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THE FERTILIZER MARKETING SYSTEM IN VENEZUELA

A Working Paper
Prepared for the
FAO/FIAC AD HOC WORKING PARTY

on

FERTILIZER MARKETING AND CREDIT

Rome, February 1973

Tennessee Valley Authority
Muscle Shoals, Alabama

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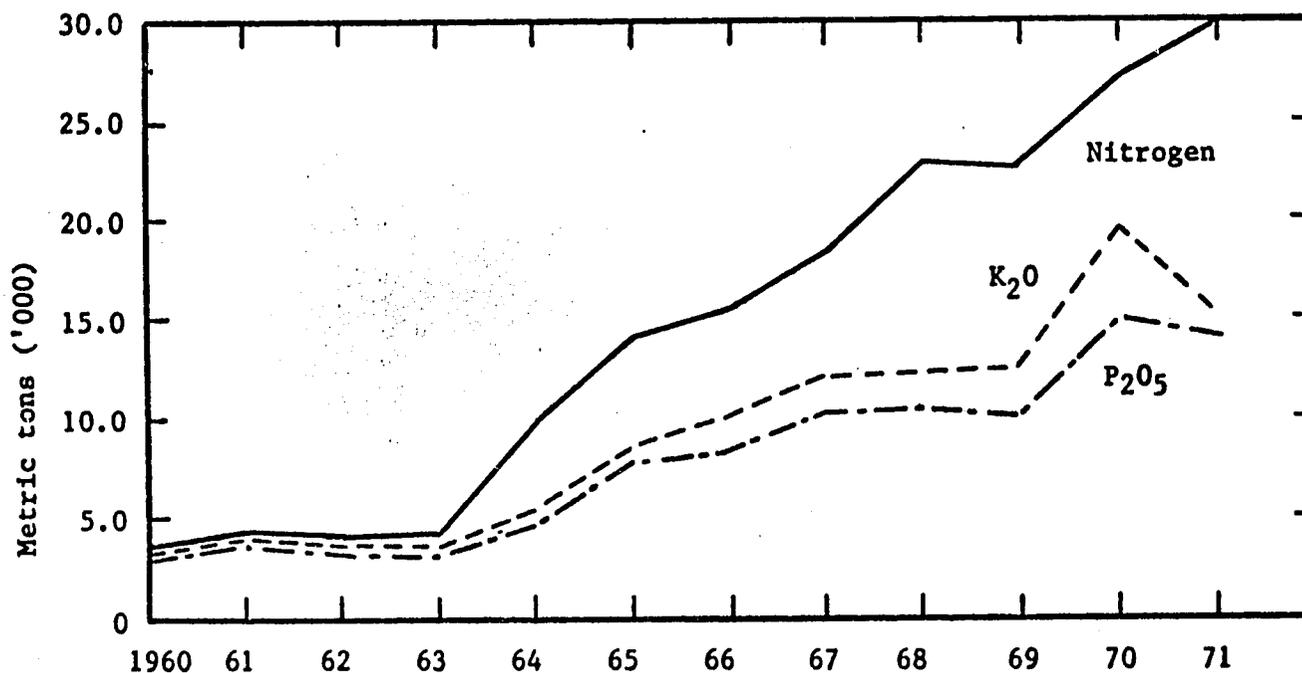
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THE FERTILIZER MARKETING SYSTEM IN VENEZUELA

Trends in Consumption

In 1971, IVP estimated that fertilizer consumption (sales) in Venezuela was approximately 59,000 metric tons of nutrients compared with 11,000 metric tons in 1960 (figure 1). Nitrogen demand has continued to show rapid growth since 1963. P_2O_5 and K_2O have also increased steadily, primarily as a result of increased consumption of complex fertilizers. Although consumption of P_2O_5 and K_2O declined between 1970 and 1971 this does not reflect a declining demand in these nutrients, but is the result of lack of supply, logistic problems and shifts in NPK formulas available in the market.



Source: Anuario Estadístico Agropecuario, 1971 (Data are for Calendar Year)

Fig. 1. Fertilizer Consumption in Venezuela - 1960-1971 by N, P_2O_5 , and K_2O

More than 90 percent of the N, P₂O₅, and K₂O used on Venezuelan farms during 1971 was supplied by ammonium sulfate, urea, concentrated superphosphate (TSP), diammonium phosphate (DAP), muriate of potash and six N-P-K mixtures--12-12-6, 12-12-17-2, 12-12-17, 10-10-15, 15-15-15, and 12-24-12. By contrast, in 1969 about twenty N-P-K grades were available in the market before IVP discontinued production of many of the mixtures.

Structure of the Fertilizer Industry

Fertilizer manufacturing in Venezuela is controlled by the government-owned monopoly Instituto Venezolano de Petroquímica (IVP) which has been producing fertilizers at Moron since 1963. The facility is currently undergoing renovation and expansion of production capacity. Beginning in early 1963 a new 600 ton/day ammonia plant and a 750 ton/day urea plant will come on stream. In addition, a 1,200 ton/day sulfuric acid plant and a 500 ton/day phosphoric acid plant is being built. The next major development is scheduled to take place in 1974 when a new nitrogen complex is to be completed at El Tablazo.

When all scheduled fertilizer projects are completed Venezuela will have nearly 500,000 metric tons of annual urea nitrogen capacity--146,000 tons/day of diammonium phosphate (18-46-0), and 115,000 ton/day of compound fertilizers. With the exception of potassic fertilizers Venezuela, by 1974 will have considerable production capacity in excess of domestic needs at present demand levels and growth rates. Thus, Venezuela is rapidly approaching a surplus situation especially in nitrogen.

Until 1970, imports had been primarily limited to potassium products and taken amounts of N and P_2O_5 . However, in 1970 Venezuela began importing nitrogen-urea and ammonium sulfate to meet domestic requirements. This coincided with the shutting down of the original urea-ammonia operation. Imports of N, P_2O_5 , and K_2O increased in 1971 with most of the nitrogen requirements being met by imports. Complex fertilizers are now being imported. FAO statistics indicate that Venezuela in 1970/71 imported 38,000 metric tons of N, 8,000 metric tons of P_2O_5 , and 25,600 metric tons of K_2O . The main sources of imported fertilizers are Mexico, U.S., Belgium and Italy.

There are no restrictions on importation of fertilizers, however, when the new production facilities currently under construction come on stream IVP will have the capacity to supply all the requirements of basic fertilizers with the exception of potash. Thus, imports of basic fertilizers will be curtailed in 1973 and probably will cease in 1974.

While the government is not in a position to export fertilizers at this time there is no doubt that by 1974 Venezuela will be in a position to export nitrogen and possibly phosphatic materials--DAP and TSP.

Fertilizer Marketing Channels

The initial responsibility for distributing fertilizer in Venezuela lies with IVP for both domestic production and importations. In addition, IVP is the coordinating agency for all fertilizer sold in the country even for the material moving through private channels. Basically, IVP uses three channels of distribution--direct sales, banks, and fertilizer dealers. Although three main channels of marketing exist there are six prime distribution groups within the main channels (figure 2).

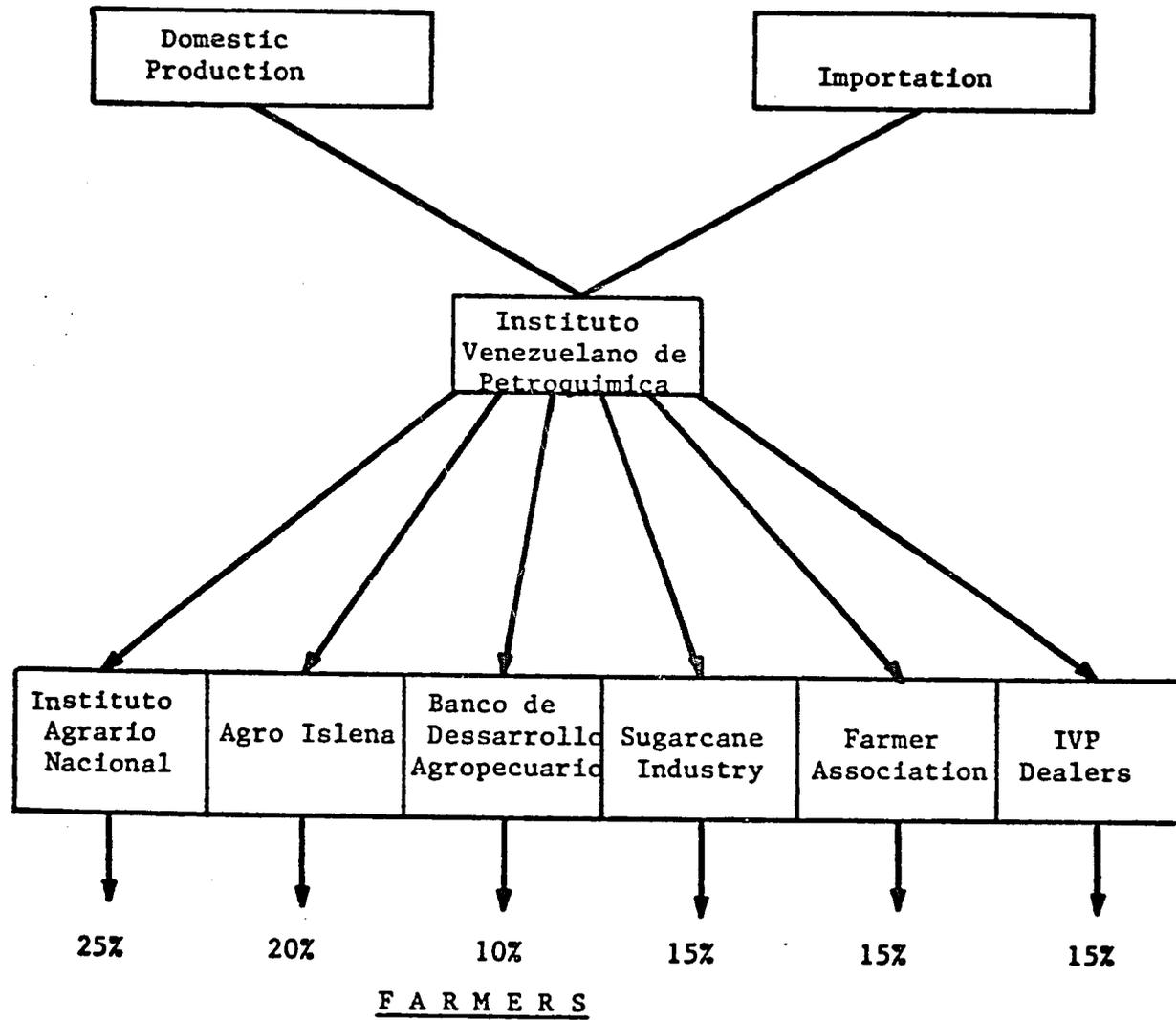


Fig. 2. Fertilizer Supply and Marketing Channels

The 23 states in Venezuela including the Federal districts are divided into 11 geographic agricultural zones. However, for sales purposes IVP has eight major sales zones (table 1). In 1971, over 78 percent of total sales by IVP were in the three zones which form the heart of the prime agricultural cropping region of Venezuela--Maracay, Barquisimeto, and Acarigua. By comparison, in 1970 these same regions accounted for approximately 72 percent of all IVP sales.

Table 1. Percentage Distribution of Fertilizer Sales in Venezuela (By Zones 1970-71)

Zones	1971	1970	Difference
Valera	2.0	1.9	0.1
San Cristobal	6.8	6.3	0.5
Acarigua	10.4	10.4	-
Barquisimeto	15.3	27.9	-12.6
Maracay	53.0	44.2	8.8
Maturin	3.9	6.9	-3.0
Cuidad Bolivar	7.0	1.1	5.9
Maracaibo	1.6	1.3	0.3
TOTAL	100.0	100.0	-

Source: IVP, Manager of Economic Studies.

Twenty-five percent of total sales is through the Instituto Agrario Nacional (IAN), the organization that administers the land reform program in Venezuela. Under this program fertilizer moves to the farmers through IVP zonal dealers with financing through the National Banco de Desarrollo Agropecuario (BDA).

About 20 percent of fertilizer sales is through Agro Islena a private firm engaged in selling a complete line of agricultural inputs to farmers. In addition to the central operation in Barquisimeto, Agro Islena has retail dealers located in strategic areas of the main agricultural regions. The firm receives its fertilizer direct from Moron

or from IVP zonal storage in Barquimeto on a frequent basis, since its storage capacity is limited. Agro Islena has been very instrumental in introducing high-analysis fertilizers to farmers primarily as a result of IVP's promotional incentives. This incentive includes a 12 percent discount on all high-analysis materials, provided the tonnage exceeds 40,000 metric tons annually. All other IVP sales to Agro Islena carries a 7 percent discount.

The Banco de Desarrollo Agropecuario accounts for 10 percent of all sales. The bank does not physically handle the fertilizer but finances fertilizer sales through several agricultural development organizations including IAN. Fertilizers are picked up by the farmers as needed from the various IVP zonal areas after arranging with the banks for payment to IVP. The bank receives a 7 percent discount on all fertilizer purchased from IVP--5 percent is passed on to the farmer and 2 percent is kept by the bank.

The sugarcane industry in Venezuela is well organized and most cane growers belong to one of the several sugar industry associations. As would be expected nearly 100 percent of the cane is fertilized due to prior contract agreement between the farmer and the association. Cane growers account for approximately 15 percent of all fertilizer sales in the country. Fertilizer requirements for the cane growers are established well in advance of planting and the associations finance the farmer purchases from IVP zonal dealers and/or central warehouses operated by the sugar associations. Sugarcane association receives a 5 percent discount on all fertilizer purchases regardless of volume.

Fifteen percent of the country's fertilizer consumption is channeled through various farmer associations which specialize in certain crops--maize,

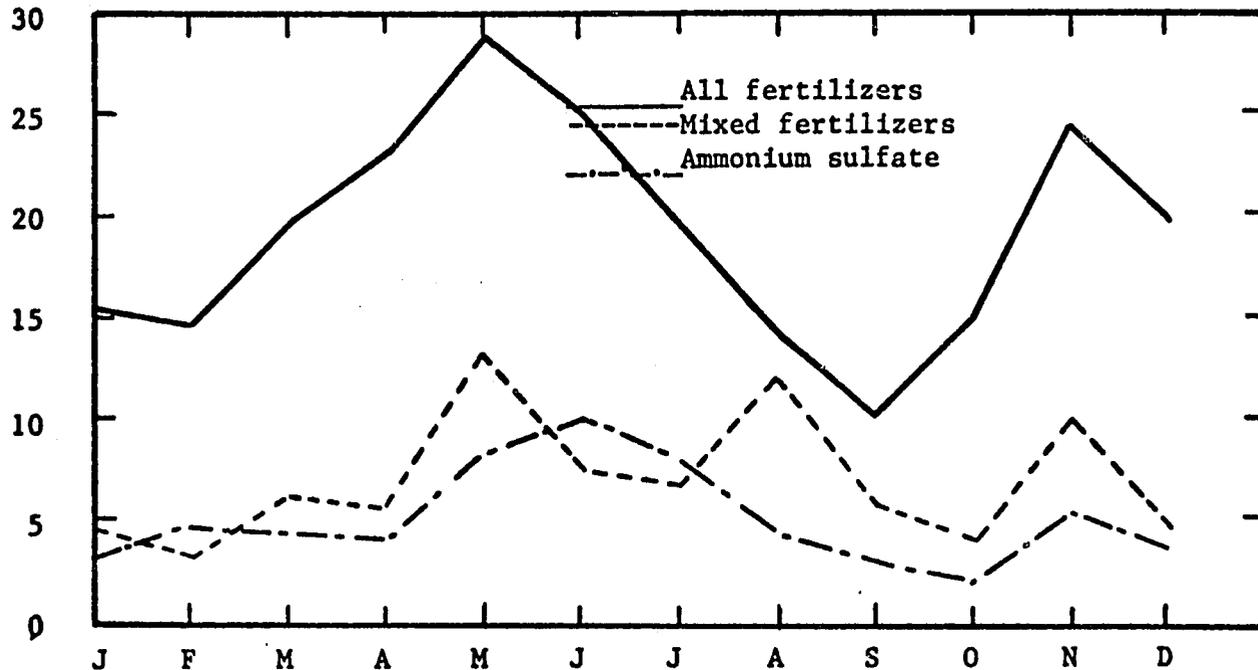
rice, cotton, etc. In some instances these associations include sales channeled through cooperatives. Such sales are small in relation to the total farmer association fertilizer business. Although the farmer associations are primarily commodity marketing oriented they provide, to the extent possible, production inputs such as fertilizers, seeds, chemicals, etc., and related services to farmers. While these inputs and services are promotional in nature they are providing another important channel for fertilizer distribution to the Venezuelan farmer.

IVP moves approximately 15 percent of its sales through its eight marketing zones and 52 retail dealers. The zonal dealers act as storage and dispersing agents similar to a wholesale operation. The main difference is there is no buildup in cost or margin take-off at the zonal level since IVP either rents, or operates, the facilities with salaried personnel. The zonal dealers can sell directly to the farmer, or any of the other five channels. In any case, the transportation costs are passed on to the buyer.

Seasonal Distribution

There are two peak fertilizer use periods in Venezuela--May and November (figure 3). Approximately 50 percent of all fertilizer sales are during the months of March-June, and 20 percent of all sales occur in November and December. These periods correspond to the main planting seasons for spring and winter crops.

Fertilizer application and movement of fertilizer to the farm occur almost simultaneously. Very little fertilizer is stored at the farm and most private dealers are limited to a few tons of storage capacity. Thus, most storage is at IVP zonal warehouses and Moron. IVP estimates that there



Source: IVP

Fig. 3. Fertilizer Sales by Month, Venezuela - 1971

is approximately 21,200 metric tons of storage capacity at the field level (table 2). In addition, there is 20,000 metric tons of bulk storage at Moron and approximately 60,000 metric tons of private storage available at Valencia and Maracay including 30,000 metric tons at the Port of Cabello where all fertilizer is imported into Venezuela.

IVP estimates that the average storage cost including insurance per deposit at each of the 12 locations is 1500 Bolivares per month. Private storage costs are 3.5 bolivares per ton/month.

Table 2. Estimated Field Storage for Fertilizer in Venezuela - 1971

<u>Location</u>	<u>Metric Tons</u>
Barquisimeto	5,000
Acriqua	3,500
Maracay	2,000
Calaboyo	3,000
Coro	300
San Cristobal	1,000
Valera	600
Cuidad Bolivar	1,000
El Tigre	2,000
El Vigia	300
<hr/>	
<u>Total field storage</u>	<u>21,200</u>
<hr/>	
<u>Bulk storage at fertilizer plant</u>	
Moron	<u>20,000</u>
Subtotal	40,200
<hr/>	
<u>Private storage</u>	
Valencia	10,000
Maracay	20,000
Port Cabello	<u>30,000</u>
Total	100,200

Source: IVP

Ninety-five percent of the fertilizer distributed in the country is by truck. The remaining 5 percent is by train from Moron to Barquisimeto and points in between. The average freight cost for the country is 35 Bs per ton. Rail freight is much cheaper than the average transport cost-- 18 Bs/ton (160 km). Unfortunately, this is the only rail service available in the country.

The domestic fertilizer moves in plastic bags. The bags are made of very thin construction and are subject to easy breakage. Imported materials are usually in polypropylene outer bags with polyethylene liners or sisal bags with polyethylene liners. IVP estimates that most of the 2-3 percent losses from production or imports to the farmer are the direct result of handling problems including bag breakage.

Credit

Credit sales are an important part of IVP's fertilizer business. Nearly three-fourths of its sales are on some type of credit arrangements which vary according to the client. Credit terms can vary from 40 days to 6 months. Forty-day credit carries a 1 percent/month credit charge after 40 days. The extended 6-month credit too is usually to farmer associations whose farmers pay after harvest of their crops. After 6 months the 1 percent/month goes into effect. The short-term credit is usually to private dealers and banks and to farmers. There are, however, instances where farmers are given extended credit depending on their farming operation and ability to pay.

IVP extends approximately 700,000 Bs credit/year to distributors and farmers. The company also extends a letter of credit for 30,000 Bs to BAP in administering the fertilizer program for IAN. Prior to 1971, IVP had given credit to farmers in the IAN program with bad debts at fairly

high levels. Now, with BAP administering the credit for IAN, collections are 100 percent. Bad debt losses for the total IVP credit are quite good--less than one-half of 1 percent had credits.

The major credit mechanism for farmers to buy production inputs is through BAP and BDA. It is not possible to break out credit extended for fertilizer only but it is worth noting that the amount of credit extended by BAP for the various crops was over 215 million Bolivares in 1971 compared with about 143 million Bolivares in 1969. Maize, rice, cotton, coffee and mani accounted for over one-half of the total credit given for agricultural production.

Prices, Costs and Margins

Fertilizer prices are controlled by IVP and are uniform throughout Venezuela with exception of the eastern most region where the higher prices reflect the higher freight cost from Moron. With exception of several major fertilizers prices are quoted at two levels--F.O.B. plant and F.O.B. IVP zonal deposits, the only difference being the 35 Bs average freight cost adjustment. Several major mixed products (12-12-17, 12-12-17-2, 12-24-12, 15-15-15, and 18-46-0) are priced the same at all locations. Table 3 is a price list for the most important fertilizers sold in Venezuela.

IVP's pricing scheme varies according to channel of marketing. Basically, the scheme involves discounting procedures and average freight costs as the main substance of the price equalization principle. Contracts written with each distributor reflect the discounting procedures and credit terms.

Agro Islena is given a 12 percent discount on high-analysis fertilizers. A special provision in the contract requires the distributor must purchase

Table 3. List of Prices for Most Important Fertilizers Sold in Venezuela¹

Production	Plant Moron	Zonal Warehouses
 metric tons	
12-12-6	270	305
6-12-18	494	494
10-10-15	365	400
12-12-6	344	379
12-12-17	489	489
12-12-17/2	496	496
12-24-12	542	542
15-15-15	485	485
Potassium chloride	390	425
Potassium sulfate	515	550
Potassium nitrate	776	811
Diammonium phosphate	606	606
Triple superphosphate	282	317
Urea - agriculture	403	438
Ammonium sulfate	235	270
Magnesium sulfate	488	523
Copper sulfate	2,500	2,535
Iron sulfate	337	372
Zinc sulfate	591	626
Manganese sulfate	685	720
Magnesium oxide	605	640
Boron	685	720

Source: IVP

¹ All prices are F.O.B. plant of Moron or zonal warehouse. Prices are in Bs/mt. US\$1.00 = 4.4 Bs.

40,000 mt or more of the high-analysis materials. All other purchases by Agro Hena are discounted 7 percent at the time of settlement.

The banks are given a 7 percent by IVP on all fertilizers purchased. They, in turn, pass 5 percent of the discount on to the farmers keeping 2 percent for the bank's operation. As indicated earlier the banks do not physically handle the fertilizer but do transact paper work in transferring title of the fertilizer from IVP to the farmers.

The farmer associations including the sugarcane industry also receive 5 percent discounts from IVP on purchases exceeding 600 mt. The associations, like most distributors, are responsible for making arrangements for the fertilizer to be picked up from IVP zonal dealers.

IVP zonal dealers do not receive discounts since the company operates the offices with IVP employees. Zone sales managers have some flexibility in selling fertilizer in that they can charge up to 20 Bs/ton above retail price quotation. This policy apparently is used to promote the sale of various fertilizer grades by pricing some analysis (especially those in short supply) above average market price.

Data in table 4 show the effects of IVP's discounting and sales procedures on final sales price. Ammonium sulfate and 12-12-17-2 is used as examples of a low- and a high-analysis fertilizer.

Fertilizer Promotion and Services

There are in Venezuela, as in most countries, several aspects to promoting fertilizer use. First, there is the research and extension approach (traditional methods) which is conducted by the Ministerio de Agricultura y Cria (MAC), Centre de Investigaciones Agronomicas (CIA),

Table 4. Effect of Discounting and Average Markups on Fertilizer Pricing in Venezuela for a Low- and High-Analysis Fertilizer

	Ammonium Sulfate	Urea	Remarks
Price at plant F.O.B.	235	403	Includes IVP's margin
Less discount:			
at 12%		48	12% discount to Agro Islena only
at 7%	16		
Subtotal	219	355	At Moron (plant)
Average freight	35	35	
Subtotal	244	380	IVP Zonal warehouse
Wholesale (markup 5-6%)	12	19)	
Subtotal	256	399)	
Retail markup (6-7%)	14	26)	At Agro Islena stores or cooperatives
Subtotal	270	435)	
Optional markup	20	20	
Estimated total cost to farmer	290	455	

All prices are expressed in Bs per metric ton. US\$1.00 = 4.4 Bs.

Shell Foundation, universities, sugarcane industry, and various private promotional self-interest groups. Secondly, there is the commercial aspect coupled with the research and extension approach used by IVP.

The traditional approach of promoting fertilizer use by extension methods is practiced by several organizations in Venezuela. These techniques involve primarily recommendations of N, P₂O₅, and K₂O for specific crops. Some recommendations are based on plot research and some on farmer field demonstrations depending on the organizations engaged in the activity.

The commercial aspects to promoting fertilizer use is, of course, tied to IVP's sales program. IVP agronomists (47) conduct farmer demonstrations and provide agronomic advice and counsel through the various zonal offices. Extensive use is made of published propaganda-recommendation pamphlets, fertilizer samples, calendars, radios, newspapers, etc. Fertilizer education is considered to be an important part of IVP commercial program especially in areas where new products (analyses) are being introduced.

IVP, like any commercial firm, uses many means of promotion such as volume discounting, analysis discounting and special concessions for fertilizer use on certain crops. Presently, the company is promoting the use of urea on pasture by giving free a ton of urea for every ton purchased.

The degree to which various organizations are engaged in promoting fertilizer use is shown in table 5. At the present IVP is making greatest impact in promoting fertilizer use. In fact, it is assumed by some of the other agencies that this is IVP's responsibility. This is unfortunate since IVP has only 47 agronomists and a small sales staff.

Future Trends/Needs in Marketing

Venezuela is about to become surplus in nitrogen and phosphate fertilizers. This should have an impact on prices of nitrogen and phosphate materials in the domestic market. The result will probably be lower fertilizer prices by late 1974 or early 1975.

The fertilizer market is moving toward a private commercial type venture. IVP is slowly shifting distribution responsibilities to firms like Agro Islena and cooperatives. This shift should provide much needed storage space nearer to the farmer and at the same time allow more equitable distribution of marketing cost among more retail dealers.

Table 5. Role of Organizations Promoting Fertilizer Use in Venezuela - 1972

	Universities	Shell Research Foundation	MAC/CIA	TAN	FUDECO	CVG	IVP
Research	xxx	xxx	xx	x	xxx	xxx	xx
Field trial demonstrations	xx	xx	xx	x	x	xx	xxx
Field Days	xx	xx	xx	x	x	xx	xxx
Recommendations	xx	xx	xx	x	x	xxx	xxx
Promotions:							
Pamphlets	-	-	-	-	-	-	xxx
Radio	-	-	x	-	-	-	xxx
Newspaper	-	-	-	-	-	-	xxx

x = Little
 xx = Average
 xxx = Intensive

MAC/CIA = Ministerio de Agricultura y Cria/Center de Investigacions Agronomicas
 IAN = Instituto Agrario Nacional
 FUDECO = Fudacion paral el de Sarrallo
 CVG = Corporacion Venezuelano de Guyana
 IVP = Instituto Venezuelano de Petroquimica

Changes in product mix will continue to effect the distribution of fertilizers in Venezuela. The higher analysis mixtures should lower unit cost to the farmer but farmer acceptance will depend on a successful promotion effort.

Although the fertilizer market compared with other Latin countries is well advanced commercially, market information regarding recommendations and prices is often confusing. This stems primarily from lack of coordination between the extension service and the IVP promotion program.

Fertilizer promotion is much more than recommendations. As the commercial retail sector grows dealers will need proper training in sales, merchandizing, pricing and product knowledge.

Along with shifts in agricultural production come changes in fertilizer needs. To meet these needs it is expected that the current defunct blending facilities will be activated and expanded into sizeable commercial operations in the next 5 to 10 years.