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DOMINGO

AGRICULTURAL ACCOUNTING FRAMEWORK OF THE DOMINICAN REPUBLIC

A Guide for the Development and Use of DOMINGO (Draft)

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First Stage

A DEMONSTRATION MODEL: CROPS

A. Specification of Crop Markets

The basic accounting unit of DOMINGO is the market of a single crop. DOMINGO is integrated therefore, by a set of markets both of annual and perennial crops. For each crop we specify farm production, agro-industrial processing of the crop when this activity is relevant (e. g. in the case of rice, coffee, cocoa, tobacco, etc.), wholesale and retail trade, and final consumption. At the final market level, in most of the cases, we will have a food for human consumption. There are few cases when we specify an intermediate state (or derived demand) where we have an industry demand for an input (e. g. rice bran, corn, sorghum). In the case of products which are traded in international markets we specify exports and imports. In a few cases we also specify changes in inventories.

In DOMINGO, crops are produced by two major groups of farms: small farms (8 - 79 tareas), and medium and large farms (with 80 or more tareas). Within each farm group, crops can be produced with alternative technologies. The differences between technologies are given by different rates of use of fertilizers and other chemical inputs, irrigation, labor, and other factors (mainly mechanization). Each technology -- production activity -- generates different yields (in physical units).

For one class of farms the model will allocate land among a set of crops, and for each crop it will allocate land between one or two technologies. The land so allocated (tareas) times the yields of each

technology (Quintales/Ha) determines the level of crop production (Quintales) for one group of farms. Each one of these technologies are considered to be technically feasible and of common practice among farmers. The model chooses among technologies according to their relative profitability as farmers do in the long run.

We will illustrate a market specification describing the rice market. Rice production is represented in row 1, Appendix B. Total rice production (paddy) is computed in row 1 - column 56. This production of rice (paddy) is transformed into (white) rice and bran. Total rice results from the multiplication of total paddy production times the coefficient 0.61 (in row 56 - column 50). Total rice bran production results from the multiplication of total paddy production times the coefficient 0.10 (in row 57 - column 56). This processing activity has a cost per unit of 5.66 (value added by industrial sector) which appears in row 64 - column 56. The value added in rice production by the industrial sector plus the value added in other crops is calculated by adding through row 64. Total value added by the industrial sector is calculated in row 64 - column 149. This total value added is transferred to the objective function where it is subtracted from the area under the demand function (row O - column 149).

Again, total production of rice (paddy) times the coefficient 0.61 determines total production of (white) rice (row 56 - column 56). Total production of (white) rice plus rice imports (row 56 - column 70) determines total rice availability (row 56 - column 69). In the case that rice stocks at the beginning of the year are larger than at the end of the year, this inventory difference shall also be added in to compute total rice availability. The RHS 56 with value 437 represents this case. If we move this value to the left hand side it will change sign and will be added into total rice availability. This

amount is the quantity supplied to consumers in the domestic market (row 68 - column 69).

The quantities of rice which consumers demand at each price are specified in row 68, between columns 86 and 90. Each one of these quantities implies a different area under the demand function. Reading in the objective function (row 0 of the tableau) we find column 86 which represents the utility (area under the demand curve) generated by the quantity 7500 (row 68 - column 86), the column 87 with the utility generated by the quantity 7750 (row 68 - column 87), and so forth. The function of row 82 is to insure that the model chooses only one of the alternative quantities. The sum of the coefficients of this row cannot be greater than one, and therefore, the model can choose one column or a combination of them. In mathematical jargon, this is the convexity constraint.

Markets of the other crops are specified in a similar way. Notice that the above are relations, where the values of the column activities are unknown values which the model will estimate. The model will choose the value of column variables (also called activities) in such a way that the difference between areas under the demand function and costs is the maximum possible. The maximum possible is the one which takes into account the resource constraints, the financial constraints, and other farming and marketing restrictions.

B. Documentation of DOMINGO

The documentation of DOMINGO is made of the following files: objective function file, crop files, resource files, tableau file, and solution file.

1. Objective Function Files

1.1 Demand Functions. This file contains the information and procedure for estimating the area under the demand function of a given food or crop.

The objective function is integrated by coefficients of total utility of consumption or areas under the demand function (with positive signs) and coefficients of the variable costs (with negative signs). The algebraic sum of these coefficients is equivalent to the sum of the consumer surplus and the producer surplus.

The area under the demand function is estimated for the case of competitive markets and linearized demand functions. In the demonstration model we do not account for cross-price effects.

First Step -- Calculation of the coefficients of the linearized demand function:

For this calculation we need: own-price elasticity of demand (eii), the price in the base year (P), and the quantity consumed in the base year (Q).

The linearized inverse demand function for each food or crop is

$$P = a - b * Q$$

The elasticity is

$$eii = 1 / b * P / Q$$

Therefore

$$b = P / (Q * E)$$

$$a = P + b * Q$$

Second Step -- Measuring the relevant range of the demand function:

In the demonstration model the range was determined through observation of quantities during the last five years. We consider the base year to be the middle segment (i.e. segment number 3) and estimate quantities which are lower and higher than the base year.

Third Step -- Establishing the length of the segments between points on the demand function:

The length (k) depends on the range of Q and the number of segments. In the demonstration model we work with five segments.

Fourth Step -- Calculating the areas under the demand function (DPRODUCT) for each quantity (Q)

$$DPRODUCT\,j = a * Qj - 1/2 * b * Qj$$

In order to estimate the area under the demand of each food or crop we developed a program in LOTUS. This file is named EXC-CONSUM.

The consumed quantities and the retail price of each food or crop were calculated from the official statistics. The price elasticities are based on numerous studies. The *Second Step* in building the model will require a more consistent system of estimators. An alternative methodology for their estimation is offered in the next section.

In the case of (demand) exports we assume that the area under the demand function is equal to export gross value, which is equivalent to assuming a perfectly elastic demand but with a maximum value.

1.2 Prices. This file contains a list of export and import prices as well as input prices and interest rates.

2. Crop Files;

There exists a file for each crop. Each file in turn has a budget generator, coefficients of industrial transformation, value added coefficients, subsidies and taxes, and supply and demand balance sheets.

2.1 Budget Generators. This file contains the information and procedure for estimating the technical coefficients of the production activities, and for estimating variable costs of crop production.

A budget generator is an accounting procedure for specifying a set of feasible technologies to produce a given crop within each farm size, and for estimating the average variable cost per unit of land of each technology. Each technology is represented by: the intensity in the use of fertilizers and other chemical inputs, by the use of irrigation or rainfed, and by the degree of mechanization.

Two technologies can have the same yield with different variable costs, different yields with the same variable costs, or a combination of both. All of this is dependent on the nature of the technology.

The same technology can have different variable costs when adopted by different farm sizes due to differences in capital costs. Differences in capital costs result from different intensities in the use of family labor. That is, based on observations, it is assumed that smaller farms use a larger proportion of family labor than larger farms. As a consequence the requirement of variable capital is expected to be smaller, and therefore, the financial costs are expected to be smaller per unit of land.

The budget generator is written in a spreadsheet program -- Lotus in this case. The name of the file is GENERADO.

The main source of data has been the publication *Costo de Produccion de Cultivos Temporeros* published by the Departamento de Economi Agropecuaria, Secretaria de Agricultura (Department of Agricultural Economics, Secretary of Agriculture). Whenever it is possible, three technologies are identified for each crop: one technology which is considered to be the mode, another with higher yields and another with lower yields. The three technologies so chosen were used at the base year. That is, we want to avoid the specification of technologies used in experimental stations under ideal conditions.

The difference among technologies -- the coefficient values -- are consistent with the concept of a production function. Given the existing information we processed it to fulfill the following conditions:

In relationship to the average technology	Implies
Higher rate of fertilizers, improved seeds and other chemical inputs equal	Higher yields and or more labor use
Same level of above inputs but with irrigation (rather than rainfall) equal	Higher yields and or more labor use
Same level of above inputs and for the same irrigation practice, but with more mechanization	Same yields and less labor use

The differences between technologies for a given crop are not directly affected by farm size. But farm size implies different degrees of access to inputs and capital markets which can determine a different opportunity set for different farmers. For this reason, some technological opportunities are

excluded for small farms in the demonstration model. In a more complete formulation all farms will face the same technological possibilities, and different access to input and capital markets will be specified by means of resource constraints.

Even when facing the same technological possibilities, differences in farm size imply different variable costs due to family labor use. In the demonstration model, the following pattern is assumed:

Use of Family Labor by Farm Size

Farm Size	Percent of Family Labor
8 - 79 Ta	70% (write .7)
80 - more Ta	30% (write .3)

The differences in the relative use of family and hired labor imply different capital requirements to finance hired labor and therefore, different financial costs. This is a major distinction between peasant farming and commercial farming.

2.2 Processing Activities. Before human or animal consumption is possible, many crops have to be processed. This agro-industrial process is represented by means of technical coefficients of transformation: for example, rice is transformed into white rice and rice bran, tobacco leaves are transformed into cigarettes, cocoa is transformed into chocolate, and so forth.

The demonstration model operates with an aggregate and rather simple specification of the agro-industrial process. The users of the model may want to introduce more detailed specification of processing activities according to future research needs, and in particular when investigating specific markets, (e.g. the milk - dairy market, the coffee market, the tobacco market, and so forth).

2.3 Marketing -- Wholesaling and Retailing. Before reaching the consumers, the already processed products are traded by wholesalers and retailers. Between the farm-gate prices and the consumer prices, which are considered in the estimation of areas under the demand function, there exists the processing costs and the trade costs. That is, the processing activities mentioned above imply a value added by the agro-industrial sector. Wholesale and retail activities also imply value added. In DOMINGO values added by these industrial-service activities are considered costs to be subtracted from the demand curve areas together with variable costs of crop production.

DOMINGO estimates value added by means of gross margin or differences between prices at different levels, ((e.g. wholesale prices are subtracted from retail prices, plant prices are subtracted from wholesale prices, farm-gate prices are subtracted from plant prices). In the case that there exists a transformation of a crop into another product, farm-gate prices have to be adjusted by the coefficient of technical transformation before subtracting them from the plant prices.

Prices at the various intermediate levels for each specific market were not always available. For the purpose of running the demonstration model, we used subjective estimates based on expert opinions.

The study of processing and marketing activities and gathering of prices will be a future task for fine-tuning the performance of DOMINGO.

2.4 Government Subsidies and Taxes. This file contains information about subsidies and taxes for each crop.

The economic behavior of farmers on the one side, and consumers on the other side is mediated by the value added by processing and trade activities, as well as by government subsidies and taxes. In the demonstration model, we have only specified rice subsidies via INESPRE. In a next stage, it is necessary to specify other kinds of subsidies as well as export taxes.

In DOMINGO, subsidies are aggregated to areas under the demand function and taxes are subtracted like other costs.

2.5 Balance Sheets. A balance sheet for a given crop is an accounting record of supply and demand flows. In this first stage of DOMINGO we used the balance sheets published in *Planes Operativos of the Secretaria de Agricultura* (Operating Plans).

3. Resource File

This file contains information and references about resource availability: resources for crop production (land, irrigation water, labor force), and financial resources (credit and self-financing).

At the time of building DOMINGO the statistics used to process the 1981 Agricultural Census was incomplete. For this reason and for the purpose of demonstration, we use other sources and expert opinions.

4. Matrix File.

This file contains the matrix of DOMINGO. Appendix B contains the printed tableau of DOMINGO. The name of the file in LOTUS is DOMINGO1.

Appendix A lists the symbols and definitions of the row and column variables used in the DOMINGO matrix. The name of the file in LOTUS is DIR1.

5. Model Solution File

This file has the primal and dual solutions of DOMINGO1. Appendix C lists these solutions. The solutions are obtained using the LP program LINDO.

Second Stage

IMPROVING THE DOMINGO MODEL - CROPS

DOMINGO has been validated for the ability to simulate with small errors the observed conditions in the agricultural sector during 1985. However, DOMINGO is a demonstration model and to use it for policy analysis or project evaluation it will be necessary to fine tune the measurement of some coefficients and to respecify some of the relationships to account for specific research questions. Nevertheless, under all circumstances it is suggested to continue developing the model in the directions explained in the following sections.

A. Improving the Measurement of Coefficients

The coefficients of the demonstration model were estimated with existing secondary information. Reducing errors in measurement will require the generation and use of new information, as well as the econometric estimation of some production and demand parameters. In this respect the statistical processing of the 1981 Agricultural Census is most needed. This data will help to develop a more realistic classification of farms, it will provide more accurate estimates of resource availability, and will provide a more realistic accounting of the crop pattern.

1. New Statistics on Land Tenure Pattern

The UEA is arranging for final processing of the Agricultural Census of 1981. This is the source which will be used to develop a typology of farms and determine actual quantity of land by farm type.

The Census is also necessary to estimate crop patterns by farm type. The model will be validated by its ability to simulate these crop patterns.

2. Estimation of Production Functions

Most of the technical coefficients and the estimation of variable costs of DOMINGO are based on the data from the publication "Costos Temporeros." We did not evaluate the quality of this information. This statistical information will be checked with expert opinions, visiting the field with extensionists, and visiting researchers in experimental stations.

With the present specification of productions activities the model can investigate factor substitution but within a limited range. The study of mechanization programs will require a disaggregation of the coefficient "other expenditures" in the production activities. It will be necessary to distinguish between expenditures for animal power, mechanical power, transportation and others. Mechanization expenditures (or physical units) in turn will be classified into different agricultural tasks, such as land preparation, irrigation, harvesting, etc.

3 . Specification of Crop Rotations

Based on agronomic and economic considerations, many farmers follow a pattern of crop rotation. For this reason, the degree of substitution among crops is smaller than the demonstration model will predict. Therefore,

it is necessary to identify the most relevant rotation patterns and specify them as constraints within the production process:

A1CORN > = .30 * A1TOBACCO

meaning that land allocated to produce corn shall not be smaller than a given proportion of tobacco. Following our LP tableau format the above conditions could be rewritten as

A1CORN - .30 * A1TOBACCO > = 0

4. Specification of Joint Production

In the specification of the demonstration model we have considered a few cases of joint production. However, previous studies and our personal observations indicate more cases which need to be identified and measured. A more complete specification of joint production will require:

a) Identification of relevant cases of joint production
b) Budget generators for joint production
c) Estimation of the relative importance of land allocated, joint production of a given set of crops, and area of a single production of each crop. This information will be introduced in the form of a lower or upper bound constraint, depending on the case.

5. Estimation of Demand Functions

Estimation of new demand price elasticities will require special work in further development of DOMINGO.

First, the own-price elasticities used to estimate areas under the demand curves were obtained from different sources. Some of them have been estimated with cross-section data (consumption surveys at the

household level), others have been estimated with time series, and others were "borrowed" from studies in other countries. Previous studies show that linear programming models are not very sensitive to changes in demand elasticities, nevertheless, this is an area in the model which requires further refinement.

Second, the demonstration model only takes into account own-price elasticities. If the model is to be used for investigating the behavior of specific markets, (say the rice market) it will be necessary to consider cross-price elasticities. One example is cross-price elasticities between different types of rice or between rice and wheat products.

One alternative will be to estimate a system of demand elasticities, both own-price and cross-price elasticities. Following the Fisher method, a new set of elasticities will be estimated:

First Step: Estimation of marginal and average propensity to consume of a given good as a function of total family expenditure.

Second Step: Estimation of income elasticity: marginal propensity to consume divided by average propensity to consume: Ei.

Third Step: Estimation of budget share in consumption of each good: ai.

Fourth Step: Estimation of money flexibility coefficient: w. Work with the following value: $w = -1$.

Fifth Step: Estimation of own-price elasticities of demand: eii

$$eii = -Ei\,[ai - (1 - ai * Ei) / w].$$

Sixth Step: Estimation of cross-price elasticities: eik.

$$eik = -Ei * ak\,(1 + Ek / w)$$

Appendix A

DIRECTORY OF DOMINGO VARIABLES

DOMINGO -- INDICE DE COLUMNAS

	Simbolo	Descripcion de la Actividad
1	A1ARZ1	Area de finca pequena cultivada con arroz con tecnologia 1
2	A1ARZ3	Area de finca pequena cultivada con arroz con tecnologia 3
3	A1ARZ4	Area de finca pequena cultivada con arroz con tecnologia 4
4	A1MAZ1	Area de finca pequena cultivada con maiz con tecnologia 1
5	A1MAZ2	Area de finca pequena cultivada con maiz con tecnologia 2
6	A1MZHAB	Area de finca pequena cultivada con maiz/habichuela roja
7	A1SOR1	Area de finca pequena cultivada con sorgo con tecnologia 1
8	A1SOR2	Area de finca pequena cultivada con sorgo con tecnologia 2
9	A1HAB1	Area de finca pequena cultivada con habichuela con tecnol 1
10	A1HAB2	Area de finca pequena cultivada con habichuela con tecnol 2
11	A1YUC1	Area de finca pequena cultivada con yuca con tecnologia 1
12	A1MAN1	Area de finca pequena cultivada con mani con tecnologia 1
13	A1GUAN1	Area de finca pequena cultivada con guandul con tecnologia 1
14	A1GUABA	Area de finca pequena cultivada con guandul/batata
15	A1TABA1	Area de finca pequena cult. con tabaco amarillo con tecn. 1
16	A1TABA2	Area de finca pequena cult. con tabaco amarillo con tecn. 2
17	A1TABA3	Area de finca pequena cult. con tabaco amarillo con tecn. 3
18	A1TABD1	Area de finca pequena cult. con tabaco Ch. Diaz con tecn. 1
19	A1TABD2	Area de finca pequena cult. con tabaco Ch. Diaz con tecn. 2
20	A1TABD3	Area de finca pequena cult. con tabaco Ch. Diaz con tecn. 3
21	A1TABP1	Area de finca pequena cult. con tabaco P. Cubano con tecn. 1
22	A1TABP2	Area de finca pequena cult. con tabaco P. Cubano con tecn. 2
23	A1TABP3	Area de finca pequena cult. con tabaco P. Cubano con tecn. 3
24	A2AROZ1	Area de finca med/gra cultivada con arroz con tecnologia 1
25	A2ARZ5	Area de finca med/gra cultivada con arroz con tecnologia 5
26	A2ARZ6	Area de finca med/gra cultivada con arroz con tecnologia 6
27	A2MAZ2	Area de finca med/gra cultivada con maiz con tecnologia 2
28	A2MAZ3	Area de finca med/gra cultivada con maiz con tecnologia 3
29	A2MZHAB	Area de finca med/gra cultivada con maiz/habichuela roja
30	A2SOR1	Area de finca med/gra cultivada con sorgo con tecnologia 1
31	A2SOR4	Area de finca med/gra cultivada con sorgo con tecnologia 4
32	A2HAB1	Area de finca med/gra cultivada con habichuela con tecnol 1
33	A2HAB4	Area de finca med/gra cultivada con habichuela con tecnol 4
34	A2TAB1	Area de finca med/gra cultivada con tabaco con tecnol 1
35	A2TAB2	Area de finca med/gra cultivada con tabaco con tecnol 2
36	A2YUC1	Area de finca med/gra cultivada con yuca con tecnol 1
37	A2MAN1	Area de finca med/gra cultivada con mani con tecnol 1
38	A2MAN2	Area de finca med/gra cultivada con mani con tecnol 2
39	A2GUA1	Area de finca med/gra cultivada con guandul con tecnol 1
40	A2GUABA	Area de finca med/gra cultivada con guandul con tecnol 2
41	A1CAFE1	Area cultivada con cafe con tecnologia 1
42	A1CAFE2	Area cultivada con cafe con tecnologia 2
43	A1CAFERE	Area replantada con cafe
44	A1CACAO2	Area cultivada con cacao con tecnologia 2
45	A1CACAO1	Area cultivada con cacao con tecnologia 1
46	A1CACARE	Area replantada con cacao
47	A1PLATA2	Area cultivada con platano con tecnologia 2
48	A2PLATA1	Area cultivada con platano con tecnologia 1
49	A2PLATRE	Area replantada con platanos

50	AGGUINE1	Area del gobierno cultivada con guineo con tecnologia 1
51	AGGUINE2	Area del gobierno cultivada con guineo con tecnologia 2
52	AGGUINRE	Area del gobierno replantada con guineos
53	A2GUINE1	Area privada cultivada con guineo con tecnologia 1
54	A2GUINE2	Area privada cultivada con guineo con tecnologia 2
55	A2GUINRE	Area privada replantada con guineo
56	QARZ	Produccion de arroz en cascara
57	QMAZ	Produccion de maiz
58	QSOR	Produccion de sorgo
59	QHAB	Produccion de habichuela roja
60	QTAB	Produccion de tabaco
61	QYUC	Produccion de yuca
62	QBAT	Produccion de batata
63	QMAN	produccion de mani
64	QGUAN	Produccion de guandul
65	QCAFE	Produccion de cafe (fruto con pulpa)
66	QCACAO	Produccion de cacao
67	QPLATANO	Produccion de platano
68	QGUINEO	Produccion de guineo
69	ARZB	Produccion de arroz pulido
70	AFRE	Produccion de afrecho de arroz
71	GUAN	Produccion de guandul en granos
72	CAFEPERG	Produccion de cafe pergamino (despulpado)
73	CAFEVERD	Produccion de cafe verde (descascarado)
74	CAFETOST	Produccion de cafe tostado
75	CACPROCE	Produccion de cacao procesado
76	IMMAIZ	Importaciones de maiz
77	IMHABR	Importaciones de habichuela roja
78	EXTABA	Exportaciones de tabaco
79	EXYUCA	Exportaciones de yuca
80	EXBATA	Exportaciones de batata
81	EXCAFE	Exportaciones de cafe (verde)
82	EXCACAO	Exportaciones de cacao (procesado)
83	EXPLATAN	Exportaciones de platanos
84	EXGUINEO	Exportaciones de guineo
85	DEAFRE3	Demanda de afrecho de arroz
86	DEARZB1	Demanda de arroz pulido - Segmento 1
87	DEARZB2	Demanda de arroz pulido - Segmento 2
88	DEARZB3	Demanda de arroz pulido - Segmento 3
89	DEARZB4	Demanda de arroz pulido - Segmento 4
90	DEARZB5	Demanda de arroz pulido - Segmento 5
91	DEMAIZ1	Demanda de maiz - Segmento 1
92	DEMAIZ2	Demanda de maiz - Segmento 2
93	DEMAIZ3	Demanda de maiz - Segmento 3
94	DEMAIZ4	Demanda de maiz - Segmento 4
95	DEMAIZ5	Demanda de maiz - Segmento 5
96	DESORG1	Demanda de sorgo - Segmento 1
97	DESORG2	Demanda de sorgo - segmento 2
98	DESORG3	Demanda de sorgo - segmento 3
99	DESORG4	Demanda de sorgo - segmento 4
100	DESORG5	Demanda de sorgo - segmento 5
101	DEHABR1	Demanda de habichuela roja - Segmento 1
102	DEHABR2	Demanda de habichuela roja - Segmento 2

103	DEHABR3	Demanda de habichuela roja - Segmento 3
104	DEHABR4	Demanda ce habichuela roja - Segmento 4
105	DEHABR5	Demanda de habichuela roja - Segmento 5
106	DETABA1	Demanda de tabaco - Segmento 1
107	DETABA2	Demanda de tabaco - Segmento 2
108	DEYUCA1	Demanda de yuca - Segmento 1
109	DEYUCA2	Demanda de yuca - Segmento 2
110	DEYUCA3	Demanda de yuca - Segmento 3
111	DEYUCA4	Demanda de yuca - Segmento 4
112	DEYUCA5	Demanda de yuca - Segmento 5
113	DEBATA1	Demanda de batata - Segmento 1
114	DEBATA2	Demanda de batata - Segmento 2
115	DEBATA3	Demanda de batata - Segmento 3
116	DEBATA4	Demanda de batata - Segmento 4
117	DEBATA5	Demanda de batata - Segmento 5
118	DEACEI1	Demanda de aceite de mani - Segmento 1
119	DEACEI2	Demanda de aceite de mani - Segmento 2
120	DEACEI3	Demanda de aceite de mani - Segmento 3
121	DEACEI4	Demanda de aceite de mani - Segmento 4
122	DEACEI5	Demanda de aceite de mani - Segmento 5
123	DEGUAN1	Demanda de guandul para consumo - Segmento 1
124	DEGUAN2	Demanda de guandul para consumo - Segmento 2
125	DEGUAN3	Demanda de guandul para consumo - Segmento 3
126	DEGUAN4	Demanda de guandul para consumo - Segmento 4
127	DEGUAN5	Demanda de guandul para consumo - Segmento 5
128	DEGUAS3	Demanda de semillas de guandul
129	DEMCAFE1	Demanda de cafe tostado - Segmento 1
130	DEMCAFE2	Demanda de cafe tostado - Segmento 2
131	DEMCAFE3	Demanda de cafe tostado - Segmento 3
132	DEMCAFE4	Demanda de cafe tostado - Segmento 4
133	DEMCAFE5	Demanda de cafe tostado - Segmento 5
134	DEMCACA1	Demanda de cacao procesado - Segmento 1
135	DEMCACA2	Demanda de cacao procesado - Segmento 2
136	DEMCACA3	Demanda de cacao procesado - Segmento 3
137	DEMCACA4	Demanda de cacao procesado - Segmento 4
138	DEMCACA5	Demanda de cacao procesado - Segmento 5
139	DEMPLAT1	Demanda de platanos - Segmento 1
140	DEMPLAT2	Demanda de platanos - Segmento 2
141	DEMPLAT3	Demanda de platanos - Segmento 3
142	DEMPLAT4	Demanda de platanos - Segmento 4
143	DEMPLAT5	Demanda de platanos - Segmento 5
144	DEMGUIN1	Demanda de guineos - Segmento 1
145	DEMGUIN2	Demanda de guineos - Segmento 2
146	DEMGUIN3	Demanda de guineos - Segmento 3
147	DEMGUIN4	Demanda de guineos - Segmento 4
148	DEMGUIN5	Demanda de guineos - Segmento 5
149	COINDUS	Costo (valor agregado) de industrialisacion
150	COMAYOR	Costo (valor agregado) de servicios mayoristas
151	CODETAL	Costo (valor agregado) de servicios detallistas
152	COGOBIE	Susbsidios recibidos del (o impuestos pagados al) gobierno
153	CO1RIEG	Cantidad demandada por fincas pequenas de agua de riego
154	CO1QUIM	Cantidad demandada por fincas pequenas de quimicos
155	CO1OTRO	Cantidad demandada por fincas pequenas de fza. mec. y animal

156	CO1TRAB	Cantidad demandada por fincas pequenas de fuerza de trabajo
157	FIN1ARRZ	Financiamiento en finca pequena para arroz
158	FIN1MAIZ	Financiamiento en finca pequena para maiz
159	FIN1SORG	Financiamiento en finca pequena para sorogo
160	FIN1HABI	Financiamiento en finca pequena para habichuela roja
161	FIN1TABA	Financiamiento en finca pequena para tabaco
162	FIN1YUCA	Financiamiento en finca pequena para yuca
163	FIN1OTRO	Financiamiento en finca pequena para otros cultivos
164	CO2RIEG	Cantidad demandada por finca med/gra de agua de riego
165	CO2QUIM	Cantidad demandada por finca med/gra de quimicos
166	CO2OTRO	Cantidad demandada por finca med/gra de fza. mec. y animal
167	CO2TRAB	Cantidad demandada por finca med/gra de fuerza de trabajo
168	FIN2ARRZ	Financiamiento en finca med/gra para arroz
169	FIN2MAIZ	Financiamiento en finca med/gra para maiz
170	FIN2SORG	Financiamiento en finca med/gra para sorgo
171	FIN2HABI	Financiamiento en finca med/gra para habichuela roja
172	FIN2TABA	Financiamiento en finca med/gra para tabaco
173	FIN2YUCA	Financiamiento en finca med/gra para yuca
174	FIN2OTRO	Financiamiento en finca med/gra para otros cultivos
175	FIN1CAFE	Financiamiento para cafe
176	FIN1CACA	Financiamiento para cacao
177	FIN2PLAT	Financiamiento para platano
178	FINGGUIN	Financiamiento de fincas de gobierno para guineo
179	FIN2GUIN	Financiamiento de fincas privadas para guineo

DOMINGO - INDICE DE FILAS

	Simbolo C	Descripccion de la Restriccion
1	PRDARRZ	Produccion de arroz en cascara
2	PRDMAIZ	Produccion de maiz
3	PRDSORG	Produccion de sorgo
4	PRDHABI	Produccion de habichueala roja
5	PRDTABA	Produccion de tabaco
6	PRDYUCA	Produccion de yuca
7	PRDBATA	Produccion de batata
8	PRDMANI	Produccion de mani
9	PRDGUAN	Produccion de guandul
10	PRDCAFE	Prcduccion de cafe
11	PRDCACAO	Produccion de cacao
12	PRDPLATA	Produccion de platano
13	PRDGUINE	Produccion de guineo
14	TIERRA1	Tierra de fincas pequenas
15	RIEGO1	Riego usado en fincas pequenas
16	QUIMIC1	Fertilisantes y otros quimicos usados en fincas pequenas
17	OTROS1	Maquinarias, animales y otros fact. usados en fin. pequenas
18	TRABAJ1	Mano de obra usada en fincas pequenas
19	CAP1ARZ	Capital requerido en fin. peq. para arroz
20	CAP1MAZ	Capital requerido en fin. peq. para maiz
21	CAP1SOR	Capital requerido en fin. peq. para sorgo
22	CAP1HAB	Capital requerido en fin. peq. para habichuela roja
23	CAP1TAB	Capital requerido en fin. peq. para tabaco
24	CAP1YUC	Capital requerido en fin. peq. para yuca
25	CAP1OTR	Capital requerido en fin. peq. para otros cultivos
26	TIERRA2	Tierra de fincas medianas y grandes
27	RIEGO2	Riego usado en fincas medians y grandes
28	QUIMIC2	Fertilisantes y otros quimicos usados en fin. med. y grande
29	OTROS2	Maquinarias, animales y otros fact. usados en f. med. y grande
30	TRABAJ2	Mano de obra usada en fincas medians y grandes
31	CAP2ARZ	Capital requerido en fin. med. y gr. para arroz
32	CAP2MAZ	Capital requerido en fin. med. y gr. para maiz
33	CAP2SOR	Capital requerido en fin. med. y gr. para sorgo
34	CAP2HAB	Capital requerido en fin. med. y gr. para habichuela roja
35	CAP2TAB	Capital requerido en fin. med. y gr. para tabaco
36	CAP2YUC	Capital requerido en fin. med. y gr. para yuca
37	CAP2OTR	Capital requerido en fin. med. y gr. para otros cultivos
38	TIERRCAF	Tierra en cafe
39	CAPCAFE	Capital requerido para cafe
40	PLANTCAF	Nuevas plantaciones de cafe
41	TIERRCAC	Tierra en cacao
42	CAPCACAO	Capital requerido para cacao
43	PLANTCAC	Nuevas plantaciones de cacao
44	TIERPLAT	Tierra en platano
45	RIEGOPLA	Riego usado para platanos
46	CAPPLATA	Capital requrido para platano
47	PLANTPLA	Nuevas plantaciones de platano
48	TIERGUIG	Tierra en guineo del gobierno
49	TIERGUI2	Tierra en guineo privada

50	RIEGGUIG	Riego usado en guineo por fincas del gobierno
51	RIEGGUI2	Riego usado en guineo por fincas privadas
52	CAPGUING	Capital requerido en fin. gob. para guineo
53	CAPGUIN2	Capital requerido en fin. priv. para guineo
54	PLANGUIG	Nuevas plantaciones de guineo en fin. gob.
55	PLANGUI2	Nuevas plantaciones de guineo en fin. priv.
56	TRANARRZ	Transformacion en arroz blanco
57	TRNAFREC	Transformacion en afrecho
58	TRNGUA/B	Transformacion en guandual baina
59	TRNGUA-S	Transformacion en guandul semilla
60	TRNPERGA	Transformacion en cafe pergamino
61	TRNVERDE	Transformacion en cafe verde
62	TRNTOSTA	Transformacion en cafe tostado
63	TRANCACA	Transformacion en cacao procesado
64	INDUSTRI	Sector Industria - Valor agregado
65	MAYORIST	Sector Mayorista - Valor agregado
66	DETALLIS	Sector Detallista - Valor agregado
67	GOBIERNO	Sector Gobierno - Subsidios (impuestos)
68	MERARROZ	Mercadeo del arroz
69	MERMAIZ	Mercadeo del maiz
70	MERSORGO	Mercadeo del sorgo
71	MERHABI	Mercadeo del habicuela roja
72	MERTABAC	Mercadeo del tabaco
73	MERYUCA	Mercadeo de la yuca
74	MERBATAT	Mercadeo de la batata
75	MERACEIT	Mercadeo del aceite
76	MERGUAN	Mercadeo del guandul
77	MERCAFE	Mercadeo del cafe
78	MERCACAO	Mercadeo del cacao
79	MERPLATA	Mercadeo del platano
80	MERCGUIN	Mercadeo del guineo
81	CONVAFRE	Convexidad afrecho
82	CONVARRZ	Convexidad arroz
83	CONVMAIZ	Convexida maiz
84	CONVSORG	Convexida sorgo
85	CONVHABI	Convexida habichuela
86	CONVTABA	Convexidad tabaco
87	CONVYUCA	Convexidad yuca
88	CONVBATA	Convexidad batata
89	CONVACEI	Convexidad aceite de mani
90	CONVGUAB	Convexidad guandul baina
91	CONVGUAS	Convexidad guandul semilla
92	CONVCAFE	Convexidad cafe
93	CONVCACA	Convexidad cacao
94	CONVPLAT	Convexidad platana
95	CONVGUIN	Convexidad guineo
96	AGUARIE1	Agua riego disponible para fincas pequenas
97	AGUARIE2	Agua de riego disponible para fin. medianas y grandes
98	IMARZ/MX	Importaciones de arroz - maximo
99	IMMAZ/MX	Importaciones de maiz - maximo
100	IMHAB/MX	Importaciones de habichuela roja - maximo
101	EXTAB/MX	Exportaciones de tabaco - maximo
102	EXYUC/MX	Exportaciones de yuca - maximo

103 EXBAT/MX Exportaciones de batata - maximo
104 EXCAF/MX Exportaciones de cafe - maximo
105 EXCAC/MX Exportaciones de cacao - maximo
106 EXPLA/MX Exportaciones de platano - maximo
107 EXGUI/MX Exportaciones de guineo - maximo
108 CP1ARZ/M Capital disponible en fin. pequenas para arroz
109 CP1MAZ/M Capital disponible en fin. pequenas para maiz
110 CP1SOR/M Capital disponible en fin. pequenas para sorgo
111 CP1HAB/M Capital disponible en fin. pequenas para habichuela roja
112 CP1TAB/M Capital disponible en fin. pequenas para tabaco
113 CP1YUC/M Capital disponible en fin. pequenas para yuca
114 CP1OTR/M Capital disponible en fin. pequenas para otros cultivos
115 CP2ARZ/M Capital disp. en fincas peq. y med. para arroz
116 CP2MAZ/M Capital disp. en fincas peq. y med. para maiz
117 CP2SOR/M Capital disp. en fincas peq. y med. para sorgo
118 CP2HAB/M Capital disp. en fincas peq. y med. para habichuela roja
119 CP2TAB/M Capital disp. en fincas peq. y med. para tabaco
120 CP2YUC/M Capital disp. en fincas peq. y med. para yuca
121 CP2OTR/M Capital disp. en fincas peq. y med. para otros cultivos
122 CP1CAF/M Capital disponible para cafe
123 CP1CAC/M Capital disponible para cacao
124 CP1PLA/M Capital disponible para platanos
125 CPGGUI/M Capital disponible para guineos en fincas del gobierno
126 CP2GUI/M Capital disponible para guineos en fincas privadas
127 PROPTABA Proporcion de variedades de tabaco cultivadas
128 ARZSC/RG Proporcion entre arroz con riego y sin riego

Appendix B

MATRIX OF DOMINGO MODEL

LP OPTIMUM FOUND AT STEP 154

OBJECTIVE FUNCTION VALUE

1) 215922.100

VARIABLE	VALUE	REDUCED COST
A1ARZ1	165.813700	.000000
A1ARZ3	658.137100	.000000
A1ARZ4	.000000	.064186
A1MAZ1	21.424470	.000000
A1MAZ2	.000000	.051238
A1MZHAB	436.306200	.000000
A1SOR1	.000000	.034577
A1SOR2	139.005900	.000000
A1HAB1	480.538200	.000000
A1HAB2	.000000	.075181
A1YUC1	199.778000	.000000
A1MAN1	126.163100	.000000
A1GUAN1	193.493100	.000000
A1GUABA	80.444340	.000000
A1TABA1	.000000	.036583
A1TABA2	.000000	.020566
A1TABA3	147.483100	.000000
A1TABD1	.000000	.013646
A1TABD2	.000000	.015175
A1TABD3	36.412720	.000000
A1TABP1	.000000	.018422
A1TABP2	.000000	.009279
A1TABP3	.000000	.007313
A2ARQZ1	1000.000000	.000000
A2ARZ5	.000000	.060856
A2ARZ6	.000000	.042542
A2MAZ2	478.278200	.000000
A2MAZ3	.000000	.051391
A2MZHAB	.000000	.023075
A2SOR1	208.105100	.000000
A2SOR4	.000000	.035768
A2HAB1	143.930900	.000000
A2HAB4	.000000	007083
A2TAB1	.000000	.006201
A2TAB2	12.748330	.000000
A2YUC1	104.625500	.000000
A2MAN1	151.109600	.000000
A2MAN2	175.000000	.000000
A2GUA1	.000000	.019271
A2GUABA	35.464750	.000000
A1CAFE1	372.473100	.000000
A1CAFE2	.000000	.000000
A1CAFERE	.000000	.774600
A1CACAO2	247.365500	.000000
A1CACAO1	1346.456000	.000000
A1CACARE	92.059370	.000000
A1PLATA2	58.639190	.000000
A2PLATA1	351.546400	.000000
A2PLATRE	49.814430	.000000
AGGUINE1	57.875000	.000000
AGGUINE2	10.000000	.000000
AGGUINRE	7.787500	.000000
A2GUINE1	58.125000	.000000
A2GUINE2	10.000000	.000000
A2GUINRE	7.812500	.000000
QARZ	11358.240000	.000000
QMAZ	2177.762000	.000000
QSOR	1353.733000	.000000
QHAB	827.777800	.000000
QTAB	510.000000	.000000
QYUC	2556.990000	.000000
QBAT	1020.000000	.000000
QMAN	550.000000	.000000
QGUAN	437.088900	.000000
QCAFE	931.182800	.000000
QCACAO	68.700180	.000000
QPLATANO	679.781400	.000000
QGUINEO	4000.000000	.000000
ARZB	7845.526000	.000000
AFRE	480.000000	.000000
GUAN	8.708892	.000000
CAFEPERG	931.182800	.000000
CAFEVERD	866.000000	.000000
CAFETOST	244.000000	.000000

IMMAIZ	4000.000000	.000000
IMHABR	205.000000	.000000
EXTABA	320.000000	.000000
EXYUCA	140.000000	.000000
EXBATA	220.000000	.000000
EXCAFE	622.000000	.000000
EXCACAO	68.700190	.000000
EXPLATAN	7.000000	.000000
EXGUINEO	2000.000000	.000000
DEAFRE	.631013	.000000
DEARZB1	.308947	.000000
DEARZB2	.000000	.000000
DEARZB3	.691053	.000000
DEARZB4	.000000	2.000000
DEARZB5	.000000	4.000000
DEMAIZ1	.000000	2.999992
DEMAIZ2	.000000	.999992
DEMAIZ3	.672238	.000000
DEMAIZ4	.000000	-.000008
DEMAIZ5	.327762	.000000
DESORG1	.000000	2.999999
DESORG2	.000000	.999999
DESORG3	.190667	.000000
DESORG4	.000000	-.000002
DESORG5	.809333	.000000
DEHABR1	.000000	4.721390
DEHABR2	.000000	2.541046
DEHABR3	.000000	1.360703
DEHABR4	.000000	.180351
DEHABR5	1.000000	.000000
DETABA1	.000000	2.168871
DETABA2	1.000000	.000000
DEYUCA1	.000000	4.000000
DEYUCA2	.000000	1.000000
DEYUCA3	.332040	.000000
DEYUCA4	.667960	.000000
DEYUCA5	.000000	.999996
DEBATA1	.000000	.832376
DEBATA2	.000000	.888250
DEBATA3	.000000	.944125
DEBATA4	1.000000	.000000
DEBATA5	.000000	.055875
DEACEI1	1.000000	.000000
DEACEI2	.000000	3.557658
DEACEI3	.000000	7.115316
DEACEI4	.000000	13.672970
DEACEI5	.000000	22.230630
DEGUAN1	.042798	.000000
DEGUAN2	.000000	5.714286
DEGUAN3	.000000	13.428570
DEGUAN4	.000000	23.142860
DEGUAN5	.000000	34.857140
DEGUAS3	1.000000	.000000
DEMCAFE1	.000000	.000000
DEMCAFE2	.000000	.000000
DEMCAFE3	.000000	.000000
DEMCAFE4	.000000	.000000
DEMCAFE5	1.000000	.000000
DEMCACA1	.000000	36790.000000
DEMCACA2	.000000	36790.000000
DEMCACA3	.000000	36790.000000
DEMCACA4	.000000	36790.000000
DEMCACA5	.000000	36790.000000
DEMPLAT1	.697183	.000000
DEMPLAT2	.000000	-.000013
DEMPLAT3	.000000	-.000013
DEMPLAT4	.000000	-.000013
DEMPLAT5	.000000	-.000013
DEMGUIN1	.000000	.000000
DEMGUIN2	.000000	.000000
DEMGUIN3	.000000	.000000
DEMGUIN4	.000000	.000000
DEMGUIN5	1.000000	.000000
COINDUS	165219.200000	.000000
COMAYOR	171258.500000	.000000
CODETAL	92332.280000	.000000
COGOBIE	171409.800000	.000000
CO1RIEG	842.033000	.000000
CO1QUIM	50900.630000	.000000
CO1OTRO	91286.600000	.000000
CO1TRAB	22712.510000	.000000
FIN1ARRZ	72000.000000	.000000
FIN1MAIZ	5400.000000	.000000
FIN1SORG	3300.000000	.000000
FIN1HABI	10000.000000	.000000
FIN1TABA	10300.000000	.000000
FIN1YUCA	3600.000000	.000000

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CO2RIEG	1175.000000	.000000
CO2QUIM	22583.530000	.000000
CO2OTRO	87217.930000	.000000
CO2TRAB	6144.835000	.000000
FIN2ARRZ	100000.000000	.000000
FIN2MAIZ	12000.000000	.000000
FIN2SORG	5700.000000	.000000
FIN2HABI	9000.000000	.000000
FIN2TABA	1083.607000	.000000
FIN2YUCA	3800.000000	.000000
FIN2OTRO	16650.000000	.000000
FIN1CAFE	20858.490000	.000000
FIN1CACA	40270.000000	.000000
FIN2PLAT	12500.000000	.000000
FINGGUIN	1096.800000	.000000
FIN2GUIN	1100.000000	.000000

ROW	SLACK OR SURPLUS	DUAL PRICES
PRDARRZ)	.000000	.036997
PRDMAIZ)	.000000	.026020
PRDSORG)	.000000	.020000
PRDHABI)	.000000	.101754
PRDTABA)	.000000	.057689
PRDYUCA)	.000000	.023230
PRDBATA)	.000000	.010747
PRDMANI)	.000000	.065461
PRDGUAN)	.000000	.030469
PRDCAFE)	.000000	.045680
PRDCACAO)	.000000	193.955000
PRDPLATA)	.000000	.466321
PRDGUINE)	.000000	.002243
TIERRA1)	.000000	.002932
RIEGO1)	.000000	.000300
QUIMIC1)	.000000	.001000
OTROS1)	.000000	.001000
TRABAJ1)	.000000	.008000
CAP1ARZ)	.000000	.001364
CAP1MAZ)	.000000	.004162
CAP1SOR)	.000000	.001893
CAP1HAB)	.000000	.002990
CAP1TAB)	.000000	.000476
CAP1YUC)	.000000	.008395
CAP1OTR)	.000000	.001074
TIERRA2)	440.737500	.000000
RIEGO2)	.000000	.000483
QUIMIC2)	.000000	.001000
OTROS2)	.000000	.001000
TRABAJ2)	.000000	.008000
CAP2ARZ)	.000000	.001260
CAP2MAZ)	.000000	.001324
CAP2SOR)	.000000	.002207
CAP2HAB)	.000000	.000977
CAP2TAB)	.000000	.000200
CAP2YUC)	.000000	.003787
CAP2OTR)	.000000	.000751
TIERRCAF)	1877.527000	.000000
CAPCAFE)	.000000	.000200
PLANTCAF)	.000000	-.329600
TIERRCAC)	.000000	4.474718
CAPCACAO)	.000000	.121213
PLANTCAC)	.000000	26.201350
TIERPLAT)	.000000	.156343
RIEGOPLA)	116.546400	.000000
CAPPLATA)	.000000	.017493
PLANTPLA)	.000000	1.267763
TIERGUIG)	4.737500	.000000
TIERGUI2)	4.062500	.000000
RIEGGUIG)	.000000	.094692
RIEGGUI2)	.000000	.094692
CAPGUING)	.000000	.000200
CAPGUIN2)	.000000	.000200
PLANGUIG)	.000000	.092600
PLANGUI2)	.000000	.092600
TRANARRZ)	.000000	.046700
TRNAFREC)	.000000	.005000
TRNGUA)	.000000	.304686
TRNPERGA)	.000000	.045680
TRNVERDE)	.000000	.096430
TRNTOSTA)	.000000	.096430
TRANCACA)	.000000	193.955000
INDUSTRI)	.000000	.001000
MAYORIST)	.000000	.001000
DETALLIS)	.000000	.001000
GOBIERNO)	.000000	.001000
MERARROZ)	.000000	.052000
MERMAIZ)	.000000	.024000

MERHABI)	.000000	.156393
MERTABAC)	.000000	.111689
MERYUCA)	.000000	.040000
MERBATAT)	.000000	.021117
MERACEIT)	.000000	.351153
MERGUAN)	.000000	.354286
MERCAFE)	.000000	.104430
MERCACAO)	.000000	194.000000
MERPLATA)	.000000	.466321
MERCGUIN)	.000000	.002243
CONVAFRE)	.368987	.000000
CONVARRZ)	.000000	359.000000
CONVMAIZ)	.000000	58.600000
CONVSORG)	.000000	12.400000
CONVHABI)	.000000	118.426600
CONVTABA)	.000000	8.779145
CONVYUCA)	.000000	49.000000
CONVBATA)	.000000	10.106010
CONVACEI)	.000000	8.746304
CONVGUAB)	.957202	.000000
CONVGUAS)	.000000	51.336000
CONVCAFE)	.000000	9.519052
CONVCACA)	1.000000	.000000
CONVPLAT)	.302817	.000000
CONVGUIN)	.000000	5.514000
AGUARIE1)	943.000000	.000000
AGUARIE2)	.000000	.000183
IMARZ)	.000000	.006900
IMMAZ)	.000000	.003920
IMHAB)	.000000	.114683
EXTAB)	.000000	.010311
EXYUC)	.000000	-.003000
EXBAT)	.000000	-.001117
EXCAF)	.000000	311.725600
EXCAC)	618.239800	.000000
EXPLA)	.000000	199.533700
EXGUI)	.000000	2.997757
CP1ARZ)	.000000	.001164
CP1MAZ)	.000000	.003962
CP1SOR)	.000000	.001693
CP1HAB)	.000000	.002790
CP1TAB)	.000000	.000276
CP1YUC)	.000000	.008195
CP1OTR)	.000000	.000874
CP2ARZ)	.000000	.001060
CP2MAZ)	.000000	.001124
CP2SOR)	.000000	.002007
CP2HAB)	.000000	.000777
CP2TAB)	16416.390000	.000000
CP2YUC)	.000000	.003587
CP2OTR)	.000000	.000551
CP1CAF)	4741.505000	.000000
CP1CAC)	.000000	.121013
CP1PLA)	.000000	.017293
CPGGUI)	3.199394	.000000
CP2GUI)	.000000	.000000
PROPTABA)	.000000	.006807
ARZSC)	.000000	-.077361

NO. ITERATIONS= 154

RANGES IN WHICH THE BASIS IS UNCHANGED:

OBJ COEFFICIENT RANGES

VARIABLE	CURRENT COEF	ALLOWABLE INCREASE	ALLOWABLE DECREASE
A1ARZ1	.000000	.083980	1.073997
A1ARZ3	.000000	1.255322	.047257
A1ARZ4	.000000	.064186	INFINITY
A1MAZ1	.000000	.000830	.010354
A1MAZ2	.000000	.051238	INFINITY
A1MZHAB	.000000	.016199	.001299
A1SOR1	.000000	.034577	INFINITY
A1SOR2	.000000	INFINITY	.027316
A1HAB1	.000000	INFINITY	.035079
A1HAB2	.000000	.075181	INFINITY
A1YUC1	.000000	INFINITY	.147676
A1MAN1	.000000	.002701	.001803
A1GUAN1	.000000	.002625	.003632
A1GUABA	.000000	.004395	.008619
A1TABA1	.000000	.036589	INFINITY
A1TABA2	.000000	.020566	INFINITY
A1TABA3	.000000	.058887	.025366
A1TABD1	.000000	.013646	INFINITY
A1TABD2	.000000	.015175	INFINITY
A1TABD3	.000000	.140104	.006985

A1TABP2	.000000	.009279	INFINITY
A1TABP3	.000000	.007313	INFINITY
A2AROZ1	.000000	INFINITY	.029750
A2ARZ5	.000000	.060856	INFINITY
A2ARZ6	.000000	.042542	INFINITY
A2MAZ2	.000000	INFINITY	.017544
A2MAZ3	.000000	.051391	INFINITY
A2MZHAB	.000000	.023075	INFINITY
A2SOR1	.000000	INFINITY	.022291
A2SOR4	.000000	.035768	INFINITY
A2HAB1	.000000	INFINITY	.005429
A2HAB4	.000000	.007083	INFINITY
A2TAB1	.000000	.006201	INFINITY
A2TAB2	.000000	.013784	.007300
A2YUC1	.000000	INFINITY	.130268
A2MAN1	.000000	.000133	.002701
A2MAN2	.000000	.098935	.000183
A2GUA1	.000000	.019271	INFINITY
A2GUABA	.000000	.004593	.004395
A1CAFE1	.000000	INFINITY	.064550
A1CAFE2	.000000	.007746	INFINITY
A1CAFERE	.000000	.774600	INFINITY
A1CACAO2	.000000	5.688379	2.835982
A1CACAO1	.000000	2.508701	2.544170
A1CACARE	.000000	INFINITY	65.226180
A1PLATA2	.000000	.141467	.381242
A2PLATA1	.000000	.335493	.072216
A2PLATRE	.000000	2.614700	2.795776
AGGUINE1	.000000	.000000	.055140
AGGUINE2	.000000	INFINITY	.094692
AGGUINRE	.000000	.000000	.551400
A2GUINE1	.000000	.034047	.000000
A2GUINE2	.000000	INFINITY	.094692
A2GUINRE	.000000	1.212058	.000000
QARZ	.000000	INFINITY	.016604
QMAZ	.000000	.001022	.011754
QSOR	.000000	INFINITY	.010308
QHAB	.000000	INFINITY	.003246
QTAB	.000000	.021683	.046206
QYUC	.000000	INFINITY	.015508
QBAT	.000000	.001117	.005549
QMAN	.000000	.028461	.015902
QGUAN	.000000	.001641	.002270
QCAFE	.000000	INFINITY	.036282
QCACAO	.000000	INFINITY	191.841800
QPLATANO	.000000	INFINITY	.418006
QGUINEO	.000000	.002243	.002757
ARZB	.000000	INFINITY	.027219
AFRE	-.060500	INFINITY	INFINITY
GUAN	.000000	.016408	.022702
CAFEPERG	.000000	INFINITY	.036282
CAFEVERD	.000000	INFINITY	.039013
CAFETOST	.000000	INFINITY	.039013
CACPROCE	.000000	INFINITY	191.841800
IMMAIZ	-.017700	INFINITY	INFINITY
IMHABA	-.040000	INFINITY	INFINITY
EXTABA	.122000	INFINITY	INFINITY
EXYUCA	.038000	INFINITY	INFINITY
EXBATA	.020000	INFINITY	INFINITY
EXCAFE	312.000000	INFINITY	311.725600
EXCACAO	194.000000	INFINITY	191.841800
EXPLATAN	200.000000	INFINITY	199.533700
EXGUINEO	3.000000	INFINITY	2.997757
DEAFRE	9.000000	INFINITY	591.292700
DEARZB1	749.000000	4.000000	.000000
DEARZB2	762.000000	.000000	INFINITY
DEARZB3	775.000000	23.933330	.000000
DEARZB4	786.000000	2.000000	INFINITY
DEARZB5	797.000000	4.000000	INFINITY

Appendix C

LP SOLUTION OF DOMINGO

Filas:	PROBLEM	Columnas: MAXIMIZE	RS	1 A1ARZ1	2 A1ARZ3	3 A1ARZ4	4 A1MAZ1	5 A1MAZ2	6 A1MZHAB	7 A1SOR1	8 A1SOR2	9 A1HAB1	10 A1HAB2	11 A1YUC1	12 A1MAN1
0	C			0	0	0	0	0	0	0	0	0	0	0	0
1	PRDARRZ	E	0	-3.5	-6.5	-7									
2	PRDMAIZ	E	0				-2.25	-2.4	-2.25						
3	PROSORG	E	0							-3	-3.9				
4	PRDHABI	E	0						-0.4			-1	-1.2		
5	PRDTABA	E	0												
6	PROYUCA	E	0											-8.4	
7	PRDBATA	E	0												
8	PRDMANI	E	0												-1.1
9	PRDGUAN	E	0												
10	PRDCAFE	E	0												
11	PRDCACAO	E	0												
12	PRDPLATA	E	0												
13	PRDGUINE	E	0												
14	TIERRA1	L	2685	1	1	1	1	1	1	1	1	1	1	1	1
15	RIEGO1	E	0		1	1									
16	QUIMIC1	E	0	13.62	19.22	24.86					8.43		9.56		
17	OTROS1	E	0	61.26	63.52	93.22	0.81	15.46	14.85	28.03	12.57	14.04	28	8.2	17.79
18	TRABAJ1	E	0	3	3	2.95	2.86	1.72	3.94	0.84	1.14	2.82	2.93	4.09	3.04
19	CAP1ARZ	E	0	77	90	125									
20	CAP1MAZ	E	0				7.67	19.59	12						
21	CAP1SOR	E	0							30.05	23.74				
22	CAP1HAB	E	0									20.81	44.6		
23	CAP1TAB	E	0												
24	CAP1YUC	E	0											18.02	
25	CAP1OTR	E	0												25.1
26	TIERRA2	L	2750												
27	RIEGO2	E	0												
28	QUIMIC2	E	0												
29	OTROS2	E	0												
30	TRABAJ2	E	0												
31	CAP2ARZ	E	0												
32	CAP2MAZ	E	0												
33	CAP2SOR	E	0												
34	CAP2HAB	E	0												
35	CAP2TAB	E	0												
36	CAP2YUC	E	0												
37	CAP2OTR	E	0												
38	TIERRCAF	L	2250												
39	CAPCAFE	L	0												
40	PLANTCAF	E	0												
41	TIERRCAC	L	1870												
42	CAPCACAO	E	0												
43	PLANTCAC	E	0												
44	TIERPLAT	L	460												
45	RIEGOPLA	L	225												
46	CAPPLATA	E	0												
47	PLANTPLA	E	0												
48	TIERGUIG	L	80												
49	TIERGUI2	L	90												
50	RIEGGUIG	L	10												
51	RIEGGUI2	L	10												
52	CAPGUING	E	0												
53	CAPGUIN2	E	0												
54	PLANGUIG	E	0												
55	PLANGUI2	E	0												
56	TRANARRZ	L	437												
57	TRNAFREC	E	0												
58	TRNGUA/B	E	0												
59	TRNGUA-S	E	0												
60	TRNPERGA	E	0												

Filas:	PROBLEM	13 A1GUAN1	14 A1GUABA	15 A1TABA1	16 A1TABA2	17 A1TABA3	18 A1TABD1	19 A1TABD2	20 A1TABD3	21 A1TABP1	22 A1TABP2	23 A1TABP3	24 A2AROZ1	25 A2AR25	26 A2AR26
0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	PRDARRZ												-6.5	-7	-8
2	PRDMAIZ														
3	PRDSORG														
4	PRDHABI														
5	PRDTABA			-1.6	-2.15	-2.8	-1.25	-1.55	-2	-1.4	-1.9	-2.4			
6	PRDYUCA														
7	PRDBATA		-8.8												
8	PRDMANI														
9	PRDGUAN	-1.6	-1.1												
10	PRDCAFE														
11	PRDCACAO														
12	PRDPLATA														
13	PRDGUINE														
14	TIERRA1	1	1	1	1	1	1	1	1	1	1	1			
15	RIEGO1					1			1			1			
16	QUIMIC1				9.8	15.94		9.7	15.4		8.89	17.5			
17	OTROS1	2	17	7.14	7.14	12.39	7.14	12.14	12.39	7.14	12.14	12.39			
18	TRABAJ1	4	6	11.5	12	12	9.75	9.85	10	11.25	11.5	13			
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB			42	46	57	38	45	52	41	49	61			
24	CAP1YUC														
25	CAP1OTR	11	56												
26	TIERRA2														
27	RIEGO2												1	1	1
28	QUIMIC2												1	1	1
29	OTROS2												19.22	24.86	30.46
30	TRABAJ2												63	93	96
31	CAP2ARZ												3	2.95	2.95
32	CAP2MAZ												100	135	143
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ														
57	TRNAFREC														
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGA														

Filas:	PROBLEM	27 A2MAZ2	28 A2MAZ3	29 A2MZHAB	30 A2SOR1	31 A2SOR4	32 A2HAB1	33 A2HAB4	34 A2TAB1	35 A2TAB2	36 A2YUC1	37 A2MAN1	38 A2MAN2	39 A2GUA1	40 A2GUABA
0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	PRDARRZ														
2	PRDMAIZ	-2.4	-4.05	-2.25											
3	PRDSORG				-3.9	-4									
4	PRDHABI			-0.4			-1.2	-1.5							
5	PROTRGA								-1.55	-1.9					
6	PRDYUCA										-8.4				
7	PRDBATA														-8.8
8	PRDMANI											-1.1	-1.4		
9	PRDGUAN													-1.1	-1.1
10	PRDCAFE														
11	PRDCACAO														
12	PRDPLATA														
13	PRDGUINE														
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1														
17	OTROS1														
18	TRABAJ1														
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	RIEGO2		1					1					1		
28	QUIMIC2		16				9.56	20.66	9.7	8.89			7.67		15
29	OTROS2	15.46	31.83	14.85	8.43	10.85	28	37.65	12.14	12.14	27.2	21.97	23.52	2	17
30	TRABAJ2	1.72	2.59	3.94	1.14	0.99	2.93	2.65	9.85	11.5	3.8	2.72	2.83	4	6
31	CAP2ARZ														
32	CAP2MAZ	25.09	66.25	33											
33	CAP2SOR				27.39	43.95									
34	CAP2HAB			33			62.53	81.58							
35	CAP2TAB								77	85					
36	CAP2YUC										36.32				
37	CAP2OTR											37.63	49.68	25	64
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ														
57	TRNAFREC														
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGA														

Filas:	PROBLEM	41 A1CAFE1	42 A1CAFE2	43 A1CAFERE	44 A1CACAO2	45 A1CACAO1	46 A1CACARE	47 A1PLATA2	48 A2PLATA1	49 A2PLATRE	50 AGGUINE1	51 AGGUINE2	52 AGGUINRE	53 A2GUINE1	54 A2GUINE2
0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	PRDARRZ														
2	PRDMAIZ														
3	PRJSORG														
4	PRDHABI														
5	PRDTABA														
6	PRDYUCA														
7	PRDBATA														
8	PRDMANI														
9	PRDGUAN														
10	PRDCAFE	-2.5	-0.3												
11	PRDCACAO				-0.06	-0.04									
12	PRDPLATA							-2.6	-1.5						
13	PRDGUINE										-20	-84		-20	-84
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1	27		113	20	5	58	18	6	28		2	15		2
17	OTROS1	20		81	3.55	3	17	4	3	14	2	4	12	2	4
18	TRABAJ1	7	2	25	4.25	3.25	12	6.55	5	6.85	4	8	7	4	8
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF	1	1												
39	CAPCAFE	56	5	255											
40	PLANTCAF	A85	0.01	-1											
41	TIERRCAC				1	1	3								
42	CAPCACAO				37	16	104								
43	PLANTCAC				0.1	0.05	-1								
44	TIERPLAT							1	1	1					
45	RIEGOPLA							1		1					
46	CAPPLATA							38	21	58					
47	PLANTPLA							0.25	0.1	-1					
48	TIERGUIG										1	1	1		
49	TIERGUI2													1	1
50	RIEGGUIG											1			
51	RIEGGUI2														1
52	CAPGUING										8	26	48		
53	CAPGUIN2													8	26
54	PLANGUIG										0.1	0.2	-1		
55	PLANGUI2													0.1	0.2
56	TRANARRZ														
57	TRNAFREC														
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGA														

Filas:	PROBLEM	55 A2GUINRE	56 QARZ	57 QMAZ	58 QSOR	59 QHAB	60 QTAB	61 QYUC	62 QBAT	63 QMAN	64 QGUAN	65 QCAFE	66 QCACAO	67 QPLATANO	68 QGUINEO
0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	PRDARRZ		1												
2	PRDMAIZ			1											
3	PRDSORG				1										
4	PRDHABI					1									
5	PRDTABA						1								
6	PRDYUCA							1							
7	PRDBATA								1						
8	PRDMANI									1					
9	PRDGUAN										1				
10	PRDCAFE											1			
11	PRDCACAO												1		
12	PRDPLATA													1	
13	PRDGUINE														1
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1	15													
17	OTROS1	12													
18	TRABAJ1	7													
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLA[illegible]														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2	1													
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2	48													
54	PLANGUIG														
55	PLANGUI2	-1													
56	TRANAPRZ		-0.61												
57	TRNAFREC		-0.1												
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGA										-0.9				
											-0.1				

Filas:	PROBLEM	69 ARZB	70 AFRE	71 GUAN	72 CAFEPERG	73 CAFEVERD	74 CAFETOST	75 CACPROCE	76 IMMAIZ	77 IMHABR	78 EXTABA	79 EXYUCA	80 EXBATA	81 EXCAFE	82 EXCACAO
0	C	0	-0.0605	0	0	0	0	0	-0.0177	-0.04	0.122	0.038	0.02	312	194
1	PRDARRZ														
2	PRDMAIZ														
3	PRDSORG														
4	PRDHABI														
5	PRDTABA														
6	PRDYUCA														
7	PRDBATA														
8	PRDMANI														
9	PRDGUAN														
10	PRDCAFE														
11	PRDCACAO														
12	PRDPLATA														
13	PRDGUINE														
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1														
17	OTROS1														
18	TRABAJ1														
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ	1	-1												
57	TRNAFREC														
58	TRNGUA/B			1											
59	TRNGUA-S														
60	TRNPERGA														

Filas:	PROBLEM	83 EXPLATAN	84 EXGUIMEO	85 DEAFRE	86 DEARZB1	87 DEARZB2	88 DEARZB3	89 DEARZB4	90 DEARZB5	91 DEMAIZ1	92 DEMAIZ2	93 DEMAIZ3	94 DEMAIZ4	95 DEMAIZ5	96 DESORG1
0	C	200	3	9	749	762	775	786	797	172	186	199	211	223	22
1	PROARRZ														
2	PROMAIZ														
3	PROSORG														
4	PROHABI														
5	PROTABA														
6	PROYUCA														
7	PROBATA														
8	PROMANI														
9	PROGUAN														
10	PROCAFE														
11	PROCACAO														
12	PROPLATA														
13	PROGUINE														
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1														
17	OTROS1														
18	TRABAJ1														
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARR2														
57	TRNAFREC			1800											
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGA														

Filas:	PROBLEM	97 DESORG2	98 DESORG3	99 DESOR4	100 DESORG5	101 DEHABR1	102 DEHABR2	103 DEHABR3	104 DEHABR4	105 DEHABR5	106 DETABA1	107 DETABA2	108 DEYUCA1	109 DEYUCA2	110 DEYUCA3
0	C	28	33	37	41	231	241	250	259	267	39	30	115	128	139
1	PRDARRZ														
2	PRDMAIZ														
3	PRDSORG														
4	PRDHABI														
5	PRDTABA														
6	PRDYUCA														
7	PRDBATA														
8	PRDMAMI														
9	PRDGUAN														
10	PRDCAFE														
11	PRDCACAO														
12	PRDPLATA														
13	PRDGUINE														
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1														
17	OTROS1														
18	TRABAJ1														
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ														
57	TRNAFREC														
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGA														

Filas:	PROBLEM	111 DEYUCA4	112 DEYUCA5	113 DEBATA1	114 DEBATA2	115 DEBATA3	116 DEBATA4	117 DEBATA5	118 DEACEI1	119 DEACEI2	120 DEACEI3	121 DEACEI4	122 DEACEI5	123 DEGUAN1	124 DEGUAN2
0	C	149	158	23	24	25	27	28	86	100	114	125	134	62	74
1	PRDARRZ														
2	PRDMAIZ														
3	PRDSORG														
4	PRDHABI														
5	PRDTABA														
6	PRDYUCA														
7	PRDBATA														
8	PRDMANI														
9	PRDGUAN														
10	PRDCAFE														
11	PRDCACAO														
12	PRDPLATA														
13	PRDGUINE														
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1														
17	OTROS1														
18	TRABAJ1														
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ														
57	TRNAFREC														
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGI														

Filas:	PROBLEM	125 DEGUAN3	126 DEGUAN4	127 DEGUAN5	128 DEGUAS3	129 DEMCAFE1	130 DEMCAFE2	131 DEMCAFE3	132 DEMCAFE4	133 DEMCAFE5	134 DEMCACA1	135 DEMCACA2	136 DEMCACA3	137 DEMCACA4	138 DEMCACA5
0	C	84	92	98	62	35	35	35	35	35	70	70	70	70	70
1	PRDARRZ														
2	PRDMAIZ														
3	PRDSORG														
4	PRDHABI														
5	PRDTABA														
6	PRDYUCA														
7	PRDBATA														
8	PRDMANI														
9	PRDGUAN														
10	PRDCAFE														
11	PRDCACAO														
12	PRDPLATA														
13	PRDGUINE														
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1														
17	OTROS1														
18	TRABAJ1														
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ														
57	TRNAFRCC														
58	TRNGUA/B														
59	TRNGUA-S				35										
60	TRNPERGA														

Filas:	PROBLEM	139 DEMPLAT1	140 DEMPLAT2	141 DEMPLAT3	142 DEMPLAT4	143 DEMPLAT5	144 DEMGUIN1	145 DEMGUIN2	146 DEMGUIN3	147 DEMGUIN4	148 DEMGUIN5	149 COINDUS	150 COMAYOR	151 CODETAL	152 COGOBIE
0	C	450	450	450	450	450	10	10	10	10	10	-0.001	-0.001	-0.001	0.001
1	PROARRZ														
2	PROMAIZ														
3	PROSORG														
4	PROHABI														
5	PROTABA														
6	PROYUCA														
7	PROBATA														
8	PROMANI														
9	PROGUAN														
10	PROCAFE														
11	PROCACAO														
12	PROPLATA														
13	PROGUINE														
14	TIERRA1														
15	RIEGO1														
16	QUIMIC1														
17	OTROS1														
18	TRABAJ1														
19	CAP1ARZ														
20	CAP1MAZ														
21	CAP1SOR														
22	CAP1HAB														
23	CAP1TAB														
24	CAP1YUC														
25	CAP1OTR														
26	TIERRA2														
27	RIEGO2														
28	QUIMIC2														
29	OTROS2														
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ														
57	TRNAFREC														
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNFERGA														

Files:	PROBLEM	153 CO1RIEG	154 CO1QUIM	155 CO1OTRO	156 CO1TRAB	157 FIN1ARRZ	158 FIN1MAIZ	159 FIN1SORG	160 FIN1HABI	161 FIN1TABA	162 FIN1YUCA	163 FIN1OTRO	164 CO2RIEG	165 CO2QUIM	166 CO2OTRO
0	C	-0.0003	-0.001	-0.001	-0.008	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0003	-0.001	-0.001
1	PROARRZ														
2	PROMAIZ														
3	PROSORG														
4	PROHABI														
5	PROTABA														
6	PROYUCA														
7	PROBATA														
8	PROMANI														
9	PROGUAN														
10	PROCAFE														
11	PROCACAO														
12	PROPLATA														
13	PROGUINE														
14	TIERRA1														
15	RIEGO1	-1													
16	QUIMIC1		-1												
17	OTROS1			-1											
18	TRABAJ1				-1										
19	CAP1ARZ					-1									
20	CAP1MAZ						-1								
21	CAP1SOR							-1							
22	CAP1HAB								-1						
23	CAP1TAB									-1					
24	CAP1YUC										-1				
25	CAP1OTR											-1			
26	TIERRA2														
27	RIEGO2												-1		
28	QUIMIC2													-1	
29	OTROS2														-1
30	TRABAJ2														
31	CAP2ARZ														
32	CAP2MAZ														
33	CAP2SOR														
34	CAP2HAB														
35	CAP2TAB														
36	CAP2YUC														
37	CAP2OTR														
38	TIERRCAF														
39	CAPCAFE														
40	PLANTCAF														
41	TIERRCAC														
42	CAPCACAO														
43	PLANTCAC														
44	TIERPLAT														
45	RIEGOPLA														
46	CAPPLATA														
47	PLANTPLA														
48	TIERGUIG														
49	TIERGUI2														
50	RIEGGUIG														
51	RIEGGUI2														
52	CAPGUING														
53	CAPGUIN2														
54	PLANGUIG														
55	PLANGUI2														
56	TRANARRZ														
57	TRNAFREC														
58	TRNGUA/B														
59	TRNGUA-S														
60	TRNPERGA														

Files:	PROBLEM	167 CO2TRAB	168 FIN2ARR2	169 FIN2MAI2	170 FIN2SORG	171 FIN2HABI	172 FIN2TABA	173 FIN2YUCA	174 FIN2OTRO	175 FIN1CAFE	176 FIN1CACA	177 FIN2PLAT	178 FINGGUIN	179 FIN2GUIN
0	C	-0.008	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002	-0.0002
1	PRDARRZ													
2	PRDMAI2													
3	PRDSORG													
4	PRDHABI													
5	PRDTABA													
6	PROYUCA													
7	PRDBATA													
8	PROMANI													
9	PRDGUAN													
10	PRDCAFE													
11	PROCACAO													
12	PROPLATA													
13	PRDGUINE													
14	TIERRA1													
15	RIEGO1													
16	QUIMIC1													
17	OTROS1													
18	TRABAJ1													
19	CAP1ARZ													
20	CAP1MAZ													
21	CAP1SOR													
22	CAP1HAB													
23	CAP1TAB													
24	CAP1YUC													
25	CAP1OTR													
26	TIERRA2													
27	RIEGO2													
28	QUIMIC2													
29	OTROS2													
30	TRABAJ2	-1												
31	CAP2ARZ		-1											
32	CAP2MAZ			-1										
33	CAP2SOR				-1									
34	CAP2HAB					-1								
35	CAP2TAB						-1							
36	CAP2YUC							-1						
37	CAP2OTR								-1					
38	TIERRCAF													
39	CAPCAFE									-1				
40	PLANTCAF													
41	TIERRCAC													
42	CAPCACAO										-1			
43	PLANTCAC													
44	TIERPLAT													
45	RIEGOPLA													
46	CAPPLATA											-1		
47	PLANTPLA													
48	TIERGUIG													
49	TIERGUI2													
50	RIEGGUIG													
51	RIEGGUI2													
52	CAPGUING												-1	
53	CAPGUIN2													-1
54	PLANGUIG													
55	PLANGUI2													
56	TRANARR2													
57	TRNAFREC													
58	TRNGUA/B													
59	TRNGUA-S													
60	TRNPERGA													

Filas:	PROBLEM	Columnas: MAXIMIZE	RS	1 A1ARZ1	2 A1ARZ3	3 A1ARZ4	4 A1MAZ1	5 A1MAZ2	6 A1MZHAB	7 A1SOR1	8 A1SOR2	9 A1HAB1	10 A1HAB2	11 A1YUC1	12 A1MAN1
61	TRNVERDE	E	0												
62	TRNTOSTA	E	0												
63	TRANCACA	E	0												
64	INDUSTRI	E	0												
65	MAYORIST	E	0												
66	OETALLIS	E	0												
67	GOBIERNO	E	0												
68	MERARROZ	E	0												
69	MERMAIZ	E	0												
70	MERSORGO	E	0												
71	MERHABI	E	0												
72	MERTABAC	E	0												
73	MERYUCA	E	0												
74	MERBATAT	E	0												
75	MERACEIT	E	0												
76	MERGUAN	E	0												
77	MERCAFE	E	0												
78	MERCACAO	E	0												
79	MERPLATA	L	0												
80	MERCGUIN	L	0												
81	CONVAFRE	L	1												
82	CONVARRZ	L	1												
83	CONVMAIZ	L	1												
84	CONVSORG	L	1												
85	CONVHABI	L	1												
86	CONVTABA	L	1												
87	CONVYUCA	L	1												
88	CONVBATA	L	1												
89	CONVACEI	L	1												
90	CONVGUAB	L	1												
91	CONVGUAS	L	1												
92	CONVCAFE	L	1												
93	CONVCACA	L	1												
94	CONVPLAT	L	1												
95	CONVGUIN	L	1												
96	AGUARIE1	L	943												
97	AGUARIE2	L	1175												
98	IMARZ/MX	E	480												
99	IMMAZ/MX	E	4000												
100	IMHAB/MX	E	205												
101	EXTAB/MX	E	320												
102	EXYUC/MX	E	140												
103	EXBAT/MX	E	220												
104	EXCAF/MX	L	622												
105	EXCAC/MX	L	607												
106	EXPLA/MX	L	7												
107	EXGUI/MX	L	2000												
108	CP1ARZ/M	L	72000												
109	CP1MAZ/M	L	5400												
110	CP1SOR/M	L	3300												
111	CP1HAB/M	L	10000												
112	CP1TAB/M	L	10300												
113	CP1YUC/M	L	3600												
114	CP1OTR/M	L	9800												
115	CP2ARZ/M	L	100000												
116	CP2MAZ/M	L	12000												
117	CP2SOR/M	L	5700												
118	CP2HAB/M	L	9000												
119	CP2TAB/M	L	17500												
120	CP2YUC/M	L	3800												
121	CP2OTR/M	L	16650												

Filas:	PROBLEM	13 A1GUAM1	14 A1GUABA	15 A1TABA1	16 A1TABA2	17 A1TABA3	18 A1TABD1	19 A1TABD2	20 A1TABD3	21 A1TABP1	22 A1TABP2	23 A1TABP3	24 A2ARD21	25 A2ARZ5	26 A2ARZ6
61	TRMVERDE														
62	TRMTOSTA														
63	TRANCACA														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARRDZ														
69	MERMAIZ														
70	MERSORGO														
71	MERHABI														
72	MERTABAC														
73	MERYUCA														
74	MERBATAT														
75	MERACEIT														
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA														
80	MERCGUIN														
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	27 A2MAZ2	28 A2MAZ3	29 A2MZHA8	30 A2SOR1	31 A2SOR4	32 A2HAB1	33 A2HAB4	34 A2TAB1	35 A2TAB2	36 A2YUC1	37 A2MAN1	38 A2MAN2	39 A2GUA1	40 A2GUABA
61	TRNVEROE														
62	TRNTOSTA														
63	TRANCACA														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARROZ														
69	MERMAIZ														
70	MERSORGO														
71	MERHABI														
72	MERTABAC														
73	MERYUCA														
74	MERBATAT														
75	MERACEIT														
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA														
80	MERCGUIN														
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
99	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	41 A1CAFE1	42 A1CAFE2	43 A1CAFERE	44 A1CACAO2	45 A1CACAO1	46 A1CACARE	47 A1PLATA2	48 A2PLATA1	49 A2PLATRE	50 AGGUINE1	51 AGGUINE2	52 AGGUINRE	53 A2GUINE1	54 A2GUINE2
61	TRNVERDE														
62	TRNTOSTA														
63	TRANCACA														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARROZ														
69	MERMAIZ														
70	MERSORGO														
71	MERHFBI														
72	MERTABAC														
73	MERYUCA														
74	MERBATAT														
75	MERACEIT														
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA														
80	MERCGUIN														
81	CONVFFRE														
82	CONVFRRZ														
83	CONVFAIZ														
84	CONVSORG														
85	CONVFABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVFCEI														
90	CONVCUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	55 A2GUINRE	56 QARZ	57 QMAZ	58 QSOR	59 QHAB	60 QTAB	61 QYUC	62 QBAT	63 QMAN	64 QGUAN	65 QCAFE	66 QCACAO	67 QPLATANO	68 QGUINEO
61	TRNVEROE														
62	TRNTOSTA														
63	TRANCACA												-1		
64	INDUSTRI		5.66				44			50					
65	MAYORIST			0.83		20	10	6.77	3	5					
66	DETALLIS					19		10	7.37	20					
67	GOBIERNO		-13.67	-2.85											
68	MERARROZ														
69	MERMAIZ			-1											
70	MERSORGO				-1										
71	MERHABI					-0.9									
72	MERTABAC						-1								
73	MERYUCA							-1							
74	MERBATAT								-1						
75	MERACEIT									-0.4					
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA													-1	
80	MERCGUIN														-1
81	CONVARRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	69 ARZB	70 AFRE (MARZ)	71 GUAN	72 CAFEPERG	73 CAFEVERD	74 CAFETOST	75 CACPROCE	76 IMMAIZ	77 IMHABR	78 EXTABA	79 EXYUCA	80 EXBATA	81 EXCAFE	82 EXCACAO
61	TRNVERDE				-0.93	1									
62	TRNTOSTA					-1	1							1	
63	TRANCACA							1							
64	INDUSTRI				44		8	45						8	
65	MAYORIST	1.2							2.38					170	
66	DETALLIS	4.1								1.71					
67	GOBIERNO		-20.7												
68	MERARROZ	-1													
69	MERMAIZ								-1						
70	MERSORGO														
71	MERHABI									-1					
72	MERTABAC										1				
73	MERYUCA											1			
74	MERBATAT												1		
75	MERACEIT														
76	MERGUAN			-0.86											
77	MERCAFE						-1								
78	MERCACAO							-1							1
79	MERPLATA														
80	MERCGUIN														
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX		1												
99	IMMAZ/MX								1						
100	IMHAB/MX									1					
101	EXTAB/MX										1				
102	EXYUC/MX											1			
103	EXBAT/MX												1		
104	EXCAF/MX													1	
105	EXCAC/MX														1
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	83 EXPLATAN	84 EXGUIMEO	85 DEAFRE	86 DEARZB1	87 DEARZB2	88 DEARZB3	89 DEARZB4	90 DEARZB5	91 DEMAIZ1	92 DEMAIZ2	93 DEMAIZ3	94 DEMAIZ4	95 DEMAIZ5	96 DESORG1
61	TRNVERDE														
62	TRNTOSTA														
63	TRANCACA														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARROZ				7500	7750	8000	8250	8500						
69	MERMAIZ									4850	5350	5850	6350	6850	
70	MERSORGO														630
71	MERHABI														
72	MERTABAC														
73	MERYUCA														
74	MERBATAT														
75	MERACEIT														
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA	1													
80	MERCGUIN		1												
81	CONVAFRE			1											
82	CONVARRZ				1	1	1	1	1						
83	CONVMAIZ									1	1	1	1	1	
84	CONVSORG														1
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX	1													
107	EXGUI/MX		1												
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	97 DESORG2	98 DESORG3	99 DESOR4	100 DESORG5	101 DEHABR1	102 DEHABR2	103 DEHABR3	104 DEHABR4	105 DEHABR5	106 DETABA1	107 DETABA2	108 DEYUCA1	109 DEYUCA2	110 DEYUCA3
61	TRNVERDE														
62	TRNTOSTA														
63	TRANCACA														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARROZ														
69	MERMAIZ														
70	MERSORGO	830	1030	1230	1430										
71	MERHABI					750	800	850	900	950					
72	MERTABAC										290	190			
73	MERYUCA												1750	2000	2250
74	MERBATAT														
75	MERACEIT														
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA														
80	MERCGUIN														
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG	1	1	1	1										
85	CONVHABI					1	1	1	1	1					
86	CONVTABA										1	1			
87	CONVYUCA												1	1	1
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CF[illegible]ARZ/M														
116	C[illegible]MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	111 DEYUCA4	112 DEYUCA5	113 DEBATA1	114 DEBATA2	115 DEBATA3	116 DEBATA4	117 DEBATA5	118 DEACEI1	119 DEACEI2	120 DEACEI3	121 DEACEI4	122 DEACEI5	123 DEGUAN1	124 DEGUAN2
61	TRNVERDE														
62	TRNTOSTA														
63	TRANCACR														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARROZ														
69	MERMAIZ														
70	MERSORGO														
71	MERHABI														
72	MERTABAC														
73	MERYUCA	2500	2750												
74	MERBATAT			650	700	750	800	850							
75	MERACEIT								220	270	320	370	420		
76	MERGUAN													175	225
77	MERCAFE														
78	MERCACAO														
79	MERPLATA														
80	MERCGUIN														
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA	1	1												
88	CONVBATA			1	1	1	1	1							
89	CONVACEI								1	1	1	1	1		
90	CONVGUAB													1	1
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	125 DEGUAN3	126 DEGUAN4	127 DEGUAN5	128 DEGUAS3	129 DEMCAFE1	130 DEMCAFE2	131 DEMCAFE3	132 DEMCAFE4	133 DEMCAFE5	134 DEMCACA1	135 DEMCACA2	136 DEMCACA3	137 DEMCACA4	138 DEMCACA5
61	TRNVERDE														
62	TRNTOSTA														
63	TRANCACA														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARROZ														
69	MERMAIZ														
70	MERSORGO														
71	MERHABI														
72	MERTABAC														
73	MERYUCA														
74	MERBATAT														
75	MERACEIT														
76	MERGUAN	275	325	375											
77	MERCAFE					244	244	244	244	244					
78	MERCACAO										190	190	190	190	190
79	MERPLATA														
80	MERCGUIN														
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB	1	1	1											
91	CONVGUAS				1										
92	CONVCAFE					1	1	1	1	1					
93	CONVCACA										1	1	1	1	1
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	139 DEMPLAT1	140 DEMPLAT2	141 DEMPLAT3	142 DEMPLAT4	143 DEMPLAT5	144 DEMGUIN1	145 DEMGUIN2	146 DEMGUIN3	147 DEMGUIN4	148 DEMGUIN5	149 COINDUS	150 COMAYOR	151 CODETAL	152 CDGOBIE
61	TRNVERDE														
62	TRNTOSTA														
63	TRANCACA														
64	INDUSTRI											-1			
65	MAYORIST												-1		
66	DETALLIS													-1	
67	GOBIERNO														1
68	MERARROZ														
69	MERMAIZ														
70	MERSORGO														
71	MERHABI														
72	MERTABAC														
73	MERYUCA														
74	MERBATAT														
75	MERACEIT														
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA	965	965	965	965	965									
80	MERCGUIN						2000	2000	2000	2000	2000				
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT	1	1	1	1	1									
95	CONVGUIN						1	1	1	1	1				
96	AGUARIE1														
97	AGUARIE2														
98	IMARZ/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M														
109	CP1MAZ/M														
110	CP1SOR/M														
111	CP1HAB/M														
112	CP1TAB/M														
113	CP1YUC/M														
114	CP1OTR/M														
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	153 CO1RIEG	154 CO1QUIM	155 CO1OTRO	156 CO1TRAB	157 FIM1ARRZ	158 FIM1MAIZ	159 FIM1SORG	160 FIM1HABI	161 FIM1TABA	162 FIM1YUCA	163 FIM1OTRO	164 CO2RIEG	165 CO2QUIM	166 CO2OTRO
61	TRNVEROE														
62	TRNTOSTA														
63	TRANCACA														
64	INDUSTRI														
65	MAYORIST														
66	DETALLIS														
67	GOBIERNO														
68	MERARROZ														
69	MERMAIZ														
70	MERSORGO														
71	MERHABI														
72	MERTABAC														
73	MERYUCA														
74	MERBATAT														
75	MERACEIT														
76	MERGUAN														
77	MERCAFE														
78	MERCACAO														
79	MERPLATA														
80	MERCGUIN														
81	CONVAFRE														
82	CONVARRZ														
83	CONVMAIZ														
84	CONVSORG														
85	CONVHABI														
86	CONVTABA														
87	CONVYUCA														
88	CONVBATA														
89	CONVACEI														
90	CONVGUAB														
91	CONVGUAS														
92	CONVCAFE														
93	CONVCACA														
94	CONVPLAT														
95	CONVGUIN														
96	AGUARIE1														
97	AGUARIE2														
98	IMAR2/MX														
99	IMMAZ/MX														
100	IMHAB/MX														
101	EXTAB/MX														
102	EXYUC/MX														
103	EXBAT/MX														
104	EXCAF/MX														
105	EXCAC/MX														
106	EXPLA/MX														
107	EXGUI/MX														
108	CP1ARZ/M					1									
109	CP1MAZ/M						1								
110	CP1SOR/M							1							
111	CP1HAB/M								1						
112	CP1TAB/M									1					
113	CP1YUC/M										1				
114	CP1OTR/M											1			
115	CP2ARZ/M														
116	CP2MAZ/M														
117	CP2SOR/M														
118	CP2HAB/M														
119	CP2TAB/M														
120	CP2YUC/M														
121	CP2OTR/M														

Filas:	PROBLEM	167 CO2TRAB	168 FIN2ARRZ	169 FIN2MAIZ	170 FIN2SORG	171 FIN2HABI	172 FIN2TABA	173 FIN2YUCA	174 FIN2OTRO	175 FIN1CAFE	176 FIN1CACA	177 FIN2PLAT	178 FINGGUIN	179 FIN2GUIN
61	TRNVERDE													
62	TRNTOSTA													
63	TRANCACA													
64	INDUSTRI													
65	MAYORIST													
66	DETALLIS													
67	GOBIERNO													
68	MERARROZ													
69	MERMAIZ													
70	MERSORGO													
71	MERHABI													
72	MERTABAC													
73	MERYUCA													
74	MERBATAT													
75	MERACEIT													
76	MERGUAN													
77	MERCAFE													
78	MERCACAO													
79	MERPLATA													
80	MERCGUIN													
81	CONVAFRE													
82	CONVARRZ													
83	CONVMAIZ													
84	CONVSORG													
85	CONVHABI													
86	CONVTABA													
87	LONVYUCA													
88	CONVBATA													
89	CONVACEI													
90	CONVGUAB													
91	CONVGUAS													
92	CONVCAFE													
93	CONVCACA													
94	CONVPLAT													
95	CONVGUIN													
96	AGUARIE1													
97	AGUARIE2													
98	IMARZ/MX													
99	IMMAZ/MX													
100	IMHAB/MX													
101	EXTAB/MX													
102	EXYUC/MX													
103	EXBAT/MX													
104	EXCAF/MX													
105	EXCAC/MX													
106	EXPLA/MX													
107	EXGUI/MX													
108	CP1ARZ/M													
109	CP1MAZ/M													
110	CP1SOR/M													
111	CP1HAB/M													
112	CP1TAB/M													
113	CP1YUC/M													
114	CP1OTR/M													
115	CP2ARZ/M		1											
116	CP2MAZ/M			I										
117	CP2SOR/M				1									
118	CP2HAB/M					1								
119	CP2TAB/M						1							
120	CP2YUC/M							1						
121	CP2OTR/M								1					

Files:	PROBLEM	Columns: MAXIMIZE	RS	1 A1ARZ1	2 A1ARZ3	3 A1ARZ4	4 A1MAZ1	5 A1MAZ2	6 A1MZHAB	7 A1SOR1	8 A1SOR2	9 A1HAB1	10 A1HAB2	11 A1YUC1	12 A1MAN1
122	CP1CAF/M	L	25600												
123	CP1CAC/M	L	40270												
124	CP1PLA/M	L	12500												
125	CPGGUI/M	L	1100												
126	CP2GUI/M	L	1100												
127	PROPTABA	E	0												
128	ARZSC/RG	G	0	1	-0.1	-0.1									

Files:	PROBLEM	13 A1GUAM1	14 A1GUABA	15 A1TABA1	16 A1TABA2	17 A1TABA3	18 A1TABO1	19 A1TABO2	20 A1TABO3	21 A1TABP1	22 A1TABP2	23 A1TABP3	24 A2ARDZ1	25 A2ARZ5	26 A2ARZ6
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA			1	1	1	-3	-3	-3	-3	-3	-3			
128	ARZSC/RG												-0.1	-0.1	-0.1

Files:	PROBLEM	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		A2MAZ2	A2MAZ3	A2MZHAB	A2SOR1	A2SOR4	A2HAB1	A2HAB4	A2TAB1	A2TAB2	A2YUC1	A2MAN1	A2MAN2	A2GUA1	A2GUABA
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	AR2SC/RG														

Files:	PROBLEM	41 A1CAFE1	42 A1CAFE2	43 A1CAFERE	44 A1CACAO2	45 A1CACAO1	46 A1CACARE	47 A1PLATA2	48 A2PLATA1	49 A2PLATRE	50 AGGUINE1	51 AGGUINE2	52 AGGUINRE	53 A2GUINE1	54 A2GUINE2
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	AR2SC/RG														

Files:	PROBLEM	55 A2GUINRE	56 QARZ	57 QMAZ	58 QSOR	59 QHAB	60 QTAB	61 QYUC	62 QBAT	63 QMAN	64 QGUAM	65 QCAFE	66 QCACAO	67 QPLATANO	68 QGUINEO
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	ARZSC/RG														

Filas:	PROBLEM	69	70	71	72	73	74	75	76	77	78	79	80	81	82
122	CP1CAF/M	ARZ8	AFRE	GUAN	CAFEPERG	CAFEVERD	CAFETOST	CACPROCE	IMMAIZ	IMHABR	EXTABA	EXYUCA	EXBATA	EXCAFE	EXCACAO
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	ARZSC/RG														

Files:	PROBLEM	83 EXPLATAH	84 EXGUINEO	85 DEAFRE	86 DEARZB1	87 DEARZB2	88 DEARZB3	89 DEARZB4	90 DEARZB5	91 DEMAI21	92 DEMAI22	93 DEMAI23	94 DEMAI24	95 DEMAI25	96 DESORG1
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	ARZSC/RG														

Files:	PROBLEM	97	98	99	100	101	102	103	104	105	106	107	108	109	110
		DESORG2	DESORG3	DESOR4	DESORG5	DEHABR1	DEHABR2	DEHABR3	DEHABR4	DEHABR5	DETABA1	DETABA2	DEYUCA1	DEYUCA2	DEYUCA3
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	ARZSC/RG														

Filas:	PROBLEM	111 DEYUCA4	112 DEYUCA5	113 DEBATA1	114 DEBATA2	115 DEBATA3	116 DEBATA4	117 DEBATA5	118 DEACEI1	119 DEACEI2	120 DEACEI3	121 DEACEI4	122 DEACEI5	123 DEGUAN1	124 DEGUAN2
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	ARZSC/RG														

Files:	PROBLEM	125 DEGVAN3	126 DEGVAN4	127 DEGVAN5	128 DEGVAS3	129 DEMCAFE1	130 DEMCAFE2	131 DEMCAFE3	132 DEMCAFE4	133 DEMCAFE5	134 DEMCACA1	135 DEMCACA2	136 DEMCACA3	137 DEMCACA4	138 DEMCACA5
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	.PROPTABA														
128	ARZSC/RG														

Files:	PROBLEM	139 DEMPLAT1	140 DEMPLAT2	141 DEMPLAT3	142 DEMPLAT4	143 DEMPLAT5	144 DEMGUIN1	145 DEMGUIN2	146 DEMGUIN3	147 DEMGUIN4	148 DEMGUIN5	149 COINDUS	150 COMAYOR	151 CODETAL	152 COGOBIE
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	ARZSC/RG														

Files:	PROBLEM	153 CO1RIEG	154 CO1QUIM	155 CO1OTRO	156 CO1TRAB	157 FIM1ARRZ	158 FIM1MAIZ	159 FIM1SORG	160 FIM1HABI	161 FIM1TABA	162 FIM1YUCA	163 FIM1OTRO	164 CO2RIEG	165 CO2QUIM	166 CO2OTRO
122	CP1CAF/M														
123	CP1CAC/M														
124	CP1PLA/M														
125	CPGGUI/M														
126	CP2GUI/M														
127	PROPTABA														
128	ARZSC/RG														

Files:	PROBLEM	167 CO2TRAB	168 FIN2ARRZ	169 FIN2MAIZ	170 FIN2SORG	171 FIN2HABI	172 FIN2TABA	173 FIN2YUCA	174 FIN2OTRO	175 FIN1CAFE	176 FIN1CACA	177 FIN2PLAT	178 FINGGUIN	179 FIN2GUIN
122	CP1CAF/M									1				
123	CP1CAC/M										1			
124	CP1PLA/M											1		
125	CPGGUI/M												1	
126	CP2GUI/M													1
127	PROPTABA													
128	ARZSC/RG													