of a 39-lb box and re-sourcing. If feasible and attractive, negotiate with Geest and BGA's for the required changes (see 4, Appendix).
- 6) Convince BGA's to adopt system.

- 7) Negotiate specific job descriptions for management advisors with donors and Winban (using help of BDD coordinator) and agree on advisors' relations with Winban.
- 8) Involve BGA general managers and advisors in evaluating results of BGA organizational simplification study, deciding on steps to be taken and providing backup for board presentation. Inform and involve government, Geest and donors.

### 5.2.2 BGA Management Actions

#### A) General Management

- 1) Informally study, along with Winban General Manager, the recommendations for the Grower-Donor Account. Agree on final changes and adapt board presentation material. Secure Board of Directors' approval of plan.
- 2) Agree on Winban standards for premium fruit and communicate them to boxing plants and field packers.
- 3) Negotiate with Winban General Manager on need for and details of disaster fund to absorb some of the profits resulting from premium fruit program.
- 4) Study, agree on modification and approve Winban plan for premium fruit program. In particular, establish plans for expansion of field packing sheds, instruction and certification programs and communication of program success. Secure board approval if necessary.
- 5) Negotiate and agree with Winban on double-layer field box program.
- 6) Launch, monitor and communicate total field box program.
- 7) St. Lucia BGA General Manager uses influence with government board members to help in negotiation on closing St. Lucia carton manufacturing plant.

- 8) Investigate effect of program to skew production into high-price months on processing and grower credit constraint. Suggest improvements to Winban if necessary.
- 9) Cooperate with Winban and joint venture partner in implementing program to find a productive use for rejected fruit.
- 10) Work with government-appointed board members to effect extension service consolidation and not resist high-cost small growers' leaving industry. (See 6, Appendix)
- 11) Cooperate with Winban in drawing up specific job descriptions for BGA General Management and financial advisors. Agree on relation with Winban.
- 12) Use Winban study of BGA organizational simplification to produce a plan which can be sold to the boards.

#### B) Middle Management

- 1) Cooperate with Winban in running tests of double-layer field boxes.
- 2) Implement program of skewing production into high-price months.
- 3) Ensure that extension service instructs farmers in simple forecasting production methods, as worked out by Winban. Pass information to General Manager and board which will help to announce and enforce requirements.

#### 5.2.3 Donor Management Actions

- 1) Make adopting Grower-Donor Account or its equivalent a firm condition for future BGA support.
- 2) Finance small R&D study of pre-measurement of premium fruit if measurement criteria cannot be established from present knowledge.
- 3) Advise Winban and BGA's on need for disaster fund (decide whether own organizations would be willing to provide such aid in future emergencies). Decide if field packing shed loans are warranted.

- 4) Help with the sourcing of double-layer field boxes. Decide if the boxes will be donated, the funds for them loaned or whether they should be the subject of commercial financing. Base Final go-ahead on field box test results.
- 5) Study of feasibility of containing BGA costs by examining key functions which must be retained and those that can be delegated out on contract. Priority areas are cartons, spraying, consolidation of boxing plants.
- 6) Support program to make input/yield information available to farmers by conditioning use of IRF funds to adoption of such a program.
- 7) Finance study of productive use for rejected fruit. Decide on possibility of providing "seed money" for establishing joint venture arrangement.
- 8) Support program of requirements/incentives for growers to provide accurate production forecasts.
- 9) Insist that crop diversification program support be aimed at marginal banana growers and that land re-distribution program target large growers on high-potential land who now have excessive costs because of mismanagement or misleading accounting.
- 10) Insist on well-defined and accepted general management and financial advisor plans for BGA's before making assignments. Pay particular attention need for advisors who demonstrate diplomatic skills.
- 11) Lend influence to Winban to convince BGA's that they should adopt a program of organizational simplification.

#### 5.2.4 Geest Management Actions

- 1) Lend support to grower-donor account by tying any future loans or grants to its implementation.
- 2) Cooperate with Winban in establishing premium fruit program by negotiating over the possibility of stickers and larger boxes, as well as technical need for special trucking arrangements.

- 3) Work with Winban and BGA's to determine feasibility and cost savings of 39-1b box.
- 4) Investigate impact of program to skew production into high-priced months on shipping schedules and on the IJK market, perhaps undertaking promotional efforts to support the program.

### 5.3 Management Information Systems

We have already pointed out that the general flow of management interaction in the industry should be initiated by Winban middle management, passed to BGA general management by the Winban General Manager (with support from Geest and donors), recommended to the BGA boards and finally communicated to growers. Also expressed has been our concern over the need for establishment of some industry leadership, and our judgment that Winban represents the logical base for such leadership. It is therefore clear that excellent communication and understanding must exist between Winban and the BGA's. Presently procurement of reliable and comparable, financial and operational information is complicated and time consuming. Winban should convene a conference of industry participants and island accounts to examine the extent to which accounting and managerial information can be standardized. One means of ensuring that the required information flow will be established and preserved is to initially place the Winban General Manager on the BGA boards, and with the assistance of the Management advisors to BGA's, develop a pattern of communications between the Management groups involved. A pattern of formal links, supplemented by the present membership of BGA managers on Winban's board, should provide an organizational parallel to the operational interdependence which should characterize the two organizations, but which at the moment appears to be missing.

### 5.3.1 BGA-Winban Information Flows

The relevant timely flow of information between the BGA's and Winban is essential if the managements involved are to make responsible decisions. Of primary importance is the monthly flow of operating results from BGA to Winban. Included should be summarized estimates of production deliveries in 30 and 60 days and the scheduled flow of that production to boxing stations or the dock, as the case may be. Simultaneously BGA's will need to provide information on grower input requirements and the expected flow over 30 and 60 days. Each BGA should prepare for each Board meeting a cash flow forecast for 6 months. Each forecast should contain a clear statement of cash and gross price to growers; comparison of actual operating performance to budget; fertilizer weight on hand at beginning of month, minus weight sold, plus weight received, and weight ordered and covered by firm letter of credit.

Winban as industry leader should analyze BGA operational data as it is made available and prepare an analysis of information obtained including an evaluation of performance compared to the previous month and same month of previous year. Winban should also project on a monthly basis expected market conditions in the forthcoming 6-month period, based on Geest forecasts of future market conditions and GMP. A sensitivity analysis with respect to BGA price expectations should also be prepared for the six-month period as a guide to their own financial planning. This information should go to BGA's and growers, along with reports on the status of the grower/donor account.

### 5.3.2 Geest and Donors Information Flows

Geest and donors have an important role to play in the building of the industry's overall management information system. They must diplomatically but firmly use their leverage to ensure that the necessary

management information flows are established. The links between Geest and donors, and theirs with the other industry participants should be strengthened. Standardization of Geest and Winban information needs to be encouraged, especially in terms of amounts (metric vs. long tons) of fruit shipped, as well as estimates of fruit produced.

### 5.3.3 BGA-Grower Information Flows

Finally, it is important that the BGA's see that managing the growers is a vital part of their functions. For example, motivating the growers to give timely, accurate production estimates and to accept advice skewing their production into high-price months are important bases of the recommended improvements. It appears to us that at the moment there is insufficient communication and trust between the BGA's and growers. This situation must be remedied if the recommended programs are to succeed. We feel that the BGA's (perhaps with Winban's advice) should establish formal communication links with growers. This could be done with regular radio programs, newsletters and (to a limited extent) meetings. The outward links are not as difficult to set up, however, as the feedback link. Nevertheless the BGA's must make an effort to regularly gauge grower opinions and practices, in particular concentrating on measuring changes which the newly recommended practices, put forth in this report, are having on the growers.

As indicated above, the absence of grower/BGA information flows has proved to be costly in terms of the amounts of left-on-bank fruit. As Table 7 shows, the historical data on production estimates used by Winban to contract for shipments has had a spotty record at best. For the 31 periods shown, estimates were off by more than 10% in 23 periods for St. Lucia, and in 19 periods for St. Vincent.

TABLE 7

WINBAN AVERAGE WEEKLY PRODUCTION ESTIMATES CONTRACTED FOR AND ACTUAL SHIPMENTS DELIVERED PER FOUR WEEK SHIPMENT PERIOD, METRIC TONS, 1978, 1979 AND 1980

Year	Period	St. Vincent				St. Lucia			
		Actual	Estimate	Difference		Actual	Estimate	Difference	
				No.	%**			No.	%**
1978	1	603	575*	-28	5	756	850*	+94	12
	2	654	575	-79	12	909	850	-59	6
	3	657	580	-77	12	1032	1100	+68	7
	4	622	580	-42	7	999	1050	+51	5
	5	575	600	-25	4	1366	900	-466	34
	6	639	670	+31	5	1198	1000	-198	17
	7	562	640	+78	14	1022	1140	+118	12
	8	522	625	+103	20	931	1200	+269	29
	9	488	600	+112	23	780	1150	+370	47
	10	508	625	+117	23	792	1150	+358	45
	11	559	625	+66	12	994	1225	+231	23
	12	596	625	+29	5	930	1100	+170	18
	13	702	600	-102	15	972	1025	+53	5
1979	1	700	570	-130	19	1021	1000	-21	2
	2	736	600	-136	18	1129	1075	-54	5
	3	556	610	+54	10	948	1150	+202	21
	4	542	610*	+68	13	990	1150*	+160	16
	5	293	610*	+317	108	1086	1150*	+64	6
	6	336	610*	+274	82	1054	1150*	+96	9
	7	157	375	+218	139	967	1025	+58	6
	8	210	400	+190	90	758	925	+167	22
	9	275	450	+175	64	619	800	+181	29
	10	298	450*	+152	51	518	800*	+282	54
	11	622	475	-147	24	1095	800	-295	27
	12	619	600	-19	19	1060	1000	-60	6
	13	799	640	-159	20	1231	900	-331	27
1980	1	729	600	-129	18	1299	1050	-249	19
	2	605	625	+20	3	1009	1100	+91	9
	3	548	615	+67	12	972	1150	+178	18
	4	577	600	+23	4	1239	950	-289	23
	5	599	630	+31	5	1047	1000	-47	4

\* Indicates that estimate was assumed to be same as for previous month, since specific estimate data was not available.

\*\* Difference is in relation to actual amounts shipped.

Source: Winban

Using the information on growers in St. Lucia as an illustrative base, it is observed in Table 8 that only 47% of production is packed at BGA boxing stations. In addition, Table 9 indicates that only 23 (17%) of boxing stations are managed directly by the BGA. One obvious solution to the grower management problem (along with scheduling and production estimates) is for the BGA to establish contracts with non-BGA boxing stations. These contracts should be set up such that delivery of fruit is taken by the BGA only at the dock. In addition, the 99 stations involved would be required to provide 30 day and 60 day estimates of production to be delivered. If deliveries are short or long by, for example, more than 5%, then the price paid per pound of fruit delivered would be lowered by a predetermined amount. Fruit arriving at the dock too late for shipping would not be accepted by the BGA. The loss would be to the station involved.

Adoption of this approach not only reduces the size of operation which a BGA must manage, but also reduces the amount of information on growers which the BGA must collect and process. As a result the number of growers which the BGA must directly manage is reduced to only those growers who deliver to BGA boxing stations. All other information on growers and their required management would be covered by contract.

#### 5.4 Management of Grower Price Levels

In order to manage the industry, Winban and the BGA's must realize that growers respond mostly to economic incentives. Therefore, the price setting mechanism must include provision for significant rewards and penalties to encourage quality, harvest at the most opportune times and the provision of accurate production forecasts. Since prices must continue

TABLE 8  
BOXES USED AND PERCENTAGE OF EXPORTABLE PRODUCTION  
PACKED BY DISTRICT BY TYPE OF BOXING STATION  
ST. LUCIA, APRIL 1981 (SLBGA)

District Number	Type of Station							
	BGA		Private		Field Packs		Total	
	Boxes	%	Boxes	%	Boxes	%	Boxes	%
1	8,000	21	9,290	31	1,110	7	18,400	22
2	5,200	13	5,850	20	7,450	49	18,500	22
3	12,200	31	7,495	26	---	--	19,695	24
4	7,000	18	630	2	150	1	7,780	9
5	6,200	16	5,820	20	6,510	43	18,530	22
6	200	1	100	0.3	---	--	300	0.4
Total	38,800	47	29,185	35	15,220	18	83,205	100

TABLE 9  
BOXING STATIONS AND BGA BRANCHES PER DISTRICT  
ST. LUCIA, APRIL 1981 (SLBGA)

District Number	Number of Branches	Number and Type of Station			Total
		BGA	Private	Field Packer	
1	12	4	20	22	46
2	6	2	13	10	25
3	4	5	8	--	13
4	7	6	5	1	12
5	3	3	19	10	32
6	8	3	1	--	4
Total	40	23	66	43	132

by law to be set by the BGA boards, it is vital that both BGA management and Winban prepare formal communications methods to inform board members convincingly of the price setting strategies set out below. Otherwise, the present information vacuum will continue, and boards will set prices based on vague humanitarian standards which are not appropriate to long-term industry viability.

Average grower prices will in the end have the greatest impact on industry viability. The industry must realize that, with the exception of the premium price program and production skewed towards high-priced months, average yearly prices are determined by a world-wide market mechanism (which has been shown in Section 2.3.1 to be largely independent of exchange rate considerations). The fact is that real banana prices have at best kept pace with world inflation. Rather than vainly trying to maintain increasing grower prices in the face of uncontrolled costs, industry policies should favor cost reductions through increases in the efficiencies of production and marketing and the reorganization or exit from the industry of growers who cannot achieve the necessary efficient levels.

#### 5.4.1 Six-Month Moving Average With Floor

Determination of grower prices based on a six-month moving average of the f.o.b. price (GMP in EC dollars less cost of shipping) provides a systematic way for the BGA's to secure the necessary cess required to meet expenses without subjecting growers to the often extreme fluctuations in f.o.b. price. Since the procedure used is systematic, it is possible to make adjustments and keep track of them as in the case where a BGA

may find it necessary to set an absolute floor on grower prices, refusing to let them fall below a predetermined level, such as the 18 cents per pound presently being suggested. Establishment of a floor represents a cash outflow for the BGA--during periods when the moving average price falls below the floor, the Association is losing a part of margin equal to the difference between the floor and the moving average price. The total value of the support required to maintain the floor is equal to the part of margin multiplied by the pounds purchased at that level.

If the Association is not to fall short of funds, it will be necessary to estimate the funds required to support prices and prorate that as an additional cess (floor cess) during periods of higher grower prices. Performed on an annual basis and monitored and adjusted periodically, it will remove much of the risk of falling short of the budgeted BGA margin. This process requires that the Association make assumptions about production and prices for the period for which the floor is to apply. It is assumed that the enforcement of a floor occurs annually. Production by period (1 period = 4 shipment weeks) for the upcoming year can be assumed equal to that of the previous year. Average f.o.b. price by period may be assumed to be similar to the previous year increased by the inflation rate experienced during the previous year.

Using the actual f.o.b. prices for the current year and the f.o.b. prices by period projected for the coming year, the moving average price (weighted by production) per period can be estimated for the upcoming year. (It is not necessary to compute weekly average prices here. A six-period average provides adequate precision for these calculations).

Thus, the projected moving average price for period 7 will be an average of the estimated f.o.b. prices for periods 2 through 7. The budgeted BGA cess (20.85 cents for 1981) is then removed from the averages to determine the average grower prices for each period. An example of this process is provided in Table 10 using Winban 1982 projections of production and f.o.b. prices for St. Lucia.

This table shows the periods in which the grower price falls below the floor (periods 1 through 5) as well as by what amount per pound (margin lost ¢/lb). By multiplying this amount (column 5) by the production for the period (column 1) the total income lost per period is derived. The sum of these losses (\$1,578,000) represents the income which must be recovered when prices are high if the BGA is to meet the budgeted cess. This amount can be collected as an additional cess per pound of production when grower prices are sufficiently above the floor to allow this (periods 7-13). The income lost is divided into the production for these periods (58,688,000 lbs), yielding an added cess of 2.7 cents per pound. This 2.7 cent cess is deducted in its entirety whenever the grower price is 20.6 cents per pound or above. When the grower price falls between 18 and 20.6 cents, it is suggested that the cess be deducted up to the 18-cent floor. Although not added to the calculation above, it removes the price fluctuation that would occur here, providing a cushion for the BGA. It is certainly conceivable that prices could be projected to be so low over a year relative to the desired floor that recouping the income lost would be impossible. If this situation is anticipated, a BGA has the alternative of lowering the floor or borrowing to subsidize grower prices.

TABLE 10. ST. LUCIA - SETTING GROWER PAYMENT LEVELS WITH A FLOOR, USING A MOVING AVERAGE METHOD

Period	Production (1000 lbs)	f.o.b. (¢/lb)	Moving Avg. Before BGA Cess (¢/lb)	Grower Price (¢/lb)	Margin Lost (¢/lb)	Income Lost (\$ 000)	Floor Cess		Final Grower Price (¢/lb)
							(¢/lb)	Total	
1981	9	8,458	34.2						
	10	7,620	35.4						
	11	8,383	35.04						
	12	9,146	33.26						
	13	9,909	31.25						
1982	1	8,383	31.25	33.3	12.3	5.7	\$ 478		18.0
	2	6,860	31.25	33.4	12.4	5.6	384		18.0
	3	7,623	35.49	34.2	13.2	4.8	366		18.0
	4	8,383	40.58	35.7	14.7	3.3	277		18.0
	5	9,146	43.77	38.2	17.2	0.8	73		18.0
	6	9,909	46.77	41.2	20.2		-	2.2	218
	7	10,670	47.22	44.0	23.0		-	2.7	288
	8	9,909	47.72	45.7	24.7		-	2.7	268
	9	8,383	47.72	46.7	25.7		-	2.7	226
	10	7,623	48.67	47.4	26.4		-	2.7	206
	11	6,860	46.50	47.4	26.4		-	2.7	185
	12	6,860	44.96	47.2	26.2		-	2.7	185
	13	8,383	41.52	46.2	25.2		-	2.7	226
1982		108,992					\$ 1,578		1,802

Income lost per pound periods 7-12: \$157.8 ÷ 58,688 lbs = 2.7¢/lb

As is evident, these calculations are based on the Association's best estimates of production and prices for the upcoming year. Monitoring what actually occurs is periodically necessary to adjust for major deviations from projections. At the end of each period, the Association should compare accumulated actual loss or gain with the amount budgeted above. If large differences occur, the Association should try to adjust the floor cess or the floor. An established floor may be found to be too high to be recoverable during periods of high prices. Early recognition of this situation gives the BGA time to consider options for handling this situation.

#### 5.4.2 Windfall Gains

As a safeguard against the disruptive effects of windfall gains or losses or some other extreme green market fluctuation, there may be the proviso that the stabilized green market average shall never be higher or lower than the average price for a year earlier by a fraction greater than 16%, for example. Historically the tendency in the industry seems to have been to pass any such windfall profits along to the grower.

## APPENDIX

### 1. Premium fruit program without increase in price to Geest.

(Based on 100 lbs of fruit delivered.)

#### Assumptions:

- Price of premium fruit is \$0.20/lb over present price \$0.40/lb. (Field pack presently gets a \$0.02/lb premium).
- Boxing station rejects are 14.4% of fruit presented (19.6% for bunches and 6.9% for field boxes) - Figure 2.
- Effect of premium program is a reduction in station rejects to 9.8% of fruit presented (5% reduction in bunches rejected, to 14.6%, and 4% reduction in field box rejects, to 2.9%). Field pack rejects remain at 1%.
- Premium quality fruit received by boxing station increases from 5% to 7% due to premium program.
- Premium quality fruit received in field packs increases from 50% to 70%.

#### Premium program impact on price and revenue.

- a) Boxing station (5.37% increase in revenue).

	<u>Before Program</u>	<u>After Program</u>
Fruit delivered	100 lbs	100 lbs
Rejects	14.4%	9.8%
Premium quality fruit	5%	7%
Total revenue (fruit accepted X 40¢)	\$34.24	\$36.08
Less premium revenue (premium fruit X 60¢)	<u>\$ 3.00</u>	<u>\$ 4.20</u>
Ordinary revenue	\$31.24	\$31.88
Ordinary price/lb ( $\frac{\text{ordinary revenue}}{\text{ordinary fruit}}$ )	39¢/lb	39¢/lb

b) Field packed fruit (18% increase in revenue)

	<u>Before Program</u>	<u>After Program</u>
Fruit delivered	100 lbs	100 lbs
Rejects	1%	1%
Premium quality fruit	50%	70%
Total revenue (fruit accepted X 42¢)	\$41.58	\$48.90*
Less premium revenue	<u>\$30.00</u>	<u>\$42.00</u>
Ordinary revenue	\$11.58	\$ 6.90
Ordinary price/lb	23¢/lb	23¢/lb

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\* After program premium revenue is \$42 and ordinary revenue is \$6.90 as growers would be paid at least ordinary price before program.

2. Revenue increase from use of double-layer field box.

Assumptions:

- The premium quality program has been adopted and has reduced rejects at the boxing station by 50% (see Figure 12).
- A double-layer field box has been designed and costs \$50.00
- Growers harvest 307.2 million lbs (mlb) - Figure 2.

Production received at boxing station increases:

	<u>mlb</u>
Reduction in bunch losses	14.15
Reduction in field box losses	<u>3.5</u>
Total increase in production accepted	17.65
Less station losses 1.51%	0.27
Less station-dock losses 0.25%	0.04
Less dock rejects 3.61%	<u>0.64</u>
Sales increase to Geest	16.7

Profit increase:

Revenue increase	16.7 (mlb) X \$0.40 =	\$6.7 mm
Less boxes	16.7 (mlb) X \$0.10 =	\$1.7
Less increased labor	9% X 16.7 X \$0.22 =	\$0.33
Less field box amortization	10,000 X \$50 =	<u>\$0.50</u>
Profit		<u>\$4.17 mm</u>

### 3. Productive uses of rejected fruit.

If as a minimum rejects can be sold for \$0.02/lb, and, assuming that premium quality and field box programs reduce the rejects at the boxing station and the dock by 50%, then:

	<u>mlb</u>	
Bunch rejects	14.15	
Field box rejects	3.50	
Boxing station loss	0.27	
Dock rejects	<u>0.64</u>	
Total rejects		18.56 X \$0.02 = \$0.37 mm

A number of market factors suggest that there are real opportunities to be considered for processed banana products, either as alternatives to the fresh fruit market, or for the utilization of by-products as an addition to the fresh fruit market. The U.S. processed food market has had a fair amount of activity in the last several years in value-added banana products, indicated by the following new introductions and products in some stage of development:

- Banana Puree - canned, dried and frozen; used as an ingredient in:
  - baby food
  - bakery
  - dairy
- Banana Nectar - used in branded juice combinations; initially ethnic market, expanded to major retail chains; very positive sales growth.

- Natural Banana Essence - flavoring ingredient; innovative technology currently being investigated to increase functionality and use to an even greater extent.
- Sliced Bananas - canned; successful in food service industry because they add product identity.
- Whole Peeled Bananas - frozen; increased use by bakery industry because they allow for control of product texture.
- Low-Moisture Banana Chips - wide consumer acceptance throughout the world.
- Banana Flour - development being considered in U.S. to allow for reconstitution by food manufacturers.
- Banana-Frosted Flakes - major U.S. food company.
- Banana-Flavored UHT Milk - Ultra-high temperature milk processing facilities currently being set up in U.S. and throughout the world; good possibilities for "banana milk."
- Ice Cream, Frozen Fruit Novelties

The use of bananas in further processed products is based on various functional, nutritional, and flavor properties which are contributed to the final product.

In addition to the success of products such as those listed above, numerous factors in the U.S. market suggest further potential opportunities for processed banana products. Relevant market considerations include:

- Increased consumer demand for natural products and ingredients, particularly within the past three years, and expected to continue.

- Growth of health food category (includes various low-moisture banana products).
- Increasing market demand for premium quality products and brand identity, which provide greater opportunities for use of bananas in retail and food service products.
- Specialty food category is the fastest growing segment of the market. Processed specialty food imports, particularly canned and frozen fruit products, expected to increase as consumers increase their demands for the convenience of ready-made products.
- Growth of frozen food category, which also provides opportunities for bananas.
- Increasing popularity of banana flavor - now near the "top 10" flavors.
- Possible use of processed banana products in public school feeding programs to replace fresh fruit due to distribution advantages, etc.
- Current involvement of most all major food processors in the development of some type of new banana product(s).

Technological developments have influenced the quality and extent of processed banana products which have recently been introduced, and in addition, have contributed to possibilities for fresh fruit marketing. A coating composed of sugars and other food-grade ingredients has been developed to protect fresh fruit and increase its shelf-life by slowing down ripening. Implications of this treatment could extend

not only to product quality and market value, but also to storage and distribution and may be worth Winban's consideration.

4. Cost savings of introducing the 39-1b box.

- Cost per pound of bananas for 39-1b box           \$0.06
- Cost per pound of bananas for 30-1b box       \$0.10
- Savings per pound of bananas                   \$0.04
- 246.4 mlb X \$0.04 = \$9.86 mm

5. Cow Chart.

A simple method of communicating which and how much input to use, as well as when to harvest in a given month, could be developed using a "cow chart." This implement is made of two superimposed discs--the outer showing a calendar and the inner showing properly spaced symbols for each cultivation activity, including a harvest symbol. The desired symbol on the outer disc is lined up with the desired date on the inner disc, based on information provided by an agricultural bulletin giving timely values per mat for inputs.

6. Two main types of growers.

- (a) Very small and remote growers for whom spraying and transport costs, high reject rates or low yields presently raise costs to a point when cash flow would be negative if industry-assumed costs (spraying and some transport) were economically allocated.
- (b) Large plantations which pay high prices for labor or have high opportunity costs for land. Some of these

suffer additional problems from flooding or from being used as tax shelters by their owners (in which case costs are sometimes overstated).

Type (a) can leave the industry without significantly affecting volume (36% of growers export less than one ton per year, accounting for 2.8% of exports). Supporting them is more of a social than economic necessity. This is a task for government; the Agriculture Ministry should focus on them in its crop diversification program.

However, the problem with type (b) is more serious: the top 1% of growers (selling more than 50 tons per year) account for 29% of exports. Instead of waiting until the next natural disaster, cost increase or price decrease to cause an uncontrolled string of failures, the industry must now treat type (b) growers selectively. Those with good potential but suffering from low productivity and high costs through poor management should become the target of special, high-quality agricultural extension work, including where necessary direct help from Winban Research. Those with poor potential, low productivity and high costs, may have to be ignored; industry volume will suffer, but average costs and productivity of scarce assets (e.g., spraying) will improve if these growers leave the industry.