CC

UMENTO DE TRABAJO
Working Document Series

Division de Analisis Sectorial
Oficina de Asuntos
Latinoamericanos
Agencia para el
Desarrollo Internacional

Sector Analysis Division
Bureau for Latin America
Agency for International Development

ANALISIS SECTORIAL

SECTOR ANALYSIS

INTRODUCCION A LA SERIE DE DOCUMENTOS ANALITICOS DE TRABAJO

A cada esfuerzo analítico que involucre a varios investigadores en diferentes instituciones y distintas oficinas se le presentan problemas difíciles relacionados con el intercambio de ideas que surgen del análisis y de la copilación de datos. Se ha iniciado esta Serie de Documentos de Trabajo con el fin de intercambiar información oportunamente con colaboradores. En vez de esperar hasta que los análisis hayan llegado a la etapa de convertirse en estudios "preliminares" para circulación, hemos decidido distribuir, lo más pronto posible, a un número muy restricto de colaboradores, estos datos como posible elementos de futuros marcos analíticos y como resultados muy preliminares. Este sistema tiene la ventaja de permitir una revisión oportuna de los datos y un cambio de dirección, si fuera necesario, así como también un intercambio de ideas. La obvia desventaja en esta Serie de Documentos es que se circula material que no ha sido corregido ni aprobado. Por lo tanto, los lectores de estos Documentos deben tener en cuenta su carácter completamente provisional. Esperamos con interés los comentarios y las sugerencias que pudieran surgir de la circulación y lectura de estos documentos.

Estos datos y estos análisis no han sido aprobados por la A.I.D. ni por cualquiera de sus oficinas, y no deben citarse sin permiso, por escrito, de los autores.

ISN - 31621
PN-AAA-498/62

AGRICULTURE - COLOMBIA

ANALYTICAL WORKING DOCUMENT # 11

LINEAR PROGRAMMING ANALYSIS OF NUTRIENT PRODUCTION CAPACITY OF THE COLOMBIAN AGRICULTURE SECTOR

Richard E. Suttor April 1973

INTRODUCTION TO THE ANALYTICAL WORKING DOCUMENT SERIES

Every analytical effort involving various investigators in different institutions and locations faces the difficult problem of interchange of analysis between collaborators. The Analytical Working Document Series was originated to help in reducing that communication gap. Rather than wait until the analysis has matured, we are circulating the "rough draft" stage. This approach has the advantage of allowing early review and redirection as well as cross-fertilization effects on other research efforts. The obvious disadvantage of the Analytical Working Document Series is that uncorrected and untested materials are circulated. Readers of these draft collections of Preliminary Analytical results should keep in mind their provisional character and use them in the spirit that they were issued. We look forward to the helpful comments which the circulation was intended to elicit.

These data and analyses do not bear the approval (nor imply such) on the part of U. S. AID or any of its offices, and should not be quoted without the written permission of the originating office.

TABLE OF CONTENTS

	Page
Linear Programming Model	1
Agriculture Component	1
Food and Nutrition Component	1
Balance Equations	4
Other Restrictions	4
Objective Functions	4
Analytical Results	5
Value Added and Food Costs	6
Commodity Mix	8
Further Research	11
Appendix A	12
Appendix B	26

Linear Programming Analysis of Nutrient Production Capacity of the Colombian Agriculture Sector

Malnutrition is a serious problem for a large segment of the population of Colombia. In searching for ways to improve nutrition, questions arise concerning the capacity of the agriculture sector to provide more nutrients. As a first step toward answering these questions, food and nutrition components have been built into the linear programming model of the agriculture sector. The following sections describe the model and analytical results. It should be noted at the outset that this is only a first attempt which, hopefully, will be followed by analyses utilizing better data and improvements in the model. Suggestions for future research appear in the last section of this document.

Linear Programming Model

The agricultural part of the model will be only briefly reviewed; a detailed description appears in Analytical Working Document No. 4. The food and nutrition components, the relationships linking food and agricultural products and the objective functions will be described in more detail.

Agriculture Component

Seventy-two activities referring to the production of 58 agricultural products are constrained by three sets of restrictions. Twelve labor restrictions limit the amount of labor which can be used each month in agricultural production. The next six restrictions refer to available land. Finally, there are 58 market restrictions which put an upper limit on the amount of each agricultural product that can be sold in the domestic market. (Domestic and export markets were treated together in the original agriculture sector model, however, exports are treated separately here, as described below).

Food and Nutrition Component

ThereThere are 51 food consumption activities, each activity referring to the consumption of 100 grams of a certain food item. Associated with each activity are the quantities of the various nutrients provided by 100 grams of the particular food. For each of 21 nutrients there is a restriction of the form,

$$\sum_{j=1}^{51} a_{ij} X_j \geq N_i \quad i = 1,2,\ldots,21$$

where, X_j is the quantity of food j

a_{ij} is the amount of nutrient i in 100 grams of food j

N_i is the minimum requirement of nutrient i.

These restrictions force the total amount of each nutrient provided by the various foods to be greater than or equal to the minimum requirement of the population. In addition, there is an upper limit on calories.

The list of nutrients and their minimum requirements for 1968 are

Table 1. National Nutritional Requirements by Age Group, 1968

Nutrient	Units	0-4 years Monthly Requirement per person 1/	Total Annual requirement 2/	5-9 years Monthly Requirement per person 1/	Total Annual Requirement 2/	10-14 years Monthly Requirement per person 1/	Total Annual requirement 2/	15 years & older Monthly Requirement per person 1/	Total Annual requirement 2/	All ages Total Annual requirement
		(Units)	(Million Units)	(Units)	(Million Units)	(Units)	(Million Units)	(Units)	(Million Units)	(Million Units)
Calorias	Kilos	35.02	1561.61	57.40	2110.48	75.27	2425.20	69.93	9073.30	25170.59
Proteinas	Hectgr.	10.05	448.15	11.70	430.19	20.40	657.29	21.78	2327.13	4382.76
Grasas	Hectgr.	10.74	478.92	16.25	597.48	21.40	689.51	19.90	2583.09	4349.00
Calcio	gr.	20.40	909.68	24.00	882.43	24.00	773.28	17.85	2317.00	4332.39
Hierro	Centgr.	25.80	1150.47	36.00	1323.65	45.00	1449.90	41.07	5331.05	5255.37
Vitamin A	Mil. U.I.	57.00	2541.74	105.00	3860.64	135.00	4349.70	149.72	19434.25	30136.33
Tiamina	mgr.	14.40	642.12	24.00	882.43	30.00	966.60	28.11	3648.79	6219.54
Riboflavina	mgr.	22.20	989.94	36.00	1323.65	45.00	1449.90	43.17	5603.64	9388.13
Niacina	Centgr.	25.20	1123.72	38.70	1422.92	51.00	1643.22	47.70	6191.65	10381.51
Vitamin C	decigr.	12.00	535.10	12.00	441.22	12.00	386.64	15.00	1947.06	3310.02
Isoleucina	gr.	55.42	2471.29	62.05	2281.45	108.00	3479.76	100.20	13006.16	21239.86
Leucina	gr.	85.20	3799.24	94.36	3469.43	163.20	5258.30	143.70	18652.33	31179.10
Lisina	gr.	102.50	4570.68	125.10	4599.68	218.20	7030.40	111.00	14408.24	30609.00
Metionina y Cistina	gr.	50.54	2253.68	56.20	2066.36	98.00	3157.56	139.38	18092.02	25569.63
Fenilalanina	gr.	51.18	2282.22	56.20	2066.36	56.20	1810.76	39.38	5111.62	[illegible]
Tirosina	gr.	-		-		-		100.00	12980.40	12980.40
Treonina	gr.	58.54	2610.42	71.40	2625.23	124.20	4001.77	67.53	8765.06	18003.03
Triptofano	gr.	16.08	717.04	18.75	689.40	32.65	1051.98	34.86	4524.97	6983.39
Valina	gr.	60.64	2704.06	69.00	2536.99	120.10	3869.62	126.33	16398.24	25508.31
Histidina	gr.	3.96	176.58	-	-	-	-	-	—	176.58

1/ Source: Instituto de Investigaciones Tecnologicas. "Diseño de Dietas de Costo Minimo." p.23
Requirements for 0-4 anos is weighted average of "Menor de 1" and "1-4" groups in source table.

2/ Population projections taken from Enrique Perez Sanin, " Parametros Demograficos Colombianos 1951-1964, proyecciones de población 1965-1985." p. 269 Population times 12 times monthly requirement per capita equals total annual requirement.

presented in Table 1. Requirements were computed for four age groups and then summed to obtain national requirements. The nutrient contents of individual foods appear in the computer printout of the linear programming matrix in Appendix B. The interested reader is referred to a study of minimum cost diets by the Instituto de Investigaciones Technologicas;[1] nearly all nutrition data was taken directly from this study, although some additional data was developed (See Appendix A).

Balance Equations

A series of 40 balance equations relate the agricultural production and food consumption activities:

$$\sum_{j=1}^{72} a_{ij} Y_j - \sum_{j=1}^{51} b_{ij} X_j - E_i = 0, \quad i=1,2,\ldots,40$$

where Y_j is the level of agricultural production activity j

X_j is the level of food consumption activity j

a_{ij} is the amount of commodity i produced by one unit of agricultural production activity j

b_{ij} is the amount of commodity i needed to produce one unit of food j

E_i is exports of commodity i

[1] Instituto de Investigaciones Technologicas, "Diseno de Dietas de Costo Minimo," Bogota, Colombia, September 1972.

These equations simply state that production of a particular commodity equals the amount utilized in domestically consumed food plus exports. No imports are allowed.

Although most of the agricultural production activities produce only one commodity, several activities produce more than one, e.g. bovino produces seven different commodities. Similarly, most food activities utilize only one commodity. See Appendices A and B for these data.

Other Restrictions

Upper limits are placed on exports. For all solutions reported here, the limit was the amount actually exported in 1968.

Production of some agricultural products is constrained to be equal to or greater than the amount actually produced in 1968. These include (a) non-food products such as tobacco and fique and (b) some minor food products for which adequate nutrient data were not available.

Objective Functions

Two types of solutions were obtained: (a) maximization of value added in agriculture and (b) minimization of the retail cost of food. In the first case, the objective function coefficients are the value added by each unit of the agriculture activities; these are the same coefficients that were used in the original agriculture sector model (See Analytical Working Document #4). The coefficients for the second objective function

are average retail prices in Bogota in 1971 for 100 grams edible weight of the individual food items.[2] To the extent that Bogota prices are higher than the national average, total retail food costs for Colombia are over estimated. The problem is compounded by the fact that significant quantities of food are not marketed, but rather are consumed directly by the farm family. Despite these shortcomings, the retail costs as generated by the linear programming solutions are meaningful, particularly in comparing alternative solutions, i.e., the food costs of alternative solutions can be meaningfully compared with each other.

Each solution of the model includes (a) level of agricultural production, (b) food consumption, (c) exports of agricultural products, (d) value added in agriculture and (e) retail cost of food.

[2] Source: Instituto de Investigaciones Tecnologicas, op.cit.

Analytical Results

Initially, domestic market restrictions were set at twice the levels of actual 1968 consumption; these will be referred to as "high" market levels. Minimum cost and maximum value added solutions were obtained with these high market levels. Second, parametric programming was used to determine how much the market restrictions could be reduced before infeasibility was encountered.

This is illustrated for a two product case in Figure 1. The nutrient restriction is represented by the line N_A N_B; any combination of the two products on the line or above it provides at least the minimum nutrient requirements.

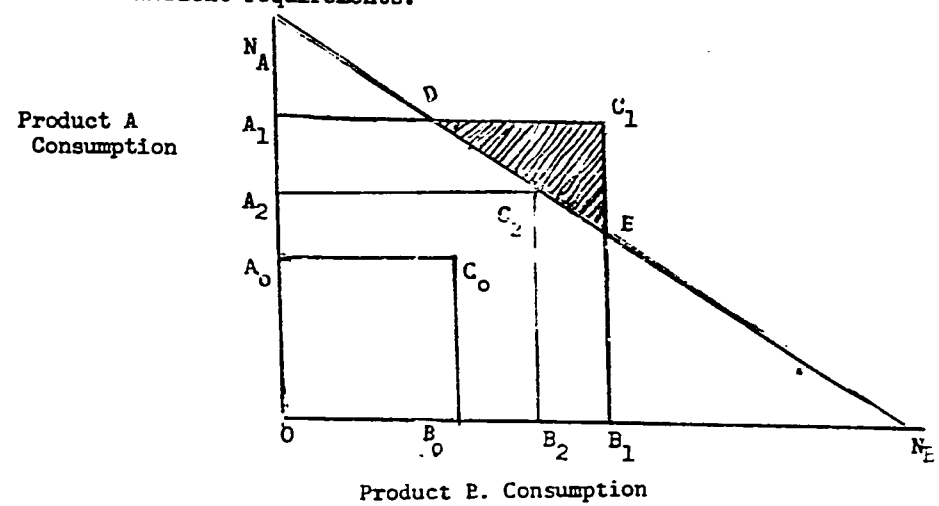


Figure 1. Relationship Between Markets and Nutrient Requirements in the Two Product Case.

Actual consumption of Product A in 1968 was A_o and consumption of Product B was B_o. The initial market restrictions are twice these levels, namely, A_1 and B_1. The market restrictions, therefore, limit production to the rectange $OA_1 C_1 B_1$. The feasible region --that which satisties both the nutrient and market restrictions--is the triangle DC_1E. Maximum value added would be obtained at C_1, while a minumum cost solution would be D or E, depending upon relative food prices.

Parametric programming is represented by a proportinate shrinking of the OACB rectangle until its entire area is below or on the line $N_A N_B$. The minimum area feasible rectangle is $OA_2C_2B_2$. There is only one feasible solution, C_2. For any smaller rectangles, e.g., $OA_oC_oB_o$ which represents actual 1968 consumption, there is no feasible solution.

The solutions discussed below cannot be shown graphically because there are more than two products. In addition, the feasible region is limited by available labor and land. However, the objective of parametric programming is the same,i.e., to determine the minimum market levels for which at least one feasible solution exists.

Value Added and Food Costs

Six solutions were obtained, each yielding value added and food cost estimates (Table 2). Using the high market levels as restrictions, maximum value added is 25 billion pesos, which implies retail food costs of 67 billion pesos. Minimum food costs is 49 billion, which implies a value added of 13 billion. Comparing these solutions, we see that a 100 peso decline in food costs is associated with a 69 peso decline in value added (Figure 2).

The parametric programming results indicate that the market restrictions can be reduced only 4 percent (from 200 percent of 1968 consumption to 192 percent of 1968 consumption) before reaching infeasibility. Massive changes in the composition of agricultural production and food consumption would be needed to achieve minimum nutritional levels. Minimum food costs jump from 49 billion pesos with the high market restrictions to 59 billion with the minimum market restrictions. Thus, the 4 percent decrease in market restrictions causes a 19 percent increase in the cost of food. This seems to indicate considerable scope for reducing food costs if consumers' tastes and habits can be changed and agricultural production responds to changing demand.

Despite the need for massive changes in food consumption patterns, the cost of food needed for an adequate diet is not much higher than estimated actual food costs in 1968. Estimated 1968 retail food costs was 48.4 billion pesos (See Appendix Table A 3). It is estimated that the food consumed in 1968 was deficient in the quality of protein, i.e., shortfalls in amounts of certain amino acids. According to our

Table 2. Value Added in Agriculture and Retail Cost of Food, Alternative Linear Programming Solutions

Program Specification		Value Added	Cost of Food
Objective	Markets		
		(Million Pesos)	
Maximum Value Added	High [3]	25,330	66,975
Maximum Value Added	Minimum [4]	15,283	58,732
Minimum Food Cost	High [3]	13,214	49,460
Minimum Food Cost	Minimum [4]	15,283	58,719
Min-Max [1]	High [3]	25,330	66,954
Max-Min [2]	High [3]	13,214	49,460

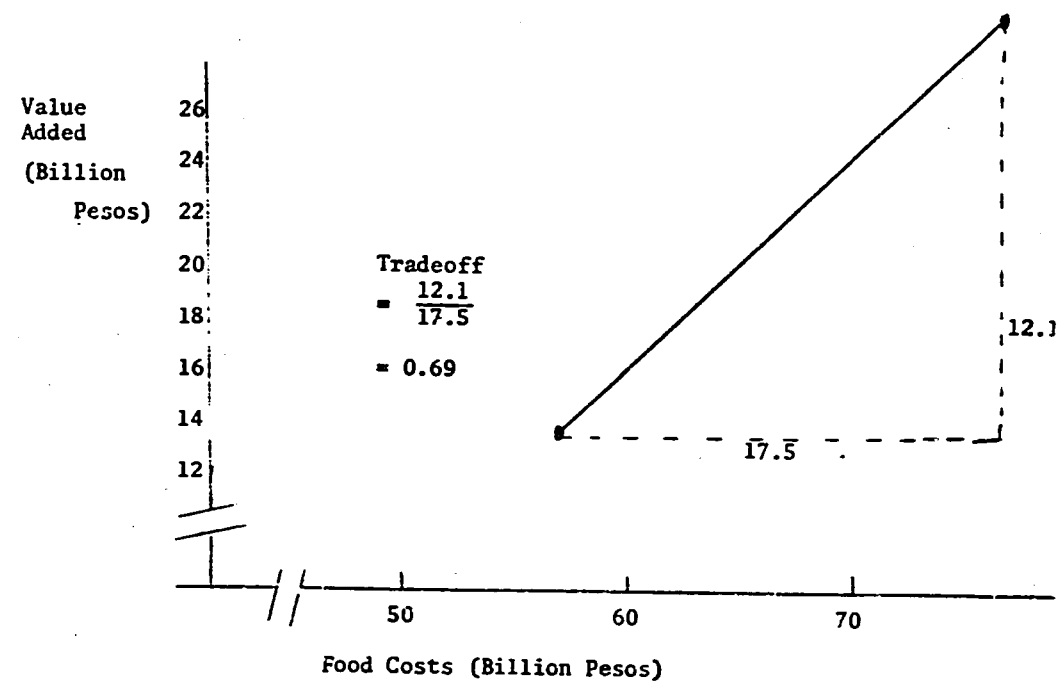
[1] Minimum food cost with value added set at the maximum.

[2] Maximum value added with food cost set at the minimum.

[3] 2.0 times actual 1968 consumption

[4] 1.916 times actual 1968 consumption.

Figure 2.



Tradeoff Between Value Added in Agriculture and Food Costs

calculations (Appendix Table A4), available metionina and cistina was only 74 percent of minimum requirements; triptofano (83%) and lisina (91%) were also significantly below minimum standards. All nutrient shortfalls could be eliminated with an additional expenditure of 1.1 billion pesos, or an increase of two percent over actual 1968 expenditures.

Commodity Mix

Agricultural production for the products which contribute to the food supply is presented in Table 3. The first column is estimated actual 1968 production, while the other columns refer to the level of production in a minimum cost solution and in a maximum value added solution.

The minimum cost solution requires large increases in the production of only a few fruits and vegetables (cacao, frijol, name, zanahoria, repollo and arveja), production at less than 1968 levels for cana de azucar and papa, and nonproduction of the others. The two major oil seed crops—ajonjoli and soya—are not produced. In the livestock product group, huevos, leche and ave production is doubled, and bovino production is increased by 20 percent, while porcino and ovino are not produced. All food grains—maiz, trigo, cebada and arroz—are at least doubled.

When value added is maximized, production of most products is greater than actual 1968 levels. However, three products—coco verde, tomate and ovino—are not produced. Cana de azucar and arveja are produced at very low levels, and bovino production is 92 percent of the 1968 level.

The impact of the market restrictions is illustrated in Table 4 where two minimum cost solutions are compared. The minimum cost of food with the high market restrictions is 49 billion pesos. The cost increases 19 percent to 59 billion with the low market restrictions. Lowering the market restrictions leads to a greater diversification of consumption as less efficient foods in terms of fulfilling nutrient requirements are substituted for more efficient foods. The largest decreases occur in expenditures for carne de bovino, leche, maiz and arroz. Yuca and carne de cerdo, which are not consumed under the high market restrictions, become relatively large items of expenditure under the low market restrictions. There is also a large increase in expenditure for papa.

The food commodities are aggregated into four categories in Table 5 and compared with estimated 1968 expenditures. According to the two minimum cost solutions, much large expenditures (compared to 1968 actuals) for meat, milk and eggs, and food grains are needed to obtain adequate nutrients. However, expenditures for other commodities could be cut significantly.

Table 3. Agricultural Production, 1968 Actual, Minimum Cost and Maximum Value Added Solutions

Commodity	Actual 1968	Minimum Cost Solution 1/	Minimum Cost as percent of Actual	Maximum Value Added Solution 2/	Maximum VA as percent of Actual
	(1,000 MT)	(1,000 MT)	(Percent)	(1,000 MT)	(Percent)
Cafe	570.00	-	-	744.73	131
Cacao	18.00	55.86	310	55.86	310
Banano	770.00	-	-	475.24 3/	62 3/
Coco Verde	3.735	-	-	-	-
Citricos	250.00	-	-	500.00	200
Piña	40.00	-	-	79.956	200
Platano	1600.00	-	-	3199.80	200
Cana de Azucar	15954.085	2607.42	16	2607.42	16
Yuca	886.00	-	-	1772.00	200
Papa	900.00	681.55	75	1779.93	200
Frijol	40.00	74.72	187	77.36	193
Tomate	48.00	-	-	-	-
Name	14.40	288.00	200	288.00	200
Arracacha	125.0	-	-	250.00	200
Cebolla	35.00	-	-	69.979	200
Remolacha	18.5	-	-	37.00	200
Zanahoria	30.0	60.00	200	60.00	200
Repollo	36.0	72.00	200	72.00	200
Lechuga	7.0	-	-	14.00	200
Espinaca	1.5	-	-	3.0	200
Arveja	28.0	56.0	200	0.585	2
Ajonjoli	15.00	-	-	30.12	201
Soya	111.0	-	-	213.719	193
Huevos	189.6	379.20	200	379.20	200
Leche	2308.055	4618.67	200	4618.67	200
Ave	63.77	127.50	200	127.50	200
Porcino	64.63	-	-	129.26	200
Bovino	1185.840	1421.52	120	1090.139	92
Ovino	8.6	-	-	-	-
Maiz	886.60	1794.78	202	1794.78	202
Trigo	125.00	706.25	565	706.25	565
Cebada	74.80	195.60	261	195.60	261
Arroz	780.0	1560.00	200	1560.00	200
Algodon	339.00	339.00	100	629.46	186
Ajonjoli	105.50	-	-	211.00	200
Palma Africana	154.00	-	-	308.00	200

1/ Max-Min Solution, i.e., solution in which value added was maximized with cost constrained to its minimum level.

2/ Min Max Solution, i.e., solution in which cost was minimized with value added constrained at its maximum level.

3/ The market restriction for banano was incorrect. If the restriction had been correct banano probably would have been produced at a higher level.

Table 4. Consumption and Retail Costs for Two Minimum Cost Solutions

	High Markets 3/			Low Markets 4/			Changes 5/
	Consumption	Price	Cost	Consumption	Price	Cost	In Cost
	(1,000 MT)	(Pesos/100 gr.)	(Million Pesos)	(1,000 MT)	(Pesos/100 gr.)	(Million Pesos)	
Arveja Seca	11.200	0.975	109.2	-	0.975	-	- 109.2
Arroz	967.044	0.420	4061.6	926.323	0.420	3890.6	- 171.0
Cebada	195.600	0.485	948.7	187.363	0.485	908.7	- 40.0
Frijol Blanco	75.722	1.187	887.0	71.576	1.187	849.6	- 37.4
Maiz Amarillo	1794.784	0.240	4307.5	1719.207	0.240	4126.1	- 181.4
Chocolate	363.657	0.999	3632.9	348.344	0.999	3480.0	- 152.9
Harina de Trigo	515.514	0.399	2056.9	493.806	0.399	1970.3	- 86.6
Arveja Verde	-	1.815	-	53.642	1.815	973.6	973.6
Arracacha	-	0.263	-	197.565	0.263	519.6	519.6
Bananos	-	0.324	-	47.649	0.324	154.4	154.4
Cebolla Cabezona	-	0.639	-	63.664	0.639	406.8	406.8
Lechuga	-	1.180	-	7.376	1.180	87.0	87.0
Naranjas	-	0.450	-	167.631	0.450	754.3	754.3
Papa	545.216	0.188	1025.0	1363.921	0.188	2564.2	1539.2
Remolacha	-	0.434	-	28.354	0.434	123.1	123.1
Repollo	61.200	0.199	121.8	58.623	0.199	116.7	[illegible]
Tomate	-	0.815	-	73.560	0.815	599.5	599.5
Yuca	-	0.319	-	1358.021	0.319	4332.1	4332.1
Zanaheria	51.000	0.234	119.3	48.852	0.234	114.3	[illegible]
Carne de Cerdo	-	2.173	-	104.975	2.173	2281.1	2281.1
Carne de Pollo	91.170	3.070	2798.9	87.331	3.070	2681.1	- 117.8
Carne Bovino 1ª	189.536	1.832	3472.3	175.542	1.832	3215.9	- 256.4
Carne Bovino 2ª	565.448	1.533	8668.3	523.701	1.533	8028.3	- 640.0
Huevos	181.993	1.380	2511.5	174.329	1.380	2405.7	- 105.8
Leche	4618.670	0.284	13117.0	4424.182	0.284	12564.7	- 552.3
Higado Bovino	8.529	1.832	156.3	7.899	1.832	144.7	- 11.6
Corazon Bovino	5.054	1.533	77.5	4.681	1.533	71.8	- 5.7
Sesos Bovino	1.264	1.832	23.2	1.170	1.832	21.4	- 1.8
Rinones Bovino	1.895	1.533	29.1	1.755	1.533	26.9	- 2.2
Lengua Bovino	7.266	1.533	111.4	6.729	1.533	103.2	- 8.2
Name	244.800	0.096	235.0	234.492	0.096	225.1	- 9.9
Espinaca	--	1.416	-	1.724	1.416	24.4	- 24.4
Synthetic Vitamin. A	265.125 1/	2.300 2/	609.8	249.384	2.300	573.6	- 36.2
Total			49460.3			58718.9	9258.6

1/ One unit equals 50 million M.U.I.

2/ Price per 50 M.U.I.

3/ Source: Minimum cost program with high markets

4/ Source: Minimum cost program with low markets

5/ Cost with low markets minus cost with high markets

Table 5. Retail Food Costs by Commodity Groups, Estimated 1968 and Minimum Cost Solutions

Commodity Group	Estimated 1968 Actual 1/	Minimum Cost Solutions 2/ High Markets	Low Markets
	(Million Pesos)		
Meat 3/	12,871	15,337	16,574
Milk & Eggs	9,092	15,629	14,970
Food grains 4/	6,694	11,375	10,896
Others	19,697	7,119	16,279
Total	48,354	49,460	58,719

1/ Source: Table

2/ Source: Table 3

3/ Carne de cerdo, pollo,bovino y ovino

4/ Arroz, cebada, maiz y trigo

Further Research

A wide range of research is needed on the relationships between agriculture and nutrition. These comments, however, are limited to some very specific modifications of the analysis described in this document.

To make the coverage of the model more complete, food consumption activities should be constructed for the minor agricultural products for which nutrient data was unavailable. Presumably, much or all of this data could be obtained from reference works on nutrition.

The modelling for some products could be improved to more accurately reflect the nature of the food processing industry. This is particularly true of milk, which can be marketed as powdered milk, fluid milk, cheese, or other products.

An interesting modification of the model would be to include import activities. Of particular interest would be the import of selected meats, e.g. higado bovino.

Perhaps the highest priority should be given to experimentation with alternative nutrient requirements. In particular, there is considerable doubt about the requirements for sulphur containing amino acids (methionine and cistina). This was the most limiting of the nutrition restrictions. If, in fact, this requirement can be lowered, linear programming solutions could change substantially.

APPENDIX A

TABLE A1. NUTRITION COEFFICIENTS FOR ADDITIONAL FOOD ACTIVITIES

NUTRIENT 1/	NAME FNAME	ESPINACA FESPI	CORDERO CORDERO
Calorias (Miles)	0.105	0.027	0.253
Proteinas (HECGR)	0.024	0.035	0.182
Grasas (HECGR)	0.002	0.003	0.194
Calcio (Grs)	0.008	0.118	0.007
Hierro (Cengr)	0.240	0.410	0.250
Vitamina A (M.U.I.)	-	2.500	-
Tiamina (Mgr)	0.140	0.160	0.070
Riboflavina (Mgr)	0.030	0.230	0.150
Nacina (cgr)	0.030	0.070	0.200
Vitamina C (dgr)	0.060	0.300	-
Isoleucina (gr)	0.076	0.165	0.608
Lencina (gr)	0.121	0.250	0.897
Licina (gr)	0.096	0.220	0.961
Metionina & Cistina (gr)	0.038	0.130	0.454
Fenilalannina (gr)	0.080	0.155	0.496
Tirosina (gr)	0.055	0.125	0.526
Treonina (gr)	0.075	0.160	0.583
Triptofano (gr)	0.033	0.040	0.162
Valina (gr)	0.093	0.250	0.616
Histidina (gr)	0.030	0.080	0.391

1/ Data for first 10 nutrients taken from "Tabla de Composicion de Alimentos Colombianos." Other nutrient data estimate on basis of similar foods.

TABLE A2. ESTIMATION OF RETAIL PRICES FOR NEW FOOD ACTIVITIES

COMMODITY	FARM PRICE (Pesos per MT)	RETAIL PRICE (Pesos per 100 gram
Name	420	0.096 3/
Papas	822	0.188
Espinaca	2,420	1.416 4/
Repollo	340	0.199
Cordero 1/	12,705	2.339 5/
Cerdo 2/	9.948	1.832

1/ Assumes 13 kilograms of meat per head and price of 165 pesos per head.
2/ Assumes 39 kilograms of meat per head and price of 388 pesos per head.
3/ Estimated by assuming retail price ratio between Name and Papas is same as farm price ratio.
4/ Estimated by assuming retail price ratio between Espinaca and Repoll is same as farm price ratio.
5/ Estimated by assuming retail price ratio between Cordero and Cerdo is same as farm price ratio.

Table A3. Estimated Retail Value of Foods, 1968

Agricultural and Food Commodities	Agricultural Product Consumption (1,000 MT)	Conversion Factor	Food Consumption (1,000 MT)	Food Price (Pesos/100gr)	Value of Food (Million)
Cafe-Cafe	174.730	4.1670	728.1	0.084	611.6
Cacao-Chocolate	27.930	6.5150	182.0	0.999	1818.2
Banana-Banana	368.450	0.6750	248.7	0.324	805.8
Coco Verde-Margarina	4.428	0.2650	1.2	1.506	18.1
Citricos-Naranja	250.000	0.3500	87.5	0.450	393.8
Pina-Pina	39.956	0.5500	22.0	0.478	105.2
Platano-Platano	1599.800	0.6250	999.9	0.357	3569.6
Cana-Azucar	6860.250	0.0640	439.1	0.302	1326.1
Cana-Panela	6860.250	0.2500	1715.1	0.252	4322.1
Yuca-Yuca	886.000	0.8000	708.8	0.319	2261.1
Papa-Papa	889.965	0.8000	712.0	0.188	1338.6
Frijol-Frijol Rojo	37.361	1.0000	37.4	1.187	443.9
Tomate-Tomate	47.996	0.8000	38.4	0.815	313.0
Name-Name	144.000	0.8500	122.4	0.096 1/	117.5
Arracacha-Arracacha	125.000	0.8250	103.1	0.263	271.1
Cebolla-Cebolla	34.979	0.9500	33.2	0.639	212.1
Remolacha-Remolacha	18.500	0.8000	14.8	0.434	64.2
Zanahoria-Zanahoria	30.000	0.8500	25.5	0.234	59.7
Repollo-Repollo	36.000	0.8500	30.6	0.199	60.9
Lechuga-Lechuga	7.000	0.5500	3.9	1.180	46.0
Espinaca-Espinaca	1.500	0.6000	0.9	1.416 1/	12.7
Arveja-Arveja	14.000	0.2000	2.8	0.975	27.3
Ajonjoli-Aceite de Cocina	15.060	0.4450	6.7	1.379	92.4
Soya-Aceite de Cocina	111.000	0.1700	18.9	1.379	260.6
Huevos-Huevos	189.600	0.9000	170.6	1.380	2354.3
Leche-Leche	1309.335	1.0000	1309.3	0.284	3718.4
Leche-Leche en Polvo	500.000	0.1200	60.0	3.690	2214.0
Leche-Queso	500.000	0.0460	23.0	3.503	805.7
Ave-Pollo	63.580	0.7200	45.8	3.070	1406.1
Porcino-Cerdo	64.630	0.6800	43.9	2.173	953.9
Bovino-Carne #1	1181.152	0.1325	156.5	1.832	2867.1
Bovino-Carne #2	1181.152	0.3975	469.5	1.533	7197.4
Bovino-Higado	1181.152	0.0060	7.1	1.832	130.1

Table A3. Estimated Retail Value of Foods, 1968

Agricultural and Food Commodities	Agricultural Product Consumption (1,000 MT)	Conversio Factor	Food Consumption (1,000 MT)	Food Price (Pesos/100gr)	Value of Food (Million)
Bovino-Corazon	1181.152	0.0035	4.1	1.533	62.9
Bovino-Sesos	1181.152	0.0008	0.9	1.832	16.5
Bovino-Rinones	1181.152	0.0013	1.5	1.533	23.0
Bovino-Lengua	1181.152	0.0050	5.9	1.533	90.4
Ovino-Cordero	8.6	0.6200	5.3	2.339 1/	124.0
Maiz-Maiz Amarillo	297.392	1.0000	297.4	0.248	73.8
Maiz-Maiz Blanco	200.000	1.0000	200.0	0.238	476.0
Maiz-Maizena	200.000	0.6700	134.0	1.033	1384.2
Maiz-Harina de Maiz	200.000	0.5900	118.0	0.315	371.7
Trigo-Harina de Trigo	300.000	0.7300	219.0	0.3[illegible]	673.8
Trigo-Pan	53.127	0.8100	43.0	0.858	368.9
Cebada-Cebada	97.800	1.0000	97.8	0.48[illegible]	474.3
Arroz-Arroz	780.000	0.6200	483.6	0.420	2031.1
Algodon-Aceite de Cocina	290.370	0.0950	27.6	1.379	380.6
Guayaba-Guayaba	105.500	0.7500	79.1	0.600	474.6
Palma Africana-Manteca Vegetal	154.000	0.1700	26.2	1.096	287.2
			10326.1		48605.8
Correction for Double counting					
Cana used for Chocolate	1304.900	0.0640	83.5	0.302	252.2
Total			10242.6		48353.6

1/ Estimated

TABLE A4. NUTRIENT CONTENT OF FOOD CONSUMPTION, 1968

FOOD	FOOD CONSUMPTION	CALO	PROT	GRASAS	CALCIO	HIERRO	VITA	TIAMIN	RIBO	NIAC
Arvejas Secas (Arvs)	2.8	.86	.67	.02	.17	1.29	.62	2.18	.45	.87
Arrof (Arroz)	483.6	173.61	37.72	1.93	4.36	38.69	-	33.85	14.50	62.87
Cebada (Cebaf)	97.8	35.11	[illegible]	.68	3.52	16.63	-	26.41	10.76	57.70
Frijol Rojo (Friro)	37.4	11.29	7.63	.45	1.35	26.55	-	16.08	4.49	7.11
Maiz Amarillo (Amaiz)	297.4	96.36	22.31	12.19	1.78	80.30	17.84	92.19	29.74	68.40
Maiz Blanco (Bmaiz)	200.0	656.00	152.00	76.00	14.00	420.00	-	64.00	18.00	720.00
Aceite Cocina (Aceite)	53.1	46.94	-	-	-	53.10	-	-	-	-
Azucar	439.1	168.61	-	-	-	4.39	-	-	-	-
Cafe (CafeD)	728.1	36.41	2.18	.73	3.64	14.56	-	7.28	.73	6.55
Chocalate (Choco)	182.0	80.26	6.92	30.58	8.37	50.96	3.64	9.10	16.38	9.10
Harina de Maiz (Harm)	118.0	38.00	10.74	4.37	2.12	31.86	-	35.40	14.16	21.24
Harina de Trigo (Hart)	219.0	77.96	22.78	1.10	6.57	59.13	-	37.23	10.95	17.25
Leche de Polvo (Pleche)	60.0	24.42	15.12	15.00	56.40	4.80	72.00	15.60	85.20	3.60
Maizena (Maizen)	134.0	46.50	.80	.27	40.20	-	-	2.68	-	-
Manteca Vegetal)Mantv)	26.2	22.79	-	25.81	-	-	-	-	-	-
Margarina (Fmarg 1)	1.2	.86	.01	.97	-	.02	6.00	-	-	-
Pan	43.0	14.49	3.87	1.46	1.29	10.32	-	8.60	4.30	8.17
Panela	1715.1	535.11	8.58	1.72	137.21	411.62	-	34.30	120.06	51.45
Arveja Verde (Farv)	14.0	1.62	1.15	.04	.50	3.36	3.08	5.04	1.68	3.08
Arraca (Farra)	103.1	10.31	.93	.10	2.68	7.22	19.59	6.19	4.12	28.87
Bananos (Fban)	[illegible]	20.89	2.93	.25	1.49	12.44	54.71	9.95	7.46	17.41
Cebolla Cabezona (Feeb)	[illegible]	1.10	.46	.03	1.16	1.66	-	1.33	1.00	.66
Guayabas (Fguay)	79.1	2.85	.71	.08	1.34	5.54	31.64	3.96	2.37	4.75
Lechuga (Flec)	3.9	.05	.04	.01	.17	.39	1.01	.39	.23	.20
Narangas (Naran)	87.5	2.19	.35	-	.88	2.63	-	5.25	1.75	1.75
Papa (Fpapa)	712.0	64.79	13.53	.71	1.42	71.20	-	56.96	56.96	64.08
Pina (Fpina)	22.0	1.12	.09	.02	.46	.88	-	.20	.07	.04
Platano Harton (Fplat)	999.9	138.99	11.00	2.00	4.00	50.00	539.95	69.99	30.00	50.00
Remolacha (Fremo)	14.8	.62	.21	-	.27	1.48	-	.44	1.04	.30
Repollo (Frepo)	30.6	.73	.67	.03	10.53	4.28	33.66	1.84	5.20	.37
Tomate (Ftoma)	38.4	.65	.35	.04	.27	2.69	42.24	1.92	.77	.23
Yuca (Fyuca)	708.8	103.48	5.67	.71	19.14	28.35	7.09	28.35	21.26	35.44
Zanahoria (Fzana)	25.5	.92	.18	.26	.84	1.53	178.50	1.02	1.02	1.02
Carne de Cerdo (Cerdo)	43.9	8.17	8.12	5.22	.22	8.78	-	31.17	10.98	12.29
Carne de Pollo (Pollo)	45.8	8.15	9.25	4.67	.64	6.87	-	3.66	7.33	41.22

TABLE A4. (continued)

FOOD	FOOD CONSUMPTION	CALO	PROT	GRASAS	CALCIO	HIERRO	VITA	TIAMI	RIBO	NIAC
Carne Bovino (CarB1)	156.5	29.89	31.46	18.31	18.31	45.39	-	10.46	31.30	73.56
Carne Bovino (CarB2)	469.5	172.31	71.36	156.81	156.81	117.38	-	28.77	70.43	136.16
Huevos (Fhuevos)	170.6	27.81	21.84	19.62	19.62	46.06	187.66	17.06	49.47	1.72
Leche (Fleche)	1309.3	78.56	44.52	43.21	43.21	26.19	196.40	52.37	235.67	13.09
Queso	23.0	6.44	4.99	4.37	4.37	1.61	32.20	.46	9.20	23
Higado Bovino (Higado)	7.1	.97	1.42	.32	.32	4.26	213.00	1.42	22.73	6.39
Corazon Bovino (Cora)	4.1	.63	.69	.36	.36	2.05	.41	1.14	4.51	1.85
Sesos Bovino (Sesos)	0.9	.12	.10	.09	.09	.18	-	.11	.23	.26
Rinones (Rino)	1.5	.17	.23	.08	.08	.86	1.50	.39	3.90	[illegible]
Lengua	5.9	.97	.97	.61	.05	.89	-	.53	2.12	1.65
Name (Fname)	122.4	12.85	2.94	.24	.98	29.38	-	17.14	3.67	3.67
Espinaca (Fespi)	0.9	0.02	0.03	-	.11	.37	2.25	.14	.21	8.57
Cordero	5.3	0.34	0.96	1.03	.04	1.33	-	.17	.85	1.06
TOTALS		2763.20	537.33	432.50	514.72	1709.47	1644.99	743.12	917.19	1545.03
Requirements		182%	123%	99%	105%	185%	54%	121%	98%	149%

TABLE A4. NUTRIENT CONTENT OF FOOD CONSUMPTION, 1968

FOOD	FOOD CONSUMPTION	VITC	ISOL	LEUC	LISINA	METI CISTINA	FENI	TIRO	TREO	TRIP
Arvejas Secas (Arvs)	2.8	.06	2.66	4.48	4.68	1.53	2.99	1.88	2.74	.44
Arrof (Arroz)	483.6	-	143.15	280.97	108.81	124.77	165.39	109.29	113.16	48.36
Cebada (Cebaf)	97.8	.98	41.17	76.68	39.71	45.28	58.97	35.70	38.04	12.71
Frijol Rojo (Friro)	37.4	1.12	34.67	63.02	59.58	15.78	43.16	20.91	32.84	8.34
Maiz Amarillo (Amaiz)	297.4	-	104.09	353.91	75.74	97.84	137.99	107.96	101.71	19.93
Maiz Blanco (Bmaiz)	200.0	-	700.00	2380.00	508.00	658.00	928.00	726.00	684.00	134.00
Aceite Cocina (Aceite)	53.1	-	-	-	-	-	-	-	-	-
Azucar	439.1	-	-	-	-	-	-	-	-	-
Cafe (CafeD)	728.1	-	-	-	-	-	-	-	-	-
Chocalate (Choco)	182.0	-	33.12	59.33	33.49	41.50	39.68	-	22.57	8.74
Harina de Maiz (Harm)	118.0	-	50.15	141.48	30.68	33.75	48.50	65.84	42.60	6.49
Harina de Trigo (Hart)	219.0	-	104.24	170.16	71.39	100.52	123.95	83.44	86.29	30.44
Leche de Polvo (Pleche)	60.0	24.00	80.76	151.56	110.88	53.88	74.16	76.14	64.38	21.78
Maizena (Maizen)	134.0	-	-	-	-	-	-	-	-	-
Manteca Vegetal)Mantv)	26.2	-	-	-	-	-	-	-	-	-
Margarina (Fmarg 1)	1.2	-	-	-	-	-	-	-	-	-
Pan	43.0	-	15.35	29.67	8.77	16.86	20.51	9.76	11.35	3.91
Panela	1715.1	51.45	-	-	-	-	-	-	-	-
Arveja Verde (Farv)	14.0	2.80	9.14	8.76	8.76	2.49	4.93	3.60	5.29	.73
Arraca (Farra)	103.1	20.62	-	-	2.68	.21	-	-	-	5.15
Bananos (Fban)	248.7	24.87	7.96	13.18	11.44	12.93	10.94	7.21	9.45	3.23
Cebolla Cabezona (Fceb)	33.2	1.23	2.09	.53	2.09	.53	1.26	-	.66	.66
Guayabas (Fguay)	79.1	158.20	-	-	1.90	.63	-	-	-	.63
Lechuga (Flec)	3.9	.78	.20	.32	.20	.09	.26	.14	.21	.04
Naranjas (Naran)	87.5	43.75	2.01	1.93	3.76	1.93	2.63	1.49	1.05	.53
Papa (Fpapa)	712.0	113.92	54.11	86.15	68.52	27.06	56.96	39.16	53.40	23.50
Pina (Fpina)	22.0	.26	-	-	-	-	-	-	-	-
Platano Harton (Fplat)	999.9	15.00	-	-	-	-	-	-	-	-
Remolacha (Fremo)	14.8	.89	.65	1.18	1.42	.80	.96	.93	.89	.25
Repollo (Frepo)	30.6	3.06	1.53	2.63	1.53	1.07	1.50	.92	1.87	.52
Tomate (Ftoma)	38.4	7.68	.77	1.15	1.23	.54	.77	.54	.96	.35
Yuca (Fyuca)	708.8	212.64	16.30	22.68	23.39	7.80	7.80	14.18	9.21	13.47
Zanahoria (Fzana)	25.5	.77	.84	1.28	1.12	.66	.79	.64	.82	.20
Carne de Cerdo (Cerdo)	43.9	-	26.69	39.38	42.19	19.93	21.77	18.70	25.59	7.11
Carne de Pollo (Pollo)	45.8	-	48.96	67.42	72.82	34.99	36.64	27.89	36.37	9.39

TABLE A4. (continued)

FOOD	FOOD CONSUMPTION	VITC	ISOL	LEUC	LISINA	METI CISTINA	FENI	TIRO	TREO	TRIP
Carne Bovino (CarB1)	66.5	-	151.18	254.63	279.20	12.49	138.03	113.00	144.14	35.06
Carne Bovino (CarB2)	469.5	-	343.20	578.42	634.29	283.58	313.63	256.35	327.24	79.82
Huevos (Fhuevos)	170.6	-	132.73	186.12	147.23	122.32	120.96	87.86	108.16	31.39
Leche (Fleche)	1309.3	26.19	212.11	429.45	350.89	149.26	242.22	239.60	200.32	62.85
Queso	23.0	-	21.99	42.87	35.86	13.94	21.85	22.38	16.65	4.99
Higado Bovino (Higado)	7.1	.21	6.75	12.33	10.31	4.81	5.72	4.40	5.68	1.95
Corazon Bovino (Cora)	4.1	.02	3.85	5.95	5.12	2.38	3.21	2.57	2.93	.71
Sesos Bovino (Sesos)	0.9	.14	.54	.84	.72	.33	.45	.36	.41	.10
Rinones (Rino)	1.5	.15	7.35	2.10	1.80	.83	1.13	.90	1.05	.23
Lengua	5.9	-	5.55	8.57	7.37	3.43	4.62	3.70	4.21	1.01
Name (Fname)	122.4	7.34	9.30	14.81	11.75	4.65	9.79	6.73	9.18	4.04
Espinaca (Fespi)	0.9	.27	.15	.23	.20	.12	.14	.11	.14	.04
Cordero	5.3	-	3.22	4.75	5.09	2.41	2.63	2.26	3.09	.86
TOTALS		718.40	2378.63	5495.43	2784.61	1901.92	2654.89	2092.54	2168.68	583.96
Requirements		217%	112%	176%	91%	74%	236%	161%	120%	83%

TABLE A4. NUTRIENT CONTENT OF FOOD CONSUMPTION, 1968

FOOD	FOOD CONSUMPTION	VALINA	HIST
Arvejas Secas (Arvs)	2.8	2.97	.52
Arrof (Arroz)	483.6	197.31	79.79
Cebada (Cebaf)	97.8	57.90	24.25
Frijol Rojo (Friro)	37.4	38.00	23.45
Maiz Amarillo (Amaiz)	297.4	137.10	76.73
Maiz Blanco (Bmaiz)	200.0	922.00	516.00
Aceite Cocina (Aceite)	53.1	-	-
Azucar	439.1	-	-
Cafe (CafeD)	728.1	-	-
Chocalate (Choco)	182.0	36.04	10.19
Harina de Maiz (Harm)	118.0	55.93	30.44
Harina de Trigo (Hart)	219.0	121.33	54.31
Leche de Polvo (Pleche)	60.0	98.40	9.18
Maizena (Maizen)	134.0	-	-
Manteca Vegetal)Mantv)	26.2	-	-
Margarina (Fmarg 1)	1.2	-	-
Pan	43.0	16.21	8.77
Panela	1715.1	-	-
Arveja Verde (Farv)	14.0	5.89	2.58
Arraca (Farra)	103.1	-	-
Bananos (Fban)	248.7	11.19	20.89
Cebolla Cabezona (Fceb)	33.2	1.00	.46
Guayabas (Fguay)	79.1	-	-
Lechuga (Flec)	3.9	.28	.08
Naranjas (Naran)	87.5	2.71	1.05
Papa (Fpapa)	712.0	66.22	21.36
Pina (Fpina)	22.0	-	-
Platano Harton (Fplat)	999.9	-	-
Remolacha (Fremo)	14.8	.65	.33
Repollo (Frepo)	30.6	2.08	1.25
Tomate (Ftoma)	38.4	.92	.65
Yuca (Fyuca)	708.8	38.28	24.10
Zanahoria (Fzana)	25.5	1.28	.41
Carne de Cerdo (Cerdo)	43.9	27.04	17.16
Carne de Pollo (Pollo)	45.8	46.62	24.05

TABLE A4. (continued)

FOOD	FOOD CONSUMPTION	VALINA	HIST
Carne Bovino (CarB1)	156.5	157.13	106.58
Carne Bovino (CarB2)	469.5	356.82	239.91
Huevos (Fhuevos)	170.6	144.50	25.93
Leche (Fleche)	1309.3	260.55	120.46
Queso	23.0	32.04	12.79
Higado Bovino (Higado)	7.1	9.04	3.62
Corazon Bovino (Cora)	4.1	3.88	1.67
Sesos Bovino (Sesos)	0.9	.54	.23
Riñones (Rino)	1.5	1.35	.59
Lengua	5.9	5.59	2.40
Nata (Fnata)	122.4	11.38	3.67
Espinaca (Fespi)	0.9	.23	.07
Cordero	5.3	3.26	2.07
TOTALS		2873.66	1467.99
Requirements		113%	8313%

Table A5. Commodity Production by Agricultural Activities, 1968

	Agricultural Production Activity	Activity Unit	Raw Product Output (1,000 MT)	Conversion Factor	Food Commodity Equivalent (1,000 MT)	Specifications of Food Commodity
	Cafe, small farm	1,000 Ha	0.669	0.250	0.167	Toasted coffee
	Cafe, large farm	1,000 Ha	0.719	0.250	0.180	Toasted coffee
	Cacao	1,000 Ha	0.462	0.847	0.391	Cacao Powder
	Banana	1,000 Ha	13.100	0.675	8.843	Mature fruit
NF	Coco Verde	1,000 Ha	0.534	0.265	0.142	Margarina
	Vid	1,000 Ha	8.000			
	Citricos	1,000 Ha	20.000	0.350	7.000	Orange juice
	Pina	1,000 Ha	20.000	0.550	11.000	Fruit, without core
	Platano	1,000 Ha	6.957	0.625	4.348	Mature fruit
NF	Mango	1,000 Ha	19.000			
NF	Papaya	1,000 Ha	10.000			
NF	Lulo	1,000 Ha	6.250			
NF	Fresas	1,000 Ha	4.845			
NF	Moras	1,000 Ha	1.850			
NF	Maracuya	1,000 Ha	15.000			
NF	Frutas Varias	1,000 Ha	15.500			
	Cana de Azucar, small farm	1,000 Ha	46.800	1.000	46.800	Sugar Cane
	Cana de Azucar, large farm	1,000 Ha	48.570	1.000	48.570	Sugar Cane
	Yuca, large farm	1,000 Ha	5.922	0.800	4.738	Root, without skin
	Yuca, small farm	1,000 Ha	5.633	0.800	4.506	Root, without skin
	Papa, large farm	1,000 Ha	10.918	0.800	8.734	Potato, without skin
	Papa, small farm	1,000 Ha	10.252	0.800	8.202	Potato, without skin
	Frijol, small farm	1,000 Ha	0.581	1.000	0.581	Frijol
	Frijol, large farm	1,000 Ha	0.557	1.000	0.557	Frijol
	Tomate	1,000 Ha	16.000	0.800		
NF	Tabaco	1,000 Ha	1.845			
	Name	1,000 Ha	12.000			
	Arracacha	1,000 Ha	14.200	0.825	11.715	Arracacha, without skin
NF	Habas	1,000 Ha	2.450			
	Cebolla	1,000 Ha	11.667	0.950	11.084	Cabolla cabezona
NF	Ajo	1,000 Ha	3.000			

Table A5. Commodity Production by Agricultural Activities

	Agricultural Production Activity	Activity Unit	Raw Product Output (1,000 MT)		Conversion Factor		Food Commodity Equivalent (1,000 MT)	Specifications of Food Commodity
	Remolacha	1,000 Ha	9.250		0.8000		7.400	Remolacha, without skin
	Zanahoria	1,000 Ha	10.000		0.8500		8.500	Zanahoria, without skin
	Repollo	1,000 Ha	18.000		0.8500		15.300	Repolla, without veins
	Lechuga	1,000 Ha	2.000		0.5500		1.100	Eadible lettuce
NF	Coliflor	1,000 Ha	20.000					
NF	Pepino	1,000 Ha	5.600					
	Espinaca	1,000 Ha	3.000					
	Arveja	1,000 Ha	0.560		1.0000		0.560	Arveja verde
NF	Mani	1,000 Ha	1.750					
NF	Otros Tuberculos y Verduras	1,000 Ha	10.000					
	Ajonjoli, large farm	1,000 Ha	0.607		0.4450		0.270	Cooking oil
	Ajonjoli, small farm	1,000 Ha	0.580		0.4450		0.258	Cooking oil
	Soya, large farm	1,000 Ha	2.036		0.1700		0.346	Cooking oil
	Soya, small farm	1,000 Ha	1.937		0.1700		0.329	Cooking oil
	Huevos	10,000 laying hens	0.111	2/	0.9000		0.100	Eggs, without shell
	Leche, large farm	1,000 adult equivalents	1.025		1.0000		1.025	Fluid milk
	Leche, small farm	1,000 adult equivalents	0.900		1.0000		0.900	Fliud milk
NF	Pesca	1,000 MT	1.000					
	Ave	100,000 chickens	0.159	3/	0.7200		0.114	Chicken meat
	Porcino	1,000 adult equivalents	0.046		0.6800		0.031	Pork meat
	Bovino, large farm	1,000 adult equivalents	0.450		0.1325	6/	0.060	Beef meat 1a
					0.3975	6/	0.179	Beef meat 2a
					0.0060	5/	0.0027	Liver
					0.0035	5/	0.0016	Heart
					0.0008	5/	0.0004	Brains
					0.0013	5/	0.0006	Kidneys
					0.0050	5/	0.0023	Tongue
	Bovino, small farm	1,000 adult equivalents	0.450		0.1325	5/	0.060	Beef meat 1a
					0.3975	5/	0.719	Beef meat 2a
					0.0060	5/	0.0027	Liver
					0.0035	5/	0.0016	Heart
					0.0008	5/	0.0004	Brains
					0.0013	5/	0.0006	Kidneys
					0.0050	5/	0.0023	Tongue

Table A5. Commodity Production by Agricultural Activities

	Agricultural Production Activity	Activity Unit	Raw Product Output (1,000 MT)	Conversion Factor	Food Commodity Equivalent (1,000 MT)	Specifications of Food Commodity
	Ganado Ovino y Caprino	1,000 adult equivalents	0.021	0.62		
	Maiz, large farm	1,000 Ha	1.091	1.00	1.091	Corn grain
	Maiz, small farm	1,000 Ha	1.050	1.00	1.050	Corn grain
NF	Milo	1,000 Ha	3.000	1.00	3.000	Milo grain
	Trigo, large farm	1,000 Ha	1.179	1.00	1.179	Wheat grain
	Trigo, small farm	1,000 Ha	1.120	1.00	1.120	Wheat grain
	Cebada	1,000 Ha	1.598	1.00	1.598	Barley grain
NF	Sorgo	1,000 Ha	2.231			
	Arroz Secano	1,000 Ha	1.673	0.62	1.037	Cleaned rice
	Arroz Riego, large farm	1,000 Ha	3.407	0.62	2.112	Cleaned rice
	Arroz Riego, small farm	1,000 Ha	3.280	0.62	2.034	Cleaned rice
NF	Figue	1,000 Ha	1.882			
	Algodon y Semilla de Algodon, -large farm	1,000 Ha	1.685	0.095	0.160	Cooking oil
	Algodon y Semilla de Algodon, -small farm	1,000 Ha	1.617	0.095	0.154	Cooking oil
NF	Plantas Ornamentalos, Flores y -Bulbos	1,000 Ha	15.524			
NF	Otras Productos Primarios -Agropeccharias	1,000 Ha	1.000			
	Guyaba	1,000 Ha	3.197	0.75	0.240	Guyaba fruit, without seeds
	Palma Africana	1,000 Ha	11.000	0.17	1.870	Manteca Vegetal
NF	Aquacate	1,000 Ha	5.000			

1/ NF: not relevant to food activities
2/ : Assumes 1.877 million eggs and 1.57 pounds per dozen eggs.
3/ : Assumes average live weight of 3.5 pounds per chickens slaughtered.
4/ : Assumes that 63 percent of the raw product is seed and that oil is 15 percent of the seed.
5/ : Source: Donald Agnew ERS, U.S. Dept.of Agriculture
6/ : Assumes 53% of live weight is 1a and 2a meat, of which 1/4 is 1a and 3/4 is 2a.

APPENDIX B

The following three tables define the rows and columns in the linear programming matrix. The printout of the matrix column by column appears after the tables. An alphanumeric code of up to eight characters identifies rows and columns. The column names are defined in Table B1 and the row names in Tables B2 and B3.

Table B1. Definition of Columns in Linear Programming Matrix

Description	Units	Alphanumeric Code
Agricultural Production Activities		
Cafe, small farm	1,000 Hectares	CAFE1
Cafe, large farm	1,000 Hectares	CAFE2
Caco	1,000 Hectares	CACAO
Banano	1,000 Hectares	BANANO
Coco Verde	1,000 Hectares	COCOV
Vid	1,000 Hectares	VID
Citricos	1,000 Hectares	CITRICO
Pina	1,000 Hectares	PINA
Platano	1,000 Hectares	PLATANO
Mango	1,000 Hectares	MANGO
Papaya	1,000 Hectares	PAPAYA
Lulo	1,000 Hectares	LULO
Fresas	1,000 Hectares	FRESA
Moras	1,000 Hectares	MORA
Maracuya	1,000 Hectares	MARACUYA
Fruitas Varias	1,000 Hectares	FRUTAS
Cana de Azucar, small farm	1,000 Hectares	CANA1
Cana de Azucar, large farm	1,000 Hectares	CANA2
Yuca, large farm	1,000 Hectares	YUCA2
Yuca, small farm	1,000 Hectares	YUCA1
Papa,, large farm	1,000 Hectares	PAPA2
Papa, small farm	1,000 Hectares	PAPA1
Frijol, large farm	1,000 Hectares	FRIJOL2

Table B1 (cont'd)

Description	Units	Alphanumeric Code
Frijol, small farm	1,000 Hectares	FRIJOL1
Tomate	1,000 Hectares	TOMATE
Tabaco	1,000 Hectares	TABACO
Name	1,000 Hectares	NAME
Arrachacha	1,000 Hectares	ARRACA
Habas	1,000 Hectares	HABAS
Cebolla	1,000 Hectares	CEBOLLA
Ajo	1,000 Hectares	AJO
Remolasha	1,000 Hectares	REMO
Zanahoria	1,000 Hectares	ZANA
Repollo	1,000 Hectares	REPOLLO
Lechuga	1,000 Hectares	LECHUGA
Coliflor	1,000 Hectares	COLIFLO
Pepino	1,000 Hectares	PEPINO
Espinaca	1,000 Hectares	ESPINAC
Arveja	1,000 Hectares	ARVEJA
Mani	1,000 Hectares	MANI
Otros Tuberculos y Verduras	1,000 Hectares	OTROSTY
Ajonjoli, large farm	1,000 Hectares	AJON2
Ajonjoli, small farm	1,000 Hectares	AJON1
Soya, large farm	1,000 Hectares	SOYA2
Soya, small farm	1,000 Hectares	SOYA1
Huevos	10,000 laying hens	HUEVOS
Leche, large farm	1,000 adult con-equivalent	LECHE2
Leche, small farm	1,000 adult con-equivalent	LECHE1
Pesca	1,000 metric tons	PESCA
Ave	100,000 birds	AVE

Table B1 (cont'd)

Description	Units	Alphanumeric Code
Porcino	1,000 adult equivalent slaughter animals	PORCINO
Bovino, large	1,000 adult equivalent slaughter animals	BOVINO2
Bovino, small farm	1,000 adult equivalent slaughter animals	BOVINO1
Ganado Ovino y Caprino	1,000 adult equivalent slaughter animals	OVINO
Maiz, large farm	1,000 Hectares	MAIZ2
Maix, small farm	1,000 Hectares	MAIZ1
Millo	1,000 Hectares	MILLO
Trigo, large farm	1,000 Hectares	TRIGO2
Trigo, small farm	1,000 Hectares	TRIGO1
Cebada	1,000 Hectares	CEBADA
Sorgo	1,000 Hectares	SORGO
Arroz Secano	1,000 Hectares	ARROZS
Arroz Riego, large farm	1,000 Hectares	ARROZ2
Arroz Riego, small farm	1,000 Hectares	ARROZ1
Fique	1,000 Hectares	FIQUE
Algodon y Semilla de Algodon, large farm	1,000 Hectares	ALGO2
Algodon y Semilla de Algodon, small farm	1,000 Hectares	ALGO1
Plantas Ornamentales, Flores y Bulbos	1,000 Hectares	FLORES
Otros Productos Primarios Agropecuarias	1,000 Hectares	OTROSP
Cuyaba	1,000 Hectares	CUYABA
Palma Africana	1,000 Hectares	PALMA
Agucate	1,000 Hectares	AGUA
Accounting Activities		
Employment in Agriculture	1,000 Man-days	LABAC
Value Added in Agriculture	1,000,000 Pesos	VAAC

Table B1 (cont'd)

Description	Units	Alphanumeric Code
Weighted Income from Agriculture, No. 1	1,000,000 Pesos	ID1AC
Weighted Income from Agriculture, No. 2	1,000,000 Pesos	ID2AC
Weighted Income from Agriculture, No. 3	1,000,000 Pesos	ID3AC
Weighted Income from Agriculture, No. 4	1,000,000 Pesos	ID4AC
Weighted Income from Agriculture, No. 5	1,000,000 Pesos	ID5AC
Returns to Land and Capital in Agriculture	1,000,000 Pesos	PMAC
Retail Cost of food	1,000,000 Pesos	COSTAC
Food Consumption Activities		
Arvejas Secas	100 Metric tons	ARVS
Arroz	100 Metric tons	ARROF
Cebada	100 Metric tons	CEBAF
Frijol Rojo	100 Metric tons	FRIRO
Frijol Blanco	100 Metric tons	FRIBL
Maiz Amarillo	100 Metric tons	AMAIZ
Maiz Blanco	100 Metric tons	BMAIZ
Aceite Cocina	100 Metric tons	ACEITE
Azucar	100 Metric tons	AZUCAR
Cafe	100 Metric tons	CAFED
Chocolate	100 Metric tons	CHOCO
Harina de Maiz	100 Metric tons	HARM
Harina de Trigo	100 Metric tons	HART
Leche en Polvo	100 Metric tons	PLECHE
Maizena	100 Metric tons	MAIZEN
Manteca Vegetal	100 Metric tons	MANTV
Margarina (from Coco Verde)	100 Metric tons	FMARG1

Table B1 (cont'd)

Description	Units	Alphanumeric Code
Margarina (from other sources)	100 Metric tons	FMARG2
Pan	100 Metric tons	PAN
Panela	100 Metric tons	PANELA
Arveja Verde	100 Metric tons	FARV
Arracacha	100 Metric tons	FARRA
Bananos	100 Metric tons	FBAN
Cebolla Cabezona	100 Metric tons	FCEB
Guayabas	100 Metric tons	FGUAY
Lechuge	100 Metric tons	FLEC
Naranjas	100 Metric tons	NARAN
Papa	100 Metric tons	FPAPA
Piña	100 Metric tons	FPINA
Platano Harton	100 Metric tons	FPLAT
Remolacha	100 Metric tons	FREMO
Repollo	100 Metric tons	FREPO
Tomate	100 Metric tons	FTOMA
Yuca	100 Metric tons	FYUCA
Zanahoria	100 Metric tons	FZANA
Carne de Cerdo	100 Metric tons	CERDO
Carne de Pollo	100 Metric tons	POLLO
Carne Bovino 1[a]	100 Metric tons	CARB1
Carne Bovino 2[a]	100 Metric tons	CARB2
Huevos	100 Metric tons	FHUEVO
Leche	100 Metric tons	FLECHE
Queso	100 Metric tons	QUESO
Higado Bovino	100 Metric tons	HIGADO

Table B1 (cont'd)

Description	Units	Alphanumeric Code
Corazon Bovino	100 Metric tons	CORA
Sesos Bovino	100 Metric tons	SESOS
Rinones Bovino	100 Metric tons	RINO
Lengua Bovino	100 Metric tons	LENGUA
Name	100 Metric tons	FNAME
Espinaca	100 Metric tons	FESPI
Carne de Cordero	100 Metric tons	CORDERO
Synthetic Vitamin A	50 Million M.U.I.	SVITA
Export Activities		
Cafe	1,000 Metric tons	E1
Banano	1,000 Metric tons	E3
Vid	1,000 Metric tons	E5
Pina	1,000 Metric tons	E7
Platano	1,000 Metric tons	E8
Cana de Azucar	1,000 Metric tons	E16
Papa	1,000 Metric tons	E18
Frijol	1,000 Metric tons	E19
Tomate	1,000 Metric tons	E20
Tobaco	1,000 Metric tons	E21
Cebolla	1,000 Metric tons	E25
Pepino	1,000 Metric tons	E32
Pesca	1,000 Metric tons	E41
Bovino	1,000 Metric tons	E44
Algodon	1,000 Metric tons	E53
Flores	1,000 Metric tons	E54

Table B1 (cont'd)

Description	Units	Alphanumeric Code
Aquacate	1,000 Metric tons	E58
Other Columns		
Right-hand sides for agriculture		
Sector model (not used here)		R68,R72, R75
Right-hand side used in this analysis		N681
Change column for parametric programming		MCH

Table B2 . Definition of Rows in Agriculture Component of Linear Programming Matr

Restriction	Definition
Labor (1,000 man-days)	
L1	January labor
L2	February labor
L3	March labor
L4	April labor
L5	May labor
L6	June labor
L7	July labor
L8	August labor
L9	September labor
L10	October labor
L11	November labor
L12	December labor
Land (1,000 hectares; see Table 6)	
A1	All land types, including llanos
A2	Land types I, II, IV and V
A3	Land types I, II, III and IV
A4	Land types I, II and III
A5	Land types I, II and IV
A6	All non-llanos land types

Best Available Document

Table B2 (con'd)

Markets (1,000 tons except where noted)

M1	Cafe	M21	Tabaco	M40	Leche
M2	Cacao	M22	Name	M41	Pesca
M3	Banano	M23	Arracacha	M42	Ave 2/
M4	Coco Verde	M24	Habas	M43	Porcino
M5	Yuc	M25	Cebolla	M44	Bovino
M6	Citricos	M26	Ajo	M45	Ovino 3/
M7	Pina	M27	Remolacha	M46	Maiz
M8	Platano	M28	Zanahoria	M47	Millo
M9	Mango	M29	Repollo	M48	Trigo
M10	Papaya	M30	Lechuga	M49	Cebada
M11	Lulo	M31	Coliflor	M50	Sorgo
M12	Presas	M32	Pepino	M51	Arroz
M13	Moras	M33	Espinaca	M52	Piqua
M14	Maracuya	M34	Arveja	M53	Algodon
M15	Frutas Varias	M35	Mani	M54	Flores
M16	Cana	M36	Otros T&V	M55	Otros Productos
M17	Yuca	M37	Ajonjoli	M56	Guyaba
M18	Papa	M38	Soya	M57	Palma Africana
M19	Frijol	M39	Huevos 1/	M58	Aguacata
M20	Tomate				

Capital (1,000,000 pesos)

CAT	Capital, total
CAL	Capital, livestock
CACA	Capital, coffee
CAOT	Capital, other commodities

Accounting and Objectives

LAB	Employment (1,000 man-days)
VA	Value added (1,000,000 pesos)
ID1	Weighted Income #1 (1,000,000 pesos)
ID2	Weighted Income #3 (1,000,000 pesos)
ID3	Weighted Income #3 (1,000,000 pesos)
ID4	Weighted Income #4 (1,000,000 pesos)
ID5	Weighted Income #5 (1,000,000 pesos)
PM	Returns to land and capital (1,000,000 pesos)

1/ Million eggs
2/ 100,000 birds
3/ Thousand head

Table B3. Definition of Additonal Rows in Linear Programming Matrix

Row Name	Definition
COSTO	Retail Food Cost (1,000,000 pesos)
Commodity Balance Equations (1,000 Metric tons)	
TCAFE	Coffee, liquid
COPO	Cocoa powder
MBAN	Bananas
MARG	Oleomargarine #1
OJ	Oranges (Naranja)
PINWC	Pineapple (Pina)
MPLAT	Platano
RCANA	Sugar cane (Cana de Azucar)
YUWS	Yuca
PAWS	Potatoes (Papas)
WFRI	Beans (Frijol)
TOWS	Tomatoes
BNAME	Name
ARWS	Arracacha
CEBCA	Onions (Cebada)
REWS	Beets (Remolacha)
ZAWS	Carrots (Zanahoria)
REWV	Cabbage (Repollo)
ELEC	Lettuce (Lechuga)
BESP	Spinach (Espinaca)
GAR	Peas (Arveja)
COIL	Edible oil
EGUS	Eggs
FLM	Fluid Milk (Leche)

Table B3 (cont'd)

Row Name	Definitions
CHM	Chicken meat (Pollo)
POM	Pork (Cerdo)
LAMB	Lamb meat (Cordero)
BMIA	Beef, first class
BM2A	Beef, second class
LIVER	Beef liver (Higado)
HEART	Beef heart (Corazon)
BRAIN	Beef brains (Sesos)
KIDNEY	Beef kidneys (Rinones)
TONGUE	Beef tongue (Lengua)
CORN	Corn (Maiz)
WHEAT	Wheat (Trigo)
BARLEY	Barley (Cebada)
RICE	Rice (Arroz)
GUWS	Guyaba
OLEO	Oleomargarine #2
Nutrient Constraints	
CALO	Minimum calories
MAXCAL	Maximum calories
PROT	Proteins
GRASAS	Fats
CALCIO	Calcium
HIERRO	Iron
VITA	Vitamin A
TIAMIN	Thiamine
RIBO	Riboflavin

Table B3 (cont'd)

Row Name	Definition
NIAC	Niacin
VITC	Vitamin C
ISOL	Isoleucina
LEUC	Leucina
LISINA	Lisine
METYSIS	Methionine and Cistine
FENI	Fenilalanina
TIRO	Tirosina
TREO	Treonina
TRIP	Triptofano
VALINA	Valina
HIST	Histidina
Minimum Output Restrictions	
MA1	Vid
MA2	Mango
MA3	Papaya
MA4	Lulo
MA5	Fresa
MA6	Mora
MA7	Maracuya
MA8	Frutas Varias
MA9	Tabaco
MA11	Habas
MA12	Coliflor
MA13	Pepino
MA15	Mani
MA16	Otros Tuberculos & Veduras

Table B3 (cont'd)

Row Name	Definition
MA16	Otros Tuberculos & Veduras
MA17	Pesca
MA18	Millo
MA19	Ajo
MA20	Sorgo
MA21	Fique
MA22	Algodon
MA23	Flores
MA24	Otros Productos
MA25	Aquacate
Maximum Export Restrictions	
Q1	Cafe
Q3	Banano
Q5	Vid
Q7	Pina
Q8	Platano
Q16	Cana de Azuc
Q18	Papa
Q19	Frijol
Q20	Tomate
Q21	Tabaco
Q25	Cebolla
Q32	Pepino
Q41	Pesca
Q44	Bovino
Q53	Algodon
Q54	Flores
Q58	Aquacate

	CAFE1	CAFE2	CACAU	BANANO	COCOV	VID	CITRICO	
L1	5.57700	3.04200	9.74400	.	14.73200	36.10300	9.51200	L1
L2	9.33900	5.09400	8.63500	48.11000	13.05600	7.01800	15.86300	L2
L3	8.85500	4.83000	8.52600	47.04700	12.89100	49.14400	4.75200	L3
L4	9.82300	5.35800	9.29900	22.45300	14.05900	24.37800	.	L4
L5	12.25400	6.68400	4.64500	2.12500	7.02300	32.70100	.	L5
L6	7.51300	4.09800	4.98100	.	7.53100	1.28500	9.51200	L6
L7	8.73400	4.76400	8.41700	.	12.72500	11.62800	19.03100	L7
L8	11.15400	6.08400	7.41700	16.03100	11.21400	3.50900	9.51200	L8
L9	10.06500	5.49000	7.41700	1.06300	11.21400	10.01600	4.75200	L9
L10	12.13300	6.61800	3.87200	4.26600	5.85500	5.30400	.	L10
L11	8.85500	4.83000	3.87200	2.12500	5.85500	11.32200	.	L11
L12	5.69800	3.10800	7.19900	10.68800	10.88400	13.03600	.	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A2	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A2
A3	.	.	.	.	.	1.00000	.	A3
A5	.	.	.	.	.	1.00000	.	A5
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M1	.66900	.71900	.	.	.	.	.	M1
M2	.	.	.46200	.	.	.	.	M2
M3	.	.	.	13.10000	.	.	.	M3
M4	.	.	.	.	.53400	.	.	M4
M5	.	.	.	.	.	8.00000	.	M5
M6	.	.	.	.	.	.	20.00000	M6
CAT	2.26700	2.22500	2.42200	3.94100	2.11100	6.14700	2.17800	CAT
CACA	2.26700	2.22500	.	.	.	.	.	CACA
CAOT	.	.	2.42200	3.94100	2.11100	6.14700	2.17800	CAOT
TCAFE	.16700	.18000	.	.	.	.	.	TCAFE
COPO	.	.	.39100	.	.	.	.	COPO
MBAN	.	.	.	8.84300	.	.	.	MBAN
MARG	.	.	.	.	.14200	.	.	MARG
OJ	.	.	.	.	.	.	7.00000	OJ
MA1	.	.	.	.	.	8.00000	.	MA1
LAB	110.00000	60.00000	84.00000	154.00000	127.00000	204.00000	73.00000	LAB
VA	3.84800	3.87000	3.21600	7.14100	1.79200	58.59100	6.83600	VA
ID1	1.63400	1.53300	1.42100	3.19600	.82400	21.28600	2.52700	ID1
ID2	1.89700	1.73300	1.66500	3.67400	1.02200	22.73300	2.76800	ID2
ID3	1.66600	1.55500	1.45200	3.25400	.85200	21.36100	2.54800	ID3
ID4	2.35700	2.09000	2.09100	4.51400	1.36200	25.47600	3.20900	ID4
ID5	.78000	.88700	.62700	1.65000	.17400	16.79600	1.76000	ID5
PM	2.47100	2.87800	1.96500	5.28500	.45600	56.17100	5.82200	PM

	PINA	PLATANO	MANGO	PAPAYA	LULO	FRESA	MORA	
L1	2.18400	4.83300	.	21.90800	2.42400	56.92500	24.10500	L1
L2	5.34600	7.64300	4.67700	35.86400	18.98900	101.01700	15.63700	L2
L3	18.71200	5.31400	.93300	11.95500	8.48000	162.21900	9.11000	L3
L4	10.79100	5.35800	2.80700	40.84100	14.54600	41.01100	11.72400	L4
L5	9.82900	11.16200	.93300	.97200	2.42400	25.66300	10.42400	L5
L6	9.55200	3.51100	.	43.81500	9.29200	30.56900	2.59900	L6
L7	6.96000	4.57000	15.90600	2.97400	9.69800	58.74900	20.19200	L7
L8	29.22600	5.79600	9.35900	45.81700	17.77100	64.85000	2.59900	L8
L9	27.02500	7.46800	.93300	5.97700	2.35500	61.20200	10.42400	L9
L10	22.91800	4.92000	4.68600	45.81700	12.52800	11.00600	18.23500	L10
L11	13.65900	4.21200	3.74000	4.97600	8.07400	15.28500	14.33700	L11
L12	6.68300	7.73100	.	24.91100	8.88600	6.10100	6.51200	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A2	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A2
A3	.	.	.	.	.	1.00000	.	A3
A5	.	.	.	.	.	1.00000	.	A5
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M7	20.00000	.	.	.	.	.	.	M7
M8	.	6.95700	.	.	.	.	.	M8
M9	.	.	19.00000	.	.	.	.	M9
M10	.	.	.	10.00000	.	.	.	M10
M11	.	.	.	.	6.25000	.	.	M11
M12	.	.	.	.	.	4.84500	.	M12
M13	.	.	.	.	.	.	1.85000	M13
CAT	10.09000	2.27000	1.85300	6.26000	8.63400	28.34000	4.66500	CAT
CADT	10.09000	2.27000	1.85300	6.26000	8.63400	28.34000	4.66500	CADT
PINWC	11.00000	.	.	.	.	.	.	PINWC
MPLAT	.	4.34800	.	.	.	.	.	MPLAT
MA2	.	.	19.00000	.	.	.	.	MA2
MA3	.	.	.	10.00000	.	.	.	MA3
MA4	.	.	.	.	6.25000	.	.	MA4
MA5	.	.	.	.	.	4.84500	.	MA5
MA6	.	.	.	.	.	.	1.85000	MA6
LAB	163.00000	73.00000	44.00000	286.00000	116.00000	629.00000	146.00000	LAB
VA	9.63500	3.77000	6.34900	6.04200	2.90200	17.64000	11.73000	VA
ID1	3.98300	1.58700	2.35300	2.83500	1.31200	7.23000	4.49000	ID1
ID2	4.45200	1.79900	2.55200	3.49500	1.56800	8.52500	4.94500	ID2
ID3	4.03200	1.61100	2.36900	2.92800	1.34600	7.40000	4.53500	ID3
ID4	5.29100	2.17500	2.91900	4.62700	2.01200	10.78000	5.77000	ID4
ID5	2.48100	.90300	1.72800	.67500	.47200	3.01000	3.04500	ID5
PM	8.11200	2.92700	5.74400	1.83800	1.43000	9.35500	10.04500	PM

	MARACUYA	FRUTAS	CANA1	CANA2	YUCA2	YUCA1	PAPA2	
L1	34.98600	24.28400	7.86000	9.98200	11.50500	10.1[illegible]	1.51300	L1
L2	28.98500	20.11900	8.01000	10.17200	8.08500	7.11500	2.04000	L2
L3	15.99700	11.10400	11.33000	14.38900	6.60800	5.81500	2.33800	L3
L4	.	.	6.47000	8.21700	4.77800	4.20400	6.61300	L4
L5	31.99400	22.20800	5.47000	6.94700	7.62800	6.71200	20.48500	L5
L6	19.99200	13.87700	7.63000	9.69000	7.86000	6.91700	19.78800	L6
L7	11.98500	8.31900	11.87000	15.07500	2.16000	1.90100	19.60100	L7
L8	.	.	14.95000	18.98700	8.88000	7.81400	6.48600	L8
L9	12.98800	9.01500	7.94000	10.08400	7.29000	6.41500	.92700	L9
L10	.	.	7.01000	8.90300	4.89800	4.31000	1.59000	L10
L11	11.98500	8.31900	3.08000	3.91200	2.38500	2.09900	1.93000	L11
L12	.98600	.68400	8.32000	10.56600	2.84300	2.50100	1.62400	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A2	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A2
A3	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A3
A5	.	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A5
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M14	1[illegible].00000	.	.	.	.	.	.	M14
M15	.	15.50000	.	.	.	.	.	M15
M16	.	.	46.80000	48.57000	.	.	.	M16
M17	.	.	.	.	5.92200	5.63300	.	M17
M18	.	.	.	.	.	.	10.91800	M18
CAT	16.04700	4.72900	2.54400	3.02600	3.56900	3.46800	6.66200	CAT
CAOT	16.04700	4.72900	2.54400	3.02600	3.56900	3.46800	6.66200	CAOT
RCANA	.	.	46.80000	48.57000	.	.	.	RCANA
YUWS	.	.	.	.	4.73800	4.50600	.	YUWS
PAWS	.	.	.	.	.	.	8.73400	PAWS
MA7	15.00000	.	.	.	.	.	.	MA7
MA8	.	15.50000	.	.	.	.	.	MA8
LAB	170.00000	118.00000	100.00000	127.00000	75.00000	66.00000	85.00000	LAB
VA	9.34300	14.03200	2.23200	2.24600	3.12000	2.82800	3.63200	VA
ID1	4.15000	5.28700	1.01900	.99600	1.25300	1.12900	1.42600	ID1
ID2	4.66700	5.81900	1.23500	1.23400	1.43900	1.29400	1.63800	ID2
ID3	4.20700	5.33400	1.04900	1.03000	1.27500	1.14900	1.45100	ID3
ID4	5.58700	6.75100	1.60700	1.64200	1.76700	1.58600	2.01000	ID4
ID5	2.49000	3.63500	.31400	.21500	.64900	.59400	.74100	ID5
PM	8.11300	12.01200	.91900	.56700	.48100	.52500	2.37600	PM

	PAPA1	FRIJOL2	FRIJOL1	TOMATE	TABACO	NAME	ARRACA	
L1	2.08300	2.50000	5.19600	11.46200	13.36200	9.84300	15.11900	L1
L2	2.80800	3.19500	7.91700	27.76300	13.38200	10.87500	6.04600	L2
L3	3.21600	1.72000	4.26400	51.92600	13.58600	5.90800	.	L3
L4	9.10300	2.45900	6.09300	55.09400	18.29900	18.34400	8.20400	L4
L5	28.19800	2.70500	6.70300	50.89000	25.33700	15.54500	.42900	L5
L6	27.23800	1.06500	2.63900	35.79800	21.48100	4.34700	7.11900	L6
L7	26.98000	2.53900	6.29300	19.55500	10.11800	10.04900	9.71800	L7
L8	8.92700	1.43200	3.55100	8.66900	25.43900	11.61000	7.56000	L8
L9	1.27500	1.80300	4.46900	2.13100	19.38000	4.34700	13.39100	L9
L10	2.18800	1.63800	4.05800	9.50400	16.95200	7.76600	24.19300	L10
L11	2.65600	1.31100	3.24900	4.17600	13.48400	18.65300	13.17600	L11
L12	2.23500	.61400	1.52200	10.80000	12.99500	11.61000	7.99000	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A2	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A2
A3	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A3
A5	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A5
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M18	10.25200	.	.	.	.	.	.	M18
M19	.	.58100	.55700	.	.	.	.	M19
M20	.	.	.	16.00000	.	.	.	M20
M21	.	.	.	.	1.84500	.	.	M21
M22	.	.	.	.	.	12.00000	.	M22
M23	.	.	.	.	.	.	14.20000	M23
CAT	6.59100	1.38800	1.21100	12.26000	7.20600	2.48500	3.62800	CAT
CADT	6.59100	1.38800	1.21100	12.26000	7.20600	2.48500	3.62800	CADT
PAWS	8.20200	.	.	.	.	.	.	PAWS
WFRI	.	.58100	.55700	.	.	.	.	WFRI
TOWS	.	.	.	12.80000	.	.	.	TOWS
BNAME	.	.	.	.	.	10.20000	.	BNAME
ARWS	.	.	.	.	.	.	11.71500	ARWS
MA9	.	.	.	.	1.84500	.	.	MA9
LAB	117.00000	23.00000	57.00000	288.00000	204.00000	129.00000	113.00000	LAB
VA	3.29900	2.02100	2.54700	8.12000	8.14400	4.46400	7.36500	VA
ID1	1.33800	.72400	.98900	3.33200	3.43200	1.79600	2.77600	ID1
ID2	1.56900	.78300	1.12500	3.94900	4.12400	2.09800	3.08300	ID2
ID3	1.36700	.73900	1.00900	3.41200	3.52500	1.83400	2.80600	ID3
ID4	1.97300	.87200	1.35500	5.02200	5.32200	2.62600	3.63600	ID4
ID5	.58600	.51400	.53800	1.31900	1.16900	.81300	1.79200	ID5
PM	1.83600	1.64900	1.70700	4.06000	3.49800	2.55500	5.88600	PM

	HABAS	CEBOLLA	AJO	REMO	ZANA	REPOLLO	LECHUGA	
L1	1.54300	23.01800	.	.	.	6.49800	.	L1
L2	4.64300	19.90500	31.15800	4.47600	7.51100	17.56500	33.99400	L2
L3	.	39.50400	30.15900	19.65900	37.56500	4.55000	79.98400	L3
L4	8.77500	37.11300	23.61600	18.70900	32.86900	4.09400	11.95500	L4
L5	.	23.74100	5.02200	18.04200	.	3.63800	.	L5
L6	8.77500	20.51600	.	15.80400	.	12.09300	.	L6
L7	.	12.23200	.	13.56600	.	3.24900	.	L7
L8	2.57600	13.87200	.	10.36900	.	14.69600	.	L8
L9	10.83600	13.56600	.	15.80400	.	13.85100	.	L9
L10	3.60900	19.79300	.	11.25900	.	7.79900	.	L10
L11	11.86900	28.23600	.	11.25900	.	.38900	.	L11
L12	10.32500	25.71500	.	.	.	6.49800	.	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A2	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A2
A3	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A3
A5	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A5
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M24	2.45000	.	.	.	.	.	.	M24
M25	.	11.66700	.	.	.	.	.	M25
M26	.	.	3.00000	.	.	.	.	M26
M27	.	.	.	9.25000	.	.	.	M27
M28	.	.	.	.	10.00000	.	.	M28
M29	.	.	.	.	.	18.00000	.	M29
M30	.	.	.	.	.	.	2.00000	M30
CAT	6.85200	9.53600	10.41400	3.71100	6.95800	2.74000	3.34200	CAT
CAOT	6.85200	9.53600	10.41400	3.71100	6.95800	2.74000	3.34200	CAOT
CEBCA	.	11.08400	.	.	.	.	.	CEBCA
REWS	.	.	.	7.40000	.	.	.	REWS
ZAWS	.	.	.	.	8.50000	.	.	ZAWS
REWV	.	.	.	.	.	15.30000	.	REWV
ELEC	.	.	.	.	.	.	1.10000	ELEC
MA11	2.45000	.	.	.	.	.	.	MA11
MA19	.	.	3.00000	.	.	.	.	MA19
LAB	63.00000	278.00000	90.00000	139.00000	78.00000	95.00000	126.00000	LAB
VA	11.99400	9.28600	6.68200	7.07100	1.80600	4.01100	8.60600	VA
ID1	4.33100	3.74900	2.53400	2.62500	.70800	1.56000	3.32300	ID1
ID2	4.62900	4.39500	2.81000	2.87200	.80800	1.77100	3.74900	ID2
ID3	4.34700	3.83100	2.56100	2.64700	.72000	1.58400	3.37000	ID3
ID4	5.19100	5.52100	3.30700	3.32400	.98400	2.14600	4.50800	ID4
ID5	3.40900	1.64900	1.65100	1.84100	.38600	.87800	1.94900	ID5
PM	11.39800	5.16400	5.42800	6.09500	1.24300	2.84100	6.33900	PM

	COLIFLOR	PEPINO	ESPINACA	ARVEJA	MANI	CITRUSTY	AJONZ	
L1	4.99200	.	.	1.34000	5.41000	17.36000	6.18500	L1
L2	20.98800	.	24.98900	9.03800	4.16400	15.00000	.79000	L2
L3	37.99200	35.99700	24.98900	6.69800	5.84500	18.04000	2.36900	L3
L4	40.99200	49.99800	13.99300	2.78700	3.68600	26.40000	2.36900	L4
L5	14.98800	23.99800	9.99700	6.96500	3.52600	18.06000	2.89500	L5
L6	.	16.99700	.	7.36500	.	18.74000	5.65900	L6
L7	.	14.99500	.	6.69800	8.01400	15.40000	9.47500	L7
L8	.	.	.	10.01100	8.33300	9.70000	1.44700	L8
L9	.	.	.	3.57200	.	12.60000	3.02700	L9
L10	.	.	.	.	.	24.72000	3.29000	L10
L11	.	.	.	1.56000	.	13.12000	7.10600	L11
L12	.	.	.	.	.	10.82000	2.36900	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A2	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	.	A2
A3	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A3
A4	.	.	.	.	.	.	1.00000	A4
A5	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	.	A5
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M31	20.00000	.	.	.	.	.	.	M31
M32	.	5.60000	.	.	.	.	.	M32
M33	.	.	3.00000	.	.	.	.	M33
M34	.	.	.	.56000	.	.	.	M34
M35	.	.	.	.	1.75000	.	.	M35
M36	.	.	.	.	.	10.00000	.	M36
M37	.	.	.	.	.	.	.60700	M37
CAT	4.67400	4.05700	4.77600	1.99800	3.34600	5.08600	1.72500	CAT
CAOT	4.67400	4.05700	4.77600	1.99800	3.34600	5.08600	1.72500	CAOT
BESP	.	.	1.80000	.	.	.	.	BESP
GAR	.	.	.	.56000	.	.	.	GAR
COIL	.	.	.	.	.	.	.27000	COIL
MA12	20.00000	.	.	.	.	.	.	MA12
MA13	.	5.60000	.	.	.	.	.	MA13
MA15	.	.	.	.	1.75000	.	.	MA15
MA16	.	.	.	.	.	10.00000	.	MA16
LAB	120.00000	142.00000	74.00000	47.00000	38.00000	200.00000	47.00000	LAB
VA	13.69800	4.35600	3.79200	1.02400	3.77700	6.18000	1.46400	VA
ID1	5.09200	1.78600	1.51600	.45100	1.38000	2.48800	.61300	ID1
ID2	5.59500	2.11000	1.74600	.45700	1.49300	2.91000	.71800	ID2
ID3	5.13800	1.82900	1.54400	.46400	1.38900	2.54200	.62900	ID3
ID4	6.51100	2.67200	2.15000	.71300	1.70300	3.64500	.89500	ID4
ID5	3.48900	.73300	.77800	.13700	1.02700	1.11800	.26800	ID5
PM	11.52600	2.27100	2.48400	.39900	3.41100	3.51400	.82500	PM

	AJON1	SOYA2	SOYA1	HUEVUS	LECHE2	LECHE1	PESCA	
L1	4.47400	.	.	.33300	2.91700	1.66700	6.00000	L1
L2	.57100	.	.	.33300	2.91700	1.66700	6.00000	L2
L3	1.71400	.53800	.49100	.33300	2.91700	1.66700	6.00000	L3
L4	1.71400	15.14300	13.82600	.33300	2.91700	1.66700	6.00000	L4
L5	2.06000	9.19500	8.39600	.33300	2.91700	1.66700	6.00000	L5
L6	4.09400	7.57200	6.91300	.33300	2.91700	1.66700	6.00000	L6
L7	6.85400	8.65300	7.90000	.33300	2.91700	1.66700	6.00000	L7
L8	1.04700	4.86700	4.44400	.33300	2.91700	1.66700	6.00000	L8
L9	2.19000	.	.	.33300	2.91700	1.66700	6.00000	L9
L10	2.38000	.	.	.33300	2.91700	1.66700	6.00000	L10
L11	5.14100	.	.	.33300	2.91700	1.66700	6.00000	L11
L12	1.71400	.	.	.33300	2.91700	1.66700	6.00000	L12
A1	1.00000	1.00000	1.00000	.	2.00000	1.33300	.	A1
A3	1.00000	1.00000	1.00000	.	.	.	.	A3
A4	1.00000	1.00000	1.00000	.	.	.	.	A4
A6	1.00000	1.00000	1.00000	.	2.00000	1.33300	.	A6
M37	.58000	.	.	.	.	.	.	M37
M38	.	2.03600	1.93700	.	.	.	.	M38
M39	.	.	.	1.87700	.	.	.	M39
M40	.	.	.	.	1.02560	.90000	.	M40
M41	.	.	.	.	.	.	1.00000	M41
CAT	1.04700	2.45600	2.53800	.95000	.99500	.95100	.22800	CAT
CAL	.	.	.	.95000	.99500	.95100	.	CAL
CAOT	1.04700	2.45600	2.53800	.	.	.	.22800	CAOT
COIL	.25800	.34600	.32900	.	.	.	.	COIL
EGWS	.	.	.	.10000	.	.	.	EGWS
FLM	.	.	.	.	1.02500	.90000	.	FLM
MA17	.	.	.	.	.	.	1.00000	MA17
LAB	34.00000	46.00000	42.00000	4.00000	35.00000	20.00000	72.00000	LAB
VA	1.94100	2.54400	2.15700	.34600	.90400	.40300	.21600	VA
ID1	.75900	.99400	.84400	2.50000	.38700	.20600	.08900	ID1
ID2	.86100	1.10800	.93200	2.68000	.46300	.24100	.10600	ID2
ID3	.77100	1.01500	.85600	.25200	.39800	.21100	.09100	ID3
ID4	1.03900	1.29400	1.08300	.29900	.59500	.30200	.13400	ID4
ID5	.43000	.61200	.56000	.19400	.13700	.09300	.03600	ID5
PM	1.38800	1.95500	1.70700	.64400	.41000	.29100	.11000	PM

	AVE	PORCINO	BOVINO2	BOVINO1	OVINO	MAIZ2	MAIZ1	
L1	1.08300	.16700	1.25000	1.25000	1.83300	2.00200	3.00300	L1
L2	1.08300	.16700	1.25000	1.25000	1.83300	2.90900	4.36400	L2
L3	1.08300	.16700	1.25000	1.25000	1.83300	1.93900	2.90900	L3
L4	1.08300	.16700	1.25000	1.25000	1.83300	2.71400	4.07200	L4
L5	1.08300	.16700	1.25000	1.25000	1.83300	2.77900	4.16900	L5
L6	1.08300	.16700	1.25000	1.25000	1.83300	2.19700	3.29600	L6
L7	1.08300	.16700	1.25000	1.25000	1.83300	1.87500	2.81200	L7
L8	1.08300	.16700	1.25000	1.25000	1.83300	3.42700	5.14000	L8
L9	1.08300	.16700	1.25000	1.25000	1.83300	2.71400	4.07200	L9
L10	1.08300	.16700	1.25000	1.25000	1.83300	1.48700	2.23100	L10
L11	1.08300	.16700	1.25000	1.25000	1.83300	1.09700	1.64600	L11
L12	1.08300	.16700	1.25000	1.25000	1.83300	.84000	1.26000	L12
A1	.	.66800	7.81300	7.81300	3.67800	1.00000	1.00000	A1
A3	.	.	.	.	.	1.00000	1.00000	A3
A4	.	.	.	.	.	1.00000	1.00000	A4
A6	.	.66800	.	.	3.67800	1.00000	1.00000	A6
M42	1.00000	.	.	.	.	.	.	M42
M43	.	.04600	.	.	.	.	.	M43
M44	.	.	.45000	.45000	.	.	.	M44
M45	.	.	.	.	1.00000	.	.	M45
M46	.	.	.	.	.	1.05100	1.05000	M46
CAT	1.69700	.37100	.74800	.93400	.10000	.93400	1.06500	CAT
CAL	1.69700	.37100	.74800	.93400	.10000	.	.	CAL
CAOT	.	.	.	.	.	.93400	1.06500	CAOT
CHM	.11400	.	.	.	.	.	.	CHM
POM	.	.03900	.	.	.	.	.	POM
LAMB	.	.	.	.	.01300	.	.	LAMB
BM1A	.	.	.06000	.06000	.	.	.	BM1A
BM2A	.	.	.17900	.17900	.	.	.	BM2A
LIVE	.	.	.00270	.00270	.	.	.	LIVER
HEART	.	.	.00160	.00160	.	.	.	HEART
BRAIN	.	.	.00040	.00040	.	.	.	BRAIN
KIDNEY	.	.	.00060	.00060	.	.	.	KIDNEY
TONGUE	.	.	.00230	.00230	.	.	.	TONGUE
CORN	.	.	.	.	.	1.09100	1.05000	CORN
LAB	13.00000	2.00000	15.00000	15.00000	22.00000	26.00000	39.00000	LAB
VA	.85400	.33000	.76600	1.05100	.14900	.84400	.84700	VA
ID1	.35200	.01700	.52600	.46100	.06400	3.66900	.36700	ID1
ID2	.39500	.02000	.55800	.49000	.07500	.38700	.44200	ID2
ID3	.36100	.01700	.52800	.46200	.06600	.35100	.38200	ID3
ID4	.46400	.02400	.62000	.54400	.09300	.45900	.56000	ID4
ID5	.20200	.00700	.42800	.37300	.03000	.16300	.11000	ID5
PM	.63300	.01900	1.43600	1.25000	.09400	.47800	.29300	PM

	MILLO	TRIGO2	TRIGO1	CEBADA	SORGO	ARROZS	ARROZ2	
L1	.	2.41300	3.67700	.19100	.34900	2.03000	2.32300	L1
L2	.	2.54700	3.88200	4.24200	1.86400	5.18000	2.89400	L2
L3	.	5.08500	4.70100	4.04800	0.52300	2.94[illegible]	3.47200	L3
L4	.	1.87700	2.86100	1.25200	1.51400	2.12900	3.70300	L4
L5	6.57400	.87200	1.32800	.38500	.34900	5.07600	3.70300	L5
L6	2.30000	.60300	.91300	1.54200	1.51400	3.45200	1.96700	L6
L7	3.92200	1.67600	2.55400	.	.	6.90300	.57800	L7
L8	3.92200	5.16400	7.86900	4.91700	.	5.89100	2.89400	L8
L9	5.25800	1.81000	2.75800	1.15700	.	3.96000	2.89400	L9
L10	1.97000	.06500	.99200	.38500	.	1.21500	4.28000	L10
L11	.	.53600	.81600	.38500	.	3.14600	1.38600	L11
L12	.	.33400	.50900	.48000	.	3.04700	2.89400	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A3	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A3
A4	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A4
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M47	3.00000	.	.	.	.	.	.	M47
M48	.	1.17900	1.12000	.	.	.	.	M48
M49	.	.	.	1.59800	.	.	.	M49
M50	.	.	.	.	2.23100	.	.	M50
M51	.	.	.	.	.	1.67300	3.40700	M51
CAT	1.99200	1.22800	1.42400	1.71400	1.87400	1.64700	4.50700	CAT
CAOT	1.99200	1.22800	1.42400	1.71400	1.87400	1.64700	4.50700	CAOT
WHEAT	.	1.17900	1.12000	.	.	.	.	WHEAT
BARLEY	.	.	.	1.59800	.	.	.	BARLEY
RICE	.	.	.	.	.	1.03700	2.11200	RICE
MA18	3.00000	.	.	.	.	.	.	MA18
MA20	.	.	.	.	2.23100	.	.	MA20
LAB	24.00000	21.00000	32.00000	19.00000	12.00000	45.00000	33.00000	LAB
VA	1.03500	1.36800	1.03900	.91400	1.30300	2.18400	2.04000	VA
ID1	.41300	.51800	.40700	.35400	.50600	.87100	.78800	ID1
ID2	.46700	.57200	.45500	.39500	.54700	1.00400	.86300	ID2
ID3	.42300	.52800	.41700	.36200	.51500	.89000	.80800	ID3
ID4	.55700	.66100	.53200	.46000	.61200	1.23300	.97400	ID4
ID5	.23300	.33500	.24300	.21200	.36200	.43500	.52100	ID5
PM	.73800	1.07800	.76700	.66700	1.16800	1.37500	1.64500	PM

	ARROZ1	FIQUE	ALGO2	ALGO1	FLORES	OTROSP	GUAYABA	
L1	2.73400	24.26100	14.02200	10.12700	24.52500	21.91600	.	L1
L2	3.42000	10.73500	6.06600	4.38100	19.27200	21.91600	3.72100	L2
L3	4.10300	9.74100	9.68400	6.99400	22.30800	21.91600	.74200	L3
L4	4.37600	9.63900	7.94700	5.74000	14.59900	21.91600	2.23300	L4
L5	4.37600	10.13600	8.67600	6.26600	29.80500	21.91600	.74200	L5
L6	2.32400	1.08500	13.30200	9.60700	33.13200	21.91600	.	L6
L7	.68300	14.71300	21.69000	15.66500	30.75600	21.91600	12.65300	L7
L8	3.42000	4.17000	6.06600	4.38100	14.81000	21.91600	7.44500	L8
L9	3.42000	6.54400	.28800	.20800	13.41100	21.91600	.74200	L9
L10	5.05800	9.44700	2.45700	1.77500	11.69500	21.91600	3.72800	L10
L11	1.63800	6.26000	.	.	22.22800	21.91600	2.97500	L11
L12	3.42000	6.15900	.	.	27.19200	21.91600	.	L12
A1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A1
A2	.	1.00000	.	.	1.00000	1.00000	1.00000	A2
A3	1.00000	.	1.00000	1.00000	1.00000	1.00000	.	A3
A4	1.00000	.	1.00000	1.00000	.	.	.	A4
A5	.	.	.	.	1.00000	1.00000	.	A5
A6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	A6
M51	3.28000	.	.	.	.	.	.	M51
M52	.	1.88200	.	.	.	.	.	M52
M53	.	.	1.68500	1.61700	.	.	.	M53
M54	.	.	.	.	15.25400	.	.	M54
M55	.	.	.	.	.	1.00000	.	M55
M56	.	.	.	.	.	.	3.19700	M56
CAT	4.46100	2.05900	3.45900	3.33200	20.57000	15.11400	1.35600	CAT
CAOT	4.46100	2.05900	3.45900	3.33200	20.57000	15.11400	1.35600	CAOT
COIL	.	.	.16000	.15400	.	.	.	COIL
RICE	2.03400	.	.	.	.	.	.	RICE
GUWS	.	.	.	.	.	.	.24000	GUWS
MA21	.	1.88200	.	.	.	.	.	MA21
MA22	.	.	1.68500	1.61700	.	.	.	MA22
MA23	.	.	.	.	15.25400	.	.	MA23
MA24	.	.	.	.	.	1.00000	.	MA24
LAB	39.00000	113.00000	90.00000	65.00000	264.00000	263.00000	35.00000	LAB
VA	2.18900	4.97600	4.18900	3.68300	5.11600	9.77000	.96800	VA
ID1	.83700	1.91200	1.64400	1.41400	2.25400	3.99700	.43500	ID1
ID2	.93400	2.15700	1.87400	1.58500	2.75800	4.73700	.52800	ID2
ID3	.86800	1.93300	1.67100	1.43700	2.32400	4.09300	.44800	ID3
ID4	1.06600	2.60500	2.28100	1.88200	3.62600	6.02600	.69000	ID4
ID5	.48300	1.13700	.89900	.85500	.60200	1.58500	.12700	ID5
PM	1.46300	3.73800	2.89800	2.76800	1.70200	4.88500	.37000	PM

	PALMA	AGUA	LABAC	ID1AC	VAAC	ID2AC	ID3AC	
L1	5.33600	.	.	.	.	.	.	L1
L2	4.72900	3.72100	.	.	.	.	.	L2
L3	4.66900	.74200	.	.	.	.	.	L3
L4	5.09200	2.23300	.	.	.	.	.	L4
L5	2.54400	.74200	.	.	.	.	.	L5
L6	2.72800	.	.	.	.	.	.	L6
L7	4.60900	12.65300	.	.	.	.	.	L7
L8	4.06200	7.44500	.	.	.	.	.	L8
L9	4.06200	.74200	.	.	.	.	.	L9
L10	2.12100	3.72800	.	.	.	.	.	L10
L11	2.12100	2.97500	.	.	.	.	.	L11
L12	3.94200	.	.	.	.	.	.	L12
A1	1.00000	1.00000	.	.	.	.	.	A1
A2	1.00000	1.00000	.	.	.	.	.	A2
A6	1.00000	1.00000	.	.	.	.	.	A6
M57	11.00000	.	.	.	.	.	.	M57
M58	.	5.00000	.	.	.	.	.	M58
CAT	1.93600	1.79300	.	.	.	.	.	CAT
CAOT	1.93600	1.79300	.	.	.	.	.	CAOT
OLEO	1.87000	.	.	.	.	.	.	OLEO
MA25	.	5.00000	.	.	.	.	.	MA25
LAB	46.00000	35.00000	1.00000-	.	.	.	.	LAB
VA	3.88700	6.70000	.	.	1.00000-	.	.	VA
ID1	1.57500	2.50300	.	1.00000-	.	.	.	ID1
ID2	1.74900	2.70000	.	.	.	1.00000-	.	ID2
ID3	1.59200	2.51800	.	.	.	.	1.00000-	ID3
ID4	2.06100	3.07000	.	.	.	.	.	ID4
ID5	1.01800	1.87800	.	.	.	.	.	ID5
PM	3.34400	6.25800	.	.	.	.	.	PM

	ID4AC	ID5AC	PMAC	ARVS	ARROF	CEBAF	FRIRO	
WFRI	.	.	.	.	.	.	.10000-	WFRI
GAR	.	.	.	.50000-	.	.	.	GAR
BARLEY	.	.	.	.	.	.10000-	.	BARLEY
RICE	.	.	.	.	.10000-	.	.	RICE
CALO	.	.	.	.30800	.35900	.35900	.30200	CALO
MAXCAL	.	.	.	.30800	.35900	.35900	.30200	MAXCAL
PROT	.	.	.	.23900	.07800	.09000	.20400	PROT
GRASAS	.	.	.	.00800	.00400	.07000	.01200	GRASAS
CALCIO	.	.	.	.06000	.00900	.03600	.10000	CALCIO
HIERRO	.	.	.	.46000	.08000	.17000	.71000	HIERRO
VITA	.	.	.	.22000	.	.	.	VITA
TIAMIN	.	.	.	.78000	.07000	.27000	.43000	TIAMIN
RIBO	.	.	.	.16000	.03000	.11000	.12000	RIBO
NIAC	.	.	.	.31000	.13000	.59000	.19000	NIAC
VITC	.	.	.	.02000	.	.01000	.03000	VITC
ISOL	.	.	.	.95000	.29600	.42100	.92700	ISOL
LEUC	.	.	.	1.60000	.58100	.78400	1.68500	LEUC
LISINA	.	.	.	1.67300	.22500	.40600	1.59300	LISINA
METYCIS	.	.	.	.54500	.25800	.46300	.42200	METYCIS
FENI	.	.	.	1.06700	.34200	.60300	1.15400	FENI
TIRO	.	.	.	.67300	.22600	.36500	.55900	TIRO
TREO	.	.	.	.97800	.23400	.38900	.87800	TREO
TRIP	.	.	.	.15800	.10000	.13000	.22300	TRIP
VALINA	.	.	.	1.06200	.40800	.59200	1.01600	VALINA
HIST	.	.	.	.18400	.16500	.24800	.62700	HIST
ID4	1.00000-	.	.	.	.	.	.	ID4
ID5	.	1.00000-	.	.	.	.	.	ID5
PM	.	.	1.00000-	.	.	.	.	PM
COSTO	.	.	.	.97500	.42000	.48500	1.30700	COSTO

	FRIBL	AMAIZ	BMAIZ	ACEITF	AZUCAR	CAFED	CHOCO	
TCAFE	.	.	.	.	.	.00600-	.	TCAFE
COPO	.	.	.	.	.	.	.01300-	COPO
RCANA	.	.	.	.	1.55800-	.	.71700-	RCANA
WFRI	.10000-	.	.	.	.	.	.	WFRI
COIL	.	.	.	.10000-	.	.	.	COIL
CORN	.	.10000-	.10000-	.	.	.	.	CORN
CALO	.30600	.32400	.32800	.88400	.38400	.05000	.44100	CALO
MAXCAL	.30600	.32400	.32800	.88400	.38400	.05000	.44100	MAXCAL
PROT	.22200	.07500	.07600	.	.	.00300	.03800	PROT
GRASAS	.01100	.04100	.03800	1.00000	.	.00100	.16800	GRASAS
CALCIO	.11000	.00600	.00700	.	.	.00500	.04600	CALCIO
HIERRO	.58000	.27000	.21000	.	.01000	.02000	.28000	HIERRO
VITA	.	.06000	.	.	.	.	.02000	VITA
TIAMIN	.90000	.31000	.32000	.	.	.01000	.05000	TIAMIN
RIBO	.15000	.10000	.09000	.	.	.01000	.09000	RIBO
NIAC	.17000	.23000	.36000	.	.	.09000	.05000	NIAC
VITC	.02000	.	.	.	.	.	.	VITC
ISOL	1.27000	.35000	.35000	.	.	.	.18200	ISOL
LEUC	1.92000	1.19000	1.19000	.	.	.	.32600	LEUC
LISINA	1.55400	.25400	.25400	.	.	.	.18400	LISINA
METYCIS	.44700	.32900	.32900	.	.	.	.22800	METYCIS
FENI	1.23100	.46400	.46400	.	.	.	.21800	FENI
TIRO	.86900	.36300	.36300	.	.	.	.	TIRO
TREO	.97200	.34200	.34200	.	.	.	.12400	TREO
TRIP	.20500	.06700	.06700	.	.	.	.04800	TRIP
VALINA	1.34500	.46100	.46100	.	.	.	.19800	VALINA
HIST	.62700	.25800	.25800	.	.	.	.05600	HIST
COSTO	1.18700	.24000	.23800	1.37900	.30200	.08400	.99900	COSTO

	HARM	HART	PLECHE	MAIZEN	MANTV	FMARG1	FMARG2	
MARG	.	.	.	.	.	.10000-	.	MARG
FLM	.	.	.82400-	.	.	.	.	FLM
CORN	.17000-	.	.	.15000-	.	.	.	CORN
WHEAT	.	.13700-	.	.	.	.	.	WHEAT
OLEO	.	.	.	.	.10000-	.	.11800-	OLEO
CALO	.32200	.35600	.40700	.34700	.87000	.71900	.71900	CALO
MAXCAL	.32200	.35600	.40700	.34700	.87000	.71900	.71900	MAXCAL
PROT	.09100	.10400	.25200	.00600	.	.00600	.00600	PROT
GRASAS	.03700	.00500	.25000	.00200	.98500	.81000	.81000	GRASAS
CALCIO	.01800	.03000	.94000	.00800	.	.00200	.00200	CALCIO
HIERRO	.27000	.27000	.08000	.30000	.	.02000	.02000	HIERRO
VITA		.	1.20000	.	.	5.00000	5.00000	VITA
TIAMIN	30000	.17000	.26000	.	.	.	.	TIAMIN
RIBO	12000	.05000	1.42000	.02000	.	.	.	RIBO
NIAC	18000	.08000	.06000	.	.	.	.	NIAC
VITC		.	.04000	.	.	.	.	VITC
ISOL	.42500	.47600	1.34600	.	.	.	.	ISOL
LEUC	1.19900	.77700	2.52600	.	.	.	.	LEUC
LISINA	.26000	.32600	1.84800	.	.	.	.	LISINA
METYCIS	.28600	.45900	.89600	.	.	.	.	METYCIS
FENI	.41100	.56600	1.23600	.	.	.	.	FENI
TIRO	.55800	.38100	1.26900	.	.	.	.	TIRO
TREO	.36100	.39400	1.07300	.	.	.	.	TREO
TRIP	.05500	.13900	.36300	.	.	.	.	TRIP
VALINA	.47400	.55400	1.64000	.	.	.	.	VALINA
HIST	.25800	.24800	.15300	.	.	.	.	HIST
COSTO	.31500	.39900	3.69000	1.03300	1.09600	1.50600	1.50600	COSTO

	PAN	PANELA	FARV	FARRA	FBAN	FCEB	FGUAY	
MBAN	.	.	.	.	.10000-	.	.	MBAN
RCANA	.	.40000-	.	.	.	.	.	RCANA
ARWS	.	.	.	.10000-	.	.	.	ARWS
CEBCA	.	.	.	.	.	.10000-	.	CEBCA
GAR	.	.	.10000-	.	.	.	.	GAR
WHEAT	.12300-	.	.	.	.	.	.	WHEAT
GUWS	.	.	.	.	.	.	.10000-	GUWS
CALO	.33700	.31200	.11600	.10000	.08400	.03300	.03600	CALO
MAXCAL	.33700	.31200	.11600	.10000	.08400	.03300	.03600	MAXCAL
PROT	.09000	.00500	.08200	.00900	.01200	.01400	.00900	PROT
GRASAS	.03400	.00100	.00300	.00100	.00100	.00100	.00100	GRASAS
CALCIO	.03000	.08000	.03600	.02600	.00600	.03500	.01700	CALCIO
HIERRO	.24000	.24000	.24000	.07000	.05000	.05000	.07000	HIERRO
VITA	.	.	.22000	.19000	.22000	.	.40000	VITA
TIAMIN	.20000	.02000	.36000	.06000	.04000	.04000	.05000	TIAMIN
RIBO	.10000	.07000	.12000	.04000	.03000	.03000	.03000	RIBO
NIAC	.19000	.03000	.22000	.28000	.07000	.02000	.06000	NIAC
VITC	.	.03000	.20000	.20000	.10000	.10000	2.00000	VITC
ISOL	.35700	.	.35200	.	.03200	.02000	.	ISOL
LEUC	.69000	.	.65300	.	.05300	.03700	.	LEUC
LISINA	.20400	.	.62600	.02600	.04600	.06300	.02400	LISINA
METYCIS	.39200	.	.17800	.00200	.05200	.01600	.00800	METYCIS
FENI	.47700	.	.35200	.	.04400	.03800	.	FENI
TIRO	.22700	.	.25700	.	.02900	.	.	TIRO
TREO	.26400	.	.37800	.	.03800	.02000	.	TREO
TRIP	.09100	.	.05200	.00500	.01300	.02000	.00800	TRIP
VALINA	.37700	.	.42100	.	.04500	.03000	.	VALINA
HIST	.20400	.	.18400	.	.08400	.01400	.	HIST
COSTO	.85800	.25200	1.81500	.26300	.32400	.63900	.60000	COSTO

	FLEC	NARAN	FPAPA	FPINA	FPLAT	FREMO	FREPO	
OJ	.	.10000-	.	.	.	.	.	OJ
PINWC	.	.	.	.10000-	.	.	.	PINWC
MPLAT	.	.	.	.	.10000-	.	.	MPLAT
PAWS	.	.	.10000-	.	.	.	.	PAWS
REWS	.	.	.	.	.	.10000-	.	REWS
REWV	.	.	.	.	.	.	.10000-	REWV
ELEC	.10000-	.	.	.	.	.	.	ELEC
CALO	.01300	.02500	.09100	.05100	.13900	.04200	.02400	CALO
MAXCAL	.01300	.02500	.09100	.05100	.13900	.04200	.02400	MAXCAL
PROT	.01100	.00400	.01900	.00400	.01100	.01400	.02200	PROT
GRASAS	.00200	.	.00100	.00100	.00200	.	.00100	GRASAS
CALCIO	.04400	.01000	.00200	.02100	.00400	.01800	.34400	CALCIO
HIERRO	.10000	.03000	.10000	.04000	.05000	.10000	.14000	HIERRO
VITA	.26000	.	.	.	.54000	.	1.10000	VITA
TIAMIN	.10000	.06000	.08000	.09000	.07000	.03000	.06000	TIAMIN
RIBO	.06000	.02000	.08000	.03000	.03000	.07000	.17000	RIBO
NIAC	.03000	.02000	.09000	.02000	.05000	.02000	.12000	NIAC
VITC	.26000	.50000	.16000	.12000	.15000	.06000	1.00000	VITC
ISOL	.05000	.02300	.07600	.	.	.04400	.05000	ISOL
LEUC	.08300	.02200	.12100	.	.	.08000	.08600	LEUC
LISINA	.05000	.04300	.09600	.	.	.09600	.05000	LISINA
METYCIS	.02400	.02200	.03800	.	.	.05400	.03500	METYCIS
FENI	.06700	.03000	.08000	.	.	.06500	.04900	FENI
TIRO	.03500	.01700	.05500	.	.	.06300	.03000	TIRO
TREO	.05400	.01200	.07500	.	.	.06000	.06100	TREO
TRIP	.01000	.00600	.03300	.	.	.01700	.01700	TRIP
VALINA	.07100	.03100	.09500	.	.	.04400	.06800	VALINA
HIST	.02100	.01200	.03000	.	.	.02200	.04100	HIST
COSTO	1.18000	.45000	.18800	.47800	.35700	.43400	.19900	COSTO

	FTOMA	FYUCA	FZANA	CERDO	POLLO	CARB1	CARB2	
YUWS	.	.10000-	.	.	.	.	.	YUWS
TOWS	.10000-	.	.	.	.	.	.	TOWS
ZAWS	.	.	.10000-	.	.	.	.	ZAWS
CHM	.	.	.	.	.10000-	.	.	CHM
POM	.	.	.	.10000-	.	.	.	POM
BM1A	.	.	.	.	.	.10000-	.	BM1A
BM2A	.	.	.	.	.	.	.10000-	BM2A
CALO	.01700	.14600	.03600	.18600	.17800	.19100	.36700	CALO
MAXCAL	.01700	.14600	.03600	.18600	.17800	.19100	.36700	MAXCAL
PROT	.00900	.00800	.00700	.18500	.20200	.20100	.15200	PROT
GRASAS	.00100	.00100	.00100	.11900	.10200	.11700	.33400	GRASAS
CALCIO	.00700	.02700	.03300	.00500	.01400	.00600	.00700	CALCIO
HIERRO	.07000	.04000	.06000	.20000	.15000	.29000	.25000	HIERRO
VITA	1.10000	.01000	7.00000	.	.	.	.	VITA
TIAMIN	.05000	.04000	.04000	.71000	.06000	.07000	.06000	TIAMIN
RIBO	.02000	.03000	.04000	.25000	.16000	.20000	.15000	RIBO
NIAC	.06000	.05000	.04000	.28000	.90000	.47000	.29000	NIAC
VITC	.20000	.30000	.03000	.	.90000	.		VITC
ISOL	.02000	.02300	.03300	.60800	1.06900	.96600	.73100	ISOL
LEUC	.03000	.03200	.05000	.89700	1.47200	1.62700	1.23200	LEUC
LISINA	.03200	.03300	.04400	.96100	1.59000	1.78400	1.35100	LISINA
METYCIS	.01400	.02200	.02600	.45400	.76400	.79800	.60400	METYCIS
FENI	.02000	.02000	.02100	.49600	.80000	.88200	.66800	FENI
TIRO	.01400	.01300	.02500	.42600	.66900	.72200	.54600	TIRO
TREO	.02500	.04300	.03200	.58300	.79400	.92100	.69700	TREO
TRIP	.00900	.01900	.00800	.16200	.20500	.22400	.17000	TRIP
VALINA	.02400	.05400	.05000	.61600	1.01800	1.00400	.76000	VALINA
HIST	.01700	.03400	.01600	.39100	.52500	.68100	.51100	HIST
COSTO	.81500	.31900	.23400	2.17300	3.07000	1.83200	1.53300	COSTO

	FHUEVO	FLECHE	QUESO	HIGADO	CORA	SESOS	RINO	
EGWS	.10000-	.	.	.	.	.	.	EGWS
FLM	.	.10000-	2.16100-	.	.	.	.	FLM
LIVER	.	.	.	.10000-	.	.	.	LIVER
HEART	.	.	.	.	.10000-	.	.	HEART
BRAIN	.	.	.	.	.	.10000-	.	BRAIN
KIDNEY	.	.	.	.	.	.	.10000-	KIDNEY
CALO	.16300	.06000	.28000	.13600	.15300	.13400	.11500	CALO
MAXCAL	.16300	.06000	.28000	.13600	.15300	.13400	.11500	MAXCAL
PROT	.12800	.03400	.21700	.20000	.16800	.10800	.15300	PROT
GRASAS	.11500	.03300	.19000	.04500	.08800	.09700	.05000	GRASAS
CALCIO	.05400	.12000	.69000	.00900	.00800	.00800	.01300	CALCIO
HIERRO	.27000	.02000	.07000	.60000	.50000	.20000	.57000	HIERRO
VITA	1.10000	.15000	1.40000	30.00000	.10000	.	1.00000	VITA
TIAMIN	.10000	.04000	.02000	.20000	.35000	.12000	.26000	TIAMIN
RIBO	.29000	.18000	.40000	3.20000	1.10000	.25000	2.60000	RIBO
NIAC	.01000	.01000	.01000	.90000	.45000	.29000	.53000	NIAC
VITC	.	.02000	.	.03000	.05000	.15000	.10000	VITC
ISOL	.77800	.16200	.95600	.95000	.94000	.60000	.90000	ISOL
LEUC	1.09100	.32800	1.86400	1.73700	1.45200	.93000	1.40000	LEUC
LISINA	.86300	.26800	1.55900	1.45200	1.24900	.80000	1.20000	LISINA
METYCIS	.71700	.11400	.60600	.67700	.58100	.37200	.55000	METYCIS
FENI	.70900	.18500	.95000	.80600	.78300	.50500	.75000	FENI
TIRO	.51500	.19300	.97300	.62000	.62700	.40000	.60000	TIRO
TREO	.63400	.15300	.72500	.80000	.71400	.46000	.70000	TREO
TRIP	.18400	.04800	.21700	.27500	.17200	.11000	.15000	TRIP
VALINA	.84700	.19900	1.39300	1.27300	.94700	.60000	.90000	VALINA
HIST	.15200	.09200	.55600	.51000	.40700	.26000	.39000	HIST
COSTO	1.38000	.28400	3.50300	1.83200	1.53300	1.83200	1.53300	COSTO

	LENGUA	FNAME	FESPI	CORDERO	SVITA	E1	E3	
M1	.	.	.	.	.	1.00000-	.	M1
M3	.	.	.	.	.	.	1.00000-	M3
TCAFE	.	.	.	.	.	.25000-	.	TCAFE
MBAN	.	.	.	.	.	.	.67500-	MBAN
BNAME	.	.10000-	.	.	.	.	.	BNAME
BESP	.	.	.10000-	.	.	.	.	BESP
LAMB	.	.	.	.10000-	.	.	.	LAMB
TONGUE	.10000-	.	.	.	.	.	.	TONGUE
CALO	.16500	.10500	.02700	.25300	.	.	.	CALO
MAXCAL	.16500	.10500	.02700	.25300	.	.	.	MAXCAL
PROT	.16500	.02400	.03500	.18200	.	.	.	PROT
GRASAS	.10300	.00200	.00300	.19400	.	.	.	GRASAS
CALCIO	.00900	.00800	.11800	.00700	.	.	.	CALCIO
HIERRO	.15000	.24000	.41000	.25000	.	.	.	HIERRO
VITA	.	.	2.50000	.	50.00000	.	.	VITA
TIAMIN	.09000	.14000	.16000	.07000	.	.	.	TIAMIN
RIBO	.36000	.03000	.23000	.15000	.	.	.	RIBO
NIAC	.28000	.03000	.07000	.20000	.	.	.	NIAC
VITC	.	.06000	.30000	.	.	.	.	VITC
ISOL	.94000	.07600	.16500	.60800	.	.	.	ISOL
LEUC	1.45200	.12100	.25000	.89700	.	.	.	LEUC
LISINA	1.24900	.09600	.22000	.96100	.	.	.	LISINA
METYCIS	.58100	.03800	.13000	.45400	.	.	.	METYCIS
FENI	.78300	.08000	.15500	.49600	.	.	.	FENI
TIRO	.62700	.05500	.12500	.42600	.	.	.	TIRO
TREO	.71400	.07500	.16000	.58300	.	.	.	TREO
TRIP	.17200	.03300	.04000	.16200	.	.	.	TRIP
VALINA	.94700	.09300	.25000	.61600	.	.	.	VALINA
HIST	.40700	.03000	.08000	.39100	.	.	.	HIST
Q1	.	.	.	.	.	1.00000	.	Q1
Q3	.	.	.	.	.	.	1.00000	Q3
COSTO	1.53300	.09600	1.41600	2.33900	2.30000	.	.	COSTO

	E5	E7	E8	E16	E18	E19	E20	
M5	1.00000-	.	.	.	.	.	.	M5
M7	.	1.00000-	.	.	.	.	.	M7
M8	.	.	1.00000-	.	.	.	.	M8
M16	.	.	.	1.00000-	.	.	.	M16
M18	.	.	.	.	1.00000-	.	.	M18
M19	.	.	.	.	.	1.00000-	.	M19
M20	.	.	.	.	.	.	1.00000-	M20
PINWC	.	.55000-	.	.	.	.	.	PINWC
MPLAT	.	.	.62500-	.	.	.	.	MPLAT
RCANA	.	.	.	1.00000-	.	.	.	RCANA
PAWS	.	.	.	.	.80000-	.	.	PAWS
WFRI	.	.	.	.	.	1.00000-	.	WFRI
TOWS	.	.	.	.	.	.	.80000-	TOWS
Q5	1.00000	.	.	.	.	.	.	Q5
Q7	.	1.00000	.	.	.	.	.	Q7
Q8	.	.	1.00000	.	.	.	.	Q8
Q16	.	.	.	1.00000	.	.	.	Q16
Q18	.	.	.	.	1.00000	.	.	Q18
Q19	.	.	.	.	.	1.00000	.	Q19
Q20	.	.	.	.	.	.	1.00000	Q20

	E21	E25	E32	E41	E44	E53	E54	
M21	1.00000-	.	.	.	.	.	.	M21
M25	.	1.00000-	.	.	.	.	.	M25
M32	.	.	1.00000-	.	.	.	.	M32
M41	.	.	.	1.00000-	.	.	.	M41
M44	.	.	.	.	1.00000-	.	.	M44
M53	.	.	.	.	.	1.00000-	.	M53
M54	.	.	.	.	.	.	1.00000-	M54
CEBCA	.	.95000-	.	.	.	.	.	CEBCA
COIL	.	.	.	.	.	.09500-	.	COIL
BM1A	.	.	.	.	.13250-	.	.	BM1A
BM2A	.	.	.	.	.39750-	.	.	BM2A
LIVER	.	.	.	.	.00600-	.	.	LIVER
HEART	.	.	.	.	.00350-	.	.	HEART
BRAIN	.	.	.	.	.00080	.	.	BRAIN
KIDNEY	.	.	.	.	.00130-	.	.	KIDNEY
TONGUE	.	.	.	.	.00500-	.	.	TONGUE
Q21	1.00000	.	.	.	.	.	.	Q21
Q25	.	1.00000	.	.	.	.	.	Q25
Q32	.	.	1.00000	.	.	.	.	Q32
Q41	.	.	.	1.00000	.	.	.	Q41
Q44	.	.	.	.	1.00000	.	.	Q44
Q53	.	.	.	.	.	1.00000	.	Q53
Q54	.	.	.	.	.	.	1.00000	Q54

	E58	R68	R72	R75	N681	MCH	
L1	.	53580.000	58420.000	61800.000	53580.000	.	L1
L2	.	53580.000	58420.000	61800.000	53580.000	.	L2
L3	.	53580.000	58420.000	61800.000	53580.000	.	L3
L4	.	53580.000	58420.000	61800.000	53580.000	.	L4
L5	.	53580.000	58420.000	61800.000	53580.000	.	L5
L6	.	53580.000	58420.000	61800.000	53580.000	.	L6
L7	.	53580.000	58420.000	61800.000	53580.000	.	L7
L8	.	53580.000	58420.000	61800.000	53580.000	.	L8
L9	.	53580.000	58420.000	61800.000	53580.000	.	L9
L10	.	53580.000	58420.000	61800.000	53580.000	.	L10
L11	.	53580.000	58420.000	61800.000	53580.000	.	L11
L12	.	53580.000	58420.000	61800.000	53580.000	.	L12
A1	.	35216.000	35216.000	35216.000	35216.000	.	A1
A2	.	25340.000	25340.000	25340.000	25340.000	.	A2
A3	.	14464.000	14464.000	14464.000	14464.000	.	A3
A4	.	8127.0000	8127.0000	8127.0000	8127.0000	.	A4
A5	.	9667.0000	9667.0000	9667.0000	9667.0000	.	A5
A6	.	30137.000	30137.000	30137.000	30137.000	.	A6
M1	.	570.00000	629.36100	678.19500	349.46000	17.47300-	M1
M2	.	18.00000	33.68400	38.76700	55.86000	2.79300-	M2
M3	.	770.00000	900.84400	1013.2927	73.69000	3.68450-	M3
M4	.	3.73500	5.42400	6.31400	8.85600	.44280-	M4
M5	.	8.00000	10.05600	11.72900	15.97400	.79870-	M5
M6	.	250.00000	306.25000	356.50000	500.00000	25.00000-	M6
M7	.	40.00000	48.99400	57.02800	79.91200	3.99650-	M7
M8	.	1600.0000	1843.2600	2049.7440	3199.6000	159.98000-	M8

	E58	R68	R72	R75	N681	M131	
M9	.	19.00000	23.27500	27.09400	38.00000	1.90000	M9
M10	.	11.00000	13.47500	15.68600	22.00000	1.10000-	M10
M11	.	3.12500	3.82800	4.45600	6.25000	.31250-	M11
M12	.	.96900	1.18700	1.38200	1.93800	.09690-	M12
M13	.	.37000	.45300	.52800	.74000	.03700-	M13
M14	.	4.50000	5.51300	6.41700	9.00000	.45000-	M14
M15	.	117.83600	145.61600	169.50900	237.74000	11.88700-	M15
M16	.	15954.085	18245.622	20184.452	27441.000	1372.0500-	M16
M17	.	886.00000	1020.6720	1134.9660	1772.0000	88.60000-	M17
M18	.	900.00000	1036.7950	1152.8900	1779.9300	88.99650-	M18
M19	.	40.00000	46.57600	52.19500	74.72200	3.73610-	M19
M20	.	48.00000	60.12300	68.29900	95.99200	4.79960-	M20
M21	.	43.00000	49.71400	55.48400	68.64200	3.43210-	M21
M22	.	144.00000	163.29600	179.56800	288.00000	14.40000-	M22
M23	.	125.00000	141.75000	155.87500	250.00000	12.50000-	M23
M24	.	27.10000	30.73400	33.79600	54.20400	2.71020-	M24
M25	.	35.00000	40.16600	44.75800	69.95800	3.49790-	M25
M26	.	3.00000	3.40200	3.74100	6.00000	.30000-	M26
M27	.	18.50000	20.97900	23.07000	37.00000	1.85000-	M27
M28	.	30.00000	34.02000	37.41000	60.00000	3.00000-	M28
M29	.	36.00000	41.79600	46.72800	72.00000	3.60000-	M29
M30	.	7.00000	8.12700	9.08600	14.00000	.70000-	M30
M31	.	20.00000	23.22000	25.96000	40.00000	2.00000-	M31
M32	.	11.20000	15.00300	17.03800	22.40000	1.12000-	M32
M33	.	1.50000	1.74200	1.94700	3.00000	.15000-	M33
M34	.	28.00000	32.50800	36.34400	56.00000	2.80000-	M34

	E58	R68	R72	R75	N681	MCH	
M35	.	1.22500	1.50100	1.74700	2.45000	.12250-	M35
M36	.	89.07500	103.41600	115.61900	178.15000	8.90750-	M36
M37	.	15.00000	18.44900	21.47600	30.12000	1.50600-	M37
M38	.	111.00000	135.97500	150.28600	222.00000	11.10000-	M38
M39	.	1708.0000	2029.1040	2309.2160	3416.0000	170.80000-	M39
M40	.	2308.0550	2828.9350	3293.1120	4618.6700	230.93350-	M40
M41	.	107.30000	132.49000	153.77900	211.64000	10.58200-	M41
M42	.	400.00000	489.84100	570.21500	799.74000	39.98700-	M42
M43	.	64.63000	77.94400	89.70600	129.26000	6.46300-	M43
M44	.	1185.8400	1423.0470	1627.2810	2362.3040	118.11520-	M44
M45	.	410.00000	483.39200	546.94300	820.00200	41.00100-	M45
M46	.	886.60000	1033.7960	1149.5590	1794.7840	89.73920-	M46
M47	.	9.00000	10.36800	11.52900	18.00000	.90000-	M47
M48	.	125.00000	409.98000	458.35900	700.25400	35.31270-	M48
M49	.	74.80000	113.45600	126.94400	195.60000	9.78000-	M49
M50	.	110.00000	134.75000	156.86000	220.00000	11.00000-	M50
M51	.	760.00000	891.54000	985.92000	1560.0000	76.00000-	M51
M52	.	32.00000	39.20000	45.63200	64.00000	3.20000-	M52
M53	.	339.00000	410.53300	473.98800	580.74000	29.03700-	M53
M54	.	7.62700	9.65400	11.67700	14.90400	.74520-	M54
M55	.	39.24400	55.11300	62.36000	93.49400	4.67470-	M55
M56	.	105.50000	129.23800	150.44300	211.00000	10.55000-	M56
M57	.	154.00000	188.65000	219.60400	308.00000	15.40000-	M57
M58	1.00000-	2.00000	2.45600	2.85800	3.99400	.19970-	M58
CAT	.	16340.000	18686.000	21848.000	163400.00	.	CAT
CAL	.	6910.0000	9156.0000	12320.000	68100.000	.	CAL

	E58	R68	R72	R75	N681	MCH	
CACA	.	1940.0000	4286.0000	7448.0000	19400.000	.	CACA
CAOT	.	7590.0000	9936.0000	13098.000	75900.000	.	CAOT
CALO	.	.	.	.	15170.590	.	CALO
MAXCAL	.	.	.	.	30341.180	.	MAXCAL
PROT	.	.	.	.	4362.7600	.	PROT
GRASAS	.	.	.	.	4349.0000	.	GRASAS
CALCIO	.	.	.	.	4882.3900	.	CALCIO
HIERRO	.	.	.	.	9255.0700	.	HIERRO
VITA	.	.	.	.	30186.330	.	VITA
TIAMIN	.	.	.	.	6139.9400	.	TIAMIN
RIBO	.	.	.	.	9366.1300	.	RIBO
NIAC	.	.	.	.	10381.510	.	NIAC
VITC	.	.	.	.	3310.0200	.	VITC
ISOL	.	.	.	.	21238.860	.	ISOL
LEUC	.	.	.	.	31179.800	.	LEUC
LISINA	.	.	.	.	30609.000	.	LISINA
METYCIS	.	.	.	.	25569.680	.	METYCIS
FENI	.	.	.	.	11271.020	.	FENI
TIRO	.	.	.	.	12980.400	.	TIRO
TREO	.	.	.	.	18003.030	.	TREO
TRIP	.	.	.	.	6983.3900	.	TRIP
VALINA	.	.	.	.	25508.810	.	VALINA
HIST	.	.	.	.	176.58000	.	HIST
MA1	.	.	.	.	8.00000	.	MA1
MA2	.	.	.	.	19.00000	.	MA2
MA3	.	.	.	.	11.00000	.	MA3

	E56	R68	R72	R75	N681	MCH	
MA4	.	.	.	.	3.12500	.	MA4
MA5	.	.	.	.	.96900	.	MA5
MA6	.	.	.	.	.37000	.	MA6
MA7	.	.	.	.	4.50000	.	MA7
MA8	.	.	.	.	117.83600	.	MA8
MA9	.	.	.	.	43.00000	.	MA9
MA11	.	.	.	.	27.10000	.	MA11
MA12	.	.	.	.	20.00000	.	MA12
MA13	.	.	.	.	11.20000	.	MA13
MA15	.	.	.	.	1.22500	.	MA15
MA16	.	.	.	.	89.07500	.	MA16
MA17	.	.	.	.	107.30000	.	MA17
MA18	.	.	.	.	9.00000	.	MA18
MA19	.	.	.	.	3.00000	.	MA19
MA20	.	.	.	.	110.00000	.	MA20
MA21	.	.	.	.	32.00000	.	MA21
MA22	.	.	.	.	339.00000	.	MA22
MA23	.	.	.	.	7.62700	.	MA23
MA24	.	.	.	.	39.24400	.	MA24
MA25	.	.	.	.	2.00000	.	MA25
Q1	.	.	.	.	395.27000	.	Q1
Q3	.	.	.	.	401.55000	.	Q3
Q5	.	.	.	.	.01300	.	Q5
Q7	.	.	.	.	.04400	.	Q7
Q8	.	.	.	.	.20000	.	Q8
Q16	.	.	.	.	2233.5850	.	Q16
Q18	.	.	.	.	.03500	.	Q18
Q19	.	.	.	.	2.63900	.	Q19
Q20	.	.	.	.	.00400	.	Q20
Q21	.	.	.	.	8.68000	.	Q21
Q25	.	.	.	.	.02100	.	Q25
Q41	.	.	.	.	1.48000	.	Q41
Q44	.	.	.	.	4.69400	.	Q44
Q53	.	.	.	.	48.72000	.	Q53
Q54	.	.	.	.	.17500	.	Q54
Q58	1.00000	.	.	.	.00300	.	Q58
COSTO	.	.	.	.	60442.000	.	COSTO