

SWINE MARKETING DEVELOPMENT IN NICARAGUA

Presented to
Vice-Minister Mayo Vega
and
United States Agency for International Development/Nicaragua

by
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November 1973

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SWINE MARKETING

Report to UNASEC based on my survey in Nicaragua July 1973, and utilizing U.S. information along with data in tables listed in the appendix and under acknowledgements.

INTRODUCTION

The original outline dated July 16 and presented to UNASEC provided for either broadly distributed questionnaire surveys, or for selective field observation with general use of secondary data. The outline purported to examine (a) farm production, (b) commercial hog farms and feeding, (c) assembly and live trucking, (d) hog slaughter planning, (e) marketing pork and processed products, (f) another look at inedibles, (g) basic data development.

After UNASEC staff reacted to the outline, concentration was recommended on parts c, d, and e, with addition of U.S. import requirements for sanitation and specific custom rates. Local staff was assigned to collect the Nicaraguan data (see appendix).

Fortunately, visits were arranged for at the three types of hog enterprises--large commercial--joint farm raising with quality boar(s)--country hogs as a part of subsistence farming.

Under the program as structured there was no analysis of livestock competition for feed supplies, enterprise capital, swine management training, joint raising of species, or of prospects for more domestic concentrates. The report, therefore, presumes that hog enterprises will develop in response to a desired allocation of personal and physical resources including feed concentrates and protein supplement.

Since hogs and cattle enterprises are interrelated at several levels including slaughter, processing, and domestic and foreign demand, references are made to Dr. Brewer's report on cattle. Citations and use of data throughout my report reflect the numbered appendix tables supplied by Sr. Gonzalez. In some cases I wished to make greater use, and hopefully Nicaraguan readers of the report will do so as they go forward with pork operations. Lack of certain data should not impede future development. Losses due to the earthquake are deplored, but opportunity is open for varied types of "pilot" enterprises which in any case must meet the changed circumstances.

Besides the information problems, my own knowledge is likewise incomplete. Thus, the recommendations should be interpreted as directional rather than complete guidelines to future progress. Further, within a few years foreign market opportunities are likely to shift almost as much as are prospective livestock developments in Nicaragua.

ASSEMBLY AND LIVE TRUCKING

The presently fragmented system for marketing live hogs is fully illustrated by Table I (see appendix); commercial hogs in large measure are moved to San Jose for slaughter--perhaps an economical process similar to many Iowa hogs moving live to plants in other states even with many plants located in Iowa.

Given development of "farm to market" roads which will make it feasible for hogs (and cattle) to reach the cities, there is growing need for organized live markets. These are essential for both farmer and trade knowledge of supply, for improved price finding, for establishment of market news and other intelligence under the Ministry, and for a "two way" flow of animals.

Merger of multiple private yards into an adequate unit in any city may take diverse forms. Alexander in 1969 (acknowledgements) recommended auctions in five cities. A market (auction or by other sale methods) may operate under private ownership, or as a cooperative or association. Any early sponsorship by municipalities or the Ministry may be phased out as experience is gained in handling hogs and cattle jointly and days for operation established so buyers may rotate among the cities on market days.

The seasonal nature of hog slaughter (Table 2) emphasizes need for current "price finding" with market reporting under control of the Ministry. It is of added importance to have

data on number and flow of feeder pigs and light cattle. Unfinished and immature animals are thus encouraged to move to areas with feed supplies and carrying capacity. Also, some producers may concentrate on feeding only as they prefer.

Physical location of sales yards should relate both to highway patterns and local slaughter plant(s). Dr. Brewer's report makes an important point on these operations for the interior cities, as does the following section dealing with slaughter facilities. Table I provides data on time required and costs of live movement to Managua. As enough hogs become available on any day at any market to load a large truck, price competition increases for movement is economical to slaughterers located either in or outside Nicaragua.

SLAUGHTER PLANNING

The swine business in Nicaragua may be visualized by three series covering slaughter and principal export movement alive. The following exhibit summarizes by years, by departments, by municipalities, and live export, the detail in Tables 4 and 5.

Slaughter

Years	Departments	Five Municipalities (thousand head)	Shipped to Costa Rica
1967	148	x	x
1968	155	x	x
1969	160	125	11
1970	150	133	8
1971	141	106	10
1972	139	101	27

x not supplied

While these data indicate hog trends, they do not reflect clandestine slaughter, which is quite large. Also prior to 1972 there had been significant movement to El Salvador and Guatemala now more than absorbed by trucking to Costa Rica.

It is not possible to conclude that hog raising and slaughter should expand substantially, given Nicaragua's agricultural resources and alternatives for their future utilization. My biases may be reflected in citing a few U.S. figures. Hopefully readers not familiar with the detail will note that many of our states are not important hog producers. For comparisons note that Missouri in 1972 slaughtered only 1,900,000 head, South Carolina 438,000 and Louisiana 204,000. Louisiana also has low cattle slaughter--the state obviously uses its agricultural resources to other ends.

The small volumes shown for most of the Nicaraguan Departments indicate little potential for commercial hog

slaughter facilities. Opportunity is offered however for shifting away from many of the present inadequate municipal custom operations toward modest new facilities for local kill of hogs and cattle. Such operations appear consistent with the survey of infrastructure by Sr. Gonzalez as reported in Table 3. Also it is unnecessary to repeat here the findings in Dr. Thrasher's report of 1970.

Ownership and operation of small plants in principal cities hopefully will move into private hands, cooperatives, or livestock associations, and be affiliated with live sales yards. Construction of well located small plants in such cities as Esteli and/or Matagalpa need not wait for decisions regarding Managua. Surplus carcass cuts could move to Managua for immediate consumption, for cure, or for processing for later domestic sale.

Proposed new location(s) for replacing the present municipal custom hog and cattle facility in Managua give consideration to infrastructure including the present live stockyards and commercial cattle slaughter plants. Modernization of management arrangements, including purchase of hogs and sale of product with reduced emphasis on custom business, could make for product quality improvement and better merchandising to the domestic consuming market.

In any case, the inedible fats and other items could move to the processing units at the modern cattle plants since those units are detached from the edible (inspected) operations. Of more importance than abatement of sewage

problems is the increase in animal feeds since protein supplements are greatly needed (and expensive) for poultry and for hog raising.

Proposals that small local hog plants be given priority does not preclude consideration of larger inspected and export qualified slaughter--processing establishments when hog raising finds its competitive place in the expansion of cattle raising and dairying.

My experience with both separate and combined commercial kill plants in many sizes, and in varied locations, and long observation of their successes and failures under dynamic U.S. conditions, may justify some recommendations as Nicaragua considers the large investment in capital and management required for commercial hog kill. The most important factors are those which only Nicaraguans can accomplish through getting actually involved first in slaughter and processing operations elsewhere--certainly not exclusively in the U.S. and not overlooking Canada and Mexico.

My observations in Nicaragua permit some economic findings while I attempt none on plant size, machinery selection, degree of automation, integration into sausage manufacture or canning.

Since commercial hog slaughter should be segregated from cattle kill, it is also feasible to have separate management; situations where joint facilities are desirable, include items of power, steam, processing water treatment, trucking and yarding--on the input side.

A hog plant requires edible rendering equipment and lard refining. Such a facility could receive edible beef fats, and make a variety of animal fat products tailored to consumer, bakery and other requirements.

While a hog plant may buy edible beef fats, in turn its own inedibles may well move to existing facilities associated with cattle plants. An inedibles unit would then produce swine greases as well as inedible tallow. Production of quality protein supplement (tankage, meat scraps) and bone meal would be aided by greater volume, schedules may operate around the clock when needed.

It is in the best interest of operators involved in inedibles processing to improve livestock feed quality. Present facilities in Managua lend themselves to better quality control, to guaranteed protein analysis and perhaps to the sale of branded product or close working arrangements with feed mixers for assurance that feeds really meet animal nutrition needs.

Where future plans are for pork exports, channels are already established by cattle killers. If Nicaragua moves to shipment of beef products other than bulk boneless beef, then processing of pork items for export may be added. At least a prospective export pork plant could store frozen items in Corinto freezers rather than building facilities at the killing site.

MARKETING PORK AND PROCESSED PRODUCT

Examination of the flow of meat within Nicaragua along with imports and exports helps in appraising future trends. Attention is called to the series of appendix tables beginning with Number 6 which cover fresh pork, hams, other primal cuts, processed, sausages (also combining beef materials and cereals) canned and lard.

The prices listed in Table 6 show trends, for recent years, and the current market in Managua for a broad list of domestic and imported items and from a wide range of sources. Market potential for improved pork items produced in interior small plants is substantial. Broad opportunity exists for processors in Nicaragua to compete with imported sausages, canned hams and the specialty items (canned). Flexibility among products is of importance as distribution moves to refrigerated markets and large retail stores. As consumers obtain and make full use of household refrigerators, fresh and cured sausage, cured hams, full lines of luncheon and loaf goods may be merchandised without canning.

Complete processing units in Managua can also use beef materials to advantage. Comment is made later on possible exporting. Not to be overlooked is opportunity for reciprocal arrangement with San Jose slaughters so live hogs move there and many types of refrigerated products move back to Managua--including materials for sausage and loaf goods. Processor--wholesalers free to adjust formula and varieties to market potential could broaden the domestic market and substantially displace non-CACM sources.

Only reference is made here to comparative prices in Table 8. Comments on the transitory nature of recent record high prices for pork cuts in the U.S. follow under Export Planning. Also the graph there shows the already sharp break in U.S. hog prices. Nicaragua's large stake in the U.S. beef market may be another argument for developing pork markets elsewhere.

Market development for any group of products must be based on knowledge of local situations with data kept up-to-date. Table 16 gives approximations at 1973 for pork products to end uses. While Table 17 reflects the upward trend in pork consumption in Nicaragua, it may not adequately cover inflow of the many pork products imported.

Continued market research, as carried on by firms elsewhere, can trace these changes and follow developments in channels of distribution including wholesaling to institutional users, classes and types of retailers, methods of sale and delivery. A beginning is shown in Table 18 covering observation in Managua on refrigeration. Importance of such information will grow with city re-building. Also other cities may trail the modernization expected for Managua.

Over the years I observed the effects in the U.S. on physical distribution and consumption patterns as super markets installed freezer cases and household refrigerators added sections for holding frozen products. Several extensive and expensive test market experiments were developed over the

years to sell housewives fresh frozen cuts of beef and pork. Note that even though physical facilities had become generally available, merchandising was an almost complete failure. Housewives were able to satisfy their needs without buying the "more convenient" but apparently more expensive frozen items.

On the other hand, continued growth in frozen processed sales points up the separateness of buying habits. More table-ready meat dishes move to households in frozen form, while refrigerator cases and the home refrigerator provide cool temperatures adequate for fresh and cured meats. Thus increases in means are credited for the upward shift in demand toward beef, rather than changes in products or in distribution methods.

Table 21 shows many long-term price series with Iowa reflecting the national market. Note that hog prices are normally below cattle prices and were so continually after 1954 until the "control period" markets of mid 1973.

Any conclusion about desirable price relationships between cattle-hogs or beef-pork in Nicaragua will recognize demand differences but must not overlook that prices in Table 21 primarily reflect full ration corn-fed English type beef breeds of cattle. Dry lot feeding is an expensive process justified only by broad demand for "luxury" products and large local supplies of concentrates.

Export Planning

Desirable channels for Nicaraguan pork and processed exports include areas easily served and which require imports from surplus producing countries. Customers are to be found for types of product which Nicaragua can produce profitably. (This may mean not trying to compete with the premium canned hams of Denmark or the Netherlands).

Continental U.S.A. offers questionable long term prospects. Even though imports approximate 400 million pounds yearly, about three-fourths is specialty canned hams and bacon (see Table 9b). Appendix Table 9a is inadequate particularly in the omission of large imports from Poland and in not reflecting U.S. shipments to "territories."

The following table shows the large territorial shipments in recent years and pork far exceeds beef. Since 1970 the figures reflect U.S. pork moving only to Puerto Rico and Virgin Islands--areas within reach of Nicaragua. Note that U.S. product costs are based in Iowa with expensive rail hauls to ports, (import duties are listed in Table 7a). Also, the 1969 study by the National Plant Food Institute provided extensive information on pork prospects for Puerto Rico and the Caribbean.

<u>Year</u>	<u>Pork Shipments to Territories (million pounds)</u>
1967	74.4
1968	78.7
1969	63.4
1970	85.5
1971	93.4
1972	94.4

Source: Page 293, Livestock and Meat Statistics, 1973 Statistical Bulletin 522, USDA, Washington.

Consideration of Japan as a Pacific market for Nicaraguan pork must include ship service from Corinto a development to be associated with movement of other perishables. As Table 10 shows, Japan has taken substantial U.S. pork--an expensive movement from the U.S. Table 10 demonstrates the low U.S. position as a Japanese supplier and indicates types of product imported by country of origin.

Many Caribbean islands are large users of pork and Table 11 tabulates these imports by types of product. As Nicaragua develops Atlantic coast port facilities, and perhaps hog and pork operations in Eastern areas, these markets could be served along with Puerto Rico and other sectors including Cuba.

Of interest also is the showing of imports by CACM countries (Table 12). Enough meat is being purchased by some of Nicaragua's neighbors to make truck movement of product of interest as the highways have improved.

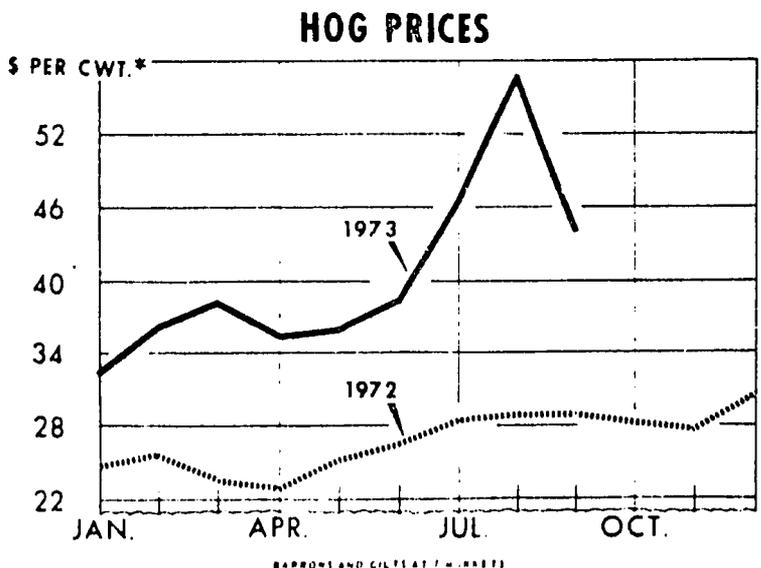
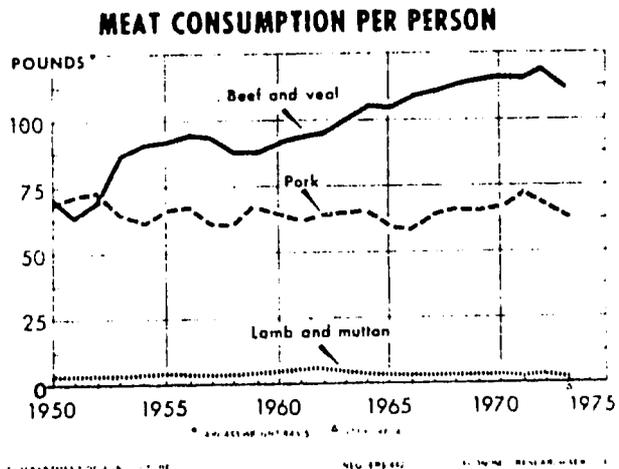
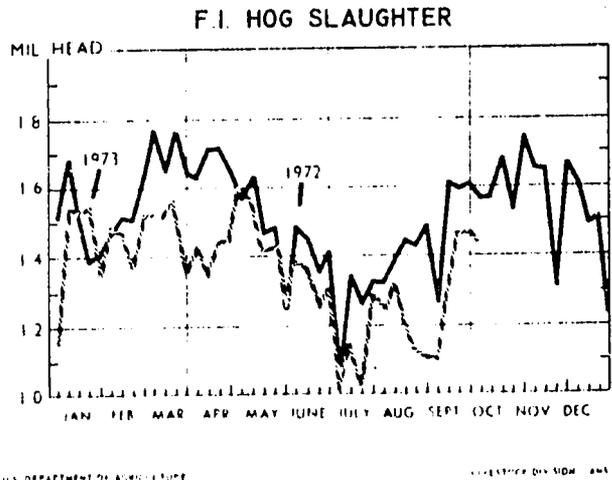
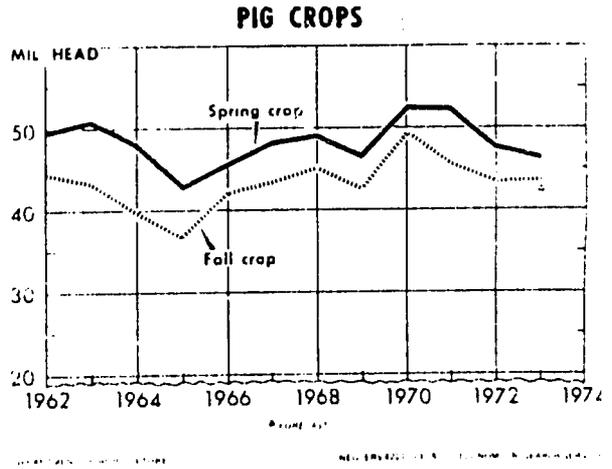
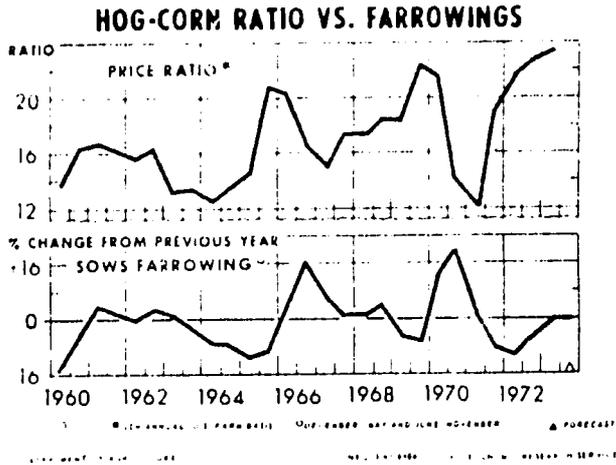
Argument against some preceding comments may rest on the recently very desirable price market in the U.S. However, further declines are to be expected in hog prices as larger corn supplies are reflected in expanding pig crops marketed by 1975. The charts reproduced here and the recent analysis by the regional bank in Chicago provide some guide posts. (see exhibits and Table 21) The very large 1973 corn crop is harvested and farmers are free for maximum acreage expansion in 1974. Admittedly, the 1974 corn crop expansion will be constrained by inadequate supplies of fertilizer and farm fuels, and yields per acre may be lowered.

Slaughterers and meat processors find it difficult as well as expensive to meet the ever more restrictive inspection requirements for animal health, plant design and sanitation, product handling and employee control. In recent years many smaller U.S. slaughterers have ceased operations for these and other reasons. Nicaragua is to be commended for efforts to meet high standards. Tables 13 and 14 set out for the record a summary of legal requirements particularly with reference to the U.S. market. Table 15 shows that Japan has some differences.

My observation of some Brazilian packers plagued with the different countries' certification requirements suggests that any pork plant planned for export products be

THE U.S. HOG AND PORK OUTLOOK

Five graphs from October 1973
 USDA Livestock and Meat Situation



Commodity Economic Division
 Economic Research Service
 U.S. Department of Agriculture
 Washington, D.C. 20250



Federal Reserve Bank of Chicago - -

October 5, 1973

Agricultural Letter



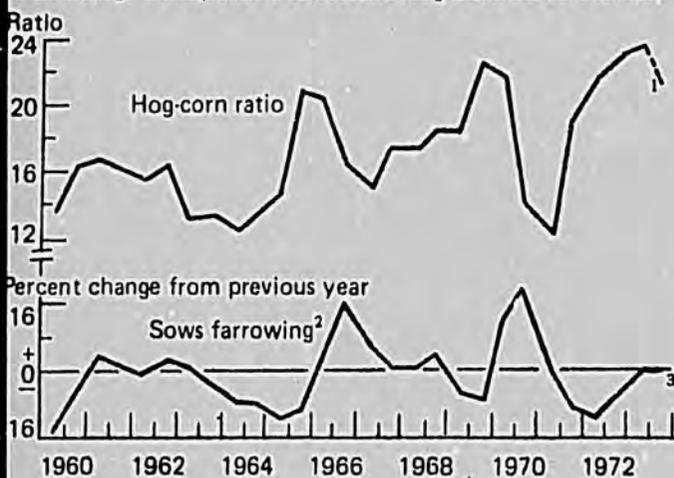
Number 1242

PORK PRODUCERS continue to limit expansion plans despite recent record high prices. Producers in ten Corn Belt states plan to farrow 1 percent fewer sows in the September-November period than indicated in June according to a recent U. S. Department of Agriculture report. The number of sows farrowed during the June-August period were also 1 percent below producers' June indications. As a result of the reduced farrowing rate, and compounded by a reduction in pigs surviving per litter, the 1973 second-half pig crop (June-November) is expected to be about 3 percent below that of 1972.

The inventory of hogs and pigs on farms September 1 was up slightly in the ten-state area. Hogs kept for breeding purposes were up 1 percent over the year-ago date. Essentially the same number of hogs and pigs were being fed for market this September 1 as on the same date last year. The ten states typically account for three-quarters of total U. S. hog production.

Producers' reluctance to expand hog production during the second half of 1972 and throughout 1973 represents a marked divergence from past responses to price changes. In past years, production was usually increased or decreased in relatively close correlation with changes in the hog-corn ratio (a rough measure of profitability). Historically, a "high" hog-corn ratio triggers decisive action by pork producers. On the two previous occasions that the hog-corn ratio exceeded 20 (1965 and 1969), producers held back substantial numbers of sows for farrowing in the next six-month period. In both cases, farrowings peaked within about a year after the hog-corn ratio hit 20.

Farrowings Unresponsive to Recent Hog-Corn Ratio Increase



¹ Estimate based on third-quarter actual.

² December-May and June-November.

³ Forecast based on September 1 Hogs and Pigs Report.

Although the hog-corn ratio has been well above historical levels since the first half of 1972, producers have yet to increase farrowings. The number of sows farrowed actually declined during the latter part of 1972, and has shown essentially no change during 1973. Producers now indicate that they plan to expand production only marginally, approximately 1 percent, during the first part of 1974.

Several factors are responsible for the present lag in expansion. Farmers in the Corn Belt had great difficulty in harvesting their crops last fall. Some may have been more concerned with harvesting corn and soybeans than expanding hog production. First-half 1973 farrowings were affected by extremely bad late-winter/early-spring weather conditions. Other market externalities, such as the March 29 price freeze on meat, the consumer boycott, and a sharp increase in feed cost also influenced producers' decisions to limit expansion.

The past summer was marked by chaotic marketing conditions. While hog marketings have been down 9 percent, a factor that has had considerable effect on prices, much of the price strength came when the freeze on pork was lifted on July 20, while beef prices remained subject to the freeze. Hog price levels between July 20 and September 10, when the beef price freeze was lifted, did not reflect long-term, free market influences, and apparently many hog producers again chose to moderate expansion plans.

Higher prices for both hogs and feed mean that considerably more risk is involved in feeding operations. Farmers may opt to sell corn this fall rather than feed it to hogs, and risk the prospect of lower hog prices at a later date. Given the present tight credit conditions, farmers may also be somewhat reluctant to borrow heavily to finance a hog feeding operation.

Increased specialization in hog production is another factor that may be affecting current expansion rates. In the past, increased production came about when hundreds of producers increased their hog output. At present, however, expansion comes, in the main, from large confinement operations. Tight credit conditions and environmental protection laws may be inhibiting growth of these larger production facilities.

Hog marketings will probably continue at lower rates than the previous year throughout most of the remainder of 1973. Marketings may pick up in December and early 1974, but even then only equal or increase marginally—2 or 3 percent—above the previous year's level. With marketings of this dimension, past price/marketing relationships would indicate that prices should stay in the same range for the next several months. However, possible shifts in consumer demand patterns along with the recent jump in the level of cattle marketings will probably counter any price increase the rest of this year. Whether or not consumers accept current price levels that are—depending on the cut—15 to 50 percent higher than a year ago, is a crucial question, and the key to future hog prices.

Terry Francl
Agricultural Economist

designed flexibly and to insure operations satisfactory to principal export customers rather than trying for a completeness that may overlook extremely high marginal costs.

RECOMMENDATIONS AND CONCLUSIONS

Expansion in Nicaraguan agriculture provides opportunity for increased livestock and poultry production through desired "rationing" of concentrates and protein supplement. Improved organization of live marketing for slaughter with "open" pricing by weight can likewise promote movement of feeder pigs and of light cattle into feeding areas.

Joint utilization of improved marketing channels is a way to open a bottleneck in hog movement and production. When trading facilities are licensed by appropriate governmental units, then "market intelligence" and realistic pricing can be assured.

Effective regulation by the cities on slaughter and distribution of meats therein first requires better facilities for local kill of hogs and cattle. Suggestions are offered for ownership and operation by other than the municipalities.

Food merchandising especially for perishables is in flux, and not only in Managua. The proposed replacement for Oriental can lead to changes in hog cutting methods and expand varieties of products offered. As here, comments throughout this report point up directional moves, as the future hog and pork business finds its competitive place, rather than final solutions to specific observed problems.

Investment in commercial plants for hog kill, cutting, curing, and processing is assigned low priority. Such plants

may be justified later as live markets develop (1) to assure volume and seasonal flow, and (2) with processing facilities for both edible offal and fats, and inedibles provided jointly with those of commercial cattle kill plants. Obviously, proposals including destinations for pork export trade become relevant only in future periods with updating of supply and shipping prospects then necessary.

ACKNOWLEDGEMENTS

The following listing may serve two purposes: First, to thank the many who provided material aid to me. Second, to indicate sources for possible further use in development of the swine industries in Nicaragua.

1. Numerous faculty at Louisiana State University, specifically listed are those whom I interviewed at Baton Rouge.

William Alexander

(see "Feeding Livestock for Profit in Nicaragua", 1971. Alexander et. al., "A Study of Agricultural Marketing Problems and Potentials in Nicaragua", July 1969.)

Gerry Law

A. B. Watts

Harlon Traylor

Donald Trasher

(see "Present Status of the Swine Industry in Nicaragua and a Review of Proposed Plans for Increasing Swine Production", June 1970)

Norman Ward of LSU's office in Managua who provided technical reports and gave freely of his time and knowledge

2. My colleagues at UMC, especially members of the AID team. Professor Brewer's suggestions on livestock markets and slaughter facilities were pertinent. Professor Grimes' insights and the materials from his spring 1973 field survey in Nicaragua were fully utilized.

3. Staff at LaCalera also provided copies of previous investigations. Sr. Armando Gonzalez provided technical advice, data collection, contacts, and especially interpretation beyond conventional translation for those of us who spoke only English or only Spanish. His observations and files constitute a resource for development of the livestock and meat industry in Nicaragua.
4. Management at slaughter plants, commercial hog operations and other Nicaraguan businessmen, Sr. Gonzalez has a record of their names.
5. Personnel of the Ministry of Agriculture, the Agricultural College, and Extension in the areas visited.
6. Those business sources who provided judgments and data sources such as the National Bank, INFONAC, and First National City Bank, Managua.
7. INCAE Agribusiness represents an important facet of graduate business training. Professor Austin's work is being continued by Professor Kenneth Hoadley, both of whom contributed to my understanding.
8. CISE contacts with Edwin P. Astle, director for Honduras and Nicaragua for International Executive Service Corps were valuable. I served with CISE in 1972 on a livestock marketing project for the tropical areas of Brazil.
9. AID. Not only did Carl Koone and staff introduce me to Nicaragua but helped on sources and made a "stranger" hopefully productive.

10. Personal contacts were utilized within United States Department of Agriculture, U. S. meat processing firms, the American Meat Institute (Chicago and Washington); note selections of published materials relevant to marketing hogs and pork.

American Meat Institute, especially "Books and Pamphlets on the Meat Packing Industry". (paper-free)

National Provisioner (Chicago) weekly, especially October 20, 1973 issue which reported the A.M.I. 68th annual conference and addresses such as "The Outlook for Livestock Supplies".

J. Russell-Ives, Vice President and Economist, A.M.I.

11. U.S.D.A. published sources referred to for background included several Marketing Research Reports such as
- #141, Livestock Auction Markets in the Southeast, GPO, Nov. 1956, 50¢, 100 p., paper
 - #904, Hotel and Restaurant Meat purveyors Improved Methods and Facilities for Supplying Frozen Portion-Controlled Meat, GPO, April 1971, 50¢, 46 p., paper
 - #998, Cost of Marketing U. S. Livestock Through Dealers and Public Agencies, June 1973, free, 24 p., paper
- Extension Service materials are not always easy to find but see:

"List of State Extension Livestock Publications," August 1972, free, 112 p., paper

Work done in individual states is illustrated by:

"Texas Livestock Auction Markets", Texas A&M,
College Station, Dec. 1965, free, 31 p., paper

The base book for all current livestock and meat series
is:

Livestock and Meat Statistics, ERS, Washington,
July 1973, #522, free, 300 p., paper

Regulations covering stockyards, livestock handling,
meat inspection, and disease control are contained in

"Code of Federal Regulations-Animal and Animal
Products," revised as of Jan. 1, 1972 with supple-
ment, GPO, 1972, \$2.00, 500 p., paper

12. Identification of researcher--Kenneth E. Miller.

Raised on N. E. Indiana livestock farm--presently owns
200 acre farm in that area. Trained at Purdue and
Northwestern. For many years in charge of business
research department, Armour of Chicago--integrated food
processor domestic and foreign. After 1960 held joint
appointment in Agricultural Economics and Research
Center (Business School), University of Missouri,
Columbia, Missouri.

APPENDIX

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ASSEMBLY AND TRUCKING FOR FARMERS HOGS

Departments	No. of Live Municipal Markets	Location of Live Markets (Municipio)	Sales Method	Cost of Transportation per Hog to Managua	Time to Managua	Price for Hogs (Aug. 1973)
Boacc	2	Boaco	Size of hog alive	\$ 3.00	3 hours	\$1.80/lb Live wgt
		Camoapa	Size of hog alive	3.00	3 hours	1.80/lb live wgt
		Many private hog yards				
Chontales		Very many private hog yards	Size of hog alive	10.00	4 hours	2.00/lb live wgt
Chinandega		Very many private hog yards	Size of hog alive	4.00	4 hours	1.80/lb live wgt
Esteli		Very many private hog yards	Size of hog alive	6.25	4 hours	2.00/lb live wgt
Jinotega		Very many private hog yards	Size of hog alive	10.00	4 hours	2.00/lb live wgt
Carazo	1	Jinotega	Size of hog alive	0.02/lb alive	1 hour	2.00/lb live wgt
		Many private hog yards				
Masaya	1	Masaya	Size of hog alive	2.00	1 hour	2.50/lb live wgt
		Many private hog yards				
Matagalpa	1	Matagalpa	Size of hog alive	3.00	2 hours	2.00/lb live wgt
		Many private hog yards				
Granada	4	Nandaime				
		Diriomo				
		Dirioma				
		Granada	Size of hog alive	5.00	½ hours	2.30/lb live wgt
		Many private hog yards				
Nueva Segovia		Very many private hog yards	Size of hog alive	10.00	5 hours	2.00/lb live wgt
Rivas		Very many private hog yards	Size of hog alive	none	.....	1.90/lb live wgt
Zelaya (Rama)		Very many private hog yards	Size of hog alive	10.00	6 hours	2.00/lb live wgt
Madriz		Very many private hog yards	Size of hog alive	15.00	5 hours	2.20/lb live wgt
Managua	2	Managua	Size of hog alive			2.30/lb live wgt
Leon	1	Leon	By weight of hogs and size of hogs	\$5.00	1½ hours	\$2.30/lb live wgt
Iowa Hogs						\$50.00-53.00/100 lbs live wgt. (yellow sheet July 26, 1973)
Large Com. Raisers, Nicaragua						\$ 2.40/lb. live wgt (quoted Aug. 15, 1973)

GUARDO No. 3

Rates-Cwt./Kilometer on Paved Roads

Route	Kilome- tros	By Truck		By Trailer	
		Tarifa Cordo- bas, qq	Centavos por qq-Km.	Tarifa Cordo- bas, qq	Centavos por qq-Km.
Managua a:					
Roaco	90	1.50	1.67	1.00	1.11
Chinandega	129	2.00	1.55	1.50	1.16
Corinto	151	2.00	1.32	1.75	1.16
Condoga	184	3.00	1.63	3.00	1.63
Diriamba	42	1.00	2.38	1.00	2.38
Esteli	149	2.00	1.34	2.00	1.34
El Viejo	137	2.00	1.46	1.60	1.17
Granada	44	1.00	2.27	1.00	2.27
Jinotepe	46	1.00	2.17	1.00	2.17
Juigalpa	137	2.00	1.46	1.50	1.09
Jinotega	161	2.00	1.24	2.00	1.24
Leon	90	1.50	1.67	1.25	1.39
Masaya	27	1.00	3.70	0.80	2.96
Matagalpa	127	1.50	1.18	1.25	0.98
Masatepe	49	1.00	2.04	1.00	2.04
Nandaime	64	1.00	1.56	1.00	1.56
Occtal	227	4.00	1.76	3.25	1.43
Puerto Somoza	70	1.50	2.14	1.00	1.43
Rivas	112	1.50	1.34	1.30	1.16
Somoto	216	4.00	1.85	3.25	1.50
San Marcos	41	1.00	2.44	1.00	2.44
San Isidro	118	1.50	1.27	1.25	1.06
Sebaco	103	1.50	1.46	1.25	1.21

Annex to No. 1 (Continued)

Route	Kilome- tros	By Truck		By Trailer	
		Tarifa Cordo- bas, qq	Centavos por qq-Km.	Tarifa Cordo- bas, qq	Centavos por qq-Km.
Yalaquina	204	3.00	1.47	3.00	1.47
La Trinidad	125	2.00	1.60	1.75	1.40
San Rafael del Sur	44	1.00	2.27	1.00	2.27
San Juan del Sur	140	2.00	1.43	1.80	1.29
Magarote	36	1.00	2.78	.....	.....
La Paz Centro	57	1.00	1.75	.....	.....
El Espino	237	3.00	1.27	.....	.....
Matagalpa a:					
Jinotega	34	1.00	2.94	.....	.....
San Isidro	39	1.00	2.56	.....	.....
Sebaco	24	1.00	4.17	.....	.....
Chinandega	161	3.00	1.86	2.00	1.24
Chinandega a:					
Leon	42	1.00	2.38	0.75	1.79
El Viejo	5.5	1.00	18.18	.....	.....
Somotillo	70	1.50	2.14	1.00	1.43
Granada a:					
Nandaime	20	1.00	5.00	0.60	3.00
Masaya	18	1.00	5.56	.....	.....
Masaya a:					
Leon	13.	3.00	2.31	1.70	1.31
Sebaco-Leon	108	2.00	1.85	2.00	1.85
Ocotal-Somoto	33	2.00	6.06	.....	.....
Sebaco-Corinto	157	3.00	1.91	1.80	1.15
Granada-Corinto	198	4.00	2.02	2.75	1.39
Masaya-Corinto	180	3.00	1.67	2.25	1.25

Source: Estudios Economicos del Ministerio de Economia, Industria y Comercio en base investigaciones directas.

POPULATION OF MANAGUA*

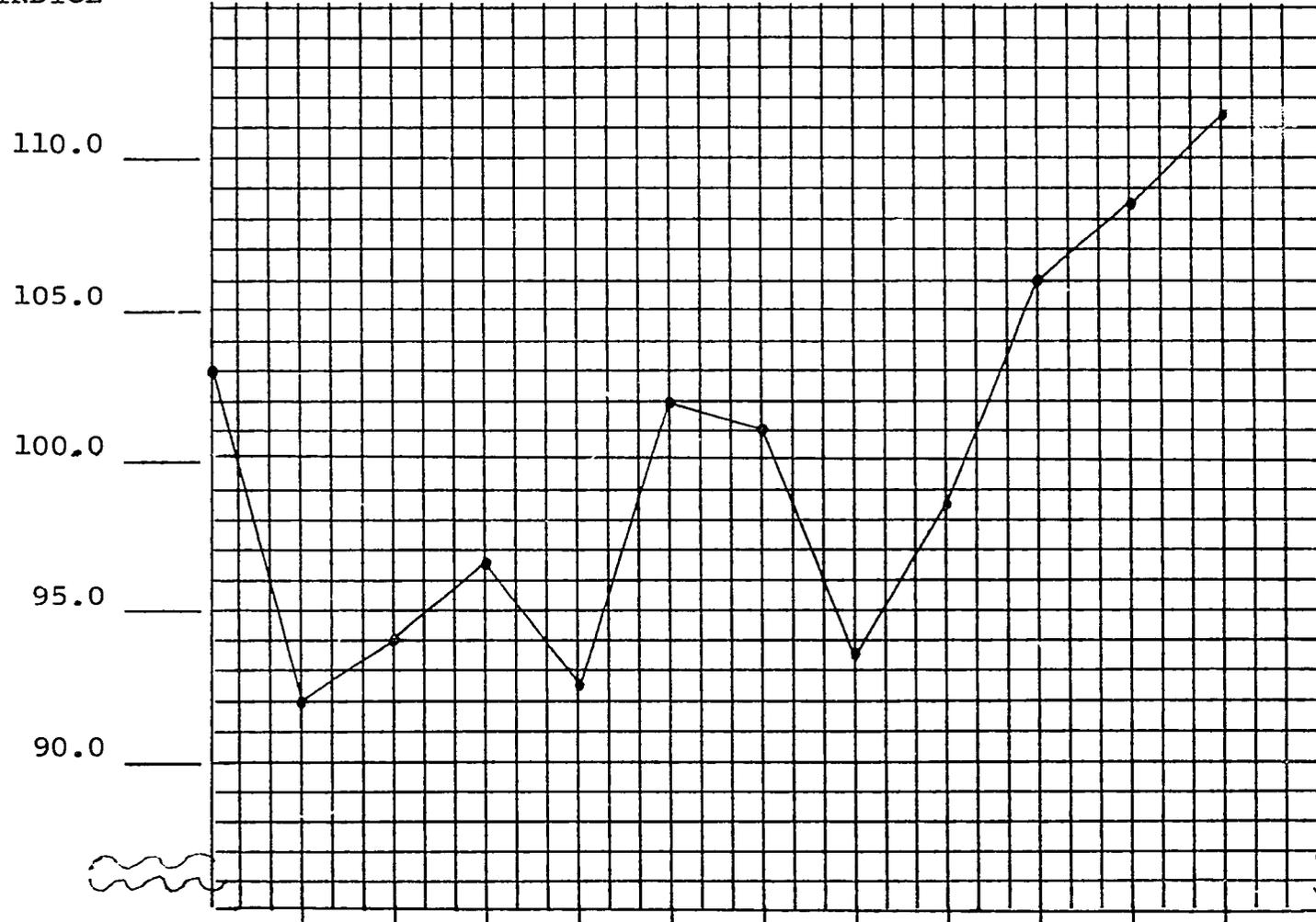
Before December 23, 1972	430,000
February 1973	223,000
October 1973	275,000

* Estimated Census Office

(1967-1972)

Nicaragua

INDICE



Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Months

Method: Monthly
Average Percentage

TABLE 3

INFRASTRUCTURE

1. Small localities in Nicaragua would not have adequate conditions for modern small scale hog slaughter plants, as a considerable number of them do not have good water, electric power, sewage system, good roads, etc.
2. (a) A large labor supply, although very unskilled, would be available in any major city area of the country. Highly skilled technicians from abroad would be needed to train local plant labor force and probably plant personnel.
- (b) All departmental head cities in the country (except Bluefields in Zelaya and San Carlos in Rio San Juan) are interconnected by a reasonably good road and highway net-work. Some are connected by railroad on the Pacific Coast. Truck traffic for product distribution would be adequate and sufficient. The same also applies for live hog trucking.

(c) POWER

All head cities would have enough power for the installation of at least one modern hog slaughter plant. Even secondary localities (Pacific, Central and Northern regions) are provided with good electric power through the rural electrification program.

WATER

With the exception of the cities of Managua and Matagalpa, which have a good water supply, both quantitatively and qualitatively, the rest of the major cities in the country would not satisfy the water requirements for a commercial hog abattoir using their own city water systems. Water wells would need to be drilled. Water equality would be expected to be satisfactory in most cities.

SEWAGE SYSTEM

Septic pools would have to be built for disposal of sewage materials, as city sewage systems (probably with the exception of Managua) are extremely limited. However, some major cities offer some other (if acceptable) facilities for sewage disposal, namely: rivers, creeks and lakes.

- (d) Present cattle killers do not seem to be interested in adjoining hog facilities, mainly because they are not in the hog business. Actually, both IFAGAN and CARNIC could turn into hog slaughterers, should decision be made to that effect.
- (e) When slaughter plant management was questioned concerning topic, they all agreed that the joint use of infrastructure would be very advantageous.
- (f) Pork processors seem to be more interested in this sort of combination. As long as there remains an opened market for Nicaraguan beef in the U.S.A., cattle killers are only interested in exporting frozen beef to that market. Sausage makers are not yet using cattle variety meats, but are using other types of beef cuts, which they buy from the packing houses.
- (g) It seems like the beef packers are not interested in making any type of by-product other than bone meal, tankage, meat scraps and blood meal. These by-products have more demand than the packers can handle.

NOTE: In a preliminary report on economic feasibility studies of the Escondido River complex area (East Coast) recently made by TAHAL Engineers, there is a special recommendation dealing with the installation of a combined (cattle and hog) slaughter plant in the area under study. A well-detailed project has been written by the above mentioned firm. Such a project will have to be subject to approval by proper authorities. At any rate, and if approved, the plant is not expected to be built within the next eight years, as cattle population within the area will need to be expanded considerably. Plant slaughter capacity has been estimated at 30,000 head annually.

Also, the Municipal authorities of the city of Managua have firm plans for the installation of a combination (Cattle & Hogs) slaughter plant. The tentative cost of this plant is in the neighborhood of 3 million Cordobas.

Plant capacity: 650 hogs per day
 250 cattle head per day

The tentative locality for the building of this plant is in the vicinity of IFAGAN (Cattle Plant).

TABLE 3

PRICES ⁽¹⁾ FOR TALLOW AND LARD
(UNDER SLAUGHTER PLANNING)

	Price	
	Tallow	Lard
<u>IFAGAN</u>		
Whitened	0.97	....
First class	0.95	....
Third Class	0.75	....
 <u>CARNIC</u>		
First class	0.95	....
Third class	0.75	....
 <u>MUNIC SLAUGHTER HOUSE</u>		
Managua		
Non processed	0.35	2.10

(1) Cordobas per pound, wholesale

Date: August 1973

TABLE 4
HOG KILL BY MONTHS AND DEPARTMENTS
1967

Department	January	February	March	April	May	June	July	August	September	October	November	December	Total
Chinandega	769	926	621	699	958	755	598	729	693	709	705	738	8,901
Leon	1893	1844	1687	1609	1708	1683	1830	1724	1790	1804	1863	1765	21,200
Managua	5269	4092	4688	5307	3183	5497	4673	4542	4210	6815	7452	5069	60,797
Masaya	772	743	759	768	804	785	754	786	820	792	908	797	8,888
Granada	1283	846	949	888	1029	1138	1017	1392	1248	1337	1173	1108	13,318
Carazo	259	286	166	188	243	334	274	286	286	371	383	281	3,380
Rivas	247	250	307	259	288	236	224	233	271	374	360	276	3,335
Mueva Segovia	186	161	167	194	123	128	155	191	168	177	175	166	1,291
Madriz	117	115	147	119	126	133	123	120	92	137	120	123	1,472
Esteli	359	310	401	390	346	358	321	324	342	322	319	345	4,137
Jinotega	105	100	85	85	105	82	98	94	94	108	115	97	1,168
Matagalpa	667	587	581	542	431	374	453	496	450	278	449	480	5,778
Boaco	137	146	189	94	65	101	125	124	109	108	130	121	1,449
Chontales	227	249	244	250	217	203	1449	1532	1469	1350	1576	1557	10,323
Rio San Juan	66	47	45		56	45	44	44	42	46	56	48	574
Zelaya	190	177	216	213	249	235	208	201	264	169	193	209	2,424
TOTAL	12,546	10,879	11,172	11,640	9,931	12,087	12,346	12,818	12,348	14,897	7	13,180	148,435

SOURCE: Central Bank, for all years.

TABLE 4 (Continued)
1968

Departments	January	February	March	April	May	June	July	August	September	October	November	December	Total
Chinandega	863	988	966	930	956	1036	1455	855	889	884	811	1001	11,644
Leon	1953	1914	1945	1686	1872	1828	1791	1583	1766	1907	1893	1852	21,990
Managua	5385	4241	4919	5361	3305	5770	5628	5134	5974	5738	5017	6587	63,059
Masaya	996	759	821	798	784	846	1257	1336	1392	1515	1646	1601	13,751
Granada	1174	1173	1176	1176	1177	1155	1135	1040	1197	1057	1087	1174	13,721
Carazo	228	325	220	209	285	366	243	352	244	232	293	308	3,395
Rivas	261	270	279	256	314	253	289	270	323	290	323	313	3,451
Nueva Segovia	216	188	216	219	157	158	247	191	208	211	174	171	2,356
Madriz	120	147	217	157	181	159	128	151	156	170	164	146	1,896
Esteli	225	346	343	344	376	374	340	317	405	367	333	395	4,165
Jinotega	68	86	107	100	105	103	93	96	120	122	118	143	1,231
Matagalpa	509	510	522	442	474	432	474	475	476	492	529	467	5,802
Boaco	109	100	129	129	135	131	113	99	126	126	137	136	1,500
Chontales	208	201	199	200	193	202	230	220	241	241	252	243	2,630
Rio San Juan	43	39	31	31	47	34	72	64	51	70	63	73	618
Zelaya	257	255	312	263	311	251	273	277	305	300	276	248	3,328
TOTAL	12,615	11,542	12,402	12,301	10,671	13,088	13,768	12,470	13,873	13,722	13,116	14,948	154,537

SOURCE: Central Bank, for all years.

TABLE 4 (Continued)

1969

Departments	January	February	March	April	May	June	July	August	September	October	November	December	Total
Chinandega	975	1116	1092	1051	1080	1171	1664	977	1005	999	916	1132	13,156
Leon	2207	2163	2198	1905	2115	2066	2024	1789	1996	2155	2139	2093	24,850
Managua	6085	4792	5558	6058	3735	6520	6360	5801	6751	6484	5669	7443	72,071
Masaya	1125	858	928	902	886	956	1420	1510	1573	1712	1860	1809	15,539
Granada	1327	1325	1329	1328	1330	1305	1283	1175	1354	1194	1228	1327	3,838
Carazo	258	367	249	236	322	414	275	398	276	262	331	450	3,889
Rivas	295	305	315	289	355	286	327	305	365	328	365	354	2,661
Nueva Segovia	244	212	244	247	177	179	279	216	235	238	197	193	2,043
Madriz	136	166	245	177	205	180	145	171	176	192	185	165	4,707
Esteli	254	391	388	389	425	423	384	358	458	415	376	446	1,337
Jinotega	77	97	121	113	119	116	105	108	136	138	145	162	6,557
Matagalpa	575	576	590	499	536	488	536	537	538	556	598	528	1,662
Boaco	123	113	146	146	153	148	128	112	142	142	155	154	2,972
Chontales	235	227	225	226	218	228	260	249	272	272	285	275	706
Rio San Juan	49	44	44	35	53	38	81	72	58	79	71	82	3,760
Zelaya	290	288	353	297	351	284	308	313	345	339	312	280	
TOTAL	14,253	13,040	14,025	13,898	12,060	14,802	15,589	14,091	15,680	15,505	14,832	16,892	159,748

SOURCE: Central Bank, for all years.

TABLE 4 (Continued)

1970

Departments	January	February	March	April	May	June	July	August	September	October	November	December	Total
Chinandega	802	706	741	765	716	695	869	694	659	679	738	768	8,832
Leon	1359	1195	1091	1011	1287	1166	1020	1145	1152	1180	1225	1175	14,006
Managua	7113	5704	5416	6718	6841	6855	6289	5180	5598	7425	8449	8633	80,221
Masaya	1000	812	854	835	847	820	845	812	869	904	889	1071	10,558
Granada	902	767	906	995	894	1003	865	1004	972	1042	1013	1176	11,539
Carazo	232	243	256	247	257	242	198	156	192	192	204	200	2,619
Rivas	262	250	252	256	279	241	276	231	226	248	250	248	3,019
Nueva Segovia	209	195	160	233	224	218	272	222	218	230	247	245	2,673
Madriz	258	210	217	210	280	283	241	216	217	215	255	269	2,681
Esteli	252	211	140	219	261	247	222	177	159	216	214	200	2,518
Jinotega	54	52	53	46	47	37	41	40	39	41	48	45	543
Matagalpa	384	328	213	312	354	323	258	263	257	271	287	310	3,560
Boaco	129	136	125	132	154	161	116	119	130	108	141	185	1,636
Chontales	191	170	177	139	195	166	161	147	116	166	134	153	1,915
Rio San Juan	49	49	58	63	43	49	43	45	45	82	103	63	692
Zelaya	216	201	211	207	167	220	181	203	259	300	214	212	2,591
TOTAL	13,412	11,229	10,870	12,388	12,846	12,726	11,897	10,654	11,105	13,299	14,441	14,953	149,603

SOURCE: Central Bank, for all years.

TABLE 4 (Continued)

1971

Departments	January	February	March	April	May	June	July	August	September	October	November	December	Total
Chinandega	837	985	910	821	899	977	971	852	846	819	859	866	10,642
Leon	1036	1031	1017	1051	984	1018	945	959	966	1024	967	1016	12,014
Managua	6971	6251	6476	5989	6630	7377	7049	5641	5236	5773	6381	6334	76,108
Masaya	1003	782	885	710	848	800	837	769	704	730	678	565	9,411
Granada	1105	1028	1007	1016	1044	864	576	509	910	909	961	1008	10,351
Carazo	245	243	264	235	239	248	216	225	227	256	311	293	3,002
Rivas	211	225	246	244	216	228	206	207	222	218	229	283	2,735
Nueva Segovia	259	240	259	247	274	251	254	241	244	189	162	220	2,840
Madriz	235	227	220	212	249	216	246	243	184	206	243	205	2,686
Esteli	213	226	225	226	143	159	165	111	73	98	112	127	1,878
Jinotega	80	74	52	61	63	48	49	42	51	45	50	54	669
Matagalpa	342	323	272	291	234	238	214	171	178	172	186	210	2,831
Bcaco	119	158	165	118	88	78	66	100	104	106	88	108	1,298
Chontales	161	156	152	129	142	128	110	126	131	132	120	176	1,663
Rio San Juan	37	44	37	47	49	46	45	39	34	33	52	59	522
Zelaya	318	218	188	184	209	215	192	209	226	216	220	251	2,646
TOTAL	13,172	12,210	12,375	11,581	12,311	12,891	12,141	10,444	10,336	10,926	11,619	11,775	141,296

SOURCE: Central Bank, for all years.

TABLE 4 (Continued)

1972

Departments	January	February	March	April	May	June	July	August	September	October	November	December	Total
Chinandega	873	998	852	813	926	1015	875	890	873	934	904	1020	10,974
Leon	1032	971	1063	949	1101	1268	1348	543	1138	1311	1304	1392	13,420
Managua	7059	6130	6026	6136	5994	6057	5991	6096	6124	6108	6538	5876	74,135
Masaya	751	409	571	665	809	712	746	706	729	767	748	888	7,005
Granada	1146	858	875	877	885	861	906	846	574	961	971	1062	10,822
Carazo	236	254	214	268	257	255	197	193	300	263	226	260	2,923
Rivas	253	249	241	235	249	247	225	250	247	358	261	271	3,086
Nueva Segovia	186	165	196	175	212	172	178	172	130	208	275	470	2,539
Madriz	218	232	230	180	150	169	170	126	132	160	139	167	2,073
Esteli	69	81	110	114	111	203	87	66	61	54	56	91	1,012
Jinotega	55	55	62	51	48	44	28	36	29	38	48	47	497
Matagalpa	161	149	188	198	236	239	255	255	245	307	307	402	2,942
Boaco	107	91	96	90	79	105	122	118	96	129	124	125	1,157
Chontales	139	122	127	119	135	170	145	167	151	158	188	262	1,882
Rio San Juan	53	43	107	110	75	85	63	65	66	53	82	71	873
Zelaya	268	197	251	257	284	305	280	317	362	404	543	414	3,982
TOTAL	12,606	11,005	11,209	11,237	11,551	11,907	11,616	10,846	11,257	12,213	12,714	12,818	139,322

SOURCE--Central Bank, for all years.

TABLE 4 (Continued)

HOG SLAUGHTER IN FIVE
PRINCIPAL MUNICIPALITIES, BY YEARS
NICARAGUA

Years	Total	Managua	Leon	Granada	Masaya	Chinandega
1969	125,104	90,535	11,208	8,589	8,725	6,047
1970	133,186	92,166	11,739	8,725	8,439	6,237
1971	105,688	74,763	9,774	9,410	7,027	4,714
1972	100,688	71,700	10,542	8,912	5,705	3,819
1973	(Jan-Aug)	27,153 (Jan-May)	5,441 (Jan-May)	6,834 (Jan-May)	4,364 (Jan-May)	3,388

October 1973

SOURCE: INCEI (Mr. Norman Ward's Files)

NOTE:

1. There are no commercial hog slaughtering plants in Nicaragua.* At one time, about 13 years ago, IFAGAN did some hog slaughter, but for some reasons (mainly pressing needs for large beef exports) such practice was discontinued.
2. There are hundreds of small hog slaughterers in the country. The exact number of these is not available. Assuming about 126 Municipios in the country and at least five small slaughterers per Municipio, we would get over 600 operators.
3. The clandestine slaughter (80% of government reported slaughter) would be the main component of "any other channels."

* A recently installed sausage plant (EL LECHON, Masaya Highway) has adjacent hog slaughtering

facilities. Capacity: Approximately: 50 hogs/day

Present kill : 50/60/week.

TABLE 4 (Continued)

HOG KILL IN FIVE MAIN MUNICIPAL SLAUGHTERHOUSES,
BY MONTHS NICARAGUA

	MANAGUA		LEON		GRANADA		MASAYA		CHINANDEGA	
	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973
January	6,952	458	796	1,206	821	1,205	300	857	378	540
February	6,008	2,682	665	1,014	736	815	228	900	378	572
March	5,942	2,378	743	1,050	671	1,037	415	827	371	650
April	6,038	3,301	606	1,200	671	2,587	479	890	225	776
May	5,926	4,936	882	971	758	1,190	576	890	300	850
June	6,006	4,641	935		684		426		271	
July	5,943	3,504	999		750		527		250	
August	6,020	2,648	1,082		693		502		427	
September	6,017	2,600	875		726		546		336	
October	6,006		1,021		792		554		305	
November	5,859		970		735		528		253	
December	4,996		968		875		624		325	
TOTALS	71,710		10,542		8,912		5,705		3,819	

SOURCE: INCEI (Mr. Norman Ward's Files)

DATE: October 10, 1973

TABLE 5
LIVE HOG EXPORTS-NICARAGUA

Destination	1966		1967		1968		1969		1970		1971		1972	
	Com-merc.	Pure-bred	Com-merc.	Pure-bred	Com-merc.	Pure-bred	Com-merc.	Pure-bred	Com-merc.	Pure-bred	Com-merc.	Pure-bred	Com-merc.	Pure-bred
El Salvador														
HEAD	3,693	. . .	2,819	. . .	1,574	. . .	217	. . .	9,056	. . .	6,600	. . .	1,848	. . .
1,000 \$	149.1	. . .	78.1	. . .	24.8	. . .	3.5	. . .	243.3	. . .	159.6	. . .	47.8	. . .
Guatemala														
HEAD	4,616	. . .	1,317	. . .	773	. . .	4,370	42	3,497	. . .	994	. . .	. . .	. . .
1,000 \$	180.5	. . .	50.1	. . .	11.7	. . .	81.8	.9	107.0	. . .	22.3	. . .	. . .	. . .
Honduras														
HEAD	50	. . .	. . .	. . .	17	. . .	. . .	. . .	101	. . .	164	. . .	. . .	13
1000 \$	2.0	. . .	. . .	. . .	.2	. . .	. . .	. . .	2.3	. . .	3.7	. . .	. . .	2.5
Costa Rica														
HEAD	725	. . .	. . .	. . .	83	. . .	1,429	478	8,134	. . .	10,042	. . .	27,491	1,888
1,000 \$	.7	. . .	. . .	. . .	3.4	. . .	35.6	12.6	197.2	. . .	332.0	. . .	164.8	971

SOURCE: Custom's Annual Report (Nicaragua)

F. O. B. EXPORTS-NICARAGUA

(Thousand Kilos & U.S. Dollars)

ITEMS		1967		1968		1969		1970		1971		1972	
		kilos	\$	kilos	\$	kilos	\$	kilos	\$	kilos	\$	kilos	\$
Improved Breed Live Animals	CACM					29.3	13.5	48.2	21.0			185.7	100.1
	R of W												
	TOTAL					29.3	13.5	48.2	21.0			185.7	100.1
Commercial Hogs Live Animals	CACM	253.6	128.4	138.0	40.3	410.8	121.0	1,515.3	528.8	1,307.4	517.8	2,885.5	1,611.6
	R of W												
	TOTAL	253.6	128.4	138.0	40.3	410.8	121.0	1,515.3	528.8	1,307.4	517.8	2,885.5	1,611.6
Pork, salted, dried, smoked, not canned	CACM					.5	.5						
	R of W	70.2	90.3										
	TOTAL	70.2	90.3			.5	.5						
	CACM	253.6	128.4	138.0	40.3	440.6	134.0	1,563.5	549.8	1,307.4	517.8	3,071.2	1,711.7
	R of W	70.2	90.3										
	TOTAL	323.8	218.7	138.0	40.3	440.6	134.0	1,563.5	549.8	1,307.4	517.8	3,071.2	1,711.7

SOURCE: Central Bank of Nicaragua
CACM = Central American Common Market
R of W= Rest of the World

CIF Imports - Nicaragua
(Thousand Kilos & U.S. Dollars)

Items		1967		1968		1969		1970		1971		1972	
		kilos	\$	kilos	\$	kilos	\$	kilos	\$	kilos	\$	kilos	\$
Improved Breed Live Animals	CACM												
	R of W	.7	1.5	.3	.6	.5	2.2	36.0	113.1	25.3	83.3	3.1	53.1
	TOTAL	.7	1.5	.3	.6	.5	2.2	36.0	113.1	25.3	83.3	3.1	53.1
Commercial Hogs Live Animals	CACM					5.2	.8	2.7	1.0			.1	.06
	R of W												
	TOTAL					5.2	.8	2.7	1.0			.1	.06
Pork, salted, dried Smoked, not Canned	CACM	14.6	33.0	12.1	27.6	7.2	16.2	7.5	16.9	7.6	18.1	18.1	27.0
	R of W	5.7	7.6	5.4	6.6	3.6	7.9	3.2	7.9	3.1	5.2	5.0	6.7
	TOTAL	20.3	40.6	17.6	34.2	10.9	24.1	10.7	23.7	10.7	23.3	23.2	33.7
Bacon, Ham, Canned	CACM	4.4	10.4	4.6	10.4	5.1	7.1	2.8	4.0	2.0	3.6	3.6	.3
	R of W	6.6	7.3	6.4	9.1	6.2	10.9	4.4	9.9	11.3	19.8	20.0	14.0
	TOTAL	11.0	17.7	11.0	19.5	11.3	18.0	7.2	13.9	13.3	23.4	23.6	14.3
	CACM	19.0	43.4	16.7	38.0	17.5	24.1	13.4	22.4	9.6	21.7	21.8	27.3
	R of W	13.0	16.4	12.1	16.3	10.3	21.0	43.6	129.7	39.7	108.3	28.1	73.8
	TOTAL	32.0	59.8	28.8	54.3	27.8	45.1	57.0	152.1	49.3	130.0	49.9	101.1

SOURCE: Central Bank of Nicaragua
CACM = Central American Common Market
R of W= Rest of the World

HOG & PORK MARKETING CHANNELS

(1972)

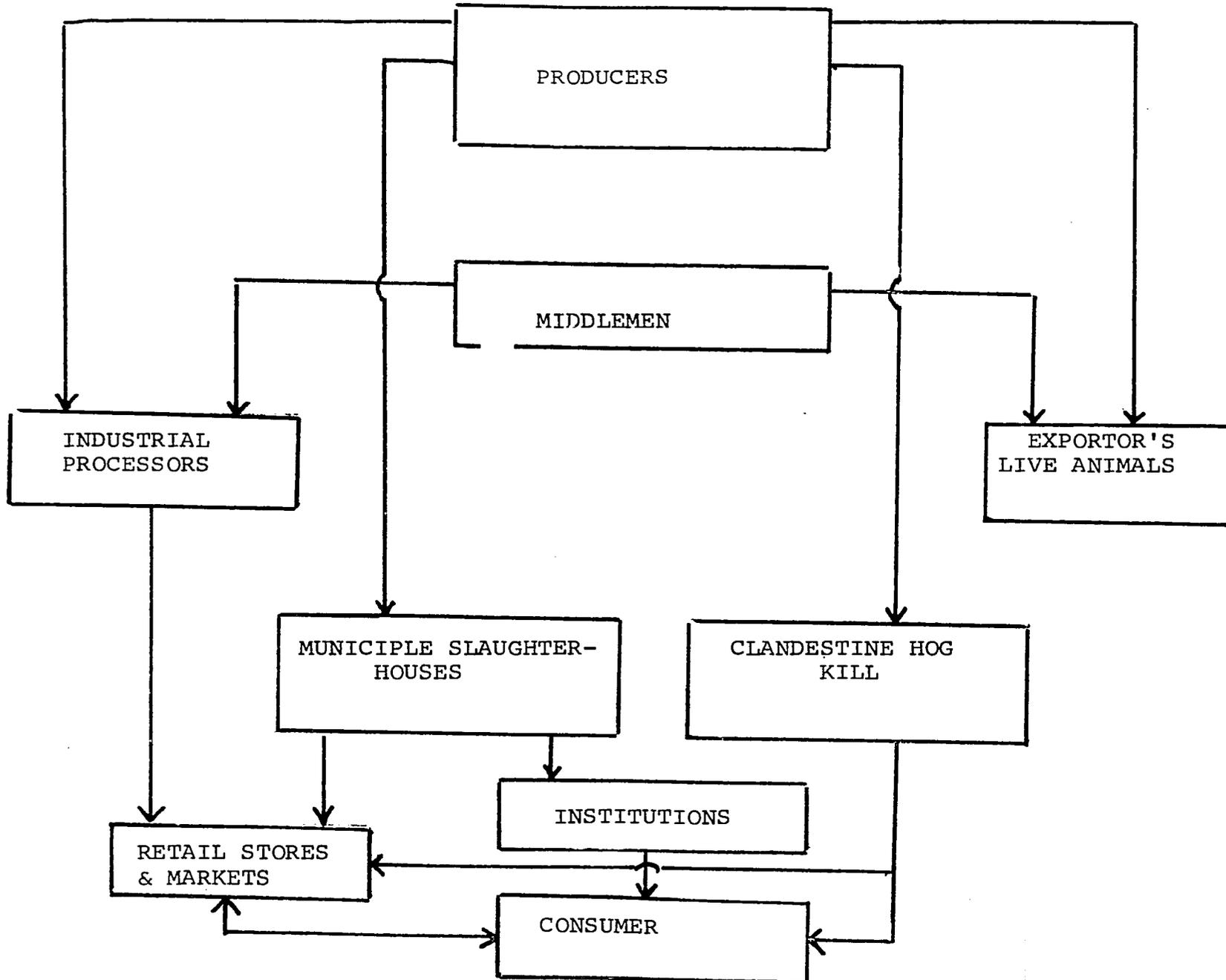


TABLE 6

UNDER MARKETING AND PROCESSED PRODUCTS

Items	Prices (Córdobas) per Pound for Imported Products			Prices (Córdobas) per Pound for Local Products			Prices (Córdobas) per Pound for Local Products		
	SUPERMARKET			SUPERMARKET			ORIENTAL MARKET		
	1968	1970	1973	1968	1970	1973	1968	1970	1973
Fresh Pork									
Hams	-	-	-	3.00 (1)	4.00 (1)	4.50 (1)	2.70 (1)	2.90 (1)	4.30 (1)
Other Primal Cuts	12.00 (2)	12.00 (2)	16.00 (2)	11.00 (2)	12.00 (2)	14.00 (2)	-	-	-
Processed Items (smoked Chops) 3	-	-	-	6.00 (2)	8.00 (2)	10.00 (2)	-	-	-
Sausages	14.00 (2)	15.00 (2)	16.50 (2)	4.00 (2)	6.00 (2)	8.00 (2)	4.50 (2)	5.00 (2)	6.00 (2)
Canned Items (Hams)	25.00 (2)	28.00 (2)	30.00 (2)	-	-	-	-	-	-
Lard	2.10	2.20	2.20	-	-	-	2.20 (3)	2.10 (3)	2.10 (3)

(1) Carcass wgt. basis

(2) Retail Price

(3) Wholesale Price

SOURCE: Verbal Communication

TABLE 7
IMPORTS INTO NICARAGUA

Under Marketing & Processed Products

	1967		1968		1969		1970		1971		1972	
	kilos	value	kilos	value	kilos	value	kilos	value	kilos	value	kilos	value
Pork, Smoked, Salted, Cooked, Not Canned												
Costa Rica	576	957					486	814	99	279		
Guatemala	13,934	31,782	11,667	26,517	7,245	16,255	7,025	16,102	7,524	17,827	23,200	33,700
U.S.A.	5,794	7,614	5,243	6,132	3,617	7,830	3,135	6,650	2,826	4,708		
Panama			163	462			28	75	251	553		
El Salvador			489	901			18	46				
Lard												
Costa Rica	88,500	37,577	50,006	20,611	11,544	6,445	26,223	7,421	14,997	6,275	16,386	7,911
El Salvador												
U.S.A.	7,374	2,726	4,227	1,274	1,289	516						
Honduras												
Sausages - Canned												
Guatemala	7,191	6,809	2,570	1,868	3,862	3,452	9,801	15,381	2,830	2,377		
Costa Rica	27,064	29,987	34,861	26,265	39,696	28,592	23,353	19,617	31,141	27,938	40,500	42,600
U.S.A.	3,923	3,955	2,179	3,196	10,416	19,399	20,772	31,209	7,259	11,020		
Panama			104	235			614	1,047	931	1,572		
Denmark	1,026	934	877	586			1,501	1,643	552	537		
El Salvador	1,473	1,769	2,292	4,483								
Germany							626	688				
France							876	854				
Holland							308	426				
Hong Kong							398	423				
Italy							160	556				
Sausages - Not Canned												
Guatemala	3,508	7,953	3,589	8,448	2,960	6,431	3,977	8,008	5,952	11,744	6,000	15,500
U.S.A.	5,145	6,154	6,483	9,495	1,753	4,586	1,092	2,386	1,916	3,340		
Costa Rica	1,562	2,373	2,390	4,421	1,180	2,178	777	1,239				
El Salvador	2,390	4,421	364	704								
Holland			613	1,501								
Honduras							102	188				
Hong Kong							181	162				
Costa Rica					1,500	2,362			1,945	3,490		
Denmark	2,039	2,800	1,188	1,505	650	816			1,470	2,047	23,600	14,300
U.S.A.	4,210	4,280	4,604	6,529	5,414	9,599			9,134	16,220		
Panama	162	465	579	1,283					624	1,288		
El Salvador	4,148	9,984	3,000	7,311	2,530	3,338						
Guatemala			1,623	3,152	1,162	1,473						

NOTE: The data for 1972 are not available expressed by country of origin. Therefore, only aggregate figures are provided for that year in table.

TABLE 7a

IMPORT DUTIES INTO U.S.A.

(#1 apparently "most favored nation" basis applying to Nicaragua)

	SCHEDULES	
	U.S. cents per pound	
	1	2
Meat from <u>BEEF</u>		
Chilled, frozen	3.¢	6.¢
Meat of <u>SWINE</u>	0.8	2.5
Edible offal	0.7	6.0
If over 20¢ # value (or over 30¢)	3.% ad. val.	30% ad. val.
<u>PORK</u>		
Hams etc.	2.	3.25
Boned and Cooked	3.0	3.0
<u>SAUSAGES</u>		
Fresh pork	2.2	3.25
Other pork	1.625	3.25
Beef	10% ad. val.	30% ad. val.
Beef if value over 30¢	7% ad. val.	20% ad. val.

SOURCE: US Official Tariff Schedules issued Dec. 1, 1969.
Bound volumes on file at office of IFAGAN.

TABLE 8

U.S.A. AVERAGE RETAIL PRICES OF PORK CUTS AND SAUSAGES, BY MONTHS
U.S. CENTS/POUNDS

MONTHS	1968	1969	1970	1971	1972	1973
JANUARY	65.4	67.9	82.1	68.4	76.3	94.1
FEBRUARY	66.7	68.6	81.8	69.4	81.3	97.1
MARCH	67.1	69.0	81.4	69.9	79.4	103.0
APRIL	66.3	69.1	79.9	68.7	78.2	
MAY	66.7	71.6	80.0	68.2	79.4	
JUNE	67.8	75.0	80.0	69.6	82.0	
JULY	69.4	76.9	80.6	71.4	85.6	
AUGUST	69.0	78.3	79.7	71.6	86.0	
SEPTEMBER	68.8	78.9	76.7	71.0	86.6	
OCTOBER	67.8	78.7	74.6	71.3	87.5	
NOVEMBER	67.1	78.1	70.8	71.4	87.2	
DECEMBER	67.0	79.7	68.4	72.9	88.5	
AVERAGE	67.4	74.3	78.0	70.3	83.2	

Source: Economic Research Service
USDA. May, 1973

Table 8
U.S. Prices
(Under Marketing Pork & Processed Product)

<u>Fresh Pork</u> (Prices quoted June 23, 1973)	<u>U.S. ¢ per Pound</u>
Loins	53 - 66
Spareribs	66 - 78
Smoked Shoulders	53
Boston Butt	57
Smoked Hams	59 - 64
 <u>Lard</u>	 18
 <u>Domestic Sausage</u> (Prices quoted May 26, 1973)	
Polish Sausage	\$1.02
Pork Sausage, Bulk	.60 - .65
Pork Sausage, Link Cas.	.74 - .77
Franks, Sheep Cas.	1.01 -1.09
Franks, Skinless, Vacuum Pack	.75 - .92
Bologne, Rink Bulk	.87 - .92
New England Lunch Special	.96
Pepper Loaf, Bulk	1.18
 <u>Dry Sausage</u> (Prices quoted May 26, 1973)	
Thuringer, Hog Bung	\$1.61
Farmer, Hard	1.14
Farmer, Export	.94 - .98
Salami, Cooked	.96
Pepperoni	1.16
Sicilian	1.30 -1.32
Goteborg	1.26
Mortadella, Fancy	.93 -1.06

Source: The National Provisioner

LOCAL RETAIL PRICES OF PORK PRODUCTS

Managua, October 6, 1973

NAME OF PRODUCT	BRAND	MAKER	CONTAINER	NET WGT	PRICE/OUNCE	MADE IN	PRICE/UNIT
Viena Sausage	Cinta Azul	Cinta Azul	Sealed Cans	5½ ounces	\$0.50	Costa Rica	\$ 2.75
Viena Sausage	Pic Nic	Cinta Azul	Sealed Cans	6 ounces	0.416	Costa Rica	2.50
Viena Sausage	Ducal	Ducal	Sealed Cans	6 ounces	0.416	Guatemala	2.50
Viena Sausage	Plumrose	Plumrose	Sealed Cans	4 ounces	2.73	Denmark	10.95
Viena Sausage	Plumrose	Plumrose	Sealed Cans	8 ounces	2.49	Denmark	19.95
Wieners	Cinta Azul	Cinta Azul	Sealed Cans	14 ounces	0.46	Costa Rica	6.50
Wieners	Cinta Azul	Cinta Azul	Sealed Cans	20 ounces	0.35	Costa Rica	5.95
Wieners	Pic Nic	Cinta Azul	Sealed Cans	14 ounces	0.46	Costa Rica	6.50
Wieners	Underwood	Underwood	Sealed Cans	12 ounces	0.54	El Salvador	6.50
Wieners	Hormel	Hormel	Sealed Cans	12 ounces	2.24	U.S.A.	26.95
Bologne	Cinta Azul	Cinta Azul	Sealed Cans	8 ounces	0.494	Costa Rica	3.95
Bologne	Cinta Azul	Cinta Azul	Sealed Cans	13 ounces	0.423	Costa Rica	5.50
Bologne	Cinta Azul	Cinta Azul	Sealed Cans	20 ounces	0.347	Costa Rica	6.95
Luncheon Meat	Cinta Azul	Cinta Azul	Sealed Cans	3 ounces	0.75	Costa Rica	2.25
Luncheon Meat	Cinta Azul	Cinta Azul	Sealed Cans	4½ ounces	0.833	Costa Rica	3.75
Luncheon Meat	Kerns	Kerns	Sealed Cans	5½ ounces	0.68	Guatemala	3.75
Luncheon Meat	Plumrose	Plumrose	Sealed Cans	7 ounces	1.18	Denmark	8.25
Luncheon Meat	Celebrity	Celebrity	Sealed Cans	12 ounces	0.58	Denmark	6.95
Deviled Ham	Hormel	Hormel	Sealed Cans	3 ounces	1.98	U.S.A.	5.95
Deviled Ham	La Extremeña	Hispanotica	Sealed Cans	5½ ounces	0.59	Costa Rica	3.25
Deviled Ham	Cinta Azul	Cinta Azul	Sealed Cans	4½ ounces	0.88	Costa Rica	4.00
Deviled Ham	Underwood	Underwood	Sealed Cans	2 ounces	2.07	El Salvador	4.15
Liver Paté	Hormel	Hormel	Sealed Cans	3 ounces	1.75	U.S.A.	5.25
Liver Paté	Hans d'Straboroug	Hormel	Sealed Cans	2½ ounces	3.98	France	9.95
Liver Paté	Paté Dore	Paté Dore	Sealed Cans	3 ounces	1.65	France	4.95
Liver Paté	Paté Dore	Paté Dore	Sealed Cans	5 ounces	1.79	France	8.95
Liver Paté	Mireille	Mireille	Sealed Cans	13 ounces	1.46	France	18.95
Liver Paté	Mireille	Mireille	Sealed Cans	2½ ounces	1.98	France	4.95
Liver Paté	Louis Henry	Louis Henry	Sealed Cans	4½ ounces	2.21	France	9.95
Liver Paté	Olida	Olida	Sealed Cans	2-34 ounces	2.09	France	5.75
Pressed Ham	Cinta Azul	Cinta Azul	Sealed Cans	15 ounces	0.53	Costa Rica	7.95
Corned Beef	Cinta Azul	Cinta Azul	Sealed Cans	4-14 ounces	0.77	Costa Rica	3.25
Bacon	Plumrose	Plumrose	Sealed Cans	16 ounces	2.12	Denmark	33.95

SOURCE: La Colonia Supermarket

TABLE 9

U.S.A. IMPORTS-PORK AND PORK PRODUCTS BY COUNTRY OF ORIGIN
MILLION POUNDS (PRODUCT WEIGHT)

YEARS	CANADA	DENMARK	NETHERLANDS	ALL OTHER
1966	47.5	116.9	65.1	13.8
1967	54.8	102.3	74.6	16.0
1968	55.5	111.9	82.2	17.6
1969	49.9	108.6	85.6	15.5
1970	63.2	120.6	86.7	19.3
1971	69.4	128.1	82.5	19.5
1972	67.5	151.8	75.3	27.6

U.S.A. EXPORTS, BY DESTINATION
MILLION POUNDS (PRODUCT WEIGHT)

YEARS	CANADA	MEXICO	BAHAMAS	JAMAICA	JAPAN	VENEZUELA	ALL OTHER
1966	28.4	2.2	2.6	2.6	.2	3.3	8.6
1967	27.3	1.9	3.5	3.5	.6	2.9	10.8
1968	36.4	2.9	4.0	3.2	25.1	1.6	11.4
1969	64.4	3.9	4.1	2.2	57.4	.8	11.6
1970	23.5	2.7	3.5	1.3	16.2	1.1	12.7
1971	13.6	2.1	3.5	2.2	25.7	.9	16.6
1972	31.6	1.2	3.6	1.5	46.3	.7	14.0

Source: Economic Research Service
USDA - May, 1973.

PRICE LIST FOR "EL LECHON"
PACKING HOUSE

Items	Prices/Pound	
	<u>Wholesale</u>	<u>Retail</u>
1. Mortadela--special in ½ lb. pkg.	\$ 4.50	\$ 5.60
2. Hot Dog--special in ½ lb. pkg.	3.40	4.20
3. Cooked Ham--pressed	12.00	15.00
4. Cooked Ham--in ½ lb. pkg.	12.00	15.00
5. Smoked Ham	12.00	15.00
6. Virginia Ham	13.00	17.00
7. Pressed Ham in ½ lb. pkg.	6.90	8.60
8. Smoked Rolled Loin	11.00	13.50
9. Smoked Pork Chops	8.50	10.30
10. Smoked Ribs	7.30	8.85
11. Bacon in ½ lb. pkg.	6.80	8.50
12. Salami	7.00	8.70
13. Smoked Sausage	5.40	5.70
14. Smoked Ham with Bone	8.80	11.00
15. Liver Pate'	3.40	4.00
16. Smoked Shank	2.30	2.70
17. Loin	8.65	9.10
18. Tenderloin	9.85	10.35
19. Shoulder	7.20	7.55
20. Ham	7.55	7.95
21. Ribs	6.40	6.50
22. Pork Chops	7.50	7.95
23. Trimmings	5.75	6.05

NATIONAL PACKER, Inc.

(Empacadora Nacional, S. A.)

	Wholesale price/pound		Retail price/pound	
	Lbs.	Pkg.	Lbs.	Pkg.
Bologna	6.00	3.00	7.20	
Devil Meat	6.50		7.50	
Ham bone, smoked	3.00		4.00	
Hot dog, white	5.00		6.00	
Hot dog, red	5.00		6.00	
Hot dog, Jr.	3.60		4.35	
Hot dog, ½ pound		1.80	2.20	
Baked ham with pineapple	14.00		16.00	
Ham	12.00	7.00	14.00	
Processed Ham	9.00	5.50	11.00	
Montadela, popular	4.75	2.40	5.70	
Montadela, special	6.00	3.00	7.20	
Smoked leg	9.00		11.00	
Fresh salami	7.00	3.50	8.50	
Large sausage	5.00	2.50	6.00	
Mixed	5.00		6.00	
Smoked bacon	8.00	4.00	10.00	
Pork chops	8.00		10.00	
Spanish sausage	7.00		8.00	
Liver paté	6.50		7.50	
Pork loins, smoked	12.00		14.00	
	5.00		6.00	
Montadela, Regal	5.00	2.50	6.50	
Pic-nic ham	9.00	4.50	11.00	
Local sausage	3.00		4.00	
Common sausage	2.70			
Skin	1.50			
Lard	2.00			
Bone	0.50			
Salami, special	9.00	5.50	11.00	
Luncheon meat	7.00	4.50	9.00	
Meat pie	5.00	3.50	6.00	
Ribs, smoked				

TABLE 9a

U.S.A IMPORTS OF PORK & PORK PRODUCTS, 1967-72
MILLION POUNDS

PORK	1967	1968	1969	1970	1971	1972
Fresh or Frozen	47.4	48.8	42.9	55.5	62.3	64.4
Hams & Shoulders, not Cooked	1.9	2.4	2.2	1.5	1.0	1.2
Hams & Shoulders, Canned	284.6	306.5	314.7	339.7	357.4	403.6
Other	58.6	58.8	49.0	51.7	37.9	39.0
TOTAL:	392.5	416.1	408.8	448.4	458.6	508.2

U.S.A. EXPORTS OF PORK & PORK PRODUCTS, 1967-72
MILLION POUNDS

PORK	1967	1968	1969	1970	1971	1972
Fresh or Frozen	19.2	47.9	98.6	35.0	38.9	68.8
Hams & Shoulders, not Cooked	12.4	15.5	23.7	7.1	6.8	12.9
Hams & Shoulders, Canned	3.6	3.0	2.6	2.8	3.1	3.2
Other Canned	3.0	3.8	3.8	3.1	3.7	3.3
Other	19.7	23.1	25.2	20.4	19.9	18.2
TOTAL:	57.9	93.3	153.8	68.4	72.4	106.4
NET IMPORTS	334.6	322.8	255.0	380.0	386.2	401.8

Source: Economic Research Service
USDA - May, 1973

TABLE 10

IMPORTS BY JAPAN BY COUNTRY OF ORIGIN

(Unit US\$)

<u>Hogs</u>	<u>CY 1971</u>		<u>CY 1972</u>	
	<u>Quantity</u>	<u>Value</u>	<u>Quantity</u>	<u>Value</u>
Ryukyu	71 head	\$2,362	60 head	\$8,769
United Kingdom	75	84,486	3	4,309
Netherlands	537	558,852	148	179,652
Canada	--	--	94	91,766
U.S.A.	270	425,532	715	1,127,916
Total	953 head	\$1,071,232	1,020 head	\$1,412,412
Mainland China	10,000 kg	\$26,569	--	--
Sweden	489	1,328	5,342 kg	\$19,675
Denmark	6,589	12,128	297,306	546,090
Netherlands	--	--	59	596
Canada	10,134	31,498	467	2,188
U.S.A.	1,180	3,101	29,066	83,630
Australia	--	--	2,200	8,490
New Zealand	--	--	454	932
Total	28,392 kg	\$74,624	334,894 kg	\$661,001

Table 10 (continued)

(Unit US\$)

	<u>CY 1971</u>		<u>CY 1972</u>	
	<u>Quantity</u>	<u>Value</u>	<u>Quantity</u>	<u>Value</u>
Denmark	95,787 kg	\$134,581	730,269 kg	\$898,709
Netherlands	2,364	8,124	4,976	
Germany	255	550	19,980	24,000
	6,818	17,358	1,835	5,230
U.S.A.	17,835	40,283	63,789	122,664
Australia	--	--	13,774	
Sweden	--	--	199	406
Total	123,059 kg	\$200,896	834,822 kg	\$1,672,673
<u>Pork (fresh, chilled or frozen)</u>				
Republic Korea	100 kg	\$388	--	--
Ryukyu	5,356	3,377	--	--
Indonesia	2,477	7,777	3,405 kg	\$9,916
Madeira & Cape Verde Islands	7,000	15,154	3,500	11,577
Papua	120	256	--	--
Newguinia	576	1,430	--	--
Bismark	490	1,200	144	456
New Herbides	1,050	4,407	160	456
Samoa	400	1,388	--	--
Marianas Masohalls & Carolins Islands	200	747	--	--
Hong Kong	---	--	225	2,516
Total	17,769 kg	\$36,124	7,372 kg	\$24,921

Table 10 (continued)

(Unit US\$)

	<u>CY 1971</u>		<u>CY 1972</u>	
	<u>Quantity</u>	<u>Value</u>	<u>Quantity</u>	<u>Value</u>
<u>Ham, Bacon and Other</u> dried, salted and smoked pig meat				
Ryukyu	123,272 kg	\$185,660	78,308 kg	\$78,200
Republic Korea	1,200	4,607	--	--
Hong Kong	962	4,905	741	4,218
Philippines	169	543	--	--
Indonesia	2,250	5,826	553	1,581
U.S.A.	226	894	--	--
New Hebrides	246	1,041	--	--
Total	128,325 kg	\$203,476	79,602 kg	\$83,999
<u>Sausages, not in airtight containers</u>				
Ryukyu	692,828 kg	\$749,992	249,692 kg	\$254,698
Hong Kong	590	2,607	3,684	4,652
Indonesia	1,035	1,490	--	--
Fiji	240	207	--	--
Singapore	--	--	840	841
MM Car	--	--	69	207
Total	694,693 kg	\$754,296	254,285 kg	\$260,398

Table 10 (continued)

(Unit US\$)

	<u>CY 1971</u>		<u>CY 1972</u>	
	<u>Quantity</u>	<u>Value</u>	<u>Quantity</u>	<u>Value</u>
<u>Sausages, in airtight containers</u>				
Ryukyu	488,346 kg	\$488,901	211,096 kg	\$204,226
Republic Korea	300	1,400	--	--
Hong Kong	75	452	7,488	7,086
Indonesia	1,347	1,366	60	290
MM Car	--	--	1,785	2,045
Total	450,068 kg	\$492,119	220,429 kg	\$213,647

Source: First National City Bank, Tokyo, Japan.

Table 11

IMPORTS - CARIBBEAN ISLANDS AREA

ITEMS & COUNTRIES	1964		1965		1966		1967		1968		1969		1970	
	M. TONS	\$000	M. TONS	$000	M. TONS	$000	M. TONS	$000	M. TONS	$000	M. TONS	$000	M. TONS	$000
<u>Fresh Pork</u>														
Bahamas	1235	1,023	1322	1,070	1735	1,323	1556	1,393	-	-	895	1,290	1981	2,176
Bermuda	242	243	-	-	-	257	290	264	264	304	375	366	-	-
Guadalupe	23	25	77	74	432	261	396	335	260	230	151	230	125	163
Jamaica	10	6	82	99	209	221	153	133	175	155	190	175	460	523
Neth. Ant.	1170	996	1223	1,008	1289	1,043	1447	1,247	-	-	1234	1,252	-	-
Trinidad	772	544	733	571	558	510	200	203	3	2	150	134	678	700
<u>Bacon-Ham Pork-Dried-Salted Smoked</u>														
Bahamas	1044	952	1025	1,100	1257	1,506	1258	1,440	-	-	1365	2,060	1376	1,925
Barbados	2292	1,042	2191	1,174	1999	1,391	1947	1,108	2131	1,263	2142	1,090	1715	1,160
Bermuda	397	399	-	-	474	622	577	687	540	687	453	613	-	-
Guadalupe	913	429	789	385	723	372	665	330	750	360	930	550	1072	673
Jamaica	2492	1,569	2539	1,965	1811	1,697	2020	1,298	-	-	839	480	570	425
Martinique	661	302	1018	434	939	405	496	428	980	460	958	511	1020	586
Neth. Ant.	792	303	839	404	852	437	919	369	-	-	831	434	-	-
Trinidad Tob.	2524	1,512	2516	1,900	2537	2,293	2345	1,938	1999	1,316	328	1,006	1041	869
<u>Sausages</u>														
Barbados	113	112	331	322	200	209	175	190	209	209	155	110	305	250
Bermuda	87	69	-	-	134	131	229	231	295	294	312	315	335	450
Guadalupe	254	293	271	340	288	386	316	431	346	468	352	492	377	518
Martinique	267	309	286	349	303	388	350	458	378	500	409	535	423	577
Neth. Ant.	956	761	1057	793	1022	787	1028	863	-	-	1065	894	-	-
Trinidad	637	622	677	637	756	724	759	674	808	696	362	319	101	177

SOURCE: Trade Yearbook, United Nations, 1971
October 18, 1973

TABLE 12

IMPORTS -- PORK & PORK PRODUCTS--

	GUATEMALA				HONDURAS				EL SALVADOR				COSTA RICA			
	1968	1969	1970	1971	1968	1969	1970	1971	1968	1969	1970	1971	1968	1969	1970	1971
Fresh pork																
Kilos	9.026	12.463	8.044	-	19	109	346	-	4.072	234	600	247	907	-	-	-
Value	10.721	13.278	9.426	-	54	239	1.498	-	5.225	433	938	454	6.256	-	-	-
Pork salted, smoked, cooked (not canned)																
Kilos	79.350	78.860	92.300	76.376	4.308	3.544	1.621	4.032	28.325	11.398	25.142	81.764	42	877	1.676	3.444
Value	93.091	87.198	110.109	85.672	7.516	5.432	3.128	7.469	39.869	22.633	36.325	130.182	124	1.676	3.362	4.032
Sausage, not canned																
Kilos	93	69	850	-	71.508	58.253	62.343	14.581	70.304	65.874	71.309	44.194	356	8.940	3.525	9.976
Value \$	127	66	1.117	-	124.487	115.593	118.277	29.009	131.747	117.277	115.184	73.087	1.245	11.841	9.347	22.846
Sausage, canned																
Kilos	50.262	38.705	35.816	43.345	116.289	105.320	110.598	16.837	33.986	112.191	116.869	32.702	24.715	11.082	16.966	11.529
Value \$	31.417	39.616	44.209	43.345	103.676	95.683	103.052	17.382	32.873	94.938	124.980	45.599	28.099	9.747	15.584	11.974
Ham & Bacon, canned																
Kilos	15.966	26.075	7.378	33.612	30.438	10.039	7.515	5.527	31.083	21.674	16.308	5.959	19.421	4.697	5.394	3.572
Value \$	29.617	37.342	12.715	35.708	40.750	13.699	13.017	11.360	50.314	29.070	29.946	8.763	40.409	6.522	8.769	6.274

SOURCE: SEICA (Secretariat for the Economic Integration of Central America)

TABLE 13

ANTE AND POST MORTEM INSPECTION, HOGS - NICARAGUA

(1) Head

The inspector must examine the lips, gums and tongue and make multiple incisions into the submaxillary lymphatic glands.

(2) Abdominal Cavity

The inspector must:

- a) examine the stomach, intestines, spleen and omentun;
- b) make multiple incisions into the gastrosplenic and mesenteric lymphatic glands;
- c) examine the surface and substance of the liver and make multiple incisions into the hepatic gland;
- d) make multiple incisions into the renal lymphatic glands;
- e) examine the uterus and ovaries.

(3) Thoracic Cavity

The inspector must:

- a) palpate the lungs and incise them at the base;
- b) make multiple incisions into the bronchial and mediastinal lymphatic glands;
- c) open the pericardium and examine the heart muscle.

(4) Udder

In adult animals the inspector must incise the udder and make multiple incisions into the supramammary lymphatic glands.

(5) Testicle and Penis

The inspector must examine the testicles and penis and make multiple incisions into the superficial inguinal lymphatic glands.

(6) Feet

The inspector must examine all four feet of all animals before they are removed from the slaughterhall.

(7) Additional Instructions

- a) If an abscess is found in any carcass or in any organ of a pig, or if the inspector has reason to suspect the presence of any such abscess he must require the carcass to be split through the spinal column and must make multiple incisions into the following lymphatic glands--superficial inguinal, supramammary, cervical, prepectoral, prescapular, subdorsal, sub-lumbar, iliac, precrural.

- b) Except where it has been established that there has been no case of trichinosis in the country during the preceding three years, a special examination for trichinosis must be carried out.

REJECTION OF MEAT AND OFFALS

- 1) If on inspection of any carcass or the offal taken from it, any lesion of tuberculosis is found the whole of the carcass and offal of the animal must be rejected.
- 2) If any portion of a carcass of any animal is rejected as unfit for any reason the remainder of the carcass must not be exported. Offal showing any abnormality must be rejected for export but localized conditions (other than lesions of tuberculosis) resulting in the rejection of a part of the offal as unfit, need not necessarily prohibit export of the carcass.
- 3) The flesh or offal of any fetus or any stillborn or immature animal must not be exported.

September 1973

Source: MAG (Vet. Section)

TABLE 14

Import Requirements by U.S.A.

The sanitary requirements for pork or pork products for intended export to the USA, are contained in a manual that is presently being considered by the Animal Sanitation & Veterinary Section of the Ministry of Agriculture of Nicaragua and the local meat packers for Congressional approval. Actually, the manual in question is a literal translation of the manual enforced by the U.S. Department of Agriculture on U.S. imports of beef and other animal products.

This manual goes into detail involving all aspects related to building design, water, power, sewage, equipment, tools and implements, personal health requirements of labor force engaged in plants, ante and post mortem inspection of animals for slaughter, etcetera.

In regards to hog cholera, the Nicaraguan Government recently approved a law whereby the introduction of hogs, pork or raw pork products from countries known to be infected with hog cholera is prohibited.

Nicaragua is making strong efforts to establish sound laboratory techniques and equipment for diagnostic work on hog cholera. As far as it is known, Nicaragua is free of this disease, which is also of deep concern to the U.S.A.

TABLE 15
IMPORT REQUIREMENTS BY JAPAN

In order to export fresh pork or any pork product, canned or not canned to Japan, the exporting country must present to the Japanese authorities a sanitary certificate, signed by a duly authorized officer, stating that the exported items are free of infection or contamination of the following diseases:

- Rinder Pest
- Foot and Mouth Disease
- Infectious Encephalitis
- Rabies
- Anthrax
- Black Leg
- Hemorrhagic Septicemia
- Brucellosis
- Hog Cholera
- Hog Erysipelas

TABLE 16

PRODUCT DISTRIBUTION BY OUTLET--NICARAGUA

	Fresh Pork	Hams	Sausage	Canned Items	Lard
Retailers	2	75	10	80	0
Supermarkets	85	15	80	10	98
Institutional	3	10	10	10	2
Street Vending	10	0	0	0	0

Source: Personal Evaluation
August 1973

TABLE 17

PRODUCTION, CONSUMPTION, EXPORTS AND IMPORTS - HOGS (PORK)

Year	Slaughter		Imports	Human Consumption			Exports
	1000 qq	1000 head	1000 head	Lbs./capita	1000 qq	1000 head	1000 head
1960	97.3	147.1	-	6.9	97.3	147.1	5.9
1961	82.8	125.8	-	5.7	82.8	125.8	2.4
1962	76.3	118.7	-	5.1	76.3	118.7	10.5
1963	86.3	131.7	0.1	5.6	86.3	131.7	12.5
1964	95.0	144.4	-	6.0	95.0	144.4	9.5
1965	118.9	182.5	0.2	7.3	118.9	182.5	13.3
1966	159.1	240.8	0.7	9.5	159.1	240.8	9.1
1967	158.4	224.2	-	9.2	158.4	224.2	4.1
1968	184.1	250.4	-	10.4	184.1	250.4	2.5
1969	202.1	268.2	0.1	11.1	202.1	268.2	6.5
1970	213.4	285.7	0.8	11.4	213.4	285.7	20.8
1971	215.6	284.0	0.5	11.2	215.6	284.0	17.8
1972	226.3	298.2	-	11.4	226.3	298.2	24.9
Annual rate of increase (%)							
1960-1965	4.1	4.4	-	1.1	4.1	4.4	17.7
1965-1971	10.4	7.6	-	7.4	10.4	7.6	5.0
1960-1971	7.5	6.2	22.3	4.5	7.5	6.2	10.6

Source: Banco Central

June 22, 1973

*Estimates on clandestine slaughter have been included.

TABLE 17

PRODUCTION, CONSUMPTION, EXPORTS AND IMPORTS - CATTLE (BEEF)

Year	Slaughter*		Imports	Human Consumption		Exports	
	1000 qq	1000 head		1000 head	Lbs./capita	1000 qq	on the hoof 1000 head	fresh meat 1000 qq
	1960	379.3	133.7	0.8	20.0	281.4	19.7	97.9
1961	448.8	156.0	0.2	21.6	313.7	17.5	135.1
1962	479.8	167.3	0.3	18.0	269.4	10.1	210.4
1963	553.4	192.4	0.4	17.9	275.8	5.5	277.6
1964	564.1	195.7	1.7	20.4	322.9	3.4	241.2
1965	535.0	181.4	2.5	20.2	328.3	2.9	206.7
1966	624.0	202.6	1.2	20.5	342.5	2.5	281.5
1967	655.8	210.8	0.4	19.4	332.4	0.4	323.4
1968	745.0	246.9	0.3	20.8	367.1	0.4	377.9
1969	844.8	276.4	0.5	22.1	398.7	1.2	446.1
1970	986.5	310.0	-	24.2	448.9	-	537.6
1971	999.9	325.0	2.0	23.7	452.4	-	547.5
Annual rate of increase (%)							
1960-1965	7.1	6.3	25.6	0.1	3.1	-31.8	16.1
1965-1971	11.0	10.2	-3.7	2.7	5.5	-19.8 ^{1/}	17.6
1960-1971	9.2	8.4	8.7	1.6	4.4	-26.7 ^{2/}	16.9

Source: Central Bank

June 22, 1973

^{1/}Rate 1965-69^{2/}Rate 1960-69

* Clandestine slaughter has been included

TABLE 18

EXTENT OF USE OF REFRIGERATION

(UNDER DOMESTIC MARKET DEVELOPMENT)

	Large Extent	Medium Extent	Small Extent	None
Processing Plants	x			
Retailers				
Grocery Stores		x		
Opened Markets				x
Institutional	x			
Supermarkets	x			

Source: Personal Evaluation
August 1973

TABLE 19

INFONAC

Swine Financing Operations by Departments

<u>Depts</u>	<u>N^o Boars</u>	<u>N^o Sows</u>
Chinandega	1	36
Leon	3	84
Carazo	2	136
Granada	2	108
Masaya	2	136
Managua	4	84
Boaeo	1	12
Chantales	2	112
Zelaya	2	72

This program includes technical assistance provided
by INFONAC

Source: Mr. Luis Somarriba, INFONAC
July 1973

TABLE 20

Current Cost for Hog Slaughtering (per head)
Managua Municipal Abattoir

Date: Ag. 2, 1973

1 ^o	yardage per day	\$ 0.50
2 ^o	kill and peel	4.00
3 ^o	cutting into pieces	3.00
4 ^o	loading and transportation (to market)	4.00
5 ^o	permit (municipal)	3.00
6 ^o	permit (social welfare)	2.00
7 ^o	frying (to separate land)	6.00

Cost of patent (type of permit) good for one year,
per head: \$80.00.

Source: Veterinarian, Municipal Abattoir

Prices of Iowa Farm Products 1930-1972

Published in cooperation with the Iowa Crop and Livestock Reporting Service

Year and Month	Corn per bu. \$	Oats per bu. \$	Wheat per bu. \$	Soybeans per bu. \$	All hay per ton \$	Hogs per cwt \$	Cattle per cwt \$	Sheep per cwt \$	Lambs per cwt \$	Milk cows per head \$	Farm chickens per lb. \$	Eggs per doz. \$	All Milk per cwt. \$	Wool per lb. \$	Hog-Corn ratio ¹	Milk-Feed ratio ²	Egg-Feed ratio ³	Index of prices received by farmers (Iowa) ⁴	Index of prices received by farmers (U.S.) ⁴	Index of prices paid, interest, taxes & wage rates (U.S.) ⁵	Parity ratio (U.S.) ⁶	
1930	.70	.33	.82	...	9.30	8.80	9.10	4.60	8.20	77	.160	.197	2.05	.20	12.9	...	12.7	126	125	151	83	
1931	.43	.22	.51	...	8.30	5.60	6.50	2.50	5.80	50	.144	.148	1.60	.13	13.0	...	15.4	87	87	130	67	
1932	.73	.16	.38	...	7.70	3.20	4.95	2.00	4.60	34	.101	.118	1.20	.09	15.1	...	20.5	58	65	112	58	
1933	.47	.20	.59	...	6.50	3.40	4.40	2.25	5.30	32	.080	.111	1.10	.22	14.6	...	14.6	58	70	109	64	
1934	.55	.38	.83	1.23	10.90	4.05	5.20	2.60	6.10	33	.106	.143	1.30	.21	8.1	...	11.4	78	90	120	75	
1935	.73	.36	.90	1.05	11.40	8.70	7.30	3.80	7.60	45	.143	.213	1.55	.20	12.6	...	14.9	118	107	124	88	
1936	.74	.31	.98	1.05	8.60	9.30	6.70	3.80	8.20	54	.139	.188	1.75	.28	14.3	...	12.6	119	114	124	92	
1937	.93	.38	1.09	1.18	10.20	9.40	8.20	4.10	9.00	59	.162	.183	1.90	.33	11.9	...	11.2	133	122	131	93	
1938	.42	.21	.67	.76	6.60	7.60	7.80	3.11	7.40	59	.127	.170	1.65	.18	18.8	1.90	16.6	104	97	124	77	
1939	.39	.26	.64	.73	5.50	6.00	8.40	3.50	8.00	62	.114	.136	1.55	.22	16.4	1.76	11.4	96	95	123	78	
1940	.52	.31	.77	.81	6.10	5.30	8.90	2.60	8.40	65	.120	.144	1.65	.50	10.5	1.62	11.3	98	100	124	81	
1941	.58	.34	.88	1.18	8.80	9.20	10.00	4.80	9.90	77	.143	.206	1.50	.30	16.0	1.68	13.8	129	124	133	93	
1942	.73	.46	1.06	1.61	8.40	13.10	11.90	5.70	12.10	95	.180	.278	2.10	.40	18.2	1.51	13.8	167	159	152	105	
1943	.92	.63	1.29	1.67	12.90	13.80	13.50	6.50	13.50	119	.225	.367	2.55	.43	15.1	1.42	14.2	189	193	171	113	
1944	1.00	.71	1.46	1.92	14.80	13.20	12.20	5.90	13.20	110	.225	.298	2.70	.43	13.3	1.36	11.7	183	197	182	108	
1945	.98	.66	1.51	2.09	15.90	14.00	13.50	6.50	13.40	115	.232	.331	2.70	.43	14.5	1.41	13.6	194	207	190	109	
1946	1.30	.74	1.74	2.31	14.90	17.50	15.90	7.70	16.00	143	.279	.326	3.34	.44	13.7	1.52	11.5	234	236	208	113	
1947	1.84	.95	2.55	3.22	16.10	23.80	20.90	8.10	21.10	166	.238	.385	3.97	.42	13.9	1.34	10.6	307	276	240	115	
1948	1.85	.94	2.18	3.14	21.50	22.80	24.70	9.40	23.30	198	.270	.400	4.37	.44	13.2	1.37	11.0	321	287	260	110	
1949	1.11	.62	1.91	2.17	19.90	17.50	21.80	8.50	23.00	188	.205	.386	3.60	.44	16.1	1.66	13.6	256	250	251	100	
1950	1.28	.73	2.01	2.46	16.70	17.70	25.30	10.00	25.30	212	.192	.292	3.55	.56	14.1	1.46	9.6	270	258	256	101	
1951	1.58	.88	2.16	2.89	16.60	19.70	31.10	14.00	31.40	266	.210	.397	4.06	.92	12.6	1.30	11.3	319	302	282	107	
1952	1.56	.84	2.14	2.79	17.20	17.40	27.30	7.60	24.90	248	.177	.326	4.21	.50	11.4	1.37	9.3	291	288	287	100	
1953	1.37	.74	1.98	2.59	18.60	21.10	19.50	5.00	20.30	185	.184	.399	3.74	.52	15.6	1.32	12.4	259	255	277	92	
1954	1.42	.74	2.03	3.01	18.80	21.00	19.60	5.00	19.50	162	.118	.282	3.47	.50	15.1	1.31	8.3	263	246	278	89	
1955	1.31	.64	2.00	2.24	16.70	14.40	18.80	4.40	18.80	155	.155	.319	3.40	.42	11.4	1.28	10.5	221	232	276	84	
1956	1.31	.67	1.99	2.39	18.60	14.20	18.10	4.10	18.50	168	.173	.319	3.43	.44	11.0	1.36	10.5	218	230	278	83	
1957	1.10	.66	1.98	2.15	16.80	17.60	20.10	5.30	19.90	178	.102	.281	3.46	.52	16.2	1.45	10.1	232	235	287	82	
1958	.97	.56	1.78	2.02	13.50	19.40	24.20	6.20	20.90	227	.107	.303	3.35	.33	20.5	1.51	11.2	252	250	294	85	
1959	1.01	.60	1.76	2.00	13.40	13.80	24.70	5.60	18.70	242	.069	.233	3.38	.42	13.9	1.52	8.4	231	240	298	81	
1960	.94	.62	1.77	1.92	14.50	15.30	22.90	4.80	18.10	223	.093	.280	3.40	.43	16.9	1.53	10.7	228	239	300	80	
1961	.96	.63	1.80	2.51	15.10	16.50	22.10	4.70	16.40	229	.061	.278	3.54	.42	17.5	1.54	10.1	236	240	302	79	
1962	.96	.65	1.89	2.31	17.40	16.20	24.00	5.00	17.70	226	.062	.259	3.39	.47	16.9	1.47	9.4	240	244	307	80	
1963	1.06	.67	1.93	2.44	17.40	14.80	21.80	5.40	18.50	217	.061	.264	3.40	.47	14.0	1.48	9.2	229	243	312	78	
1964	1.08	.65	1.64	2.46	17.90	14.60	20.50	5.10	20.40	214	.057	.253	3.42	.55	13.7	1.46	8.7	223	237	313	76	
1965	1.13	.66	1.39	2.59	20.80	20.60	22.60	5.50	22.70	215	.055	.242	3.53	.48	18.5	1.50	8.4	261	248	321	77	
1966	1.19	.68	1.60	2.90	20.80	22.60	23.70	5.70	23.50	248	.056	.308	4.13	.52	19.3	1.64	9.9	283	266	334	80	
1967	1.13	.68	1.50	2.60	19.80	18.70	23.70	5.30	22.10	269	.043	.220	4.24	.35	16.8	1.68	4.9	260	254	342	74	
1968	1.01	.65	1.29	2.49	19.30	18.60	25.20	6.10	25.00	274	.049	.242	4.46	.33	18.5	1.83	6.4	263	261	355	73	
1969	1.09	.62	1.19	2.40	20.60	22.20	27.80	7.10	26.80	291	.066	.312	4.76	.35	21.2	1.84	7.9	296	275	373	74	
1970	1.17	.61	1.28	2.55	20.30	22.60	28.20	7.10	27.00	325	.059	.318	5.01	.34	19.0	1.84	7.3	296	280	390	72	
1971	1.21	.68	1.34	2.90	20.70	17.50	30.30	5.60	25.50	335	.050	.238	5.17	.21	15.3	1.91	5.3	294	285	410	70	
1972 ^b	1.11	.69	1.57	3.29	21.60	25.30	34.00	6.00	29.30	370	.061	.235	5.40	.30	23.4	2.03	5.4	348	319	433	74	
Rev 1971					21.60	25.30	34.00	6.00	29.30	370	.061	.235	5.40	.30	23.4	2.03	5.4	348	319	433	74	
Jan	1.36	.71	1.35	2.80	21.20	15.10	26.40	5.60	24.70	335	.045	.280	5.34	.28	11.1	1.80	6.5	269	271	400	68	
Feb	1.36	.73	1.36	2.86	21.50	19.60	30.00	5.70	24.90	335	.050	.240	5.25	.26	14.2	1.81	5.6	303	285	403	70	
Mar	1.36	.72	1.34	2.85	21.90	17.00	29.80	6.20	26.30	335	.050	.240	5.18	.24	12.5	1.79	5.2	291	284	405	70	
Apr	1.34	.72	1.36	2.73	20.70	16.00	30.20	6.70	27.30	335	.050	.250	5.16	.24	11.9	1.80	5.7	287	283	408	69	
May	1.32	.70	1.33	2.79	19.70	17.00	31.50	6.00	28.00	335	.050	.220	5.03	.24	12.9	1.82	4.9	296	285	410	70	
June	1.38	.70	1.37	2.95	19.20	17.40	30.70	6.60	28.00	335	.050	.210	4.94	.23	12.6	1.74	4.7	297	287	412	70	
July	1.31	.65	1.34	3.17	19.70	19.10	31.00	5.80	27.60	335	.050	.200	4.96	.24	14.6	1.79	4.4	306	284	411	69	
Aug	1.17	.63	1.29	3.07	20.70	18.50	31.10	5.50	27.00	330	.050	.240	5.04	.19	16.4	1.92	5.5	299	286	412	69	
Sept	1.17	.63	1.29	2.90	20.80	18.10	30.70	5.30	26.80	330	.050	.230	5.15	.15	17.9	2.03	5.2	291	282	413	68	
Oct	.94	.63	1.34	2.94	20.70	19.80	30.00	5.00	25.00	335	.050	.200	5.22	.15	21.1	2.13	4.7	294	289	413	70	
Nov	.94	.62	1.34	2.84	21.20	18.70	31.50	5.00	23.80	335	.055	.220	5.33	.15	19.9	2.20	5.2	295	291	416	70	
Dec	1.05	.65	1.38	2.94	21.40	19.80	30.60	5.00	24.30	340	.055	.260	5.41	.15	18.9	2.12	6.0	301	294	416	71	
YEARLY TOTAL	1.21	.68	1.34	2.90	20.70	17.50	30.30	5.60	25.90	335	.050	.238	5.17	.21	15.3	1.91	5.3	294	285	410	70	
Pr elim 1972																						
Jan	1.04	.67	1.36	2.90	22.50	32.60	5.20	28.50	355	.055	.220	5.39	.17	21.4	2.11	5.1	320	303	420	72		
Feb	1.04	.68	1.35	2.97	22.60	26.10	33.20	5.70	29.70	355	.055	.220	5.41	.17	25.1	2.12	5.1	359	310	427	73	
Mar	1.05	.69	1.36	3.14	22.50	23.00	33.10	5.70	29.70	355	.051	.260	5.41	.18	21.9	2.11	5.8	328	304	427	72	
Apr	1.08	.68	1.38	3.35	22.00	22.40	32.50	5.90	29.40	355	.055	.220	5.30	.19	20.7	2.05	4.9	325	303	427	71	
May	1.10	.69	1.39	3.34	20.50	24.30	34.50	5.90	31.70	355	.055	.200	5.20	.24	22.6	2.00	4.5	344	313	427	73	
June																						