## (4) Corn

### (4.1) World balance

In the group of forage grains globally considered as traditional (Coarse Grains), they are included corn (68% of the world production of that group, in 1998/99), barley, sorghum, oats, rye, milheto and other countless grains of smaller importance. That group acted more of the half of the world production of cereals, in the period-base (1993-95). About 60% of the world production it happened at the developed countries and in transition. This group constitutes the primary source of grains for animal feeding, about 83% of the world total. They are also an important source of food for the man, in many countries of Africa and of Latin America and Caribbean (for descending people of Mayas, above all), acting around 20% of the cereals used in the human feeding in these areas. The international trade corresponds to 11% of the global production, with 60% mattered by developing countries.

To corn world production, that reached 604 Mt in the harvest 1998/99, he/she has the USA, China and Brazil as responsible for about 70% of her. Beside the global consumption, dear in 583 annual Mt, the USA answer for about 186 Mt. Like this, that country answers, the only one time, for the largest production, consumption and world exports.

In the recent years, the world stocks increased, depressing the international prices, reaching the stock market quotations of Chicago historically the levels lower, around US$ 80,00/t, below the 100 dollars of previous years.

To world production of the grains traditional forage it is projected to expand in about 171 Mt, from 1993-95 to 2005, a growth of more than 20%, reaching 1,008 Mt in 2005. That means an annual tax of growth of 1,7% a.a.. About 80% of that expansion it will be owed to higher productivities than in the previous period. Like this, the area cultivated with that group of grains will expand modestly. In 1998/99, to world production of those group it reached 890,3 Mt, of the which, 605,94 Mt (68%) they were of corn. Half of the expansion in the production should happen in the developing countries. In Latin America and Caribbean, the projected growth is of 2,2% a.a., mainly due to the fort expected growth in Argentina and Brazil. Among the developed countries, including the four larger exporters, for growth is waited in the production of 20% on the previous decade. For the largest growth is waited in the USA (85% of the expected growth among the developed countries).

The growth of the global demand of grains traditional forage should be stronger than in the previous decade, reaching 1 007 Mt in 2005, an increment of 148 Mt. use should grow of 1,5% a.a., against 0,9% of the previous decade. About of ¾ of that increment it will be for animal feeding (107 Mt, due to the fort expected growth in the demand for products cárneos in developing countries. Already the human consumption of those products should increase 14%. About 2/3 of the expected growth in the demand for animal rations will happen in the developing countries (67 Mt), of the which the half in Asia. Around 30% of that growth it will happen in Latin America and Caribbean, especially in Brazil, being the expansion of the production of birds and swine for export one of the responsible for the expected increment. In the other countries, for increment is waited in the use of that group of grains in the animal feeding, around 29% (31 Mt). In the USA, in matter, for an increase is waited in the use in animal feeding, to assist to the domestic needs for products cárneos. In the countries in transition should happen a reversion in the decline of that use, in relation to the previous, in the same way that the continuity is expected in the recovery of their savings. The consumption of traditional grains should increase 14% up to 2005.

In regional terms, the developing countries of Asia should answer for 60% of the growth of the imports. The most expressive increment should happen in China, whose imports should duplicate, when compared with the period-base (1993-95), reaching 8,7 Mt, in 2005, mainly of corn for animal ration. Latin America and Caribbean should matter about 13% of the foreseen growth of traditional grains, especially of corn for Brazil and Mexico.

The five larger corn importers in 98/99 were: Japan (16,3 Mt); Korea of Sul(7,75); México(5,5); Taiwan($,5); and Egito(3,8 Mt). Imports projected by Japan, the largest world importer of traditional

grains, they should be stabilized around 20-21Mt, ¾ of the which acted by the corn. The one of the European East should increase their imports of those grains, but in a volume below the previous decade.

The exports should expand of 20 Mt for 114 Mt (21%), up to 2005, mainly in the developing countries. Among the traditional exporters of that group of grains, Argentina and USA they should expand the exports, and the USA should maintain participation of 60% of the global market and Argentina should pass of 6%, in the period-base, for 8%, in 2005, mainly of corn. The European Union should expand their exports of 2 Mt, for 9,2 Mt in 2005, maintaining their 8% of participation in the world market. The four larger corn exporters, in 98/99 were: USA (52 Mt), Argentina (8,8 Mt); Hungria(1,7 Mt) and China (3,3 Mt), of a total of 68,3 Mt exported on that agricultural year. The world stock of grains traditional forage should increase 5%, in the period.

He/she is considered an increment of 4,3%, in real terms, in the international prices of the corn, in other words, of US$ 134/t, for US$ 140/t, in 2005, nevertheless, considerably below the previous period, when, for instance, it reached the average of US$ 226,3/t, in the period 83-95. In the period from 08/99 to 08/2000, in the Bag of Futures of Chicago, the quotation of the corn had a variation of -19,58 In the Bag of Cereals of São Paulo this variation was of 46,23%.

## (4.2) National Corn Panorama

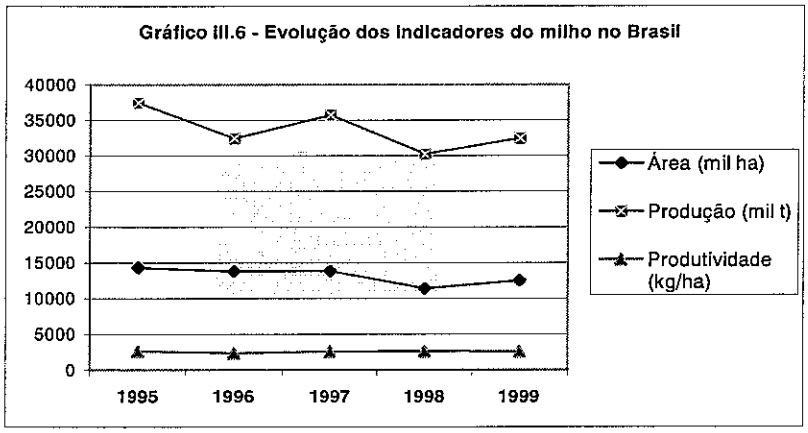
The Brazilian production of corn grew to a superior tax to 4,0% a year, in the last years, reaching about 32 Mt in the harvest 1998/99. The main responsible for this growth it was the elevation of the productivity, that passed of 1.773 kg/ha, in the harvest 1984/85, for 2 587 kg/ha, in the harvest 1998/99, sheltering from very low productivities, of 1 028 kg/ha, obtained in favorable years in the Northeast area, to superior averages to 4 500 kg/ha, obtained in Mato Grosso do Sul and Goiás, in the summer plantings.

The cultivated area has been growing a little in Brazil, reaching about 12,5 million hectares, in the harvest 1998/99. More recently, it grew of importance the call "safrinha" (corn planting in rotation or succession of cultures), that today it acts about 17% of the national production, and in the states of Mato Grosso and Mato Grosso do Sul already occupies larger area than the summer harvest. As it is driven in conditions of smaller use of inputs, and picked in the beginning of the second semester, it has been an interesting alternative for the farmers, besides serving to balance the prices, along the year, for the consumers cattle farmers.

Up to 1977, Brazil presented balance position, between demand and corn offer. With the growth of the production of birds and swine starting from the end of the decade of 70, Brazil passed to the condition of eventual importer of corn, although in volumes no high. With the coming of Mercosul, Argentina has been occupying markets of areas with insufficient production, as the Brazilian Northeast. Also Paraguay, with harvest arriving earlier than the one of the south states, also has if constituted in alternative source for the internal provisioning. In 1998, 1,6 Mt of corn of Argentina and 122 thousand tons of Paraguay were mattered.

As for the activity of processing of the corn in Brazil, two types are observed: the processing for humid road, highly concentrated in international companies, whose main product is the corn starch, with wide application in the human feeding in the industrialization - paper - and in the dry processing, with the traditional products, as corn cream, maize flour, hominy, hominy, couscous, polenta, floculados, pré-cooked, oils, crumbs, flours, etc. This industry is disseminated by the whole country and his/her production is destined to the consumers of smaller income predominantly.

In the period 1995-99, the corn was one of the cultures stagnated at the country, with the production and area picked decreasing in these last five years and paralyzed productivity, close to the 2.600 kg/ha.




Source: Conab

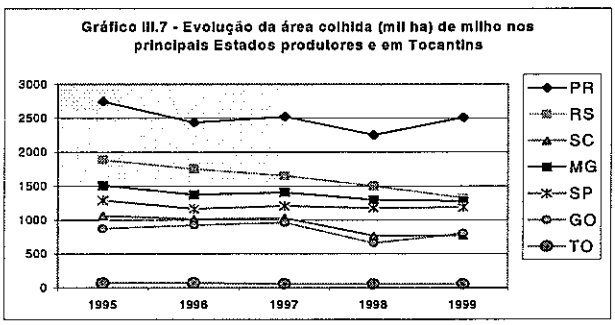
The Brazilian production of corn in 1999 was of 32,4 Mt, obtained in an area of 12,5 million hectares. In relation to 1995, it meant falls of 13,4% in the production and 12,6% in the picked area, taking the country to the importer condition to guarantee the internal provisioning. The fall in the national production has been pulled by producing traditional states, like Rio Grande do Sul, Santa Catarina and Minas Gerais, that have been substituting the culture for other with larger profitability or they have been suffering with the irregularity in the productivity. Rio Grande do Sul (46%) and Santa Catarina (25,8%) they were States that more they reduced the production in the period 1995-99. Those states occupy Monday and third position in the national ranking and they affected the national indicators strongly. It is observed, parallel, an egg white tendency of displacement of the corn production for the area Center West, whose production costs are more favorable.

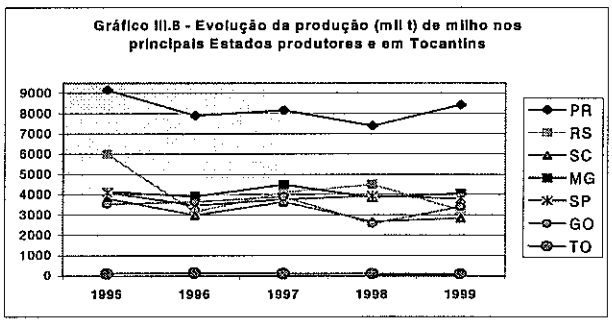
However, this is the last product that presents a quite favorable potential demand in the segments of cereals, grains and fibers, in agreement with the analysis of the most important indicators of acting.

The total cost of corn production in the summer varied of US$ 315,53/ha or 4,73/sc of 60 kg, for a productivity of 4t in Goiás and of US$ 443,28/ha or 3,69/sc, for productivity of 7.200 kg/ha, in the direct planting, in S. Paulo.

In the safrinha, the costs are of US$ 199,57/ha or 4,28/sc, for productivity of 2.800 kg/ha, in Mato Grosso do Sul and of US$ 288,08 or 3,60/As, for productivity of 4.800 kg/ha, in Goiás.

Source: Conab




The pictures below show that the corn per capita consumption in grains in the country has been increasing significantly, reflecting the increase of the consumption for animal feeding, while the maize flour consumption, that reflects the human consumption, it has been trying reductions in the last decade, as well as the wheat germ oil.

The corn imports for Brazil developed of 321.614 t and US$ 74,3 million in 1996, for 680.578 t and US$ 68,9 million, only in the first quadrimestre of 2000. Argentina, Paraguay and USA were the largest suppliers of Brazil.

The Brazilian exports of corn fell down of 351 thousand t and US$ 71,8 million, in 96, for 7,5 thousand t and US$ 7,2 million, in 99. Lebanon, Morocco and Netherlands were the main destinies, in the period.

Table III.26 - corn Per capita consumption and flowed in Brazil, in 1987 and 1996
(m kg/year)

| Total of the areas - POF | | | |
|---|---|---|---|
| Specification | 1987 | 1996 | Var. % |
| Corn dry-grain | 0,893 | 1,258 | 49,9 |
| Corn starch | 0,390 | 0,171 | -56,2 |
| Cremate of corn | 0,083 | 0,098 | 18,1 |
| Corn flakes | 0,347 | 0,366 | 5,5 |
| Corn maize flour | 2,036 | 1,740 | -14,5 |
| Wheat germ oil | 0,339 | 0,201 | -40,7 |

Source: FIBGE-Researches of Family budget, 1987 and 1996

## (4.3) Main Markets in Brazil

The interstate trade of corn represents 20% of the national production approximately. The great superávits are located in Paraná and in Goiás and the largest deficit in São Paulo. The Center-west expanded participation in this trade during the second half of the decade of 80, and stays constant ever since. The Northeast continued liquid importer of corn and the Center-west, liquid exporter, in the period 1980-95. The largest consumer markets are Santa Catarina, São Paulo, Rio Grande do Sul, Paraná and Minas Gerais, mainly due to the presence of the suinoculture and industrial aviculture.

## (4.4) Market in Tocantins

The State of Tocantins is little representative in the corn culture producing, in 1999, about 91.200 tons, picked in an area of 53.800 hectares. The culture in the State also comes if reducing, with the production in 1999 being 18% smaller than in 1995 and the picked area, 27,3% smaller.

Tocantins still doesn't present activities developed that you/they request big amounts of corn. They are inexpressive the commercial productions of birds and swine, main plaintiffs of the product. Like this, the production state, although small, has if destined the other markets, above all the Northeast, Goiás and Brasília. The main areas producers are to South (Gurupi, Alvorada, Formoso do Araguaia) and Central (Pedro Afonso).

## (4.5) Competitiveness

The exercises of calculation of competitiveness show that, in the current conditions, the corn produced in the area-program doesn't present competitiveness of prices in the international market and nor in the national market, this last one burdened excessively by the road transport costs.

# (5) Soy bean

## (5.1) World Balance

According to FAO (2000), the soy production, harvest 1999/2000, it is projected in 154,2 Mt, and the one of other oleaginous ones in 41,9 Mt of colza; 34,9 Mt of cotton in pit; 30,6 Mt of almonds of tropical palm trees; 26,4 Mt of sunflower and 11,2 Mt of other oleaginous ones. After two harvests of significant expansion in the world production of oils and fats of seeds and grains of oleaginous plants, the production of all of the grains and seeds that produce oil is projected to increase for 309,1 Mt in the station 1999/2000, slightly superior to the production of the harvest 98/99, of 308 Mt, and only the production of the seven main cultivations of that group (soy, colza, cotton in pit, other plants producing of almonds, sunflower, palm and copra) it should reach 299 Mt. That increment is due to the recovery of the record break in the colza harvest, happened in the two previous years, and for the recovery in the cotton production in pit and copra. Those more increments than they will compensate the falls in the soy, sunflower and almonds of other tropical plants.

The global production of soy tends to fall 3% in relation to the record reached in the previous harvest, while the production of all of the oils and fats, derived of oleaginous plants, it should pass from 110,3 to

113,9 Mt, and derived them of soy will refuse from 25,7 to 24,9 Mt of oil. Asia will continue leading that production, following by North America, Europe and South America, as it Fixes III.27, to proceed.

To world production of oils and fats it was, on average, of 99,2 Mt, in the period 94/97, of which the soy participated with 21,3%, palm with 17,2%, colza with 11,1% and sunflower with 9,2%. Already in the harvest 1999/00, the forecast was of a production of 113,9 Mt, being 24,9 Mt of soy (21,9%), 21,2 Mt of palm (18,6%); 14,7 Mt of colza (12,9%) and 9,7 Mt of sunflower (8,5%).

The use for human consumption of derived of grains and oleaginous seeds (oils and fats), according to FAO (2000), it should reach 114 Mt, an increment of 4% on the previous harvest (98/99). International prices relatively low (compared to the average of the previous years) combined with the retaking of the economic growth in Asia and expected improvement in the growth of the per capita income all over the world they should contribute to increments in the world demand. Relatively to the composition of the global consumption, the participations of the palm oils and colza they should grow more in this station, while it should fall significantly, in relative terms, the participation of the soy oil, although it continues very high, in absolute terms. Although the largest expected increment happens in Asia, the consumption of those products should also grow in North America and in the European Union (UE).

The growth of the consumption in the animal feeding of pies and crumbs should fall lightly in the period 99/2000. However, the global consumption, expressed in protein-equivalent, it should increase 2%, reaching 77 Mt. The largest consumption increment will owe if to give with the canola oil, for the abundant offer and attractive prices. In the USA and UE that, together, they answer for more of the half of the global consumption, the demand for pies and crumbs should be stagnated, in the period, due to the competitiveness of the prices of the grains for animal feeding. In the European Union, the consumption of colza seeds and other oleaginous ones, produced regionalmente, it will be equally growing to the detriment of imports of derived of the soy. In the countries of the East and Southwest of Asia is waited for growth in the consumption taxes, returning at the levels registered previously to the Asian economic crisis.

In the october/98 period the september/99, the five larger soy importers were Holland, Japan, Germany, China and Mexico, answering for 20,21 Mt. It is waited that ¾ of the expansion of the imports happen at the Asian countries. Imports of China and India should reach 5,2 and 4,9 Mt, respectively. Other countries of that area should also adopt facilitative measures of the import. In South America, Cazaquistão, Russian Federation and Ukraine the imported volume should be red-handedly below the average, while in the European Union and USA, the imports will be equally increased to recover the reduced levels of the last station.

The largest exporters are United States, Brazil, Argentina and Paraguay, that exported 36,2 Mt of soy, of a total of 39,36 Mt. The largest increments in the embarkments of oils and vegetable fats of grains of oleaginous, they should happen in Asia. The recent recovery in the Asian embarkments of oil and palm almond and coconut oil (after the reduction of the previous period, due to climatic phenomenon) it should continue in 2000. Combined exports of Malaysia, Indonesia and Philippines of derived of seeds of tropical palm trees should exceed 15 Mt, closing like this 1/3 of the global exports of oils and vegetable fats in this station, constituting strong competition with the soy and yours derived. Among the softoils, the embarkments of soy oil should fall in 99/2000, and its demand will be substituted equally by the canola oil, partially due to the tendency of some of the main importers prefer to import grains, instead of the processed oil, to cover their domestic needs.

With base in the offer and demand waited for the period 99/2000, the stocks of end of station of oils and fats of seeds of oleaginous plants should be reduced significantly, in relation to the previous station, as well as the consumption level it should exceed him/it of production. Also the stocks of pies and crumbs should refuse substantially, as well as the global demand should exceed to world production. The taxes of stock of passage of pies and crumbs should be low at the end of the station, contributing like this to the price recovery of those derived of seeds of oleaginous, internationally. As for the soy, the offer projections and demand they should take the a fall in the stocks of that grain and of yours derived.

The international prices of the derived products of grains and seeds of oleaginous were submitted to a strong drop pressure in the period october/98 the septeber/99, thanks, above all, to the great world harvest and growth of the stocks, reaching the lowest prices since 1992/93. However, at the end of 1999, they were expected fundamental changes in the market, caused by the ascending prices for most of the grains of oleaginous and yours derived, a tendency that, it is waited, it should continue in the present station and in the close. In the Tabela III.27, below, they are the changes foreseen in the price indexes of derived of grains and seeds of oleaginous plants, in the station 99/2000, vis-à-vis happened him in previous harvests.

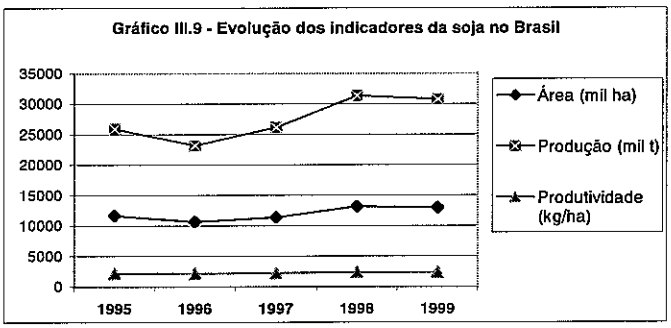
Table III.27-International Prices of derived of grains and seeds of oleaginous plants

| Product | Average 94/95 - 96/97 | 97/98 | 98/99 | 99/00 |
|---|---|---|---|---|
| All oils and fats | 143 | 155 | 127 | 154 |
| Eatable oils and light soaps * | 142 | 154 | 125 | 101 |
| | 146 | 161 | 125 | 101 |
| Pies, crumbs * * | 118 | 116 | 82 | 97 |
| Oleaginous seeds * * * | 116 | 109 | 89 | 82 |

Price indexes of fats and oils of FAO:1990-92=100 (exclusively butter and bacon)
Obs.: * Cotton seed oils, almonds of tropical palm trees, colza, soy and sunflower;
* * Prices of copra pie, of almonds of tropical palm trees, of palm and of soy; of colza crumb and sunflower;
* * * Prices of soy grains, colza seeds, linen and of sunflower
Source: FAO: Commodity Market Review, 1999-2000.

## (5.2) Soy National Panorama

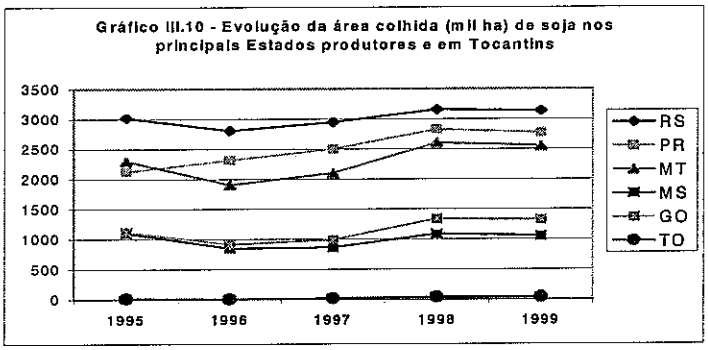
The Brazilian production of soy has been growing significantly in the last five years, impelled by the productivity earnings in some producing areas and for the expansion of the cultivated area, mainly in the Brazilian Center-west. Between 1995 and 1999, the national production increased 18,6%, jumping of 25,9 Mt for 30,8 annual Mt, representing an annual tax of about 3,7%. The producing area expanded of 11,9 thousand for 13,0 thousand hectares in the same period, meaning a total growth of 11,3% or 2,2% a year.




Source: Conab

In the last five years the national medium productivity of the soy increased 6,6%, rising of 2.220 kg/ha for 2.367 kg/ha. The main states producers are Rio Grande do Sul, Paraná, Goiás, Mato Grosso and Mato Grosso do Sul. In relation to 1995, the exception of Mato Grosso do Sul, with 4% of fall, and Rio Grande do Sul, with increase of 3,9%, the other states present significant growth rates of the cultivated area (Paraná, 30,6%, Goiás, 18%, and Mato Grosso, 11%). Goiás, Paraná and Mato Grosso, in this order, they presented the largest growth indexes in the production, in the last 5 years, of 60,2%, 39,5% and 31,1%.

According to CONAB, now the area Center-west leads the soy national production, with 14,7 Mt, following by the South, with 12,5 million t. The Northeast area produced in the last harvest 2,500 thousand t (Barreiras/Ba, with 1,550 thousand, Maranhão, with 450 thousand t and Piauí, with 50 thousand tons). Tocantins participated with 85 thousand tons.




Source: Conab

The area potential for soy-grain production in Tocantins, Maranhão and Piauí is now about 1,5 million hectares in each one and the cultivated is of 41.000 there is in Tocantins; 175.000 there are in Maranhão and 35.000 there is in Piauí. The area of Barriers, west from Bahia, with potential equal (1.500 there are), it already cultivates 650.000 there is with soy.

The Brazilian income, in the crush of the soy grain, results in 79% of crumb, for animal feeding, 19% of oil, for human feeding and 2% of residue.

The per capita consumption of soy oil in the human feeding, in the areas covered by POF-IBGE, it was of 8,841 kg/ano, in 1987/88, being reduced for 6,940 kg/ano, in 1995/96. Significant reductions were observed in the annual per capita consumption of soy oil, in the researched metropolitan areas, on average of 22%, mainly in São Paulo (41%), Porto Alegre (38%) and Goiânia ((23%). The largest consumption was observed in Brasília (!0,9 liters/year), Beautiful Horizonte(9.8 l), Curitiba and Goiânia (9,8 and 9,7l). In the Northeast, the per capita consumption was of 4,1 l in Salvador and 4,5 l, in Recife and Fortaleza. In Belém, the consumption was of 4,6 l / year.

The consumption apparent Brazilian of soy crumb was of 6.945 thousand tons, in 99/2000, as it Fixes III.28.

Table III.28-Brazilian Soy: Production, Domestic consumption and Export
Period 1991/92 to 2000/01
(in a thousand tons)

| Brazilian soy | 1991/92 to 2000/01 | 1991/92 to 2000/01 (%) |
|---|---|---|
| 1. Grain | - | - |
| the) domestic production: | 255 715 | 100,00 |
| a.1 Export | 58 641 | 22,93 |
| a.2 Crush | 188 523 | 73,72 |
| 2. Crumb | - | - |
| b) Production | 147 689 | 100,00 and 73,72% of 1a |
| b.1 domestic consumption | 38 502 | 26,06 |
| b.2 Export | 97 611 | 66,09 |
| 3. Oil | | |
| c) Production | 35 662 | 100,00 and 18,92% of 1a.2 |
| c.1 domestic consumption | 25 421 | 71,28 |
| c.2 Export | 11 652 | 32,67 |

Source : FAO: Commodity Market Review, 1999-2000 (dados elaborados pela Eccon).

Of the ten considered harvests (from 1991/92 to 2000/01), they were obtained 255.715.000 t of grains, of the which 188.523.000 t or 73,7% were squeezed internally, producing 147.689.000 t (57,8%) of crumb and 35.662.000 t (18,9%) of soy oil.

They were exported, in the considered period, 58 641 000t (22,9%) of grains, 7.611.000 t of crumb and 11.652.000t of oil. He/she gave oil produced internally, 25.421.000 t or 71,3% went to the domestic consumption and 32,67% were exported.

In 1996, 943.286 tons of soy grain were mattered, in the value of US$ 242,8 million, and in 1999, 159.098 t, in the value of US$ 74,6 million. USA and Paraguay were the great suppliers of soy grain to Brazil in the period.

As for the soy crumb, 91.815 t were mattered, in the value of US$ 24,6 million, in 96 and 78.064 t, in the value of US$ 48,6 million, in 99. Paraguay and Argentina were the main suppliers.

Finally, as for the rude and refined soy oil, 168.933t were mattered, in the value of US$ 91,7 million, in 96; 159.098 t, in the value of US$ 74,6 million, in 99. Again, Paraguay and Argentina were the main suppliers

The Brazilian exports of soy reached 3,6 Mt in 1996, in the value of US$ 1 billion. Netherlands, Japan and Spain were the main buyers; 11,3 million t of soy crumb, in the value of US$ 2,7 billion. Netherlands, Spain, China and France were the main buyers; and 1,3 million t of rude and refined oil of soy, in the value of US$ 713,3 million, destined to China, Iran, Bangladesh and Netherlands. In 1999, the Brazilian exports of soy grain reached 8.917.209 t, in the value of 1,6 billion dollars. Netherlands, Spain, Germany, Italy and Japan were the main destinies. As for the crumb, 10.430.878 t were exported, in the value of 1,5 billion dollars. Netherlands, France, Spain and Germany were the main destinies. Finally, 1,5 million t of oils rude and refined of soy were exported, in the value of 687, 4 million dollars in 1999. Iran, China, Netherlands and Bangladesh were the main buyers.

As for the competitiveness of the Brazilian, Brazil, in the last years, saw their main ones competitive international, USA and Argentina (that duplicated his/her production of grains, passing of 30 Mt for 60 Mt) they increase their participations in the world exports, so much in the crush capacity, as in the production of grains, developing, for so much, a competent commercial policy, besides in the fundamental subjects of logistics and competitiveness, removing of Brazil a slice of his/her market (AGROANALYSIS, 07/98).

## (5.3) Main Markets in Brazil

Like this, for the soy oil the domestic market prevails, disseminated by the whole country. Already the in the soy crumb is the export prevails. Besides appreciable domestic market for soy oil, Brazil is also the third largest world consumer of crumb. In both, the primary producer doesn't participate directly of the processing activities and distribution (safe they adopted to cooperatives with the crush and export).

The crumb consumption is narrowly linked to the animal consumption, mainly of birds and swine. Therefore, their markets, internal and external, they concentrate on the areas producing of birds and swine, besides bovine (as supplemental feeding). In the Brazilian case, it parcels out larger of the poultry park and main swine productors is located in the South of the Country, that doesn't depend on derived on soy of other areas, because it is self-sufficient, so much in the production of grains as in the crush. Like this, for the production of soy of the new borders (Center-west, North and Northeast), while there they are not operand great farms and poultry slaughterhouses and swine production, the main destiny of the regional soy and of yours derived, it will be the foreign market. This way, the subjects, related with the commercialization, mainly in what it refers to the physical means and conditions logisticses, healthy quite important for the maintenance of the competitiveness, should be object of the largest concerns of the people who has relative decisions to the regional development.

However, our storage capacity only assists to 5% of the harvest (against 50% of Argentina and 200% of the USA). That forces the immediate displacement of the product, for the silos and intermediate dryers of the cooperatives and exporters/esmagadoras, pressing the freight (+50% in the harvest), besides losses in the quality of the grain. In the Brazilian head office of soy transport, only 5% are made by hidrovia, 28% for railroad and 67% for highway. That represents an average of US$ 35,00 / a thousand tku. As the medium distance is of a thousand kilometers, the cost is of US$ 35,00/t, more than the double of the Argentinean and American cost. The highways are only unbeatable in distances of up to 200 km; the railroads, in 1 000 km and the hidrovias, above 1 000 km. The port costs in Brazil represent 3 to 5% of the export value (US$ 12.00/t, in Santos, US$ 7.50/t, in Paranaguá, and Big Rio), while in the Argentina eqüivale to 1,5% and in the USA, 1% (US$ 3.00/t) (ABIOVE, 1998).

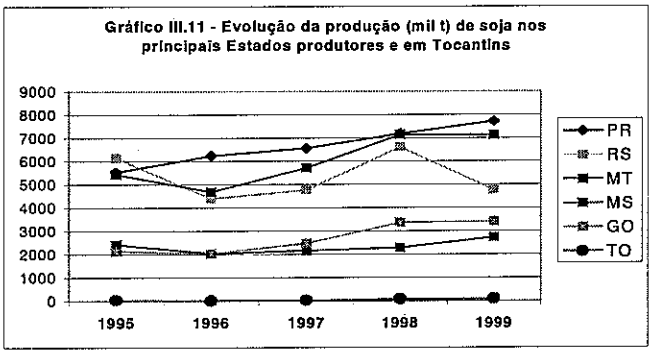
## (5.4) Tocantins Market

In the State of Tocantins, the area cultivated with the soy is very small, (41.000 there are in 1999), but it is in expansion, with growth of 140% in relation to the year of 1995. Reaching, in the last year, the

volume of 93.800 tons, 186% larger than in the beginning of the period, with medium productivity of 2.340 soy kg/ha. In spite of, according to researchers of Embrapa, Unit of Rafts, "prevailing the current model of soy production (great planted areas, for property, with total mechanization of the production operations), the area North Extreme of Tocantins has few chances of participating in the current Brazilian boom of expansion of the agricultural border of the soy in the North direction, because it has few areas in this conditions. Like this, the culture should continue moving forward for the State of Piauí, where the properties are larger, the price of the earth is smaller than in the west from Bahia and no there is the environmental limitation, of only to deforest up to 20% of the total area of each property, as still prevalent in the Amazonian area" (personal Communication of 25/06/2000).

It is very small the state market for soy in grain for the absence of smashing capacity and for the small poultry flock and suinícola comercial/industrial.

As for the human consumption of soy oil in Tocantins, in the absence of more recent official data, it can be used, for interpolation, the data of POF-IBGE, of 1987/88 and 1995/96, relative to the home consumption of foods in the metropolitan areas of the closest states, to know: Goiânia, Belém and Fortaleza, whose per capita average is of 6,1 l/ano, what would result in a state consumption of the order of 7 Mt.




Source: Conab

The corridor multimodal Center-north already drained almost 2 Mt of soy, since 1992, through the marine terminal of tip Wood, in São Luiz/MA. The purchases of soy of the area-program are made and stored in Balsas/MA and Pedro Afonso/TO and transported of truck, even Imperatriz/MA. The cost of the road transport (380 km) it is of R$ 20,00/t; the railway man (605 km), R$ 17,17, in other words, 80% cheaper than the road. The railroad North-south, with 92 km, between Empress and Açailândia, where he/she makes connection with EFC, it made possible the development of the agricultural pole of Rafts and it the cultivation of grains in Tocantins and in Piauí (ABIOVE, 1998).

## (5.5) Competitiveness

The soy tocantinense presents competitiveness of prices in the international market, with margin of competitiveness of the order of 30%. This means good opportunity for the expansion of the production in the area-program, since the rail transport is used until Ponta da Madeira port.

In the national market, however, the product didn't present competitiveness, in function of the high costs of the road transport.

# (6) Cotton

## (6.1) World Balance

a) Cotton in pit

The picked area of cotton in pit in the world, dear for USDA, average of the last three harvests (97/98, 98/99 and 99/2000), it was of 32.707.500 hectares/ano. In this period, India, with 8,95 million hectares, led in area, following by the USA, with 5,06 million of there is; China, with 4,23 million of there is and

Pakistan, with 2,96 million hectares. In that period, Brazil picked cotton in 720 thousand of hectares, on average and a year. In the period 1980/81 to 1999/2000, the picked area of cotton in the world stayed stable (32.211.000 there are, in 80/81 and 32.188 000 there is, in 99/2000).

The world productivity, average of the period 97/98, 98/99 and 99/2000, it was of 1,035 t/ha, led by Syria, with 2,65 t/ha, following by Australia, with 2,06 t/ha; China, with 1,83 t/ha; Turkey, with 1,68 t/ha and Brazil, with 1,13 t/ha.

To world production, annual average was of 33,83 Mt, led by China, with 7,76 Mt; USA, with 5,54 Mt; India, 5,36 Mt; Pakistan, 3,39 Mt. Brazil, in that period, produced 0,8 Mt of cotton in pit, on average and a year.

b) Cotton in feather

In the last three harvests (97/98, 98/99 and 99/00), the annual medium production of cotton in feather, in the world, was of 18.765.667 tons, led by China, with 4,3 Mt, following for the USA, with 3,6 Mt; India, 2,7 Mt Paquistão, 1,6 Mt. According to CONAB, to pit world production, pie and oil, of the cotton compound he/she behaved like this, in the harvests from 1993/94 to 1997/98:

Table III.29-world production of the compound cotton
Period 1993/94 to 1997/98
(in million of tons)

| Product | 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 | Medium |
|---|---|---|---|---|---|---|
| PIT | 29,49 | 32,90 | 35,93 | 34,37 | 33,91 | 33,32 |
| Crooked | 10,67 | 11,74 | 13,21 | 12,46 | 12,17 | 12,05 |
| Oil | 3,38 | 3,73 | 4,16 | 3,90 | 3,87 | 3,81 |

Source; FGV/Agroanalysis, vol 18, nº 7, julho/98,p. 48.

In the last three harvests (97/98, 98/99 and 99/00), the cotton global consumption in feather was of 19,1 Mt (300 thousand tons adult than the production), led by China with 4,38 Mt, following for India, 2,78, and USA, 2,31 Mt annual averages.

In the analyzed period, the world imports of cotton in feather were, on average, of 5,729 annual Mt, led by the Asian countries - Indonesia, Malaysia, Philippines, Singapura, Thailand and Vietnam - with the annual average of 945 thousand tons, following for the European Union, with 941 thousand t and Mexico, with 367,7 thousand t. In that period Brazil imported an average of 358,7 thousand annual t, being, therefore, the 4th larger importer of this fiber.

In the same period the annual medium exports reached 5,6 Mt, led by the USA, with 1,331 Mt of cotton in feather, following by Uzbequistão, with 912 thousand t and the 10 African countries of French language, with 792 thousand t.

As the FA-USDA, the international prices of the cotton in feather were, of 1,773 dólares/t, in 1996; 1741, in 1997; 1440, in 98 and 1,173 dolars/tons, in 1999. Already FAO informs that the cotton prices in feather continued with drop tendency in 1999, about 30% lower than in the previous harvest. The average of prices, was of 189 US $cents/kg (average of 94-96); of 159, in 97 and of 112, in 1999.

## (6.2) National Cotton Panorama

Brazil, that was already the second largest world producer of cotton, assumed, in the decade of 90, the condition of great liquid importer of the product, with bulky external purchases, starting from 1992. In 1996-97, Brazil spent US$1,43 billion of fiber import, línter, crumb, oil and other products of the cotton, besides threads and woven. In the agricultural year 96/97, only 305,6 thousand tons were produced and imported 470 thousand cotton t in feather. From 1994 to 98, only of Argentina and Paraguay, US$ 2,283 billion of cotton were mattered.

Since 1985, the area of the cotton falls year after year, with having accentuated decline starting from 1992, when the bulky imports of the product began. The national production also shows tendency declinante very accentuated, although the productivity has grown, in reason that the farmers that stayed in the activity are those of higher technology, besides with the call "new cotton", capital-intensive and of high technological patterns, just as it is happening in Mato Grosso in the current days

According to the estimates of junho/2000 of IBGE, the Brazilian production of herbaceous cotton in pit, that was of 1.594.036 t, in 1992, reached 1.790.426 t in 2000, in a picked area of 812.448 there is and medium productivity of 2.204 kg/ha. In the North area, she decreased of 10.273 t, in 92, for only 595 t, in 541 there is, in 2000; in the Northeast, it passed of 167.268 t for 264.196 t; in 228.208 there is In the Southeast, fall of 476.041 t for 232.220 t; in 114.990 he/she has been picking; in the South, it decreased of 972.804 t for 124.469 t, in 53.817 there is. In compensation, there was a great expansion of the area Center-west, that developed of 236.691t produced, in 180.941 hectares, in 92, for 1.168.946 t in 414.882 there is and a medium productivity of 2.818 kg/ha, in 1999/2000.

Like this, the cotton is the product that offers the best opportunities for the national agriculture. If the problem of the agriculture is market, the cotton has a potential internal demand extraordinarily favorable. With effect, the Brazilian textile industry made money, in US$ 99,2 billion, should arrive at 22 billion in the year in course. The exports of textile products should reach US$ 1,4 billion in 2000. The jobs generated in that section, in 99, they were 30 thousand, according to ABIT. The investments in the modernization of the Brazilian industrial park should reach R$ 12 billion, second that association.

Such opportunity out well captured by Mato Grosso, where the culture comes if expanding lately, beating Goiás, Paraná and São Paulo of the national leadership. In this process, the development of new cultivate of cotton, best adapted to the savannahs has been fundamental. In the attempt of recovering their farmings, Goiás threw this year a support plan to the cotonicultura, with base in the award for fiber quality, cultural treatments, use of certified seeds and credit for the production. The acting matogrossense, and Goiás, did with that the area Center-west assumed the leadership in the culture of the cotton, answering, for 64% of the last harvest and about of the half of the area cultivated in 99/2000.

According to prognostic of CONAB in 96 that "as for the evolution of the production of oleaginous, the areas Southeast and South have little expansion possibility, falling to the area Center-west to assume relevant paper in his production." Concerning the cotton, the Tabela III.30, to proceed, corroborates this statement, showing the ascension of the State of Mato Grosso to the national leadership in the cotton production, with an annual medium production of cotton in pit of 289.700 tons and of cotton in feather of 186.580 tons; an average of picked area, in the last four harvests, of 160.020 hectares and a medium productivity of 2.617,5 cotton kg/ha in pit; Like this, that State picked 21% of the total area of cotton of the country. The picked area increased 105% in the harvest 97/98 and 32% in the harvest 99/2000, in relation to the harvests immediately previous. The medium productivity was 48% superior to the national average; the cotton production in pit represented 33,6% of the Brazilian average and 38,5% of the Brazilian medium production, in the last four harvests, of herbaceous cotton in feather.

The North area, of another part, in the analyzed period, had participation just marginal in the Brazilian cotton cultivation, passing of 10.273 t, in 7.762 has been picking, in 1991/92, for only 595t, in 551 there are, in 99/2000. The evolution of the cotton production in the main Brazilian states, in the period 1996/97 to 1999/2000 can be visualized in the following graph..

More recent estimates (july/2000), they indicate that, "due to the productivity increase in Mato Grosso, Mato Grosso do Sul and Goiás, they should leave the farmings about 700 thousand cotton t in pit, when in the beginning of the year the estimate was of 610 thousand t. The domestic consumption should be of 850 thousand t and the imports of 250 thousand t, according to ABIT, with a stock at the end of the year of 100 thousand t. Groups as Maeda, Unicoton and Esteves already embarked, in this harvest, small amounts of the fiber to Europe, besides India, China, Bolivia and Peru, among other." (MURAKAWA, 15/08/2000).

Graph III.12 - Area, production and cotton income in selected states

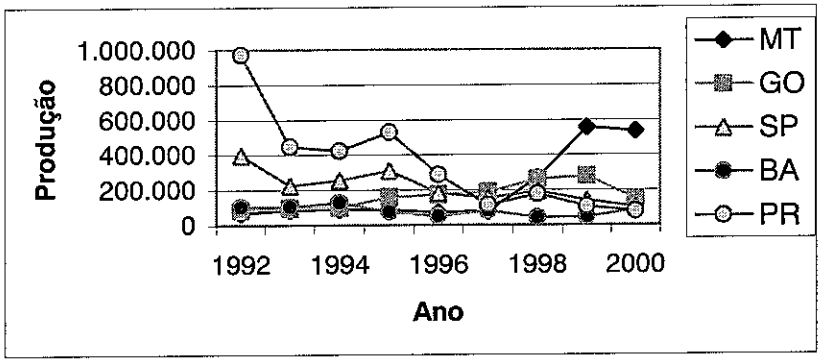



Table III.30-Brazil: picked area, productivity and cotton production in pit and in Medium feather of the harvests 1996/97, 97/98, 98/99 and 99/2000

| Areas/States | Area (1000ha) | Productivity (kg/ha) | Production cotton in pit (a thousand t) | Production cotton in feather (a thousand t) |
|---|---|---|---|---|
| North* | 3,81 | 1213,2 | 3,15 | 1,67 |
| Northeast * * | 227,75 | 652,5 | 97,87 | 52,12 |
| Piauí | 9,55 | 655,0 | 3,60 | 1,90 |
| Ceará | 86,55 | 685,0 | 39,45 | 20,65 |
| Rio Grande do Norte | 18,90 | 429,0 | 5,95 | 3,10 |
| Paraíba | 19,05 | 850,0 | 11,85 | 6,15 |
| Pernambuco | 7,20 | 401,5 | 1,90 | 1,00 |
| Alagoas | 7,10 | 449,5 | 2,10 | 1,10 |
| Sergipe | 1,30 | 195,0 | 0,20 | 0,10 |
| Bahia | 90,47 | 1022,5 | 47,45 | 30,20 |
| Center-west | 318,72 | 2428,8 | 504,48 | 293,50 |
| Mato Grosso | 160,02 | 2617,5 | 289,70 | 186,58 |
| Mato Grosso do Sul | 42,22 | 2275,0 | 61,58 | 34,72 |
| Goiás | 116,30 | 2195,0 | 152,82 | 84,60 |
| Southeast | 143,27 | 1881,8 | 170,15 | 91,62 |
| Minas Gerais | 58,55 | 1682,5 | 62,40 | 34,20 |
| São Paulo | 84,72 | 2023,8 | 107,80 | 57,42 |
| South | 69.82 | 2010,5 | 86,62 | 46,68 |
| Paraná | 69,82 | 2010,5 | 86,62 | 46,68 |
| Brazil | 763,77 | 1761,8 | 862,28 | 485,15 |

Source: CONAB/DIDEM, 2000
Obs. : * North area - available Data only for the attaché of the area
* * Northeast area - except Bahia, the data of other States refer to the average of the harvests 1998/99 and 99/2000 only.

The cotton production costs and their components are presented in the three following tables.

Table III.31-Brazil: Production cost of the herbaceous cotton in different productivity levels in three Brazilian states Harvest 1999/2000

| Level of Productivity-State (@ / há) | TOTAL COST (US$/ha) | Total cost (US$ / @) |
|---|---|---|
| 140 @ - GO | 785,29 | 5,61 |
| 180 @ - MS | 810,84 | 4,50 |
| 220 @ - MT | 841,69 | 3,83 |
| 250 @ - (Irrigado sob pivô central) –MS | 991,38 | 3,97 |

Source: FNP Consultoria. In: AGRIANUAL, 2000.

Table III.32-Composition of the production cost of the herbaceous cotton in three Brazilian states. Safra 1999/2000.

| Component of the Cost | 140 @ / ha-GO | | 180 @ / ha-BAD | | 220 @ / ha - MT | | 250 @ / ha - BAD | |
|---|---|---|---|---|---|---|---|---|
| | US$/ha | % | US$/ha | % | US$/ha | % | US$/ha | % |
| Operations | 350,51 | 44,63 | 312,92 | 38,59 | 312,92 | 37,18 | 441,41 | 44,52 |
| Inputs | 323,80 | 41,23 | 411,45 | 50,74 | 424,43 | 50,42 | 440,92 | 44,48 |
| Administration | 85,19 | 10,85 | 55,31 | 6,82 | 57,93 | 6,88 | 65,77 | 6,63 |
| Powders Crop | 25,79 | 3,28 | 31,16 | 3,84 | 46,40 | 5,51 | 43,28 | 4,36 |
| TOTAL | 785,29 | 100% | 810,84 | 100% | 841,69 | 100% | 991,38 | 100% |

Source: FNP Consultoria. In:AGRIANUAL, 2000. % calculado

Table III.33 - Brazil: Cost of powder-crop of the cotton in pit
in five producing states - Harvest 1999/2000

| Component of the cost of powders crop | Cost (US$ / @) | | | | |
|---|---|---|---|---|---|
| | SP | MT | GO | BAD | PR |
| Transport * | 0,044 | 0,087 | 0,063 | 0,051 | 0,045 |
| Reception of the load | 0,022 | 0,031 | 0,028 | 0,028 | 0,022 |
| Classification | 0,029 | 0,027 | 0,027 | 0,029 | 0,029 |
| Weighting | 0,016 | 0,016 | 0,016 | 0,016 | 0,016 |
| Discharge | 0,038 | 0,038 | 0,038 | 0,038 | 0,038 |
| He/she rates administrative | 0,011 | 0,011 | 0,011 | 0,011 | 0,011 |
| Total | 0,160 | 0,211 | 0,184 | 0,173 | 0,162 |

Source: FNP Consultoria, AGRIANUAL, 2000.
Obs. * I cost of the 1st transport: SP, PR = 40 km until the wholesaler; GO=70 km; MT = 80 km and MS = 60 km.

The tables below show the prices of the cotton in the domestic market and of the USA..

Table III.34-Prices of the cotton in pit, received by the producers, in Mato Grosso, Goiás, São Paulo and Paraná - Period of 1990-99 - (US$ / @)

| Year | Media 1 MT | *MEDIA 2 MT* | Média 1 GO | Média 2 GO | Média1 SP | Média 2 SP | Média 1 PR | Média 2 PR |
|---|---|---|---|---|---|---|---|---|
| 1990 | 4,51 | 5,77 | 5,45 | 6,96 | 6,16 | 7,87 | 5,80 | 7,41 |
| 91 | 4,47 | 5,45 | 5,01 | 6,11 | 5,27 | 6,43 | 5,36 | 6,54 |
| 92 | 3,27 | 3,90 | 4,12 | 4,91 | 4,58 | 5,47 | 4,08 | 4,87 |
| 93 | 4,37 | 5,06 | 4,71 | 5,45 | 5,69 | 6,59 | 5,23 | 6,05 |
| 94 | 5,33 | 6,01 | 6,09 | 6,86 | 6,92 | 7,80 | 6,53 | 7,36 |
| 95 | 6,07 | 6,64 | 6,33 | 6,93 | 6,89 | 7,54 | 6,75 | 7,39 |
| 96 | 6,49 | 6,90 | 6,81 | 7,24 | 7,14 | 7,60 | 7,17 | 7,63 |
| 97 | 7,17 | 7,45 | 7,19 | 7,47 | 7,97 | 8,29 | 7,85 | 8,16 |
| 98 | 5,88 | 6,02 | 6,44 | 6,59 | 6,10 | 6,24 | 6,18 | 6,33 |
| 99 * | 4,30 | 4,32 | 4,08 | 4,11 | 4,79 | 4,82 | 4,74 | 4,77 |

Source: FNP Consultoria, AGRIANUAL, 2000
Average 1-annual Average in US $average. Average 2 - annual Average in dollars deflated by the Price indexes in the Retail (CPI-U), of The Economist.

Table III.35 - Prices in the available of the USA (average of 8 markets) and New York.
Period 1990/99 - ( cents/libra-peso*)

| Ano | Média 1 EUA | *Media 1 EUA* | Média 1 N.YORK | Média 2 N.YORK |
|---|---|---|---|---|
| 1990 | 71,25 | 91,05 | - | - |
| 91 | 69,75 | 85,14 | 74,09 | 90,44 |
| 92 | 53,94 | 64,40 | 57,90 | 69,13 |
| 93 | 55,35 | 64,10 | 59,98 | 69,46 |
| 94 | 73,27 | 82,57 | 75,32 | 84,87 |
| 95 | 93,49 | 102,37 | 93,46 | 102,34 |
| 96 | 77,98 | 82,95 | 78,07 | 83,05 |
| 97 | 69,88 | 72,64 | 72,43 | 75,29 |
| 98 | 67,00 | 68,58 | 68,66 | 70,28 |
| 99 * | 53,93 | 54,27 | 56,38 | 56,74 |

Source: FNP Consultoria, AGRIANUAL, 2000. Data of USDA (USA) and Bag of N.York.
Obs.: * 1 Libra-weight = 453,6 g. Therefore, 1 kg = US$ cents;
Average 1-annual Average in US $average. Average 2 - annual Average in dollars deflated by the Price indexes in the Retail (CPI-U), of The Economist.

In the period 1980-96, the average prices of the cotton in feather were of US$0,707/libra weight, in the international market and US$ 0,673/libra weight, in the domestic market, therefore, -4,8%, having overcome the international price in only 4 years of the analyzed period.

In the period 90-96, the internal prices were of R$8,94 / @, for the cotton in pit and R$ 0,64/libra weight, for the cotton in feather (income of 33% in feather). The largest quotation reached in the period was in 93, with R$10,23 / @, equivalent the R$0,92/libra weight. In this period, the average price of the feather in the wholesale of São Paulo was of R$0,91/libra-weight.

The Tabela III.36, to follow display the swinging of the offer and of the demand of the cotton in Brazil.

Table III.36 - Brazil: Balance of Offer and Demand Brazilian of Cotton in Feather
Harvests from 1989/90 to 98/2000 - (in tons and kg per capita/ano)

| Agricultural year | Date base | Production (t) | Import (tons) | Consumption (tons) | Per capita consumption (kg/hab/ano) | Export (tons) | Stock final (tons) | Stock (% of the consumption) |
|---|---|---|---|---|---|---|---|---|
| 89/90 | 01.03 | 665.700 | 86.100 | 730.00 | 5,04 | 110.600 | 36.400 | 5,0% |
| 90/91 | 01.03 | 717.000 | 105.900 | 718.100 | 4,89 | 124.300 | 16.900 | 2,4% |
| 91/92 | 01.03 | 667.100 | 167.800 | 741.600 | 4,98 | 33.800 | 76.400 | 10,3% |
| 92/93 | 01.03 | 420.200 | 501.200 | 829.500 | 5,50 | 7.400 | 160.900 | 19,4% |
| 93/94 | 01.03 | 483.100 | 367.300 | 836.600 | 5,47 | 4.300 | 170.400 | 20,04% |
| 94/95 | 01.03 | 537.100 | 282.300 | 803.700 | 5,19 | 52.500 | 133.500 | 16,6% |
| 95/96 | 01.03 | 410.100 | 468.200 | 826.100 | 5,26 | 1.600 | 181.100 | 21,9% |
| 96/97 | 01.03 | 305.700 | 470.800 | 798.700 | 5,02 | 300 | 158.600 | 19,9% |
| 97/98 | 01.03 | 411.700 | 316.500 | 782.900 | 4,86 | 3.100 | 100.800 | 12,9% |
| 98/99* | 01.03 | 525.800 | 270.000 | 800.000 | 4,90 | 3.100 | 93.500 | 11,7% |
| 99/00** | 30.07 | 700.000 | 250.000 | 850.000 | - | - | 100.000 | 11,8% |

Source: CONAB, 2000. Obs.: * Previsão. ** Previsão revista pela ABIT; (-) Dados não disponíveis.

The Brazilian per capita consumption of clothing is of 8,6 kg/year, superior to the world per capita consumption, that it is of 7,6 kg/year, according to FGV/CNI. In the segment of the weaving of the Brazilian textile chain, 70% of the used fibers are natural, 25% artificial and synthetic and 5% of other (linen, wool, sedates etc.).

The Brazilian imports are presented in the Tabela III.37 to proceed.

Table III.37 - Brazil: cotton Import in feather., for country of origin
Period 1994-98. Ranking for country of origin –1998 * * - (in million of dollars and tons)

| | 1994 | | 1995 | | 1996 | | 1997 | | 1998 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Country | MUS$ | t | MUS$ | t | MUS$ | t | MUS$ | t | MUS$ | t |
| Argentina | 100.441 | 62.500 | 70.355 | 36.173 | 223.773 | 226.066 | 262.513 | 152.714 | 132.906 | 89.477 |
| Paraguai | 126.817 | 76.384 | 153.683 | 74.612 | 158.838 | 86.674 | 81.829 | 44.033 | 73.396 | 47.531 |
| Uzbequistão | 38.010 | 23.272 | 112.440 | 56.834 | 157.621 | 88.110 | 100.055 | 60.827 | 55.676 | 38.220 |
| EUA | 85.349 | 64.448 | 78.649 | 42.652 | 80.973 | 41.440 | 96.949 | 55.813 | 54.661 | 33.100 |
| Mali | 12.613 | 9.997 | 16.641 | 8.000 | 3.319 | 1.550 | 14.422 | 8.029 | 27.213 | 16.604 |
| Outros | 168.543 | 110.143 | 69.775 | 37.662 | 188.255 | 101.227 | 172.407 | 102.450 | 69.633 | 43.077 |
| Total | 561.634 | 365.729 | 544.034 | 279.026 | 859.896 | 568.169 | 813.693 | 472.097 | 495.798 | 316.425 |

Source: FNP/SECEX/Decex. In: AGRIANUAL, 2000. Obs.: * Cotton no combed, nor hairdo. * * For negotiated value. MUS$ = US$ 1000 FOB. Among other countries they stood out: Costa of the Ivory, Togo, Nigeria and Pakistan.

In the years 95/99, the Brazilian exports of cotton in feather, that no longer they were substantial in the beginning of the period, they fell down of US$ 91.543 thousand FOB and 51.237 tons, in 95, for US$ 2.904 thousand and 2.335 t, even July of 99. The destiny of those exports, in that last qüinqüênio, it is shown in the Tabela III.38.

When compared with the imports of the qüinqüênio 94/98, of US$ 3,275 billion and 2 Mt the Brazilian exports, of the qüinqüênio 1995/99, they only represented 3%, in value and 2,9% in volume of the total mattered in that period (1995/99).

Table III.38 - Brazilian Exports of Cotton in Feather *
in Qüinqüênio 1995/99 * *. Ranking for destiny country
(in US$ 1,000.00 FOB and tons)

| Destiny country | Value (US$1000 FOB) | Amount (tons) |
|---|---|---|
| **Portugal** | 16.946,6 | 8.922,9 |
| **Indonésia** | 12.660,4 | 7.438,6 |
| Tailândia | 9.190,4 | 5.483,8 |
| Taiwan (Formosa) | 7.608,7 | 4.448,8 |
| Argentina | 4.662,7 | 3.363,5 |
| Bangladesh | 4.018,5 | 2.456,7 |
| Netherlands | 412,7 | 299,5 |
| África do Sul | 351,4 | 298,9 |
| Others | 45.620,2 | 25.796,8 |
| Total | 101.472,0 | 58.510,0 |

Source: FNP/SECEX/Decex. In: AGRIANUAL, 2000. Obs.: * Cotton no combed, nor hairdo. * * Even julho/99.

## (6.3) Main Markets in Brazil

Three poles of textile production stand out in Brazil. The first, in São Paulo, is the pole of American, composed by the cities of American, New Odessa, west Santa Bárbara and Sumaré. He is supplied mainly by cotton in feather of Goiás, Mato Grosso, Paraná and for imports of Argentina, Paraguay and other. His/her production is sent for the metropolitan area of São Paulo, for the segment of makings, mainly. The second, the one of Santa Catarina, it is represented by the pole of Blumenau, Joinville and Brusque, that it is supplied with fibers of Paraná, Argentina and Paraguay and with threads of S. Paulo. The third pole, is the Northeast, composed mainly by the pole of Fortaleza/CE, that is constituted in a great industrial park of spinning, weaving, mill and makings. He is supplied with fiber of the Northeast and, mainly, of the exterior, that there arrive through the ports of Fortaleza and Recife. A great and modern industry of makings (I Group COTEMINAS) be just installed in Campina Grande, in Paraíba. This is an important market for the potential production of Tocantins.

The cotton represents 97% of all of the consumed natural fibers and 90% of the fibers produced in Brazil (FGV/CNI,2000). In 1998 159.000t of cotton were produced in feather, imported 400.000t and consumed 730.000t, being only exported 50.000t (CONAB, 1999).

## (6.4) Market of Tocantins

The production of cotton of Tocantins, and of the area-program, it is small. With effect, the production and picked area, in the State, that were already tiny (300 t and 300 there are, in 91/92), they were at least registered by IBGE in 99/2000. However, in function of the expansion of the cotton cultivation in the Center-west, the State should suffer positive influence to enlarge area with the cotton.

## (6.5) Competitiviness

The data show competitiveness of prices in the international market for the cotton tocantinense, but with only 7% of margin of competitiveness. However, the product doesn't present competitiveness in the national market, in function of the costs of the road transport.

## (7) General panorama of the Horticulture

The horticulture in Brazil, today, it is treated as an activity - key for the economic development and social of several areas of the country, mainly of those that present conditions favorable and good climatic irrigation potential. For so much, the studies of implantation of new poles should determine the focus of the exploration clearly, giving base for the sustained planning of the activity front to the opportunities and conditions of the domestic market and external of tropical fruits.

Except in the orange juice export, in that it stops the first place, the Brazilian presence in the international trade of fruits is residual, in spite of being one of the three larger world producers. With effect, Brazil exported, in 97, only 1% of production of fresh fruits, occupying the twentieth place among the countries exporters, with only 0,8% of the international trade. Besides, the scale Brazilian frutícola of fresh fruits (exports-imports), in the period 94 /98, it was deficient, with a debit of 387 million dollars (Mercantile Gazette, nov/99).

In the biennium 97/98, the Brazilian exports of fresh fruits added 559 thousand tons and 227 million dollars. Already the imports added 719 thousand tons, in the value of 466 million dollars. Therefore, a deficit of 160 thousand tons and of 238 million dollars. The products that more they contributed to the Brazilian exports of fresh fruits were, in terms of exported amount: orange, melon, banana, mango, apple, pineapple, papaya and grape. As for the value, they were: mango, melon, orange, banana, apple, papaya, grape and pineapple.

Beside the imports, in amount terms, the more mattered in the biennium were: pear, apple, grape, plum, kiwi, nectarine, peach and cherry. As for the value, they were: pear, apple, grape, plum, kiwi, nectarine, peach and cherry.

Beside the opportunities, projections of FAO signal for the increase of the importance of the trade and of the consumption of fresh fruit, mainly in the developing countries, like China, Mexico, Brazil and Argentina, that will present superior annual growth rates to the developed countries, on this decade.

In the agronegócio of fruits the segment of juices has great importance, being constituted in one of the largest businesses of the world. The natural juices appear in third place among the favorite drinks for the consumers, after the water and of the soft drinks. It parcels out special of that market it is reserved to the offer of the developing countries, that represent half of the world exports. In this segment, it is growing the interest for the juices and pulps of tropical fruits, mainly of pineapple, passion fruit, mango and banana, responsible for the largest exports. The countries importers, in most of temperate climate, they have been confirming his/her interest for the tropical fruit juices, including the exotic ones.

Data published by SECEX reveal that the sales of US$ 1,29 billion, in 1999, accredit Brazil as the largest exporter of fruit juices of the world. In 1997, the country had participated in the international market with US$ 1 billion, answering for about 22% of the global trade of the section. In spite of the potential presented by the tropical fruit juices, the Brazilian participation in that market is centered in practically a product, the concentrated and frozen orange juice, that, alone, it acted about 96% of the exported total of fruit juice, in 1999. The remaining 4% are restricted the other few species, among which stand out the apple, other orange juices and of grape, that, added, they acted, in the last year, about 53% of those 4% exported.

It is at this promising market - for which Brazil should elevate his/her volume of export of fresh fruits - that stand out the largest opportunities for Tocantins, not despising the recent evolution of the pineapple production. It is big the vocation of Tocantins for the horticulture and unquestionable the Government's responsibility in the sense of looking for, with the private initiative, new roads for the development of this segment, with new organization of production forms and commercialization, with views to a better positioning in the markets of inputs and of products.

A sub-program of development of the horticulture in Tocantins can contribute to the generation of more jobs and income in the field, this because the cost for job generated in the agricultural activity is quite lower than in other economical segments, as they show the tables to proceed.

Table III.39 - I Cost for job generated in several activities

| Section | Investment for job (US$) |
|---|---|
| Chemical | 220.000 |
| Metallurgist | 145.000 |
| Capital goods | 98.000 |
| Automobile | 91.000 |
| Telecommunications | 78.000 |
| Tourism | 66.000 |
| Cattle | 100.000 |
| Irrigated agriculture (it includes grains) | 26.500 |
| Irrigated horticulture | 6.000 |

Source : MAA, CNI, MICT

Table III.40 - Comparative of job generation in several irrigated cultures

| Culture (area) | Direct | Indirect | Total |
|---|---|---|---|
| Corn (MG) | 0,0189 | 0,0280 | 0,0469 |
| Soy (MG) | 0,0060 | 0,0185 | 0,0245 |
| Cebola(MG) | 0,0965 | 0,5553 | 0,6518 |
| Tomato (NE) | 0,6664 | 0,2854 | 0,9518 |
| Melon (NE) | 0,3460 | 0,2542 | 0,6002 |
| Grape (NE) | 5,4440 | - | - |
| Banana (NE) | 0,5000 | - | - |

Source: PRONI, 1989

Table III.41 - Generation of income for agricultural activity

| Pay for activity | R$ hectare/ano |
|---|---|
| Livestock of Cut | 80 |
| Ovinocultura | 100 |
| Soy | 500 |
| Rice | 1.600 |
| Livestock of milk | 400 |
| Fish farming | 4.500 for it laminates of water |
| Horticulture | 8.500 |
| Vegetables | 14.000 |
| Floriculture | 25.000 |

Source: Secretaria da Agricultura do Rio Grande do Sul. December. 1997.

Data as these prove the opportunity to undertake a planned action and coordinate for the section, in function, above all, of their concrete answers, so much economical as social.

The productive chain of fruits in Brazil includes about 2 million hectares, being responsible for 4 million direct jobs and a GDP of US$ 11 billion, according to data of the Brazilian Institute of Horticulture (IBRAF). The segment stands out for the global volume of generated jobs and for the skilled labor demand.

The State of São Paulo stands out in the national scenery of the production of fruits, in volume and in variety of explored products. There they are located the great companies processadoras, participants or not of important national chains, as it is the case of the orange juice. It is worth to remind, however, that in all of Brazilian States horticulture projects exist in study, implantation or operation. Stand out, it is Worth it of San Francisco, area tha has vocation for the fruits production, that, since the decade of 70, it receives bulky public investments for the implantation of irrigated areas, with tropical, due differentiated production of fruits, mainly, to the favorable climatic conditions. Consequence of those investments, the busy area with frutícolas under irrigation, in that is Worth, it reached, in 1998, 81 063,5 hectares, of the which, 23 549,2 have of banana, 21 825,4 have of mango, 9 946,6 have of coconut, 4 573,1 have of grape, 4 277,8 have of pine cone, 3 988,8 have of guava, 2 434,2 have of passion fruit, 2 326,3 have of papaya and 8 142,1 there are of other fruits. ( CODEVASF, 1999).

Bahia, Pernambuco, Paraíba, Rio Grande do Norte and Ceará present new cultivation areas, well diversified, blunting, today, the Northeast as the largest producing potential and exporter of fruits in natura of the Country. With effect, in the period 1994 to June of 98, that area was already responsible for 45,36% of the value of the fresh fruits exported by the country-220 million dollars, of a total of 485 million dollars exported by Brazil, in that period (SECEX, 1999).

In the South of Brazil grows the temperate horticulture. With that, it is attended the substitution of imports of products as the apple, in Santa Catarina, and the invigoration of the traditional grape chain and of the wine, in Rio Grande do Sul. In the Center-west, the horticulture is appearing slowly in the scenery, accompanying the regional growth of the demand, generated by the proportionate population displacement by the recent development of the agricultural border in the cerrados.

In the North area, Pará is important producing of several fruits, among them the pineapple and the passion fruit, sheltering processing industries and export of having flowed. The production originating from of that area, above all of the two mentioned products, it supplies part of the domestic market and it is white of new investments. The same situation is identified in Tocantins and Rondônia, that already take advantage better the climatic conditions, besides the exotic fruits of the Amazonian and that you/they appear as export options and of diversification of the activity.

Being analyzed the tables 3a and 3b, to proceed, it sees himself that the exports of fresh fruits and processed reached 1.441.634.514 kg and 1.526.167.729 dollars, in 1996; 1.441.709.812 kg and 1.121.276.427 dollars, in 1997 and 1.527.251.515 kg and 1.400.060.359 dollars in 1998. It is observed although the fruits fresh or dry acted, in weight and value, respectively, 19,5% and 6,9% (in 1996); 19,3% and 8,8% (in 97) and 22% and 8,4% (in 98) of the total exported in every year, meaning that products with larger joined value (juices) they dominated the line Brazilian fruits of export, in that three-year period.

The European Union and Mercosul answer for 90% of the destiny of the Brazilian exports of fresh fruits: the European Union buys two thirds of our exports, while Mercosul absorbs a room of our external sales of fresh fruits. Such relationship has if maintained stable in the last ten years, and it should stay like this in the immediate future. The medium and long periods, an increase can be foreseen in the participation of the countries of North America and of the Asian Southeast, as the country to qualify to assist to the rigorous sanitary demands of those countries and to allocate enough political effort for the international negotiations on "trade barriers."

Table III.42-Brazil: exports of fruits fresh or dry in the three-year period 96/98.

| PRODUCT | 1996 | | 1997 | | 1998 | |
|---|---|---|---|---|---|---|
| | Weight (kg) | Value (US$ FOB) | Weight (kg) | Value (US$ FOB) | Weight (kg) | Value (US$ FOB) |
| Bananas fresh or dry | 29.956.699 | 6.226.704 | 40.061.504 | 8.381.081 | 68.555.354 | 11.628.862 |
| Pineapples fresh or dry | 11.542.434 | 4.050.768 | 12.956.000 | 3.938.385 | 13.002.626 | 3.853.644 |
| Guavas, mangos and mangostões fresh or dry | 24.335.574 | 28.953.187 | 23.369.725 | 20.182.289 | 39.185.809 | 32.517.407 |
| Oranges fresh or dry | 99.223.435 | 20.410.123 | 91.661.715 | 23.091.638 | 65.614.239 | 14.358.728 |
| Lemons and sweet oranges cool air or dry | 1.424.452 | 755.108 | 1.511.785 | 908.602 | 2.301.193 | 1.423.364 |
| Fresh grapes | 4.516.332 | 6.296.221 | 3.704.924 | 4.779.957 | 4.405.496 | 5.823.331 |
| Dry grapes | 31.562 | 48.697 | 60.988 | 112.189 | 23.366 | 33.106 |
| Fresh watermelons | 7.620.506 | 1.251.599 | 5.811.933 | 739.441 | 8.808.904 | 1.031.417 |
| Fresh melons | 50.719.797 | 25.326.783 | 45.729.468 | 20.913.101 | 65.004.755 | 28.323.447 |
| Papayas frescos(Papaia etc.) | 5.693.310 | 4.723.912 | 7.868.603 | 7.276.752 | 9.878.377 | 9.453.484 |
| Other fresh fruits | 108.131 | 148.129 | 108.449 | 146.477 | 155.387 | 196.491 |
| TOTAL | 235 172 232 | 98 191 231 | 232 845 094 | 90 469 912 | 276 935 506 | 108 643 281 |

Source: SECEX

Table III.43-Brazil: export of fruit juices in the three-year period 96/98

| PRODUCT | 1996 | | 1997 | | 1998 | |
|---|---|---|---|---|---|---|
| | Weight (kg) | Value (US$ FOB) | Weight (kg) | Value (US$ FOB) | Weight (kg) | Value (US$ FOB) |
| Orange juices, frozen, no fermented | 1.183.288.543 | 1.392.919.396 | 1.179.571.236 | 1.003.015.399 | 1.227.871.628 | 1.262.339.132 |
| Other orange juices, no fermented | 5.783.670 | 3.917.553 | 6.915.155 | 3.645.531 | 4.085.214 | 8.357.205 |
| Juices of pineapples (pineapples) | 1.578.217 | 2.244.256 | 762.394 | 961.187 | 1.835.830 | 2.640.103 |
| Juices of grapes | 5.702.312 | 7.914.856 | 9.928.144 | 15.953.022 | 6.479.580 | 12.372.955 |
| Juices of other fruits | 10.032.074 | 20.927.661 | 10.475.229 | 6.253.925 | 8.921.244 | 4.859.155 |
| Mixtures of juices, no fermented | 77.466 | 52.776 | 1.212.560 | 977.451 | 1.122.513 | 848.528 |
| TOTAL | 1 206 462 282 | 1 427 976 498 | 1 208 864 718 | 1 030 806 515 | 1 250 316 009 | 1 291 417 078 |

Source: SECEX

The acting of the exports of the several fruits has been very unequal. It can identify a group of tropical fruits "traditional" in the world market (banana, orange, pineapple), with weight still dominant in the line of exports, however presenting small growth rates or even negatives in the last fifteen years. Another group, that could call tropical and mixed fruits "dynamics" (mango, papaya, melon, grape), it presented accelerated growth in the same period. This last group is what stops the best perspectives for the medium and long periods in the main markets importers.

A brief analysis of the channels of world commercialization, indicates the existence, besides the fruits of temperate climate, of the citric ones and of the banana (the three, together, representing the overpowering majority - 96% - of the fruits globally marketed) of two great groups of products: the "tropical" and the "out-of-station." For both, the final distribution is made through free markets, stores of spices and in chains of supermarkets. In the largest markets of the temperate areas, many tropical products are still considered exotic and some of them enter in the consumption, as products out-of-station. The exotic product, it is usually sold with more frequency for immigrants and it is little known by the consumers of the countries more developed. In consequence, so that his/her export is increased, it will be necessary to introduce at those markets a more aggressive politics of marketing of those tropical products.

As for the prices, for product unit, no longer they are more the same of the decade of 80, what demands efficiency increase in the production and in the commercialization to compensate the smallest margins. Consequence of the demands of the markets, countless alterations are now happening, therefore the same ones go by a period of great competition, in function of an increase of the world offer. One of the characteristics of the nineties is that the consumer became more demanding and more selective, what contrasts with the demand returned to the great masses, happened in the eighties. With the formation of the great economical blocks, European Union, NAPHTHA, MERCOSUL etc., the suppliers passed adapting to the situation of each one of those markets.

In different countries of the world, the commercialization of products frutícolas took place, traditionally and in his/her largest part, through terminals central wholesalers, like our CEASAS. Already in the decade of 80, in the USA and Europe, he/she modified the commercialization strongly: the traditional retailing is moved by the supermarkets and hypermarkets, that appear as great centers of commercialization of fresh products. In the United States, today, 95% of the consumers acquire their fresh products in the supermarkets. As consequence, also modifies the wholesale commercialization, fact that, now, it begins to happen in Brazil.

The use of marks is other important and growing aspect in the commercialization of fresh products. The value of the marks stands out when the consumer looks for, in first place, quality and hygiene of the products, that seem to be more guaranteed if they be backed by a mark. This sees her clearly in the case of the products organic or natural. Nowadays, the demands and the competition of the market demand an entrepreneur that besides counting with good information and technology, know how to elaborate strategies for his/her company and be willing to occupy of the links of the commercial chain. In this sense, analyses of structures of costs and returns to the producer demonstrated that of 70% to 80% of the value of the final product is kept by the commercial chain.

As for the possibilities of consumption increase, the largest potential should locate at the Asian countries, that register a substantial increase of the per capita income. The expectation is that, in the close ones 10 to 15 years, the consumption of fresh fruits will duplicate and the one frozen and juices will grow in about 25%, while the consumption of canned will retreat, in approximately 25%. That can open new opportunities to the offer of products of countries of Southern Hemisphere, like Brazil, that you/they present production complementarity with the countries of Northern Hemisphere.

## (8) Pineapple

### (8.1) World Balance

Of the five great botanical groups of known pineapples Cayenne, Spanish, Queen, Pernambuco and Mordilonus, just cultivating smooth cayenne, of the first group, it acts more than 80% of the marketed production of the world. In the case of the transformation, especially in preserves, only this to cultivate is considered.

The variety Brazilian pearl, belonging to the group pernambuco, it is not cultivated in great extensions in other countries. Also here this variety is little representative and the consumption statistics are precarious. The commercialization proportion in CEAGESP and in CEASA of Federal district (only markets that inform the varieties), small there are some years ago (among 2 and 15% of marketed pineapple), it is increasing in São Paulo, where it arrived at 20% of the offer in 1998, and it substitutes the havai (name of the smooth cayenne in Brazil) in Federal district, where it represents 90% of the offer in the first seven months of 1999.

Three innovations appeared in the international markets in the last 10 years:

- to cultivate victória, of the group queen, medium size of 400 g, without fibrous part in the middle, it is conquering a small slice of the very exotic markets of Europe,
- New hybrids invented by the multinationals. The Del Monte, with the gold, of similar size to the smooth cayenne, but much sweeter, it is making a revolution in the markets of fresh pineapples,
- The great success of the pre-cut, fresh, marketed in a widespread way.

The pineapple is a fruit quite consumed in compotes and juices. The transformation absorbs about 45% of the world production and a concentration of the transformers is verified in Asia, where 80% of the production of Thailand (first world producer) it is industrialized.

The main producers are in Asia, continent that produces 52% - 6,9 of 13,4 Mt - of the world production. In Thailand and Philippines they are the giants of the processing of preserves, juices and concentrated. The second larger continent producing of pineapples is Latin America, with 4 Mt, being 1,7 Mt produced in Brazil, the second world producer. That continent has a vocation more marked for the trade of fresh

fruits, and it invented the new segment of the pre-cut ones fresh. It is finally, Africa, whose production continues increasing slowly, of 1,9 Mt, in 1995, for 2,2 Mt, in 1999. Costa of the Ivory and Ghana destine the production of the fresh fruit for the export; Kenya for the industrialization (preserves). In Nigeria the local consumption prevails.

Most of the pineapple exports is made under form of preserves and juices, that almost absorb 6 Mt of the produced 13,4 (45% of the world production). The exports of pineapples cool air are relatively modest in relation to production, totaling 900.000 t., 7% of the world production. As it is frequent, the areas that produce for export of fresh fruits are not the largest producers, and vice-versa. He/she can see two specialization groups in the pineapple market:

- Costa Rica, Honduras, Costa of the Ivory and Ghana, and more Hawaii (American territory) they are specialized areas in the production of fresh fruits for export; with volumes exported superior to 50% of the production,
- Thailand, Philippines, Indonesia and Kenya operate mainly in the pineapple industrialization.

Table III.44 - pineapple world production
(in tons)

| | 1999 | 1998 | 1997 |
|---|---|---|---|
| World | **13.444.203** | **12.689.845** | **13.149.583** |
| Asia | **6.894.904** | **6.263.861** | **6.759.307** |
| Thailand | 2.353.037 | 1.787.032 | 2.083.390 |
| Philippine | 1.495.120 | 1.495.120 | 1.638.000 |
| Indian | 1.100.000 | 1.100.000 | 1.100.000 |
| China | 941.057 | 941.057 | 925.686 |
| Indonesian | 326.950 | 326.950 | 385.770 |
| Vietnam | 262.680 | 195.842 | 190.000 |
| Bangladesh | 148.580 | 148.580 | 148.485 |
| Malaysia | 143.000 | 143.000 | 160.000 |
| Other | 124.480 | 126.280 | 127.976 |
| South America | **2.624.780** | **2.506.860** | **2.577.998** |
| Brazil | 1.740.840 | 1.640.900 | 1.806.837 |
| Colombia | 407.753 | 360.000 | 330.000 |
| Venezuela | 182.153 | 200.344 | 189.453 |
| Peru | 110.000 | 127.910 | 125.542 |
| Ecuador | 79.947 | 79.947 | 30.150 |
| Bolivia | 52.535 | 46.385 | 45.300 |
| Paraguay | 39.000 | 38.872 | 38.405 |
| Other | 12.552 | 12.502 | 12.311 |
| North America and Central | **1.568.235** | **1.570.984** | **1.475.654** |
| Mexico | 480.856 | 480.856 | 391.491 |
| Costa Rica | 400.000 | 400.000 | 355.000 |
| USA | 301.000 | 301.000 | 301.000 |
| Guatemala | 102.060 | 110.450 | 108.227 |
| Rep. Dominican | 72.528 | 107.752 | 111.960 |
| Honduras | 70.086 | 72.621 | 68.000 |
| Nicaragua | 46.000 | 4.600 | 46.000 |
| Other | 95.705 | 93.705 | 93.976 |
| Africa | 2.182.857 | 2.133.031 | 2.170.288 |
| Nigeria | 881.000 | 857.000 | 830.000 |
| Kenya | 290.000 | 300.000 | 290.000 |
| Costa of Ivory | 225.675 | 198.306 | 260.556 |
| Congo | 200.000 | 204.364 | 202.903 |
| South Africa | 152.686 | 133.518 | 144.182 |
| Tanzania | 75.000 | 74.000 | 73.000 |
| Guinea | 71.858 | 71.858 | 67.000 |
| Madagascar | 52000 | 51.000 | 51.000 |
| Other | 234.638 | 242.985 | 251.647 |
| Oceania | **145.271** | **145.301** | **145.338** |
| Australia | 123.000 | 123.000 | 123.000 |
| Other | 22.271 | 22.301 | 22.338 |

Source: FAO

In Brazil that is considered a degree of industrialization of 15% of the production, mainly in concentrated juices. The rest is consumed fresh in the domestic market, except for 15.000 t, less than 1% of the production, exported to Argentina, and of the high proportion of losses.

Europe appears as an important exporter of pineapple cool air, intermediating the productions of their former-colonies. This die inflates the total volume of the international trade in an illusory way, and it should be deduced almost entirely of the world total of 800/900 thousand annual tons presented by FAO.

Table III.45 - Exports of fresh pineapples
(in tons)

| | 1998 | 1997 | 1996 |
|---|---|---|---|
| World | **870.903** | **916.675** | **839.383** |
| North America and Central | **359.503** | **322.626** | **258.533** |
| Costa Rica | 297.000 | 250.100 | 179.451 |
| USA | 25.063 | 23.788 | 17.792 |
| Mexico | 19.827 | 18.337 | 10.198 |
| Honduras | 11.602 | 22.949 | 30.636 |
| Other | 6.011 | 7.452 | 20.456 |
| Africa | **197.852** | **226.850** | **206.700** |
| Costa of Ivory | 160.000 | 190.000 | 170.406 |
| Ghana | 24.000 | 25.402 | 26.962 |
| Other | 13.852 | 11.448 | 9.332 |
| Asia | **149.391** | **174.078** | **178.791** |
| Philippine | 117.436 | 144.802 | 143.994 |
| Malaysia | 18.592 | 17.000 | 17.814 |
| Indonesian | 7.000 | 5.590 | 11.337 |
| Thailand | 2.207 | 2.207 | 2.172 |
| Other | 4.156 | 4.479 | 3.474 |
| Europe | **148.779** | **169.461** | **171.431** |
| France | 75.560 | 85.445 | 77.181 |
| Belgium | 45.415 | 50.142 | 58.189 |
| Netherlands | 14.447 | 20.082 | 24.202 |
| Italy | 5.879 | 4.138 | 2.542 |
| Other | 7.478 | 9.654 | 9.316 |
| South America | **21.843** | **23.323** | **23.342** |
| Brazil | 13.003 | 12.956 | 11.542 |
| Ecuador | 6.374 | 8.825 | 9.746 |
| Other | 2.466 | 1.542 | 2.054 |
| Oceania | **520** | **302** | **491** |

Source: FAO

When it is spoken about the international market of fresh pineapple, whose 3 main buyers are North America, Europe and Japan, it is important to remind that almost the whole market was supplied during many years with cultivating smooth cayenne, with two presentations: green peel (natural state), for the markets of North America and part of United Kingdom, and yellowish peel, through a treatment with aim-hormones in the end of the culture, for the European markets.

In agreement with the statistics of FAO, the global decrease of the imports is confirmed, that hides opposite tendencies in agreement with the areas: (1) North America increases their imports in a significant way and (2) Europe and Japan reduce the imports.

The false leadership of Europe in terms of imported volumes comes from the fact that the numbers presented by FAO include the accountancy duplicity due to the reexportation. The real imports of Europe should be reduced of approximately 100 thousand tons, leaving her/it in the landing of 300 thousand annual tons, similar to the current level of import of North America. Finally, one cannot stop mentioning the fast growth of the Chinese imports. In spite of modest, the size of the country, combined with his/her current opening process, they can bring a lot of changes in the close future.

## (8.2) National panorama of the pineapple

The good acceptance of the variety "Pearl" it is another particularity of the Brazilian market. Tasty, but piriforme, planting was abandoned at the other countries because of its inadequate form to the processing for preserves.

Finally, it suits to mention him/it "release" of the pineapple "honey slice" done by IAC-Agronomic Institute of Campinas, 2 years ago. For the description, that fruit could receive a great acceptance interns as external. However, no commercial production was seen up to now.

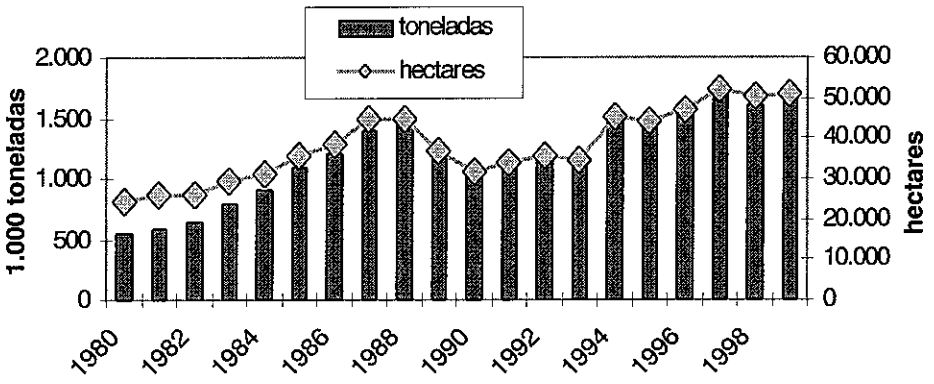
The Brazilian production of pineapple grew strongly in the first 8 years of the decade of 80, falling drastically in 89 and 90, arise again but laggingly until the current landing of 1,7 Mt, three times the production of 20 years ago.

The graph below display a tendency to the increase of the global productivity, fact that would deserve an analysis more deepened by treating of global numbers that you/they don't differentiate the planted varieties.

Analyzing the production statistics for state, we noticed in the last 4 years:

- the Brazilian production grew enough in the north of the country, in the states of Pará and of Tocantins, more than 155%,
- in the Center-west, more 84%,
- and in the Northeastern states of Bahia, Rio Grande do Norte, Maranhão and Sergipe, more 52%,
- while she falls by half in Paraíba (bankruptcy of the company that exported for Belgium, as a consequence of the bankruptcy of the Belgian company) and in Pernambuco, turning negative the productive swinging of the Northeast area.

Graph III.14 -Area Evolution and pineapple production in Brazil




Fonte: IBGE

Table III.50 - Brazilian Production of pineapple
(in tons)

| | 1995 | 1996 | 1997 | 1998 |
|---|---|---|---|---|
| SOUTHEAST | 603.801 | 724.131 | 647.822 | 622.538 |
| Minas Gerais | 466.619 | 560.166 | 465.372 | 455.411 |
| São Paulo | 24.503 | 45.660 | 60.297 | 76.223 |
| Rio de Janeiro | 36.765 | 41.798 | 39.405 | 40.452 |
| Espírito Santo | 75.915 | 76.508 | 82.748 | 50.453 |
| NORTE | 146.423 | 126.978 | 406.511 | 376.824 |
| Pará | 137.877 | 118.328 | 371.066 | 329.475 |
| Tocantins | 8.546 | 8.650 | 35.445 | 47.349 |
| NORTHEAST | 593.952 | 655.707 | 669.746 | 504.486 |
| Paraíba | 353.636 | 377.183 | 325.125 | 179.072 |
| Bahia | 88.466 | 84.792 | 105.126 | 132.983 |
| Rio Grande do Norte | 45.306 | 80.213 | 82.086 | 73.938 |
| Marnhão | 32.946 | 58.920 | 83.328 | 55.854 |
| Alagoas | 22.694 | 19.730 | 24.287 | 25.400 |
| Pernambuco | 41.379 | 23.118 | 35.909 | 23.256 |
| Sergipe | 9.426 | 11.678 | 13.811 | 13.860 |
| Ceará | 101 | 75 | 75 | 125 |
| CENTER-EAST | 50.715 | 64.053 | 74.087 | 94.184 |
| Goiás | 29.592 | 39.188 | 49.533 | 65.441 |
| Mato Grosso | 16.863 | 18.864 | 16.316 | 22.848 |
| Mato Grosso do Sul | 4.260 | 6.002 | 8.238 | 5.895 |
| SOUTH | 9.218 | 8.184 | 8.073 | 8.171 |
| Rio Grande do Sul | 5.799 | 4.766 | 4.865 | 4.980 |
| Santa Catarina | 3.419 | 3.419 | 3.209 | 3.191 |
| TOTAL | 1.426.052 | 1.579.993 | 1.806.837 | 1.606.682 |

Source: IBGE, 1999

Three great poles of pineapple production in Brazil are standing out:

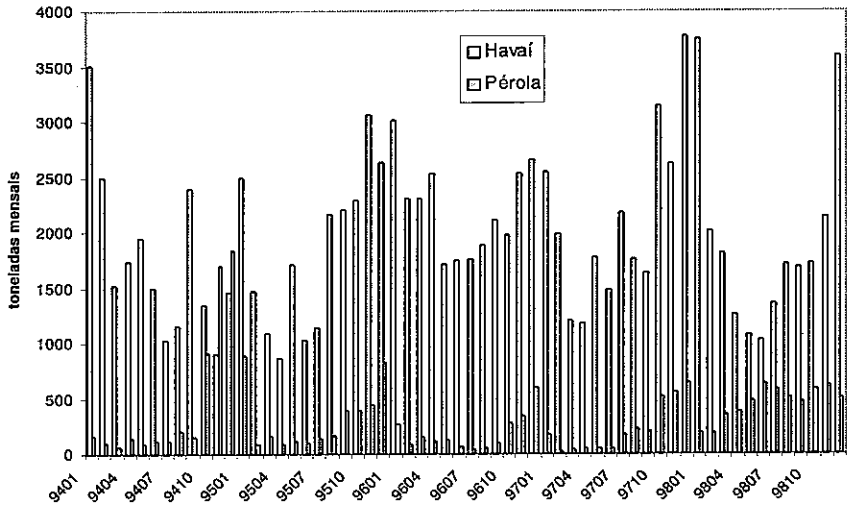
- in first, the area of the Mining Triangle (that agglutinates part of the Northwest of the state of São Paulo and of the Center-west)
- in second, the tip east of the northeast area,
- and in third, growing strongly, the north area, in the states of Pará and of Tocantins,

In Brazil, two varieties exist marketed in great scale: the smooth cayenne, call "Hawaii" and the pearl.

There is no statistics allowing to know the produced amounts of each variety, just some qualitative indications that you/they allow to have an idea of the situation:

- the sales in CEAGESP show a partition of the offer of 65% up to 95% of Hawaii against 5% to 35% of pearl, depending on the months of the year;
- the total sales of pearl in CEAGESP tend to increase, passing of 8% of the volumes marketed in the year of 1996, for 20% in 1998;
- in CEASA of Federal district, ume substitution of Hawaii happened for the pearl, that already represents 80% of the marketed volumes in 1998;
- it is known that the new plantings accomplished in Tocantins are concentrated on top of the variety "pearl";
- he/she is the variety pearl more and more in the stores, what was difficult to happen ten years ago.

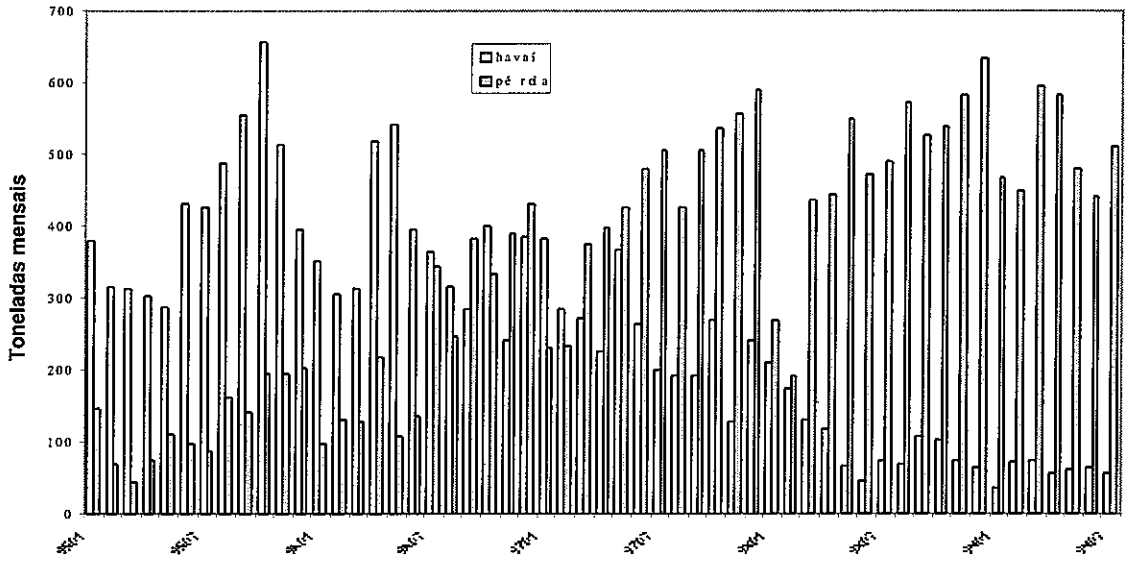
Graph III.15 - Comparison of the monthly amounts of pineapple havaí and pearl marketed in CEAGESP-1994-98




The graph II.3 shows the relative increase of the pearl offers well starting from November of 1997, in CEAGESP.

Graph III.16 - Comparison of the monthly amounts of pineapple Hawaii and pearl

marketed in CEASA of Federal district-1995-99




The graph II.4 shows the substitution clearly happened between pearl and havaí in CEASA of Federal district.

## (8.3) Main Markets in Brazil

Leaving of the total production of pineapples of Brazil, two different destinies exist:

- the process industries, in concentrated juice (60 (brix) and in preserves (slices and pieces);
- the several channels of commercialization of the fresh fruit, for the domestic market and external:
- "fruit bowls" places, in the production areas (they resell for the channels to proceed);
- Ceasas;
- Supermarkets;
- Processors for food-service;
- Exporters;
- Direct customers in the exterior.

Eliminating the impact of Plano real on the prices of the fruits in the domestic market (effects of high very fort of the second semester of 94 to end of 95), we noticed that the prices are returning to the landing of 1993. He/she doesn't seem there to be drop tendency in the prices, even with significant increase of the produced amounts.

**Southeast (São Paulo, Minas Gerais, Rio de Janeiro e Espírito Santo)**

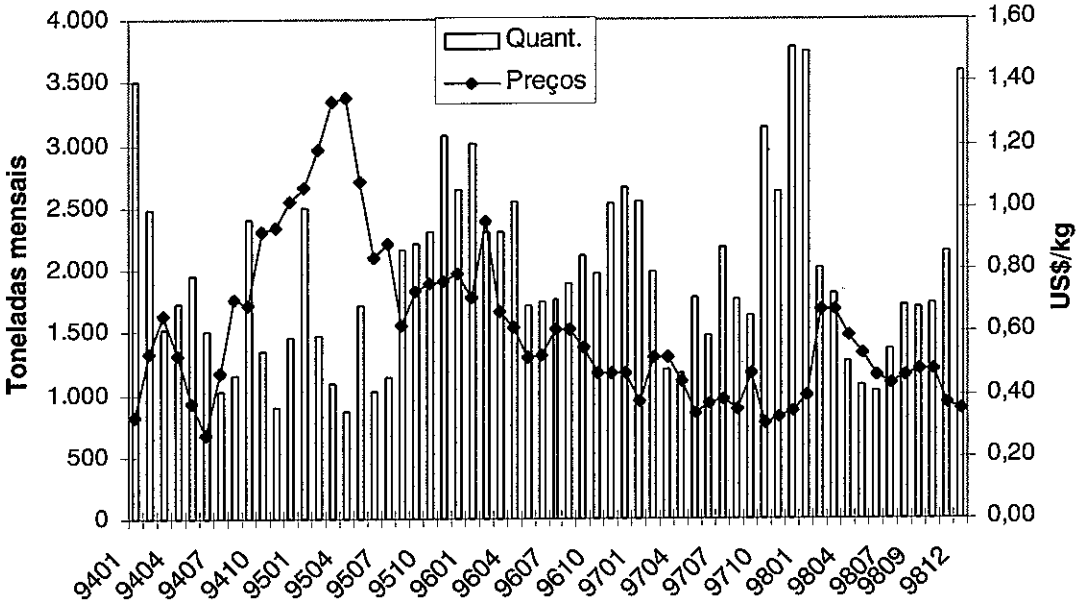
Stop if to have an estimate of the consumption of the southeast area, in the absence of another more necessary rising, we intend to use the value of the select per capita consumption for IBGE in 1996 in the capitals of that area, calculating that considered average, multiplying that value for the population of the area. This way is considered that the consumption of fresh pineapple in the southeast area is around of 125 thousand tons.

The amounts marketed in CEASAS of the area are not all available ones. It is had Saint Paulo-CEAGESP, but not of the municipal market, of Rio of January-CEASA, and of Counting-CEASA. They lack statistics of CEASA of Vitória. The sum of these amounts is of 74 thousand tons. The main explanation of that difference comes from the existence of direct distribution channels of fruits of the production areas for the organized retailers, with regional platforms to receive closed loads, and redespachá-scan at their stores. CEASAS divide its function of regional platform more and more with other organizations. Other reason comes from the fact that many smaller wholesale markets (as the municipal market in São Paulo), or CEASAS of the interior of the State doesn't maintain statistics. Even so, it is interesting to observe the existent statistics, as indicators of tendencies.

As it was already shown above, the proportion of the amounts presented between pearl and Hawaii seems to be changing gradually, the slice of the pearl in the offers arising of 8% in 1996 for 20% in 1998 considering the total of the year, and 40% at that time of May to July (to see graph of comparison of the amounts presented in CEAGESP).

**São Paulo**

Graph III.17 - Amounts and prices of the pineapples Hawaii
Marketed in CEAGESP



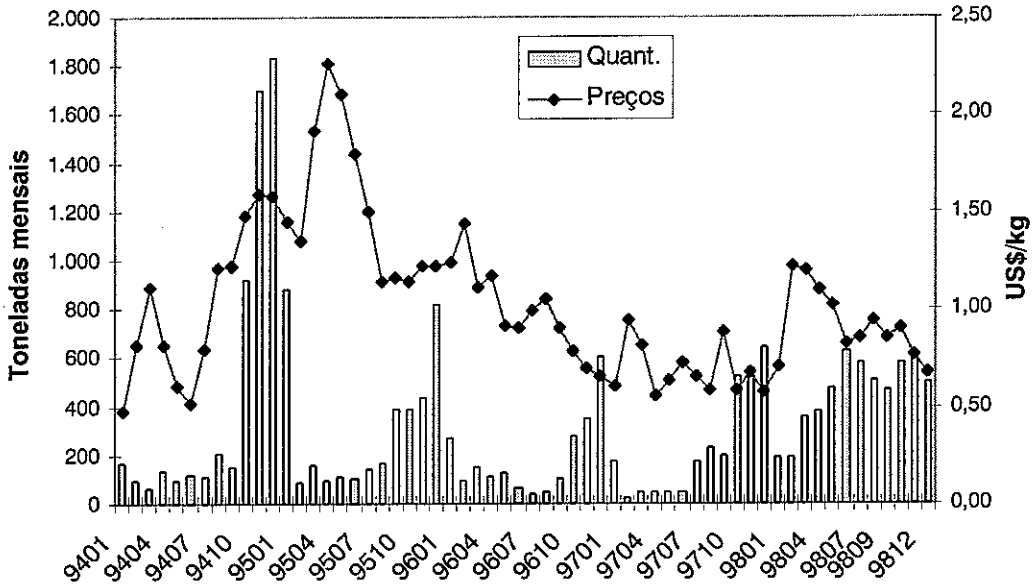

We noticed:

- the seasonal variation of the offer, with monthly amounts from two to three larger times between October and January, comparing with the other months of the year. This phenomenon denotes the lack of domain of the techniques of floral induction.
- The supply lack in volume between November of 94 and September of 95, with great reaction of the prices;
- The fall in prices tendency, to return to the landing previous to Plano real, around of US $0,35/kg during the harvest (October to January).

Table III.51 - Marketed Amounts and average prices of the
pineapple havaí in CEAGESP

| | Jan | Fev | Mar | Abr | Mai | Jun | Jul | Ago | Set | Out | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1994 | 3.505 | 2.488 | 1.520 | 1.732 | 1.952 | 1.497 | 1.031 | 1.146 | 2.394 | 1.339 | 901 | 1.461 | 20.967 |
| 1995 | 2.500 | 1.474 | 1.088 | 857 | 1.711 | 1.021 | 1.134 | 2.167 | 2.203 | 2.296 | 3.067 | 2.639 | 22.157 |
| 1996 | 3.007 | 2.301 | 2.298 | 2.536 | 1.705 | 1.752 | 1.761 | 1.886 | 2.112 | 1.969 | 2.530 | 2.660 | 26.518 |
| 1997 | 2.542 | 1.989 | 1.202 | 1.174 | 1.774 | 1.476 | 2.178 | 1.765 | 1.637 | 3.139 | 2.624 | 3.776 | 25.277 |
| 1998 | 3.747 | 2.013 | 1.815 | 1.256 | 1.078 | 1.022 | 1.354 | 1.705 | 1.689 | 1.724 | 2.142 | 3.591 | 23.136 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1994 | 0,33 | 0,53 | 0,65 | 0,52 | 0,37 | 0,27 | 0,47 | 0,70 | 0,68 | 0,92 | 0,93 | 1,02 | |
| 1995 | 1,07 | 1,18 | 1,34 | 1,35 | 1,08 | 0,84 | 0,88 | 0,62 | 0,73 | 0,76 | 0,76 | 0,79 | |
| 1996 | 0,71 | 0,95 | 0,66 | 0,62 | 0,52 | 0,52 | 0,61 | 0,61 | 0,55 | 0,47 | 0,47 | 0,47 | |
| 1997 | 0,38 | 0,52 | 0,52 | 0,44 | 0,34 | 0,37 | 0,38 | 0,35 | 0,47 | 0,30 | 0,33 | 0,34 | |
| 1998 | 0,40 | 0,67 | 0,67 | 0,59 | 0,53 | 0,46 | 0,43 | 0,46 | 0,48 | 0,48 | 0,37 | 0,35 | |

Graph III.18 - Amounts and prices of the pineapples Pearl
Marketed in CEAGESP




We noticed:

- a big offer of pearl in CEAGESP in the period of October 94 to January 95, when the amounts sold almost equaled the one of Hawaii, that it was in lack. This phenomenon didn't repeat;
- a tendency to the increase of the amounts offered in 1998, bending the amounts of 1997;
- the same fall in prices tendency seen to Hawaii, of US$ 1,50 for 0,70/kg, among 94 and now;
- a current nominal price of US $0,70/kg, almost the double of Hawaii.

Table III.52 - marketed Amounts and average prices of the pineapple pearl
in CEAGESP

| | Jan | Fev | Mar | Abr | Mai | Jun | Jul | Ago | Set | Out | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1994 | 170 | 99 | 61 | 138 | 93 | 118 | 114 | 206 | 149 | 918 | 1.695 | 1.830 | 5.590 |
| 1995 | 882 | 87 | 159 | 95 | 114 | 103 | 140 | 165 | 392 | 391 | 438 | 821 | 3.788 |
| 1996 | 268 | 92 | 154 | 112 | 126 | 64 | 38 | 46 | 105 | 276 | 347 | 601 | 2.229 |
| 1997 | 176 | 26 | 44 | 50 | 50 | 50 | 173 | 230 | 200 | 525 | 553 | 641 | 2.716 |
| 1998 | 193 | 190 | 354 | 380 | 476 | 628 | 581 | 510 | 472 | 583 | 621 | 504 | 5.491 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1994 | 0,47 | 0,82 | 1,11 | 0,81 | 0,61 | 0,51 | 0,79 | 1,21 | 1,22 | 1,47 | 1,59 | 1,58 | |
| 1995 | 1,45 | 1,35 | 1,92 | 2,26 | 2,10 | 1,80 | 1,50 | 1,14 | 1,16 | 1,14 | 1,22 | 1,22 | |
| 1996 | 1,24 | 1,43 | 1,11 | 1,17 | 0,91 | 0,90 | 0,99 | 1,06 | 0,90 | 0,79 | 0,70 | 0,65 | |
| 1997 | 0,61 | 0,95 | 0,82 | 0,56 | 0,64 | 0,72 | 0,65 | 0,58 | 0,88 | 0,59 | 0,67 | 0,57 | |
| 1998 | 0,70 | 1,22 | 1,20 | 1,10 | 1,02 | 0,82 | 0,86 | 0,94 | 0,85 | 0,91 | 0,76 | 0,68 | |

## Minas Gerais

Table III.53 - marketed Amounts and average prices of pineapples
in the CEASA-counting

| | Jan | Fev | Mar | Abr | Mai | Jun | Jul | Aug | Set | Out | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 1.531 | 961 | 1.204 | 1.509 | 1.122 | 1.345 | 1.275 | 1.189 | 1.425 | 1.963 | 2.119 | 2.887 | 18.529 |
| 1997 | 1.820 | 1.498 | 1.562 | 1.596 | 1.621 | 1.501 | 1.785 | 1.717 | 2.163 | 2.325 | 2.491 | 2.727 | 22.805 |
| 1998 | 2.742 | 1.222 | 1.562 | 1.104 | 1.238 | 1.055 | 1.231 | 1.643 | 1.627 | 1.520 | 1.701 | 2.825 | 19.470 |
| 1999 | 2.250 | 1.508 | 1.915 | 1.978 | 1.993 | 1.776 | 1.487 | 1.889 | 2.025 | 2.209 | 2.579 | 2.855 | 24.465 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 0,64 | 0,92 | 0,75 | 0,66 | 0,54 | 0,49 | 0,50 | 0,52 | 0,51 | 0,53 | 0,45 | 0,38 | |
| 1997 | 0,35 | 0,49 | 0,49 | 0,48 | 0,38 | 0,35 | 0,32 | 0,34 | 0,38 | 0,36 | 0,38 | 0,34 | |
| 1998 | 0,38 | 0,62 | 0,68 | 0,63 | 0,49 | 0,44 | 0,41 | 0,38 | 0,47 | 0,47 | 0,39 | 0,30 | |
| 1999 | 0,35 | 0,32 | 0,29 | 0,28 | 0,26 | 0,22 | 0,22 | 0,22 | 0,23 | 0,26 | 0,25 | 0,24 | |

We noticed:

- the fall of the price between January 96 and December 99, of US$ 0,50 for 0,25/kg.
- although fewer marked that in São Paulo, the seasonal variation also exists in Belo Horizonte, in the same time of the year (pick of October to January, time between harvests of May to July).

### Rio de Janeiro

We noticed:

- a fall of prices in the wholesale of Rio de Janeiro of US$ 1,00 for 0,30/kg;
- a seasonal variation much more marked that in São Paulo and Belo Horizonte

Table III.54 - marketed Amounts and average prices of pineapples in CEASA

| | Jan | Fev | Mar | Abr | Mai | Jun | Jul | Aug | Set | Out | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| | 2.063 | 356 | 279 | 340 | 328 | 408 | 497 | 962 | 1.497 | 2.322 | 2.053 | 4.132 | 15.237 |
| 1996 | 1.169 | 977 | 768 | 939 | 863 | 700 | 727 | 648 | 1.085 | 2.301 | 4.302 | 5.023 | 19.501 |
| 1997 | 1.682 | 797 | 923 | 1.070 | 1.206 | 973 | 1.192 | 1.421 | 2.259 | 2.654 | 4.072 | 6.033 | 24.282 |
| 1998 | 1.718 | 1.207 | 1.246 | 871 | 988 | 866 | 793 | 1.558 | 1.887 | 2.165 | 2.790 | 5.545 | 21.632 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,94 | 1,06 | 1,16 | 1,07 | 1,08 | 1,07 | 0,99 | 0,88 | 0,87 | 0,79 | 0,65 | 0,76 | |
| 1996 | 0,81 | 0,77 | 0,79 | 0,84 | 0,75 | 0,62 | 0,47 | 0,52 | 0,50 | 0,45 | 0,37 | 0,39 | |
| 1997 | 0,46 | 0,46 | 0,44 | 0,44 | 0,45 | 0,43 | 0,48 | 0,48 | 0,43 | 0,37 | 0,33 | 0,37 | |
| 1998 | 0,49 | 0,45 | 0,54 | 0,62 | 0,54 | 0,44 | 0,44 | 0,43 | 0,38 | 0,35 | 0,31 | 0,33 | |

### Markets of Nordeste/Norte (Bahia, Ceará, Pernambuco, Paraíba)

### Bahia

Table III.55 - marketed Amounts and pineapple average prices in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 733 | 479 | 382 | 410 | 458 | 297 | 481 | 424 | 418 | 659 | 562 | 661 | 5.964 |
| 1996 | 548 | 317 | 336 | 441 | 318 | 333 | 501 | 365 | 475 | 662 | 894 | 930 | 6.119 |
| 1997 | 564 | 378 | 468 | 512 | 454 | 446 | 614 | 535 | 711 | 887 | 913 | 1.047 | 7.530 |
| 1998 | 484 | 426 | 463 | 505 | 497 | 529 | 554 | 703 | 732 | 680 | 777 | 1.003 | 7.355 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,52 | 0,71 | 0,71 | 0,64 | 0,59 | 0,53 | 0,48 | 0,47 | 0,51 | 0,40 | 0,40 | 0,49 | |
| 1996 | 0,49 | 0,56 | 0,55 | 0,53 | 0,45 | 0,47 | 0,37 | 0,42 | 0,40 | 0,43 | 0,39 | 0,39 | |
| 1997 | 0,33 | 0,33 | 0,33 | 0,32 | 0,29 | 0,29 | 0,30 | 0,36 | 0,37 | 0,34 | 0,28 | 0,32 | |
| 1998 | 0,38 | 0,41 | 0,47 | 0,45 | 0,41 | 0,40 | 0,40 | 0,38 | 0,39 | 0,35 | 0,35 | 0,34 | |

### Pernambuco

Table III.56 - marketed Amounts and pineapple average prices in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 1.414 | 626 | 713 | 601 | 769 | 798 | 891 | 1.421 | 1.750 | 1.979 | 1.739 | 2.216 | 14.917 |
| 1996 | 1.337 | 631 | 603 | 663 | 467 | 499 | 1.007 | 1.515 | 2.259 | 2.937 | 3.931 | 3.610 | 19.459 |
| 1997 | 1.754 | 1.248 | 913 | 920 | 979 | 879 | 1.342 | 1.939 | 2.513 | 2.952 | 2.463 | 2.062 | 19.964 |
| 1998 | 1.053 | 654 | 496 | 459 | 667 | 824 | 1.092 | 1.392 | 1.954 | 2.240 | 1.668 | 1.789 | 14.288 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,68 | 0,96 | 0,92 | 0,91 | 0,76 | 0,74 | 0,74 | 0,64 | 0,64 | 0,66 | 1,07 | 0,54 | |
| 1996 | 0,51 | 0,72 | 0,71 | 0,77 | 0,73 | 0,69 | 0,64 | 0,47 | 0,39 | 0,37 | 0,31 | 0,31 | |
| 1997 | 0,46 | 0,45 | 0,48 | 0,43 | 0,35 | 0,36 | 0,37 | 0,30 | 0,29 | 0,28 | 0,27 | 0,30 | |
| 1998 | 0,44 | 0,45 | 0,49 | 0,52 | 0,49 | 0,43 | 0,40 | 0,38 | 0,30 | 0,29 | 0,29 | 0,29 | |

**Paraíba**

Table III.57 - marketed Amounts and pineapple average prices
In CEASA of Alagoas

| | Jan | Feb | Mar | Abr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 150 | 55 | 62 | 42 | 84 | 77 | 76 | 150 | 149 | 245 | 268 | 292 | 1.651 |
| 1996 | 196 | 78 | 95 | 180 | 76 | 152 | 114 | 179 | 203 | 186 | 519 | 511 | 2.490 |
| 1997 | 189 | 259 | 152 | 171 | 168 | 114 | 178 | 198 | 354 | 462 | 387 | 376 | 3.008 |
| 1998 | 42 | 39 | 34 | 51 | 32 | 38 | 20 | 24 | 96 | 161 | 161 | 138 | 834 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,35 | 0,40 | 0,31 | 0,59 | 0,56 | 0,47 | 0,47 | 0,46 | 0,42 | 0,33 | 0,31 | 0,29 | |
| 1996 | 0,29 | 0,38 | 0,38 | 0,48 | 0,45 | 0,46 | 0,45 | 0,44 | 0,39 | 0,29 | 0,22 | 0,22 | |
| 1997 | 0,21 | 0,26 | 0,26 | 0,24 | 0,24 | 0,26 | 0,29 | 0,35 | 0,22 | 0,18 | 0,20 | 0,22 | |
| 1998 | 0,22 | 0,25 | 0,30 | 0,30 | 0,31 | 0,25 | 0,28 | 0,26 | 0,21 | 0,20 | 0,21 | 0,18 | |

**Mercados do Centro Oeste (GO, DF);**

## DISTRITO FEDERAL

Table III.58 - marketed Amounts and average price of pineapple havaí
in CEASA of Brasília

| | Jan | Fev | Mar | Abr | Mai | Jun | Jul | Aug | Set | Out | Nov | Dez | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 379 | 314 | 312 | 302 | 288 | 431 | 426 | 487 | 554 | 657 | 514 | 394 | 5.057 |
| 1996 | 351 | 305 | 313 | 518 | 542 | 395 | 365 | 314 | 284 | 400 | 242 | 383 | 4.410 |
| 1997 | 382 | 286 | 272 | 226 | 367 | 263 | 201 | 193 | 193 | 270 | 129 | 240 | 3.023 |
| 1998 | 210 | 174 | 130 | 118 | 67 | 47 | 74 | 69 | 109 | 102 | 74 | 64 | 1.235 |
| 1999 | 35 | 71 | 75 | 56 | 63 | 63 | 56 | | | | | | 419 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,68 | 0,73 | 0,79 | 0,80 | 0,78 | 0,75 | 0,75 | 0,75 | 0,75 | 0,73 | 0,66 | 0,66 | |
| 1996 | 0,58 | 0,64 | 0,65 | 0,65 | 0,54 | 0,51 | 0,50 | 0,45 | 0,39 | 0,39 | 0,39 | 0,39 | |
| 1997 | 0,36 | 0,38 | 0,38 | 0,38 | 0,36 | 0,32 | 0,32 | 0,30 | 0,31 | 0,29 | 0,29 | 0,29 | |
| 1998 | 0,29 | 0,35 | 0,35 | 0,43 | 0,48 | 0,48 | 0,47 | 0,47 | 0,47 | 0,46 | 0,45 | 0,42 | |
| 1999 | 0,43 | 0,33 | 0,33 | 0,33 | 0,33 | 0,31 | 0,28 | | | | | | |

Table III.59 - marketed Amounts and average price of pineapple pearl
in CEASA of Brasília

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 145 | 70 | 43 | 74 | 110 | 98 | 88 | 161 | 140 | 195 | 195 | 202 | 1.522 |
| 1996 | 97 | 132 | 129 | 218 | 107 | 135 | 344 | 246 | 381 | 333 | 389 | 431 | 2.941 |
| 1997 | 231 | 234 | 375 | 397 | 426 | 479 | 504 | 426 | 506 | 535 | 556 | 591 | 5.260 |
| 1998 | 269 | 192 | 437 | 443 | 549 | 472 | 490 | 572 | 526 | 538 | 582 | 634 | 5.704 |
| 1999 | 466 | 449 | 594 | 582 | 481 | 441 | 511 | | | | | | 3.523 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,68 | 1,05 | 1,07 | 1,07 | 0,87 | 0,75 | 0,75 | 0,75 | 0,75 | 0,73 | 0,66 | 0,66 | |
| 1996 | 0,58 | 0,70 | 0,71 | 0,71 | 0,60 | 0,55 | 0,54 | 0,50 | 0,49 | 0,49 | 0,49 | 0,48 | |
| 1997 | 0,46 | 0,47 | 0,47 | 0,46 | 0,43 | 0,37 | 0,40 | 0,40 | 0,35 | 0,32 | 0,32 | 0,32 | |
| 1998 | 0,34 | 0,39 | 0,40 | 0,47 | 0,52 | 0,52 | 0,52 | 0,51 | 0,53 | 0,59 | 0,56 | 0,55 | |
| 1999 | 0,41 | 0,36 | 0,35 | 0,36 | 0,36 | 0,33 | 0,33 | | | | | | |

### (8.4) Competitiviness

To portray the reality better, we presented the most frequent fixed costs in their values minimum and maximum, based on real export operations done now. In practice, it can be verified difficulties in containing the costs in the presented strip, as well as to get smaller costs in certain items, as the freight and the packings.

The selling prices of the pineapple in Europe are also presented with three values, the most frequent US$ 900/t., among their minimum (US$ 800/t.) and maximum (US$ 1.100) observed in the statistics of the last years.

Table III.60 - current Fixed costs in the export for Europe

| FIXED COSTS (Values in US$/tonelada) | Minimum | Maximum | More frequent |
|---|---|---|---|
| Port costs in the destiny | 15 | 30 | 20 |
| international transport costs Brasil/Europa | 140 | 220 | 160 |
| Port costs in Brazil | 15 | 45 | 25 |
| Costs in-land | 15 | 35 | 20 |
| Improvement costs and packing - boxes and paletes | 130 | 150 | 140 |
| Total costs | 315 | 480 | 365 |

| PRICE MÍNI MERCADO PHOT port: US$ 800/t. | Minimum | Maximum | More frequent |
|---|---|---|---|
| (-) total fixed costs | 315 | 480 | 365 |
| Intermediation margin in the destiny-5% on price PHOT | 40 | 40 | 40 |
| Import taxes | | | |
| Value FOB | | | |
| Intermediation margin in the origin-3% on value FOB | | | |
| (=) margin regional competitiveness in the international market | | | |

| PRICE MAXI MERCADO PHOT port: US$ 1.100/t. | Minimum | Maximum | More frequent |
|---|---|---|---|
| (-) total fixed costs | 315 | 480 | 365 |
| Intermediation margin in the destiny-5% on price PHOT | 55 | 55 | 55 |
| Import taxes | | | |
| Value FOB | | | |
| Intermediation margin in the origin-3% on value FOB | | | |
| (=) margin regional competitiveness in the international market | | | |

| PRICE MORE FREQUENT INTERNATIONAL MARKET PHOT port US$ 900/t. | Minimum | Maximum | More frequent |
|---|---|---|---|
| (-) total fixed costs | 315 | 480 | 365 |
| Intermediation margin in the destiny-5% on price PHOT | 45 | 45 | 45 |
| Import taxes | | | |
| Value FOB | | | |
| Intermediation margin in the origin-3% on value FOB | | | |
| (=) price of regional competitiveness in the international market | 540 | 375 | 490 |

With these data, the competitiveness of prices can be calculated in the international market for the pineapple, in the following way:

- International prices-costs of intermediation of exports-I cost of internal transport = price of international competitiveness.

Like this, it is had (US$/kg): 0,90-0,36-0,04 = 0,50
Being the price in the area program of US $0,18/kg, was ended that the pineapple tocantinense presents good international competitiveness, with margin of competitiveness of 166%.

For the national competitiveness, the same reasoning is used, with the following formula:

- Preços nacionais – custo de transporte desde a área programa = preço de competitividade.

It is had like this (US$/kg): 0,49-0,04 = 0,45.
Being the price in the area-program of US $0,18/kg, was ended that the competitiveness of prices of the pineapple tocantinense in the national market is very good, with margin of competitiveness of 150%.

## (9) Banana

### (9.1) World Balance

Banana's varieties cultivated all over the world are the following ones:

- the muse chinensis, or muse cavendishii, the more cultivated, and the only marketed for export, cavendish call. In Brazil, she has several names as tiny, of water, stubborn, dwarf, china, cambota and it represents 41% of the world production.

- the muse sapientum, sometimes considered a subspecies of the paradisiacal muse, of which you/they make part the bananas known in Brazil as silver, gold and apple, representing 13% of the world production.
- the paradisiacal muse, of which make part the pacovã and the banana of the earth, among others. They are bananas to cook or to fry-the very ripe pacovã breeze can be consumed. This group represents 46% of banana's world production.

Another banana classification very used is as like consuming her: fresh fruit, the first two categories (54%), and banana to cook, the last category (46%).

In agreement with FAO, in 1999 they would have been produced 89 Mt (Mt) of banana of all of the varieties, all over the world, being: 58,4 Mt of banana for fresh consumption and 30,6 Mt of bananas to cook. However, risings done by researchers and specialists in banana appear for a different reality, in that only 48 Mt of banana are destined to fresh consumption and 41 Mt to cook. This discrepancy is very big, and the professionals guarantee the last numbers, and he/she has a very important consequence in the case of Brazil: the statistics of IBGE are answered by the professionals, that you/they recognize the announced volume from 5 to 6 Mt as total volume of fresh banana and to cook. As those professionals, Brazil is a big one and diversified producing of bananas, the largest of the world second, behind India, in the strip of 6 annual Mt, among the varieties of consumption breezes - tiny, silver, apple, gold - and bananas to cook. Most of the Brazilian production is consumed internally; we exported only 1,3% of the production, while specialized countries exist in producing bananas for export, like Ecuador, Costa Rica and Colombia, the first three exporters.

Américas Central and of the South, more the Caribbean area, they are the largest world producers of banana for fresh consumption, with 18 Mt of 48 Mt of the year 1999. Asia is the second producing largest, with almost 12 Mt, and Africa completes the world picture. The European productions are little important in volume, if no politically.

It was chosen to present the production numbers believed by the banana's professionals, and no the statistics of FAO, for they show incoherence among the countries.

Banana's international trade is the bulkiest of all of the fruits, reaching 12 Mt, and it stands out for the diversity lack, concentrating on a single variety, the cavendish. It is a true industry of the banana, in the production sense and commercialization. Without option and differentiation, a primary sector should be considered when confronted with the citros, second more important international market, with almost 9 annual Mt, 3/4 of the banana's market, but composed of more than 40 varieties of fruits with commercial expression, that you/they belong to 5 very different families and with high industrialization tax.

In the countries importers, only the variety cavendish - tiny, nanicão, stubborn, dwarf,

of water - it is known of the consumers. It is also the only variety exported by Brazil.

Table III.61 - banana Production for fresh consumption in the world

| WORLD | 1997 | 1998 | 1999 |
|---|---|---|---|
| TOTAL (tons) | **35.533.662** | **34.272.835** | **34.880.385** |
| América Central | **7.673.317** | **7.682.710** | **7.617.697** |
| Costa Rica | 2.300.000 | 2.200.000 | 2.200.000 |
| Mexico | 2000.000 | 2.040.740 | 2000.000 |
| Guatemala | 730.000 | 800.000 | 732.745 |
| Honduras | 610.000 | 610.000 | 610.000 |
| Panama | 518.000 | 518.000 | 518.000 |
| Dominican Republic | 329.000 | 323.000 | 355.000 |
| Martinique | 292000 | 292000 | 292000 |
| Cuba | 118.866 | 155.000 | 160.000 |
| Jamaica | 130.000 | 130.000 | 130.000 |
| Guadeloupe | 110.800 | 110.800 | 110.800 |
| Haiti | 100.000 | 100.000 | 100.000 |
| Other | 442.651 | 411.170 | 417.152 |
| South America | **11.357.478** | **9.705.678** | **10.357.147** |
| Ecuador | 5.400.000 | 3.900.000 | 4.600.000 |
| Brazil | 3.100.000 | 2.900.000 | 2.727.100 |

| | | | |
|---|---|---|---|
| Colombia | 1.607.210 | 1.516.640 | 1.570.000 |
| Venezuela | 830.200 | 947.651 | 1.000.000 |
| Other | 420.068 | 441.387 | 460.047 |
| Asia | **11.380.987** | **11.649.017** | **11.723.575** |
| Indian | 5.100.000 | 5.200.000 | 5.200.000 |
| China | 2.500.000 | 2.630.000 | 2.700.000 |
| Philippine | 1.100.000 | 1.100.000 | 1.100.000 |
| Indonesian | 1.000.000 | 1.000.000 | 1.000.000 |
| Vietnam | 330.000 | 332000 | 330.000 |
| Bangladesh | 314.000 | 312000 | 321.000 |
| Thailand | 320.000 | 320.000 | 320.000 |
| Malaysia | 150.000 | 150.000 | 150.000 |
| Other | 566.987 | 595.017 | 602.575 |
| Africa | **4.401.716** | **4.532.474** | **4.477.000** |
| Egypt | 635.000 | 655.570 | 600.000 |
| Cameroon | 456.000 | 500.000 | 485.000 |
| Uganda | 425.000 | 425.000 | 425.000 |
| Costa of Ivory | 390.000 | 395.000 | 395.000 |
| Tanzania | 345.000 | 345.000 | 345.000 |
| Congo | 317.659 | 318.361 | 315.000 |
| Angola | 300.000 | 310.000 | 290.000 |
| Madagascar | 229.000 | 229.000 | 235.000 |
| South Africa | 190.000 | 199.000 | 210.000 |
| Other | 1.114.057 | 1.155.543 | 1.177.000 |
| Europe | **451.788** | **430.600** | **425.600** |
| Spain | 406.388 | 385.200 | 380.200 |
| Portugal | 40.000 | 40.000 | 40.000 |
| Other | 5.400 | 5.400 | 5.400 |
| Oceania | **268.376** | **272.356** | **279.366** |
| Australia | 219.000 | 223.000 | 230.000 |
| New Papua Guinea | 38.000 | 38.000 | 38.000 |
| Other | 11.376 | 11.356 | 11.366 |

Source: Cirad-Flhor, FAO – Elaboração: Thierry Lescot

The world exports reached 11,8 Mt in 99, and they are led by Latin America, responsible for 9,65 Mt, 82% of the world trade. Asia produces more for domestic consumption, exporting less than 1,5 Mt, mainly the Philippines to Japan, while Latin America almost exports the half of the production for distant markets, mainly Europe (4,5 Mt) and North America (4,1 Mt).

The countries that produce plenty and they export little, they are: Brazil, with 2,7 produced Mt and 81 thousand exported in 99 (2,97%); India, with 5,2 produced Mt and without export registration; China, with 2,7 produced Mt, exporting 73 thousand (2,7%) and Mexico producing 2 Mt and exporting 245 thousand t. (12%).

The countries that export a lot specialized, using appropriate technologies. Ecuador is the world leader of the exports of fresh bananas, with 3,9 Mt in 98, almost bending his/her participation in the international trade in the last 8 years. The second country exporter is Costa Rica, exporting between 1,8 Mt and 2 Mt, mainly to North America. It is a country that produces to export, with a line of tropical fruits diversified and strong presence of the American multinationals. The third country larger exporter is Colombia, with 1,5 Mt in 98. Banana's production also seeks the export Colombia is diversifying its line of fresh fruits a lot, introducing tropical innovations in the markets of Northern Hemisphere (Physalis, Pitahaya, granadilla,...). The fourth country larger exporter is Philippines, with 1,1 Mt exported in 1998, for Korea and Japan. Those countries answered for 70% of banana's world trade in 1999.

The old colonies of England and of France - the countries ACP (Africa, Caribbean and Pacific), protected and favored in the banana's trade - in spite of very mentioned by the contestants, they answer for only 870.000 t, 7% of the world trade, and less than 20% of the needs of the European Union, where they market their exports.

Two tendencies exist favor the entrance of new operators in the main banana markets. The marketing tendency that is going in the sense of the market segmentation, using own mark, diversifying offers, introducing new products and varieties is being used 50 years ago in many products, but its application in the world of the fruit is recent. Brazil, to conquer markets, it cannot neglect actions in that sense. Tendency of changes in the distribution rules, wants is for the modification of the system of shares of the

European Union (he was already open to Brazil to enter, and he/she should stiller open) or in the fact that the American multinationals are entering in the market.

This last event can benefit the one that know take advantage him. These companies open market, bringing and adapting technologies, forcing the organization of the commercialization. But it also has the danger of the high dependence and of the power to negotiate loss. It is recognized, though, that those corporations can force and to accelerate the organization of the commercialization, to promote the changes more quickly, contributing to clear the situation, detaching the options, testing them to their costs.

Europe is the largest banana importer, with 4,5 Mt a year, 38% of the world trade. The European East, including the Russian Federation, it imports 1,2 Mt of this total one. The United States is the second largest importer, with 3,7 Mt in 1998, and with Canada (416 thousand t) they absorb 35% of the exports. Korea, China and Japan form the third largest area importadora, buying 1,5 Mt annually. The imports of China grew quickly, of 160 thousand t, in 1995, for 865 thousand, in 1998, completing his dear production in 2,7 Mt

Argentina, Uruguay and Chile, our closer markets, matter more than 420.000 t a year. You gave, just Argentina imports the Brazilian banana (68 thousand t in 98). Chile and Uruguay have Ecuador as supplying adult.

## (9.2) National panorama of the banana

Unlike the international market, banana's consumption in Brazil is very diversified and rich, each area has their preferences, following the structure of his production, a lot of times native. It was only recently begun to give importance to the banana's rational culture, what hinders plenty the detailed knowledge of the real production of bananas in the country.

The most recent statistics of IBGE (Research of Family budget, 1996), they show tendency of relative decrease of consumption: the banana represented 22% of the volume of fruits consumed in 1987, and it fell for 18% in 1996. In absolute value, the consumption is of 7,33kg per capita, that it results in a total volume consumed around of 1,2 Mt, representing 44% of the national production. That research shows great growth of the consumption of banana silver, reaching 3,7kg per capita, to the detriment of the tiny, whose consumption fell for 3,3kg.

The specialists and banana traders believe, however, that the Brazilian consumption is more close to 3 Mt than of 6 Mt.

In volume terms, two main types of banana are marketed in Brazil: the tiny (with all their other names) and the silver. The other varieties, as the apple present a great scale difference, not passing of specialties.

Table III.67. Produção brasileira de bananas - 1998

| | Production (1.000 bunches) | Area (hectares) | Income (cachos/ha) |
|---|---|---|---|
| TOTAL BRAZIL | **533.730** | **522.870** | **1.021** |
| Nordeste | **162.603** | **176.003** | **924** |
| Bahia | 53.548 | 52.188 | 1.026 |
| Ceará | 30.442 | 44.641 | 682 |
| Pernambuco | 35.181 | 33.794 | 1.041 |
| Paraíba | 15.230 | 19.135 | 796 |
| Maranhão | 13.007 | 12.607 | 1.032 |
| Alagoas | 3.962 | 3.934 | 1.007 |
| Sergipe | 3.303 | 3.560 | 928 |
| Rio Grande do Norte | 4.904 | 3.455 | 1.419 |
| Piauí | 3.026 | 2.689 | 1.125 |
| Sudeste | **141.864** | **142.236** | **997** |
| São Paulo | 63.000 | 50.170 | 1.256 |
| Minas Gerais | 40.568 | 40.370 | 1.005 |
| Rio de Janeiro | 16.510 | 28.859 | 572 |
| Espírito Santo | 21.786 | 22.837 | 954 |
| Norte | **133.891** | **114.686** | **1.167** |
| Pará | 72.715 | 51.772 | 1.405 |
| Amazonas | 45.419 | 41.701 | 1.089 |

| | | | |
|---|---|---|---|
| Rondônia | 6.004 | 7.787 | 771 |
| Tocantins | 4.060 | 5.800 | 700 |
| Acre | 5.415 | 5.001 | 1.083 |
| Roraíma | 278 | 2.625 | 106 |
| CentroOeste | **43.621** | **48.709** | **896** |
| Mato Grosso | 22.719 | 30.807 | 737 |
| Goiás | 14.164 | 12.897 | 1.098 |
| Mato Grosso do Sul | 6.550 | 4.864 | 1.347 |
| Distrito Federal | 188 | 141 | 1.333 |
| Sul | **51.751** | **41.236** | **1.255** |
| Santa Catarina | 32.718 | 25.217 | 1.297 |
| Rio Grande do Sul | 10.043 | 10.219 | 983 |
| Paraná | 8.990 | 5.800 | 1.550 |

Source: IBGE

It is not had rising of volumes produced by banana type, but a notion of the importance of each can be had an analyzing the amounts marketed in CEASAS, taking them as mirror of the consumption.

Table III.68 -. Main bananas marketed in CEASAS of Beautiful-horizon, Rio de Janeiro, Brasília and São Paulo, for variety

| | | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|
| Belo Horizonte | Prata | 29.200 | 27.312 | 27.056 | 32.222 | 42.969 | 37.698 | 46.116 |
| | Nanica | 28.167 | 27.497 | 26.170 | 25.356 | 25.246 | 24.651 | 30.162 |
| | Maçã | 4.189 | 2.173 | 1.847 | 2.267 | 3.644 | 2.886 | 2.912 |
| | Total | 61.556 | 56.982 | 55.073 | 59.845 | 71.859 | 65.235 | 79.190 |
| Rio de Janeiro | Prata | 59.937 | 63.845 | 57.737 | 66.539 | 72.978 | 60.357 | * |
| | Nanica | 27.672 | 27.062 | 22.334 | 21.687 | 18.603 | 17.092 | * |
| | Maçã | | | | | 777 | 1.509 | * |
| | Total | 87.609 | 90.907 | 80.071 | 88.226 | 92.358 | 78.958 | |
| Distrito Federal | Prata | 7.259 | 8.680 | 8.962 | 8.933 | 10.722 | 9.899 | * |
| | Nanica | 15.085 | 13.059 | 13.184 | 13.359 | 11.734 | 11.162 | * |
| | Maçã | 3.137 | 1.706 | 1.003 | 1.350 | 2.365 | 1.672 | * |
| | Total | 25.481 | 23.445 | 23.149 | 23.642 | 18.662 | 22.733 | |
| São Paulo | Prata | 9.126 | 10.275 | 14.096 | 11.908 | 13.360 | 10.722 | 12.884 |
| | Nanica | 60.800 | 61.300 | 68.680 | 67.760 | 55.450 | 46.959 | 49.374 |
| | Maçã | 7.827 | 6.048 | 3.699 | 3.950 | 5.932 | 4.534 | 3.165 |
| | Total | 77.753 | 77.623 | 86.475 | 83.618 | 74.742 | 62.215 | 65.423 |

It is observed in this period of 7 years, between 1993 and 1999, that:

- the banana silver increased his/her participation in each one of those markets, passing from 47 to 58% in Beautiful-horizon; of 68 for 76% in Rio; from 28 to 43% in Federal district and from 11 to 19% in São Paulo.
- that growth felt to the detriment of the tiny.
- the participation of the banana apple, that was already much smaller than the other ones two, tends to decrease: of 7 for 3% in Beautiful-horizon; of 10 for 4% in São Paulo and of 12 for 5% in Federal district.
- safe in the case of Beautiful-horizon, the amounts marketed in CEASAS are decreasing, phenomenon observed in the whole world.

In the whole world, the almost totality of the bananas breeze is marketed. The part transformed in flour, purêe, raisins and other sweet ones are insignificant. The banana is a fruit that is picked, wraps and it transports green until the consumption place, being proceeded the climatization (forced ripening) close to the retail places. This rule is valid for all of the markets, internal or external. The climatizador can be a wholesale merchant or the own retailer that it receives bananas of all of the origins and types, to give the diversity wanted by the customers or for the own stores of its net.

Due to the high necessary investments to acclimatize and to give bananas until twice a day in each store, only specialized companies dominate the distribution market completely in the main foreign markets. They are the obligatory point of passage to arrive in the retail. But like them they cannot let to lack fruits in the stores, the companies tend to do solid agreements with the producers. In the case of the banana, in fact, almost whole destined production the export is controlled by these distribution companies, partly for technical reasons - complicated and delicate logistics - partly for accumulation of economical power that it took them to a dominant position. And as the concentration of the retail it is every time larger, just some exist dozens of companies climatizadoras and dealers of bananas in Europe. The situation continues

developing for a larger concentration, following the tendency of the retail in consolidating, in Europe and in North America.

In Brazil, the concentration of the retail began and it is being done in a very fast way in the direction of the supermarkets. Today, middles of 2000, the five larger supermarkets bill 60% of the total of the section, operand in the purchase of fruits in the following way:

- the organizations of smaller load still make their purchases and they prepare the requests in the platforms owners CEASAS, giving them with their trucks in each store, system that can work when it is had few stores;
- the larger organizations are centralizing their purchases in own platforms, the times located inside of CEASAS, where they receive fruits of the producers, they prepare and they give the requests of each store.
- other, any that is the load, they accredit wholesalers as suppliers, leaving each store to order directly to those accredited, in agreement with the conditions and preset guidelines, but negotiated by the buyer of the headquarters of purchases.

Many supermarkets of intermediate size ask the suppliers for this service - wholesalers that developed for the services rendered - with store delivery in store, positioning and replacement of the products in the sections, maintaining repositores in them store.

In the case of the banana, rarely the supermarkets buy her directly of the producers. With the climatization demand, almost all ask the specialist companies for complete service, that you/they acclimatize and they market bananas, giving all of the types, supplying the racks, labeling the fruits and restoring them in the own section, making promotions, etc. Even so, a lot of companies of bananas are closing the doors because there is no more space for as many companies as had in the past (750 climatizadoras were registered in 96), due to the concentration of the retail distribution system and of the sales volumes. They can still exist many retail customers walking for CEASAS, but it is easy to notice that these customers are small, and that all of them together they don't allow more to make possible a modern company of climatization and distribution of bananas. He/she needs to have the big ones as customers to make possible the company.

*FLOWCHART - TRADING OF THE BANANA*

| Operation | Responsible |
|---|---|
| Crop | Producer or his/her organization |
| ⇓ | |
| Selection | Organization of the producer |
| ⇓ | |
| Preparation | Organization of the producer |
| ⇓ | |
| Treatments | Organization of the producer |
| ⇓ | |
| Packing | Organization of the producer |
| ⇓ | |
| Sell to the climatizador | Org. of the producer, by contract of medium period |
| ⇓ | |
| Transport | Org. of the producer or third party |
| ⇓ | |
| Climatization | Climatizador |
| ⇓ | |
| Sell to the retailer and delivery | Climatizador |
| ⇓ | |
| Presentation in the section | Climatizador or retailer |

The banana's commercialization should follow this flowchart: to proceed this way assures the minimum of intermediação,e the total control of the destiny of the production. As each isolated producer doesn't have the time nor of the enough ways, humans and financial, to have a good performance in the powder-crop stages and commercialization, the solution is to create some organization type and to turn her

competent for this purpose. Ideally, she will belong to the producers, that you/they will always have total domain on her.

## (9.3) Main Markets in Brazil

Eliminating the impact of Plano real on the prices of the fruits in the domestic market (effects of high very fort of the second semester of 94 to end of 95), it is noticed that the prices are returning to the landing of 1993. In the universe of the fruits, the banana is losing land for apples, pears, grapes, peaches, nectarines, dads, strawberries and other, mainly of temperate climate. It is the consumer's current preference.

To have the estimate of the per capita consumption of the Southeast area, in the absence of another more necessary rising, intends to use the data IBGE, 1996, in the capitals of that area, calculating his/her considered average and multiplying that value for the population. This way is considered that banana's consumption in the area is around of 500 thousand ton stamped a year.

The 3 main types marketed in the area are the banana silver, proceeded closely by the tiny, and in a proportion four times smaller, for the banana apple.

Table III.69 - Varieties of bananas marketed in the main ones consuming centers of the Southeast area

| Mercado | Variedade | | | |
|---|---|---|---|---|
| | Prata | Nanina | Maçã | Total |
| Belo-Horizonte | 58% | 38% | 4% | 100% |
| Rio de Janeiro | 76% | 21% | 3% | 100% |
| São Paulo | 19% | 76% | 5% | 100% |

Source: Ceasas (given elabaorados)

## São Paulo

CEAGESP markets little more than 65.000 t of bananas a year, mainly the tiny varieties, with 76% of the volumes in 1999; silver, 19% and apple, 5%. These amounts are small in relation to the consumption of bananas of the area of influence of the headquarters paulistana that is going besides the borders of the Metropolitan Area of São Paulo. These 65.000 t. just divided by the population of Great São Paulo indicate a consumption per person a year of only 3,4kg, when it is known that it is about 7,3kg.

This proportion is applied to esteem the total consumption, we could evaluate that the amounts marketed through CEAGESP represent less than 50% of the total marketed in the area and, probably, much less still if we consider that the population assisted by CEAGESP is of 30 million people, what would determine a potential market of 219.000 t, for which CEAGESP would only channel 30%.

Table III.70 - marketed Amount and average price of the tiny banana in CEAGESP

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNTS (tons) | | | | | | | | | | | | | |
| 1995 | 5.597 | 5.279 | 5.413 | 4.479 | 4.760 | 5.222 | 5.605 | 6.116 | 6.395 | 6.607 | 5.648 | 6.648 | 67.769 |
| 1996 | 5.935 | 5.522 | 5.689 | 5.653 | 5.441 | 4.835 | 5.013 | 4.531 | 4.767 | 5.351 | 5.617 | 5.123 | 63.476 |
| 1997 | 5.489 | 4.510 | 4.239 | 5.051 | 4.983 | 4.452 | 4.692 | 4.862 | 3.591 | 4.957 | 4.502 | 4.121 | 55.450 |
| 1998 | 4.499 | 3.635 | 4.375 | 4.148 | 4.055 | 4.138 | 3.678 | 4.047 | 3.809 | 3.533 | 3.407 | 3.635 | 46.959 |
| 1999 | 3.705 | 3.467 | 4.243 | 4.403 | 4.192 | 3.872 | 3.971 | 3.892 | 4.172 | 4.290 | 4.879 | 4.290 | 49.374 |
| PRICES (US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,61 | 0,55 | 0,73 | 0,92 | 0,75 | 0,75 | 0,58 | 0,53 | 0,50 | 0,47 | 0,43 | 0,45 | |
| 1996 | 0,39 | 0,39 | 0,44 | 0,44 | 0,38 | 0,37 | 0,41 | 0,52 | 0,49 | 0,49 | 0,43 | 0,34 | |
| 1997 | 0,34 | 0,35 | 0,33 | 0,37 | 0,36 | 0,34 | 0,36 | 0,35 | 0,33 | 0,32 | 0,31 | 0,30 | |
| 1998 | 0,29 | 0,29 | 0,33 | 0,33 | 0,33 | 0,30 | 0,32 | 0,35 | 0,34 | 0,37 | 0,39 | 0,32 | |
| 1999 | 0,24 | 0,16 | 0,16 | 0,20 | 0,20 | 0,21 | 0,21 | 0,21 | 0,22 | 0,20 | 0,20 | 0,21 | |

It is deduced:

- the decreasing tendency of prices, with a fall accentuated in the beginning of 99, owed the depreciation of the Real;
- the price stabilization around of US $0,20/kg during the year of 99.

Table III.71 - marketed Amount and average price of the banana silver in CEAGESP

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 334 | 305 | 344 | 274 | 297 | 169 | 242 | 357 | 336 | 446 | 492 | 235 | 3.831 |
| 1997 | 287 | 276 | 247 | 361 | 418 | 443 | 684 | 699 | 612 | 612 | 559 | 477 | 5.675 |
| 1998 | 256 | 143 | 326 | 320 | 424 | 497 | 344 | 304 | 157 | 384 | 314 | 310 | 3.778 |
| 1999 | 275 | 275 | 405 | 388 | 357 | 462 | 606 | 519 | 377 | 406 | 265 | 285 | 4.619 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 0,83 | 0,85 | 0,79 | 0,89 | 0,80 | 1,00 | 1,02 | 1,01 | 0,93 | 0,85 | 0,78 | 0,73 | |
| 1997 | 0,68 | 0,70 | 0,68 | 0,67 | 0,70 | 0,66 | 0,67 | 0,70 | 0,68 | 0,62 | 0,62 | 0,63 | |
| 1998 | 0,65 | 0,68 | 0,68 | 0,64 | 0,70 | 0,76 | 0,77 | 0,76 | 0,75 | 0,75 | 0,69 | 0,65 | |
| 1999 | 0,53 | 0,40 | 0,40 | 0,49 | 0,49 | 0,46 | 0,41 | 0,41 | 0,43 | 0,39 | 0,41 | 0,44 | |

It is deduced:

- a lot of irregularities of provisioning in volume, very strong oscillations, without affecting the prices;
- a grande queda nos preços no início de 99, seguida pela estabilização dos preços ao redor de US$ 0,40/kg.

Table III.72 - marketed Amount and average price of the banana apple in CEAGESP

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 340 | 249 | 349 | 362 | 467 | 252 | 294 | 340 | 306 | 352 | 340 | 326 | 3.977 |
| 1997 | 350 | 266 | 335 | 1773 | 363 | 400 | 260 | 344 | 257 | 571 | 526 | 489 | 5.932 |
| 1998 | 410 | 403 | 478 | 486 | 516 | 488 | 452 | 339 | 349 | 145 | 241 | 227 | 4.534 |
| 1999 | 214 | 186 | 294 | 300 | 323 | 225 | 226 | 239 | 242 | 322 | 317 | 278 | 3.165 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 1,97 | 1,93 | 1,73 | 1,75 | 1,54 | 1,56 | 1,65 | 1,66 | 1,54 | 1,45 | 1,26 | 1,19 | |
| 1997 | 1,10 | 1,03 | 1,00 | 1,04 | 0,97 | 0,84 | 0,94 | 0,93 | 0,93 | 0,92 | 0,97 | 0,95 | |
| 1998 | 0,91 | 0,85 | 0,87 | 0,81 | 0,82 | 0,88 | 0,90 | 0,97 | 1,00 | 1,13 | 1,39 | 1,21 | |
| 1999 | 0,92 | 0,65 | 0,62 | 0,68 | 0,70 | 0,71 | 0,66 | 0,68 | 0,71 | 0,64 | 0,66 | 0,77 | |

It is deduced:

- decrease of the offered amounts, and accidents of provisioning that don't seem linked to climatic reasons.
- the tendency of the prices is of fall, arriving in the level of US$ 0,60 the 0,70/kg;

## Belo Horizonte

CEASA of Belo Horizonte markets around of 80.000 t of bananas a year, divided in three varieties: silver, with 58%; tiny, 39% and apple, 3%. The banana silver is progressing at the market, winning a larger slice, arising of 47% in 1993 for 54% in 1996 and 58% in 1999.

With an annual consumption per person of 7,3kg, the total market of the area of influence of CEASA of Belo Horizonte, whose inclusion ray includes 17 million consumers, is around of 125.000 t a year. In these conditions, the participation of CEASA in the banana's commercialization in the area would be of 64%.

Table III.73 - marketed Amount and average price of the tiny banana in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 2.239 | 2.021 | 2.309 | 2.122 | 2.134 | 2.005 | 2.113 | 1.927 | 1.901 | 2.184 | 2.036 | 2.365 | 25.356 |
| 1997 | 2.081 | 1.978 | 2.026 | 2.007 | 2.160 | 1.656 | 2.037 | 2.159 | 2.324 | 2.526 | 2.174 | 2.117 | 25.246 |
| 1998 | 2.073 | 2.023 | 2.177 | 1.883 | 2.178 | 1.973 | 2.004 | 2.072 | 2.395 | 2.008 | 1.706 | 2.159 | 24.651 |
| 1999 | 2.393 | 2.350 | 2.710 | 2.784 | 2.696 | 2.374 | 2.622 | 2.526 | 2.691 | 2.550 | 2.160 | 2.306 | 30.162 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 0,33 | 0,28 | 0,32 | 0,33 | 0,29 | 0,30 | 0,30 | 0,42 | 0,37 | 0,44 | 0,40 | 0,31 | |
| 1997 | 0,26 | 0,26 | 0,26 | 0,30 | 0,31 | 0,25 | 0,26 | 0,28 | 0,27 | 0,25 | 0,23 | 0,23 | |
| 1998 | 0,24 | 0,23 | 0,26 | 0,31 | 0,29 | 0,25 | 0,26 | 0,29 | 0,31 | 0,33 | 0,36 | 0,33 | |
| 1999 | 0,21 | 0,14 | 0,17 | 0,19 | 0,18 | 0,18 | 0,18 | 0,21 | 0,20 | 0,20 | 0,21 | 0,21 | |

It is deduced:

- the tendency of the increase of the presented volumes, with fall of the prices;
- after the fall, due to the depreciation of January of 99, the prices are stabilized around of US $0,20/kg, same level of São Paulo.

Table III.74 - marketed Amount and average price of the banana silver in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 2.287 | 2.495 | 2.867 | 2.727 | 2.391 | 2.137 | 2.343 | 2.366 | 2.792 | 3.333 | 3.295 | 3.190 | 32.223 |
| 1997 | 2.831 | 3.389 | 3.434 | 3.533 | 3.177 | 2.854 | 3.120 | 3.712 | 4.527 | 4.318 | 4.329 | 3.745 | 42.969 |
| 1998 | 3.050 | 2.573 | 3.658 | 2.811 | 3.157 | 2.612 | 2.570 | 2.842 | 3.408 | 3.811 | 3.748 | 3.457 | 37.698 |
| 1999 | 3.116 | 3.185 | 3.921 | 3.286 | 3.499 | 3.375 | 3.471 | 3,946 | 4.209 | 4.831 | 4.712 | 4.564 | 46.116 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 0,56 | 0,56 | 0,57 | 0,58 | 0,54 | 0,73 | 0,74 | 0,62 | 0,48 | 0,44 | 0,38 | 0,35 | |
| 1997 | 0,37 | 0,35 | 0,34 | 0,32 | 0,42 | 0,31 | 0,34 | 0,34 | 0,30 | 0,26 | 0,24 | 0,31 | |
| 1998 | 0,46 | 0,52 | 0,50 | 0,53 | 0,54 | 0,55 | 0,56 | 0,55 | 0,46 | 0,34 | 0,32 | 0,43 | |

It is deduced:

- general tendency of increase of the presented volumes, and fall of the prices;
- the prices oscillate in an exaggerating way, showing very unstable and dangerous market.

Table III.75 - marketed Amount and average price of the banana apple in CEASA of Counting

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 152 | 122 | 215 | 139 | 169 | 134 | 159 | 154 | 205 | 277 | 243 | 300 | 2.268 |
| 1997 | 317 | 238 | 307 | 273 | 300 | 244 | 318 | 300 | 357 | 362 | 320 | 308 | 3.644 |
| 1998 | 256 | 273 | 302 | 245 | 301 | 223 | 243 | 256 | 257 | 194 | 171 | 164 | 2.886 |
| 1999 | 205 | 176 | 253 | 305 | 246 | 230 | 234 | 231 | 227 | 246 | 281 | 278 | 2.913 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 1,16 | 1,13 | 1,04 | 0,95 | 0,95 | 0,99 | 0,93 | 0,94 | 0,92 | 0,88 | 0,78 | 0,75 | |
| 1997 | 0,62 | 0,62 | 0,60 | 0,58 | 0,58 | 0,49 | 0,47 | 0,52 | 0,65 | 0,58 | 0,63 | 0,71 | |
| 1998 | 0,68 | 0,68 | 0,58 | 0,67 | 0,71 | 0,65 | 0,62 | 0,68 | 0,84 | 0,88 | 1,07 | 1,10 | |
| 1999 | 0,75 | 0,49 | 0,44 | 0,48 | 0,48 | 0,53 | 0,52 | 0,78 | 0,59 | 0,58 | 0,58 | 0,73 | |

It is deduced:

- little stable market, with great price oscillation - from US$ 0.40 to 0.80
- the prices seem to be recovering in 99.

Table III.76 - marketed Amount and average price of the tiny banana CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 1.943 | 1.550 | 2.017 | 1.846 | 1.878 | 1.677 | 1.921 | 1.780 | 1.652 | 1.813 | 1.984 | 1.625 | 21.687 |
| 1997 | 1.653 | 1.212 | 1.403 | 1.465 | 1.556 | 1.497 | 1.601 | 1.763 | 1.705 | 1.637 | 1.616 | 1.496 | 18.603 |
| 1998 | 1.770 | 1.351 | 1.648 | 1.542 | 1.560 | 1.513 | 1.509 | 1.410 | 1.211 | 988 | 1.262 | 1.328 | 17.092 |
| 1999 | 1.450 | 1.378 | 1.707 | 1.649 | 1.756 | 1.527 | 1.592 | | | | | | 11.058 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 0,46 | 0,41 | 0,48 | 0,43 | 0,41 | 0,46 | 0,47 | 0,53 | 0,56 | 0,62 | 0,52 | 0,38 | |
| 1997 | 0,43 | 0,58 | 0,43 | 0,46 | 0,52 | 0,46 | 0,44 | 0,43 | 0,37 | 0,35 | 0,34 | 0,41 | |
| 1998 | 0,34 | 0,38 | 0,41 | 0,43 | 0,37 | 0,36 | 0,39 | 0,40 | 0,40 | 0,39 | 0,45 | 0,49 | |
| 1999 | 0,36 | 0,24 | 0,19 | 0,21 | 0,26 | 0,24 | 0,22 | | | | | | |

## Rio de Janeiro

In CEASA of Rio de Janeiro, the marketed volumes oscillate between 80 and 90.000 t a year, divided in two main varieties, the silver, that reached 76% of the market in 1999, arising of 68% in 1993, and the tiny, decreasing in the same period of 32 to 20%.

Table III.77 - marketed Amount and price maédio of the banana silver in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1996 | 5.668 | 5.223 | 5.973 | 5.514 | 5.367 | 4.207 | 5.121 | 5.103 | 5.196 | 6.341 | 6.914 | 5.912 | 66.540 |
| 1997 | 6.171 | 4.594 | 6.090 | 6.305 | 6.122 | 5.553 | 6.544 | 6.971 | 6.194 | 6.521 | 6.003 | 5.910 | 72.978 |
| 1998 | 5.247 | 4.428 | 5.913 | 5.636 | 5.298 | 4.787 | 5.030 | 5.158 | 4.704 | 3.749 | 4.878 | 5.529 | 60.357 |
| 1999 | 5.350 | 4.901 | 7.201 | 6.114 | 6.247 | 6.198 | 6.111 | | | | | | 42.122 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1996 | 1,07 | 1,03 | 1,08 | 1,02 | 1,14 | 1,26 | 1,32 | 1,28 | 1,18 | 1,17 | 0,98 | 0,74 | |
| 1997 | 0,76 | 0,92 | 0,77 | 0,76 | 0,86 | 0,81 | 0,80 | 0,79 | 0,64 | 0,60 | 0,60 | 0,58 | |
| 1998 | 0,80 | 0,89 | 0,70 | 0,77 | 0,77 | 0,87 | 0,86 | 0,85 | 0,80 | 0,83 | 0,84 | 0,85 | |
| 1999 | 0,63 | 0,48 | 0,31 | 0,36 | 0,36 | 0,36 | 0,38 | | | | | | |

It is deduced:

- prices stayed strangely high (between US$ 0.60 and 0.80/kg) for two years, until the end of 1998, when they fell down (depreciation) for US$ 0.30 0.35/kg.

Tabela III.78 - Quantidade comercializada e preço médio da banana maçã no CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1997 | 17 | 25 | 23 | 37 | 61 | 46 | 102 | 96 | 47 | 140 | 101 | 82 | 777 |
| 1998 | 78 | 81 | 163 | 148 | 114 | 186 | 175 | 173 | 96 | 78 | 99 | 118 | 1.509 |
| 1999 | 149 | 144 | 198 | 208 | 144 | 129 | 152 | | | | | | 1.123 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1997 | 0,75 | 0,82 | 0,74 | 0,73 | 0,72 | 0,62 | 0,61 | 0,61 | 0,50 | 0,50 | 0,50 | 0,50 | |
| 1998 | 0,71 | 0,78 | 0,73 | 0,74 | 0,73 | 0,72 | 0,71 | 0,71 | 0,72 | 0,82 | 0,84 | 1,01 | |
| 1999 | 0,73 | 0,47 | 0,41 | 0,43 | 0,45 | 0,51 | 0,51 | | | | | | |

It is deduced:

- tendency of increase of the marketed amounts;
- prices oscillating strongly in the last 12 months of the observed period;
- high level of the prices, US$ 0.40 0.50/kg, that attracts the producers.

## Bahia

Table III.79 - marketed Amount and average price in CEASA of Salvador

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 1.199 | 1.021 | 1.220 | 1.056 | 1.201 | 1.008 | 1.232 | 1.371 | 1.414 | 1.637 | 1.564 | 1.304 | 15.227 |
| 1996 | 1.518 | 1.125 | 1.416 | 1.326 | 1.265 | 1.072 | 1.315 | 1.486 | 1.625 | 1.896 | 1.832 | 1.655 | 17.531 |
| 1997 | 1.586 | 1.136 | 1.422 | 1.515 | 1.699 | 1.509 | 1.857 | 2.078 | 1.563 | 1.754 | 1.730 | 1.507 | 19.355 |
| 1998 | 1.160 | 889 | 1.273 | 1.063 | 1.485 | 1.240 | 1.238 | 1.484 | 1.731 | 1.737 | 1.687 | 1.269 | 16.256 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,75 | 0,75 | 0,61 | 0,81 | 0,96 | 0,94 | 0,98 | 0,95 | 0,76 | 0,64 | 0,60 | 0,65 | |
| 1996 | 0,57 | 0,57 | 0,60 | 0,76 | 0,87 | 0,88 | 0,89 | 0,75 | 0,68 | 0,58 | 0,59 | 0,64 | |
| 1997 | 0,62 | 0,64 | 0,56 | 0,53 | 0,49 | 0,49 | 0,51 | 0,39 | 0,35 | 0,30 | 0,29 | 0,30 | |
| 1998 | 0,35 | 0,43 | 0,43 | 0,46 | 0,39 | 0,42 | 0,42 | 0,42 | 0,35 | 0,34 | 0,36 | 0,42 | |

It is deduced:

- great oscillations in the presented volumes, independent of seasonal variation, with behavior erratic of the prices.

## Pernambuco

Table III.80 - marketed Amount and average price in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 480 | 434 | 556 | 507 | 446 | 277 | 348 | 317 | 292 | 335 | 349 | 268 | 4.609 |
| 1996 | 389 | 328 | 498 | 404 | 433 | 438 | 530 | 616 | 569 | 553 | 590 | 548 | 5.896 |
| 1997 | 583 | 428 | 613 | 713 | 651 | 528 | 640 | 563 | 657 | 580 | 626 | 483 | 7.065 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 1,00 | 1,06 | 1,29 | 1,58 | 1,60 | 1,73 | 1,59 | 1,44 | 1,20 | 1,26 | 1,29 | 1,08 | |
| 1996 | 0,76 | 0,86 | 0,83 | 0,89 | 0,81 | 0,85 | 0,83 | 0,83 | 0,76 | 0,73 | 0,76 | 0,72 | |
| 1997 | 0,68 | 0,66 | 0,69 | 0,68 | 0,53 | 0,49 | 0,49 | 0,51 | 0,43 | 0,43 | 0,43 | 0,45 | |

It is deduced:

- slow increase of the volumes offered during the observed period;
- gradual fall of the prices, today in the strip of US $0.20/kg.

The tiny banana's recent data in Recife estatisticamente were not supplied, stopping in 1997.

Table III.81 - marketed Amount and average price of the banana silver in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 577 | 497 | 779 | 673 | 649 | 413 | 408 | 682 | 641 | 263 | 352 | 352 | 6.286 |
| 1996 | 469 | 313 | 494 | 544 | 391 | 460 | 444 | 561 | 473 | 594 | 932 | 792 | 6.467 |
| 1997 | 699 | 505 | 403 | 542 | 639 | 469 | 542 | 488 | 549 | 552 | 527 | 471 | 6.386 |
| 1998 | 465 | 433 | 645 | 453 | 422 | 392 | 442 | 439 | 285 | 429 | 513 | 281 | 5.199 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,27 | 0,27 | 0,26 | 0,27 | 0,33 | 0,35 | 0,49 | 0,41 | 0,25 | 0,44 | 0,40 | 0,46 | |
| 1996 | 0,21 | 0,20 | 0,23 | 0,29 | 0,28 | 0,29 | 0,29 | 0,27 | 0,19 | 0,15 | 0,13 | 0,13 | |
| 1997 | 0,12 | 0,15 | 0,16 | 0,16 | 0,16 | 0,16 | 0,16 | 0,16 | 0,16 | 0,12 | 0,11 | 0,11 | |
| 1998 | 0,27 | 0,18 | 0,24 | 0,30 | 0,30 | 0,36 | 0,37 | 0,32 | 0,29 | 0,28 | 0,22 | 0,22 | |

It is deduced:

- variations of great width in the offered volumes, that you/they don't obey the seasonal variation, but to cycles no identified;
- the prices accompany these variations to the opposite.

Tabela III.82 - Quantidade comercializada e preço médio da banana pacovã no CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 3.166 | 2.331 | 2.495 | 2.284 | 2.340 | 2.286 | 2.203 | 2.700 | 3.521 | 4.985 | 5.227 | 4.184 | 37.722 |
| 1996 | 3.628 | 3.253 | 2.957 | 520 | 2.883 | 2.236 | 2.837 | 3.168 | 3.428 | 4.578 | 4.409 | 4.597 | 38.494 |
| 1997 | 4.202 | 3.560 | 3.479 | 3.180 | 3.216 | 3.058 | 3.616 | 3.837 | 4.395 | 5.101 | 5.630 | 4.503 | 47.777 |
| 1998 | 3.447 | 2.495 | 2.401 | 2.215 | 2.367 | 2.141 | 2.351 | 2.434 | 3.199 | 3.283 | 2.982 | 3.047 | 32.362 |
| 1999 | 2.465 | 2.067 | 2.362 | 2.022 | 1.923 | 1.883 | | | | | | | 12.722 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,34 | 0,41 | 0,46 | 0,59 | 0,71 | 0,62 | 0,65 | 0,61 | 0,55 | 0,51 | 0,40 | 0,41 | |
| 1996 | 0,26 | 0,31 | 0,45 | 0,53 | 0,55 | 0,59 | 0,61 | 0,49 | 0,30 | 0,19 | 0,15 | 0,16 | |
| 1997 | 0,21 | 0,21 | 0,22 | 0,22 | 0,22 | 0,22 | 0,22 | 0,21 | 0,22 | 0,18 | 0,15 | 0,15 | |
| 1998 | 0,20 | 0,24 | 0,31 | 0,39 | 0,38 | 0,45 | 0,46 | 0,45 | 0,37 | 0,23 | 0,29 | 0,28 | |
| 1999 | 0,26 | 0,20 | 0,21 | 0,28 | 0,29 | 0,26 | | | | | | | |

It is deduced:

- strong oscillations in this banana's provisioning in the market of Recife;
- prices resisting the presented volumes, holding a level of US$ 0,20 the 0,25/kg in the end of the presented period.

## Brasília

In Brasília, CEASA markets around 23.000 t a year, divided among the tiny varieties, with 52%, silver, with 43%, and apple, with 5%.

Between 93 and 98, the variety silver increased it participation in the market, arising from 28% to 43%, to the detriment of the tiny varieties and apple, that had fallen from 60% to 52% and of 12% goes 5%.

Table III.83 - marketed Amount and average price of the tiny banana in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 1.049 | 962 | 1.096 | 878 | 963 | 1.093 | 1.072 | 1.316 | 1.295 | 1.313 | 1.133 | 1.013 | 13.184 |
| 1996 | 1.249 | 1.254 | 1.188 | 1.013 | 1.082 | 1.001 | 1.189 | 1.171 | 1.048 | 1.105 | 1.066 | 994 | 13.359 |
| 1997 | 870 | 840 | 986 | 986 | 1.099 | 1.047 | 1.067 | 1.095 | 1.056 | 933 | 807 | 948 | 11.734 |
| 1998 | 918 | 872 | 1.137 | 956 | 957 | 966 | 931 | 1.200 | 932 | 829 | 759 | 704 | 11.162 |
| 1999 | 898 | 802 | 1.000 | 1.029 | 996 | 976 | 942 | | | | | | 6.643 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 0,82 | 0,82 | 0,86 | 0,98 | 0,99 | 0,91 | 0,82 | 0,79 | 0,78 | 0,68 | 0,69 | 0,69 | |
| 1996 | 0,58 | 0,52 | 0,56 | 0,54 | 0,53 | 0,52 | 0,52 | 0,64 | 0,58 | 0,58 | 0,57 | 0,54 | |
| 1997 | 0,44 | 0,44 | 0,46 | 0,47 | 0,44 | 0,42 | 0,45 | 0,45 | 0,45 | 0,44 | 0,44 | 0,45 | |
| 1998 | 0,50 | 0,41 | 0,42 | 0,42 | 0,42 | 0,42 | 0,41 | 0,43 | 0,44 | 0,51 | 0,57 | 0,50 | |
| 1999 | 0,39 | 0,26 | 0,25 | 0,29 | 0,29 | 0,27 | 0,29 | | | | | | |

It is deduced:

- the decrease of the amounts marketed along the period;
- the turn of the prices to the landing previous to Plano real, in the level of US$ 0.25 0.30/kg.

Table III.84 - marketed Amount and average price of the banana silver in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | | |
| 1995 | 644 | 690 | 853 | 686 | 726 | 717 | 669 | 755 | 736 | 790 | 852 | 844 | 8.962 |
| 1996 | 820 | 805 | 830 | 852 | 854 | 593 | 514 | 603 | 682 | 689 | 850 | 842 | 8.933 |
| 1997 | 994 | 842 | 925 | 830 | 708 | 788 | 748 | 746 | 951 | 1.149 | 1.073 | 969 | 10.722 |
| 1998 | 816 | 712 | 878 | 887 | 751 | 595 | 714 | 775 | 840 | 1.007 | 1.020 | 904 | 9.899 |
| 1999 | 843 | 846 | 1.057 | 923 | 934 | 813 | 908 | | | | | | 6.325 |
| PRICE (in US$/kg) | | | | | | | | | | | | | |
| 1995 | 1,29 | 1,35 | 1,42 | 1,44 | 1,45 | 1,51 | 1,47 | 1,47 | 1,45 | 0,89 | 0,91 | 0,88 | |
| 1996 | 0,93 | 0,91 | 0,89 | 0,89 | 0,88 | 0,99 | 1,10 | 1,07 | 0,97 | 0,93 | 0,79 | 0,74 | |
| 1997 | 0,68 | 0,66 | 0,64 | 0,63 | 0,69 | 0,62 | 0,60 | 0,60 | 0,60 | 0,49 | 0,49 | 0,60 | |
| 1998 | 0,72 | 0,75 | 0,71 | 0,71 | 0,72 | 0,73 | 0,75 | 0,72 | 0,70 | 0,65 | 0,61 | 0,66 | |
| 1999 | 0,53 | 0,40 | 0,34 | 0,45 | 0,46 | 0,43 | 0,42 | | | | | | |

It is deduced:

- increase of the amounts marketed along the period;
- fall of the prices for the level of US$ 0.35 0.40/kg.

### (9.4) Competitiviness

To portray the reality better, we presented the most frequent fixed costs among their values minimum and maximum, based on real export operations done now. In practice, difficulties can be verified in containing costs in the presented strip, as well as to get smaller costs in certain items, as freight and packings.

The banana's selling prices in Europe are presented with three values, the most frequent (US$ 700/t), the minimum (US$ 600/t) and the maximum (US$ 900/t) observed in the statistics of the last years.

Decomposing the more frequent international prices in the main markets until his value FOB, a great margin of competitiveness of prices is verified, of the order of 46%, for performance of the producing areas, what corresponds the US$ 223 for ton, in other words, a very close value to the price FOB of the banana. It is verified, therefore, that there is a good space for remuneration of the regional organization of production for export, understanding lostes formation with scale for the international trade, homogeinização of the product quality and implantation of the logistics of cold (climatization) and transport.

Like this, the restriction is more of organization of production and logistics than of competitiveness of prices, once the more frequent commercialization margins vary between 28% and 87%.

## (11) Mango

### (11.1) World Balance

In India and in Asia in general, the mango, very important in the diet of the population, it is consumed ripens or green, could be used in seasonings and sauces, she is a pillar of the diet. In the western world, the mango is an exotic fruit, recently introduced at the markets of Northern Hemisphere, where it finds a lot of success. Countless varieties exist of the point of view of the botany, but the trade distinguishes two categories: the mangos with red coloration and the other ones.

The red mangos are the calls American varieties, invented in Florida in the last 70 years, as haden, tommy atkins, keitt, kent, palmer, edward, etc., the more published. The production of these mangos is concentrated in Américas Central and of the South and in Caribbean - 95% of the trade of fresh mangos of the western world are based on the red mangos.

The another are the mangos oblong, yellow when you ripen, whose more famous varieties are the afonso and of the totapuri, that dominate the Asian market, and they are the only ones whose processed products have international demand (purées, pulps, slices, etc.).

Asia is from a distance the largest producing of mangos, with 77% of the world production, following for Américas Central and of the South and Caribbean, with 13% and Africa with 7%. India is the world giant, with 51% of the production of mangos of the planet.

The mango is still a fruit little marketed in the international market - only 2% of the world production are destined the other countries. In a general way, the international demand for tropical fruits is still small. However, that demand grows quickly, with the world exports passing of 59.000 t in 1980 for 477.000 t in 1998, multiplying eight times in the period.

Although they are not the largest producers, Central America and of the South they are the largest exporters of mangos (63%). Many other countries export mangos, they are more than 50 suppliers in the world, but they make him/it usually in small amounts. Mexico dispatched 209.000 t. in 1998, mainly to the United States, on distances a lot of inferior times at our internal distances, as for instance, Fortaleza-São Paulo, Teresina-Rio of January or Juazeiro-Porto Cheers.

Table III.86 - Main producing of mango
(in tons)

| | 1997 | 1998 | 1999 |
|---|---|---|---|
| World | **24.294.988** | **23.750.287** | **23.800.437** |
| Asia | **19.056.829** | **18.407.315** | **18.423.756** |
| Indian | 12000.000 | 12000.000 | 12000.000 |
| China | 2.149.787 | 2.126.522 | 2.126.522 |
| Thailand | 1.350.000 | 1.250.000 | 1.250.000 |
| Philippine | 987.000 | 931.500 | 931.500 |
| Pakistan | 914.492 | 916.800 | 916.800 |
| Indonesian | 1.087.692 | 600.057 | 600.059 |
| Other | 567.858 | 582.436 | 598.875 |
| América Central | **2.049.325** | **2.032.208** | **2.012.997** |
| Mexico | 1.500.317 | 1.473.852 | 1.449.478 |
| Haiti | 210.000 | 225.000 | 225.000 |
| Dominica | 185.000 | 185.000 | 185.000 |

| | | | |
|---|---|---|---|
| Cuba | 52.578 | 50.000 | 50.000 |
| Santa Lúcia | 26.500 | 27.000 | 27.000 |
| El Salvador | 17.900 | 17.900 | 18.000 |
| Porto Rico | 17.375 | 17.375 | 17.375 |
| Costa Rica | 11.434 | 8.076 | 13.139 |
| Other | 28.221 | 28.005 | 28.005 |
| South America | **1.014.969** | **1.078.775** | **1.125.809** |
| Brazil | 600.000 | 600.000 | 600.000 |
| Peru | 129.657 | 137.638 | 187.045 |
| Venezuela | 143.403 | 132.853 | 130.180 |
| Colombia | 98.000 | 98.000 | 98.000 |
| Ecuador | 2.953 | 68.693 | 68.693 |
| Other | 40.956 | 41.591 | 41.891 |
| Africa | **2.128.913** | **2.186.979** | **2.192.967** |
| Nigeria | 689.000 | 731.000 | 731.000 |
| Egypt | 230.873 | 222.733 | 231.000 |
| Congo | 212.761 | 214.293 | 210.000 |
| Madagascar | 204.000 | 204.000 | 206.000 |
| Sudan | 185.000 | 190.000 | 190.000 |
| Tanzania | 187.000 | 188.000 | 189.000 |
| Guinea | 75.000 | 84.720 | 84.720 |
| Senegal | 77.000 | 76.000 | 75.236 |
| Mali | 50.000 | 50.000 | 50.000 |
| South Africa | 29.858 | 32.703 | 37.731 |
| Mozambique | 34.000 | 35.000 | 36.000 |
| Other | 154.421 | 158.530 | 152.280 |
| Oceania | **44.962** | **44.908** | **44.908** |
| Australia | 37.000 | 37.000 | 37.000 |
| Samoa | 4.900 | 4.900 | 4.900 |
| Other | 3.062 | 3.008 | 3.008 |

Source: FAO

The exports of Mexico the long distance, for Europe and Japan, they are made aerial road preferentially, for lack of domain of the conservation techniques, and they don't cross 6.000 to 7.000 t a year, most to Europe. Only the Brazil dominates the technology of sea transport of the mango and it exports the almost totality of their mangos this way.

Table III.87 - Main countries mango exporters

| | 1996 | 1997 | 1998 |
|---|---|---|---|
| World | **378.481** | **414.608** | **477.414** |
| América Central | **191.509** | **216.641** | **235.022** |
| Mexico | 164.903 | 187.127 | 209.426 |
| Guatemala | 8.876 | 9.567 | 10.195 |
| Haiti | 8.200 | 10.000 | 7.100 |
| Costa Rica | 3.678 | 4.398 | 2.500 |
| Nicaragua | 1.293 | 1.420 | 1.965 |
| Jamaica | 824 | 793 | 793 |
| Honduras | 1.644 | 1.550 | 781 |
| Other | 2.091 | 1.786 | 2.262 |
| South America | **46.834** | **42.626** | **65.471** |
| Brazil | 24.186 | 23.370 | 39.186 |
| Peru | 12.168 | 9.449 | 10.541 |
| Ecuador | 5.000 | 1.000 | 10.000 |
| Venezuela | 5.359 | 8.373 | 5.419 |
| Other | 121 | 434 | 325 |
| Asia | **108.588** | **118.476** | **143.540** |
| Philippine | 40.252 | 44.939 | 52.579 |
| Pakistan | 18.361 | 25.058 | 40.251 |
| Indian | 26.780 | 26.780 | 26.780 |
| Israel | 5.106 | 6.737 | 10.163 |
| Thailand | 8.250 | 7.397 | 7.397 |
| Other | 9.839 | 7.565 | 6.370 |
| Africa | **20.529** | **24.890** | **21.527** |
| South Africa | 7.810 | 10.847 | 8.900 |
| Costa of Ivory | 5.634 | 5.634 | 5.634 |
| Kenya | 3.281 | 2.794 | 2.424 |
| Other | 3.804 | 5.615 | 4.569 |
| Oceania | **10.052** | **10.052** | **10.052** |
| Australia | 10.000 | 10.000 | 10.000 |
| Other | 52 | 52 | 52 |
| Europe | **969** | **1.923** | **1.802** |

| | | | |
|---|---|---|---|
| Spain | 969 | 1.923 | 1.802 |

Source: FAO

The imports are concentrated in three blocks, North America, Asia and Europe, and they grow regularly. Mercosul, it could import more mangos, there is no registration of import of Chile, for instance.

The largest market importer is from North America (USA and Canada), growing quickly with the abundant and cheap offers of Mexico, Ecuador and Peru. Unhappily, Brazil suffers of that commercialization done without criterion, and he/she obtains financial returns below the cost. In Asia, the importers are more disseminated, and Japan is only in 5 (place, with less than 10 thousand tons stamped annual. In Europe, the import statistics deceive, since 95% of the volumes registered by Netherlands and Belgium are reverse-exported for other destinies, mainly Germany and Scandinavian countries.

The consumption of mangos follows the general tendency of increase of the consumption of fruits, in the whole world. In the exterior, there is a great receptivity to the tropical fruits, the mango being the main (without considering the banana), while, in Brazil, we noticed in the last four years a tendency of elevation of the consumption of the fruits of temperate climate.

The serious current problem of the exports of mangos is in his/her very low price, due to an excessive pressure of the offers in volumes. Returns FOB that be around of US$ 5.00/cx in Europe and US$ 6.00/cx in the USA are now between US$ 1.00 and 1.50 (Europe) and US$ 2.50 three years ago in the USA.

## (10.2) National panorama of the mango

The results of the Research of Family budgets of IBGE, done in 1996, they show an increase of 887g for 1.258g/per capita/ano between 1987 and 1996, more than 40% of increase.

Analyzing the evolution of the amounts marketed in CEASA´s, it is obtained tendency confirmation, with growth rates of up to 10% a year. Seemingly this tax is elevated. However, being treated of a native fruit, thoroughly available, cockroach, very known and the per capita consumption is low. The United States, that didn't know the mango 20 years ago, it already consumes the same amount that the Brazilians. The difference is that they use tools of the marketing, while here they get lost harvests in the foot or in the hand of the fruit bowls.

The regional differences in the consumption of the mango in Brazil are less accentuated in 1996 that in 1987, continuing with consumption below the average in the south of the country and above the average in the north and northeast.

It is considered that half of these mangos produced in healthy Brazil of the varieties American or red" among tommy atkins, haden, keitt, palmer, van dyke, kent.

Table III.97 - Area, production and average yields of the mango in Brazil - 1995

| State | Area (hectares) | Production (a thousand fruits) | Production (tons) * |
|---|---|---|---|
| São Paulo | 21.297 | 451.643 | 180.650 |
| Bahia | 7.709 | 187.717 | 75.086 |
| Minas Gerais | 6.179 | 205.276 | 61.582 |
| Pernambuco | 3.409 | 115.813 | 46.325 |
| Piauí | 3.225 | 176.812 | 49.507 |
| Paraíba | 2.622 | 184.625 | 51.695 |
| Ceará | 2.367 | 100.589 | 30.176 |
| Rio Grande Norte | 2.322 | 78.720 | 31.488 |
| Outros | 7.372 | 322.722 | 111.861 |
| TOTAL | 56.502 | 1.823.917 | 638.370 |

Source: IBGE 1995 - * the consultant's estimate

The great poles of production of red mangos in healthy Brazil:

1. northwest of the state of São Paulo, has the concentrated production in short time of the year, without condition of producing out of time, for the factor limitante of the winter temperature. The planted area, dear in 20.000 there is, it represents the area twice planted in the second pole, Juazeiro/Petrolina. The produced volume is around 140.000 t, a little superior to the of Juazeiro/Petrolina, because the

plantations of São Paulo, although less productive, they are well older than the one of the valley of San Francisco, where half of them still didn't enter in the middle of the production.

2. the pole Juazeiro/Petrolina, with about 10.000 there is, producing 130.000 t, in 1999, exporting 30% of them. That area has climatic condition of producing out of time, although the techniques are not completely perfected.
3. the pole of Liberation of Brumado, in Bahia, with 3.500 has been planting, producing around 40.000 t.
4. the pole of Rio Grande do Norte, dear around 3.000 there is, with tradition of production of beautiful mangos, very colored and very appreciated in São Paulo and in the exterior.
5. the pole of Piauí, with a little more than 1.200 there are.

As observed above, this volume should grow a lot in the next 4 years, triplicating, what would take the pole of Juazeiro/Petrolina at the level of production of every Brazil today (300.000 t. of red mangos).

CODEVASF, in rising of the areas planted with mangos in whole is Worth him/it of San Francisco, it informs 21.825 planted hectares exist. Two interesting facts are shown millstone rising: (1) the concentration in the variety tommy atkins, 77% of the planted total and (2) the great proportion of new plantations or still in growth phase: 82% of the total in December of 1998.

Table III.98 - Areas planted with mango, differentiated by the productive phase
(in hectares)

| Variety | Productive phase | | | | | |
|---|---|---|---|---|---|---|
| | Formation | Growing production | Full production | Production decreasing | TOTAL | % |
| Tommy Atkins | 2.619 | 12.315 | 1.858 | 15 | 16.807 | 77,0% |
| Haden | 754 | 1.054 | 1.111 | | 2.919 | 13,4% |
| Keitt | 100 | 165 | 184 | | 449 | 2,1% |
| Van Dyke | 22 | 105 | 187 | | 314 | 1,4% |
| Rosa | 52 | 141 | 43 | 10 | 246 | 1,1% |
| Kent | 14 | 100 | | | 114 | 0,5% |
| Outras | 90 | 311 | 383 | 192 | 976 | 4,5% |
| TOTAL | 3.651 | 14.191 | 3.766 | 217 | 21.825 | 100% |
| % | 16,7% | 65% | 17,3% | 1% | 100% | |

Source: CODEVASF - Cadastro frutícola do vale do São Francisco

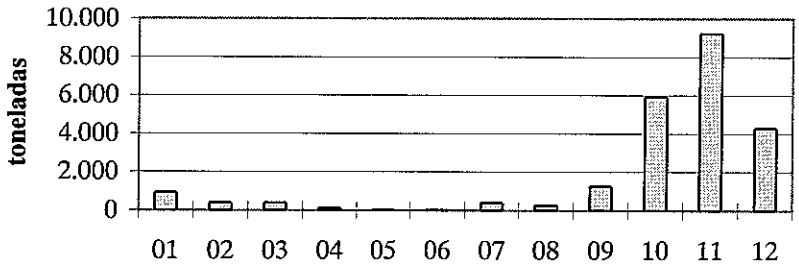
The concentration in the variety tommy atkins is explained by it rusticity, good conservation, production balanced year to year, and his/her very attractive coloration.

The great proportion of young plants shows that the offer of the valley of San Francisco will increase much more next years, it should triplicate up to 2003.

The commercialization of the mangos in Brazil is almost made that exclusively breeze, for the domestic market and for the foreign markets. There are no significant volumes given to the process industries. The mango trade in Brazil is characterized by the following agents and processes: (1) local fruit bowls, that are packinghouses agents or wholesalers; (2) export packinghouses and (3) own packinghouse or cooperativados, that sell for the habitual circuits - Ceasas, supermarkets, processors for food-service, exporters and direct customers in the exterior.

In the foreign market the demand is good, it grows in a marked way and continuous, however, the offer is in descompasso, growing much more than the demand. More Brazil than it bent their exports in three years, passing of 23 thousand t, in 97, for 53 thousand t, in 99, for distant markets, like North America (13.000 t) and Europe (38.000 t) and Mercosul (2000 t). There is no doubt about the capacity of Brazil to act as leader of the international market of mangos, but we are facing strong competition of countries with smaller costs, like Ecuador and Peru. Besides, the concentration of our offer in the period of October to December and difficulties in the commercialization, due to lack of vision of the market agents, doesn't favor strategies of consolidation of markets. The seasonal variation was very accentuated, as display the graph of the monthly embarkments accomplished in 97, but she tends to get better recently.

Graph III.22 - Seasonal variation of the exports of Brazilian mangos - 1997
Source: SECEX




Of January to May of 2000, Brazil exported 12,3 thousand t of mangos, the double of what exported in the same period of 99 and 98, giving sign of offer prolongation. Of the areas that import mangos, only two areas, North America and Europe, they present significant markets today for our mangos, although never she should despise any market, for minor than it is. For instance, the consumers from Argentina, Uruguay, Paraguay and Chile still don't know that fruit. Our exports for these countries reached 2.313 t in 1999, 40g per capita. The introduction would be certainly valid, since aided by a marketing plan seeking the opening of those markets and motivating consumption habit.

Table III.99 - Brazilian Exports of mangos for Mercosul
(in tons)

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|
| Argentina | 3 | 53 | 129 | 583 | 246 | 81 | 81 | 522 | 921 | 2.164 |
| Uruguai | 0 | 1 | 8 | 15 | 8 | 5 | 9 | 15 | 21 | 42 |
| Paraguai | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| Chile | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 107 |

Source: SECEX/DTIC

The market of Japan is not open for the Brazilian mangos, but one are working to get the authorization. Japan doesn't represent a very big potential, because the consumption of mangos is very small, the consumption tendency is decreasing and the distance that separates the two countries, long, it endears the offers a lot (air freight), limiting the marketable amounts.

## (10.3) Main Markets in Brazil

A good market growth potential exists in the exterior, but, as all potential, he needs the vigorous action of the market agents to materialize: marketing, promotion, adapted commercial strategies and budgets to accomplish these actions.

In the moment, the domestic market, with larger signs of consumption growth and better financial return, is more favorable than the exports for the Brazilian producer. However, for her to get to consolidate these perspectives, it is necessary:

- to know to produce out of time, because the harvest pick, November and December is saturated, and it is common to see great amounts of discarded fruits for not finding buyers in this time; and
- to promote the mango consumption in areas with indexes below the national average.

The solution for the commercialization of larger amounts of mangos raisin for the domain of the technique of floral induction, to increase the offer in the months of time between harvests. Dominated the technique remains to act on the demand, soon before the harvest, stimulating the mango consumption during harvest. They are the calls harvest campaigns, so common in the countries that doesn't have another climatic option. All of the productions of fruits of the countries of temperate climate face this problem: their harvests have right date to begin and to finish and the climatic conditions don't allow to think in technical solutions to produce before and later. Many efforts were made by the research to create more precocious and later varieties, getting to win 2-3 weeks before and after the habitual dates, but the heavy volume of the harvest continues concentrated in few weeks.

**Southeast (São Paulo, Minas Gerais, Rio de Janeiro e Espírito Santo)**

The southeast area presents a current market around of 70 thousand toneladaseladas, 80% being consumed in 3 months, of November to January, due to having marked seasonal variation of the offer.

Although not reflecting the total commercialization of the mango exactly, because a lot of direct commercialization exists, comes the commercialization statistics, amounts and monthly average prices in CEASAS of São Paulo (varieties tommy atkins, haden and keitt) Rio de Janeiro and Belo Horizonte.

Table III.100 - marketed Amount and average price of mango tommy atkins in CEAGESP

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Ago | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | |
| 1994 | 3.973 | 772 | 82 | 26 | 99 | 31 | 50 | 79 | 367 | 1.614 | 3.461 | 5.435 |
| 1995 | 2.847 | 465 | 324 | 495 | 769 | 692 | 194 | 246 | 1.073 | 2.444 | 5.964 | 4.054 |
| 1996 | 1.913 | 797 | 1.185 | 1.514 | 1.251 | 505 | 292 | 441 | 1.727 | 6.919 | 7.282 | 9.233 |
| 1997 | 4.198 | 748 | 1.021 | 1.807 | 2.398 | 2.521 | 1.557 | 2.506 | 3.650 | 5.648 | 5.106 | 4.791 |
| 1998 | 2.282 | 1.083 | 1.134 | 1.464 | | | | | | | | |
| PRICE (in US$/kg) | | | | | | | | | | | | |
| 1994 | 0,40 | 0,79 | 0,32 | 1,72 | 1,58 | 1,58 | 1,71 | 4,74 | 2,48 | 2,38 | 1,23 | 0,82 |
| 1995 | 1,19 | 1,70 | 2,17 | 1,87 | 1,85 | 2,49 | 4,24 | 4,22 | 2,23 | 1,31 | 0,62 | 0,87 |
| 1996 | 1,29 | 1,27 | 1,17 | 1,10 | 1,48 | 2,11 | 2,98 | 2,89 | 1,55 | 0,71 | 0,44 | 0,34 |
| 1997 | 0,45 | 0,77 | 1,39 | 1,02 | 0,80 | 0,60 | 0,78 | 0,63 | 0,77 | 0,50 | 0,34 | 0,32 |
| 1998 | 0,47 | 0,92 | 1,06 | 0,87 | | | | | | | | |

Table III.101 - marketed Amount and average price of mango haden in CEAGESP

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Ago | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | |
| 1994 | 473 | 440 | | | 2 | 3 | 254 | 524 | 329 | 1.097 | 484 | 1.367 |
| 1995 | 1.010 | 568 | 506 | 349 | 488 | 204 | 158 | 221 | 701 | 256 | 3.300 | 2.323 |
| 1996 | 802 | 218 | 200 | 171 | 339 | 254 | 136 | 84 | 639 | 1.464 | 1.892 | 2.840 |
| 1997 | 1.795 | 1.150 | 463 | 283 | 409 | 454 | 974 | 596 | 942 | 1.877 | 3.641 | 2.184 |
| 1998 | 1.272 | 514 | 217 | 75 | | | | | | | | |
| PRICE (in US$/kg) | | | | | | | | | | | | |
| 1994 | 0,61 | 0,80 | | | 2,29 | 2,28 | 2,60 | 6,09 | 4,15 | 3,71 | 2,16 | 1,22 |
| 1995 | 2,58 | 6,99 | 5,09 | 4,55 | 3,28 | 3,46 | 4,09 | 4,30 | 2,86 | 1,82 | 1,04 | 1,46 |
| 1996 | 3,53 | 2,93 | 4,12 | 2,73 | 2,41 | 3,21 | 4,18 | 4,65 | 1,86 | 1,28 | 1,17 | 1,01 |
| 1997 | 0,86 | 3,64 | 3,03 | 2,26 | 1,71 | 1,37 | 1,68 | 1,48 | 1,70 | 1,02 | 0,71 | 0,79 |
| 1998 | 1,24 | 2,25 | 2,27 | 2,67 | | | | | | | | |

Table III.102 - marketed Amount and average price of mango keitt in CEAGESP

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Ago | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | |
| 1995 | 327 | 865 | 755 | 68 | 4 | | 1 | 1 | | | 3 | 319 |
| 1996 | 1.162 | 1.031 | 318 | 192 | 19 | 13 | 40 | | 46 | 31 | | 15 |
| 1997 | 437 | 701 | 296 | 43 | 1 | | 17 | 1 | 8 | 19 | 10 | 119 |
| 1998 | 805 | 688 | 400 | 72 | | | | | | | | |
| PRICE (in US$/kg) | | | | | | | | | | | | |
| 1995 | 1,35 | 1,22 | 1,58 | 1,51 | 1,39 | | 3,17 | 3,16 | | | 0,45 | 0,52 |
| 1996 | 0,55 | 0,75 | 1,09 | 0,78 | 0,84 | 1,64 | 1,03 | | 0,66 | 0,64 | | 0,28 |
| 1997 | 0,31 | 0,40 | 0,60 | 0,65 | 1,04 | 0,68 | | 0,74 | 0,52 | 0,44 | 0,28 | 0,31 |
| 1998 | 0,42 | 0,46 | 0,70 | 0,54 | | | | | | | | |

Table III.103 - marketed Amount and average price of mangos in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Ago | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | |
| 1993 | 4.884 | 3.027 | 1.675 | 217 | 737 | 392 | 201 | 218 | 341 | 2.454 | 7.711 | 9.963 |
| 1994 | 4.606 | 2.081 | 1.112 | 1.307 | 778 | 185 | | 76 | 776 | 2.089 | 4.819 | 7.080 |
| 1995 | 5.726 | 3.032 | 2.267 | 1.166 | 799 | 352 | | 214 | 961 | 2.836 | 5.098 | 5.916 |
| 1996 | 4.449 | 2.668 | 1.242 | 1.179 | 624 | 231 | 175 | 99 | 880 | 3.314 | 6.558 | 8.298 |
| 1997 | 5.530 | 2.792 | 1.443 | 1.262 | 950 | 754 | | | | | | |
| PRICE (in US$/kg) | | | | | | | | | | | | |
| 1993 | 0,22 | 0,19 | 0,36 | 0,32 | 0,24 | 0,23 | 0,28 | 0,32 | 0,49 | 0,29 | 0,15 | 0,22 |
| 1994 | 0,32 | 0,27 | 0,42 | 0,29 | 0,20 | | 0,15 | 1,86 | 0,96 | 0,69 | 0,48 | 0,41 |
| 1995 | 0,49 | 0,56 | 0,55 | 0,49 | 0,47 | | 0,41 | 0,86 | 0,59 | 0,47 | 0,40 | 0,36 |
| 1996 | 0,37 | 0,38 | 0,64 | 0,53 | 0,49 | 0,60 | 0,76 | 1,21 | 0,61 | 0,36 | 0,33 | 0,40 |
| 1997 | 0,30 | 0,36 | 0,52 | 0,38 | 0,38 | 0,52 | | | | | | |

Table III.104 - marketed Amount and average price of mangos in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Ago | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | |
| 1994 | 1.774 | 496 | 80 | 125 | 1 | 7 | 8 | 18 | 154 | 600 | 1.554 | 2.262 |
| 1995 | 1.907 | 952 | 101 | 10 | 35 | 17 | 5 | 13 | 88 | 467 | 1.665 | 2.055 |
| 1996 | 1.176 | 301 | 38 | 41 | 33 | 25 | 19 | 25 | 87 | 652 | 1.659 | 2.573 |
| 1997 | 893 | 389 | 119 | 71 | 77 | 98 | 96 | 170 | 248 | 796 | 2.277 | 2.806 |
| 1998 | 1.635 | 385 | 131 | | | | | | | | | |
| PRICE (in US$/kg) | | | | | | | | | | | | |
| 1994 | 0,22 | 0,24 | 0,75 | 0,43 | 3,64 | 1,62 | 3,02 | 9,04 | 3,18 | 2,11 | 1,16 | 0,59 |
| 1995 | 0,41 | 0,72 | 1,13 | 3,68 | 4,13 | 5,11 | 7,98 | 4,95 | 3,59 | 1,86 | 0,66 | 0,47 |
| 1996 | 0,40 | 0,82 | 2,45 | 2,90 | 2,50 | 3,40 | 3,01 | 3,63 | 2,89 | 1,26 | 0,58 | 0,39 |
| 1997 | 0,32 | 0,42 | 0,63 | 2,99 | 2,60 | 2,18 | 2,31 | 2,19 | 2,05 | 1,35 | 0,55 | 0,37 |
| 1998 | 0,41 | 0,48 | 1,80 | | | | | | | | | |

Table III.105 - marketed Amount and average price of mango hadden in CEASA

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Ago | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMOUNT (in tons) | | | | | | | | | | | | |
| 1993 | 31 | | 4 | 2 | 4 | 2 | 1 | 3 | 6 | 21 | 31 | 135 |
| 1994 | 28 | 16 | | | | | 4 | 16 | 29 | 64 | 42 | 74 |
| 1995 | 28 | 11 | 23 | 1 | 8 | 3 | 5 | 6 | 14 | 26 | 30 | 114 |
| 1996 | 4 | 7 | 3 | 6 | 7 | 7 | 2 | 10 | 2 | 2 | 20 | 18 |
| PRICE (in US$/kg) | | | | | | | | | | | | |
| 1993 | 1,20 | | 4,26 | 3,76 | 3,82 | 3,40 | 4,68 | 6,63 | 2,38 | 3,75 | 1,10 | 0,80 |
| 1994 | 0,61 | 0,40 | | | | | 6,01 | 13,19 | 12,81 | 7,26 | 6,65 | 3,06 |
| 1995 | 3,33 | 4,19 | 9,80 | 7,02 | 10,16 | 10,16 | 13,07 | 15,68 | 12,51 | 5,08 | 3,48 | 4,48 |
| 1996 | 4,24 | 4,25 | 10,17 | 8,41 | 7,23 | 6,73 | 9,73 | 11,47 | 7,36 | 3,47 | 2,78 | 2,57 |

## Analysis of the mango's prices

The graphs and tables presented previously show the evolution of the prices in function of the high seasonal variation of the offer. The prices practiced in the harvest pick, of the order of US $0.30/kg, price of resale in the wholesale, they don't remunerate the producer correctly, while time between harvests prices around US$ 1.00/kg are comfortable. Which is the normality of prices for mangos? The prices of resale in the wholesale markets accompany the marked seasonal variation of the offer:

**Box of *tommy atkins*** (7kg) sold between R$ 3,00 and 5,00 in November and December, arising for R$ 6,00 to 8,00 in January, staying in the strip, very wide, from R$ 8,00 to 14,00 between February and September, depending on the offered amounts, that vary a lot of one year for other. The prices also vary in agreement with the types: types 10 and below, or 15 and above, they suffer a deságio from 20 to 30% above in relation to the prices.

**Box of *haden*** (7kg), following the same tendency, with face values 30% above the one of the tommy atkins, and picks even R$ 30/cx or more (price of R$ 45,00 quoted this year), when it is in widespread lack.

It is noticed that the haden, in this high value, only find buyers in São Paulo. The buyers in the other squares have fear in receiving mangos above R$ 15,00/cx: he/she doesn't have consumers for those prices.

**Box of *van dyke*** (7kg) following the prices of the tommy atkins, in spite of having a smaller size. The discounts for types only begin with the type 18 and above. The van dyke is well accepts in São Paulo, and in a market very presented, she left before the tommy atkins.

**Box of *keitt*** (7kg) with smaller prices than the tommy atkins, in spite of being a late variety, that left in february/march, when the offer is smaller, and the prices of the other mangos are higher. But big size, the double of the tommy atkins, and its coloration lack harm it in terms of prices. It is a feather, because gustatory quality would deserve a better treatment. The prices of the keitt vary between R$ 4 and 7 for box.

A new variety in Brazil, the kent, is being cultivated in small climbs in the Northeast, and it begins to be "spilled" in the market (there is no better word to describe what is happening). It is the most pleasant variety than it exists among all mentioned them. But she is great, and it is not very colored. The round form is different from the keitt. However, the introduction lack and promotion leaves the buyers to mix her/it with the keitt, and to pay the same price, when she would deserve the strip of the haden or more. The market of France pays a prize from 30 to 40% for the kent.

## (10.4) Market in Tocantins

There aren't production and significant commercialization of mango in the state of Tocantins. Given the perecibilidade and the great professionalization demanded by the mango market, in Brazil and in the exterior, the evolution of this culture in the State should obey the growth of own demand.

The expansion for other markets requests the development of complex logistics, in a quite popular market, However, in case there is production possibility in the time between harvests, there is a good market potential in Brazil.

## (10.5) Recommendations for a lucrative trading of the mango

**Choose of a specialist importer in exotic fruits**

The mango is distributed through specialists of exotic fruits. In Europe, only 45% of the consumers know what is a mango and only 10% already bought her. It is a fruit that goes by a special circuit, the circuit of the exotic fruits.

The company that is accustomed to sell wagons of apples and oranges or ships of bananas, doesn't have the low capacity to sell exotic fruits. They are two separate distributions, as much the purchase decision as in the logistics. The department of purchases of fruits of the supermarkets has different buyers for the fruits of temperate climate and the exotic ones. The negotiations and the circuits of provisioning are differentiated. The needs very different healthy promocionais. Still more the mango, that needs a reembalagem work in the arrival to homogenize the points of maturation of the fruits, type of cares that only a specialist has condition of giving.

**Preference for importer that knows area of performance in full detail**

The habits of healthy consumption of fruits very different from an area for other, still more than a country for other, as in the case of Europe. It is important to choose an importer that has fixed clientele in each area that forms a homogeneous consumption entity. The great companies has climb to distribute whole Europe or the coast United States the coast are not the most appropriate to distribute exotic fruits.

**To avoid the commercialization of exotic fruits through broker**

The commercialization of exotic fruits is considered as delicate, and dangerous, with high damage risks. The fragility of the fruits, the short useful life, their homoeopathic amounts motivate all to work with right destiny. For this reason, it is important not to choose brokers to sell exotic fruits. Brokers by

definition doesn't have fixed clientele; it i somebody that tries transfer the mechanism of the bags goes the sale of fruits. They work with telephone, fax and computers, they never look at the merchandise, and doesn't have where to stock her. They sell her still in traffic, and when they don't get, the "they beat" in the arrival. A lot of times, they end up dropping the prices for the simple fact that you/they still offer in traffic the same load to 20 customers. As the other brokers make the same thing, it seems there to be a market super presented. Of this it sorts things out, no serious buyer will take a risk, unless the price is really inviting.

It is made a safeguard here for the broker in the United States: there the word has two senses, the first just as having described above and an equivalent second to mercantile agent. It should be worked with the mercantile agent, not with the broker.

**The modern illustration is the one of the committed distributor with their retail customers**

Prefer companies that how many boxes know they need for the next campaign, week a week. These companies, calls dealers, assumed a commitment with their retail customers, in volumes and dates of delivery certain fruits. For his time, they seek suppliers capable to accomplish contracts of provisionings that will cover the assumed commitments. For those companies, the price becomes a secondary factor in the supplier's choice. They respect the regularity in the deliveries, the quality level, n frequency and the right dates before the beginning of the campaign.

**Sale modalities in the exterior**

Between fixed price and consignment there is no a lot of choice when it is exotic fruits, whose market has tendency in oscillating a lot. Operand in the modality fixed price, when the importer accepts her, they are had safety, but no performance. As it was explained, the risk of the distribution of exotic fruits is loud and the importer is not willing to assume him/it, to not to be with a very low price, allowing a high profit, that it compensates the run risk.

Some exporters prefer the safety of the value that they will receive, even so and they insist on fixed price. Another factor of decision to be considered is that that safety is very relative, be said of passage, because if the market falls, the first thing that the importer will ask is a compensation in the next lot, or then it will reduce the rest of the program seriously, to supply in the market spot, where he always finds cheaper prices. The price is been doesn't go very well controlled by the exporter, they begin the allegations of quality problems with the fruits.

The best modality for both parts, exporter and importer, is the consignment, since she is accomplished with professionalism and control on the part of the exporter. The importer that operates in the modality consignment is much more the will to receive larger amounts and to invest in promotion because he doesn't take risk. A serious importer will alert the exporter on the risks and he will advise him in the establishment of the programs, as well as in the day by day of the campaign. For his time, the exporter should know the market deeply, and to be capable to discuss of equal for similar with the importer, besides in the field of the information.

When a market is more stabilized and a lot of possible variation doesn't exist on the state of the fruits in the arrival, it becomes easier to negotiate a fair fixed price. For instance, the acid sweet orange has that characteristic in the United States, but not in Europe.

Fixed price or consignment, both modalities request high professionalism on the part of the exporter. It doesn't have room for beginners in this dangerous market.

**Export packing**

Mexico exports their mangos in boxes of cardboard of 10 lb, equivalent to 4,5 liquid kg, and Brazil in boxes of 4 liquid kg.

The number of fruits for box varies in agreement with the varieties: tommy atkins: from 8 to 12 fruits; haden: 9-14 fruits; van dyke: 10-16 fruits; kent: of 6-10 fruits and keitt: of 6-10 fruits. These are the types

more sought, and that they obtain the average prices of the quotations published at the several markets. The types smaller, or larger, still find market, a lot of times with high discounts, except for exceptions in private niches.

The boxes should have a resistant structure, the mangos are fragile fruits and they don't tolerate the sinking of the cardboard. They should have firmness in the palets and to maintain a good ventilation, that allows to avoid the ethylene accumulation. For that reason, the boxes of type tray opened are well accept and, besides, they let to see the fruit easily, what is today more and more demanded.

The stamp (origin or it marks) in each fruit reminds that she was selected, transmitting a positive image. The tissue paper use in turn of each fruit will depend on success with the importer, since the envólucro can disturb the maturation procedure. A more appropriate suggestion would be to use the foam net.

**Trading**

The packing used today in the domestic market is the box of cardboard trapezoidal, containing of 6-7 kg of fruits (officially 7,7 kg), arranged inside of the boxes in function of the sizes and tipicadas: example, the type 8 contains 8 fruits. (The types more valued are described in the chapter prices of the domestic market). That box doesn't present the minimum characteristics of resistance for his/her function, but she was consecrated by the use and it continues damaging the harvests and reducing the financial returns. Using that box, of precarious efficiency, the fruits are piled up layer on top of layer, separate for a leaf of cellulose product, a false wavy cardboard that only has appearance.

**Distribution**

The commercialization of mangos in Brazil also requests specialists. In each square wholesalers that work the year exist complete with mangos, that selected their suppliers, they trained them to pick them in the right point of maturation, they accustomed them to wrap the fruits correctly, and that thanks to this improved offer and stabilized got to establish a solid clientele. It should be preferred these companies, easy to find at each market. To work in agreement with specialists' orientations is positive factor for the growth of the businesses. The mango is a fruit that sells her for the look. Well worked, colored and in the right point of maturation, the consumers give up the temptation with the largest easiness. It creates a reaction of spontaneous demand, soon noticed by the retailers, that they transmit for the wholesalers. This is the more efficient current system in terms of financial return for the producer. But he is reaching the end: the marketed volumes, as well as the deep transformations that happen in the distribution system ask for a different organization.

One of the largest difficulties found today in Brazil refers the price formation of the fruits.

**Price formation**

Before the concentration of the retail section, it is attended a deep transformation of the distribution system of fruits in Brazil: the wholesale markets, that served daily for some years to fasten the prices in function of the presented volumes no longer has more that capacity. At least two reasons explain the situation: the diversity of the origins and the tendency of the direct programmings.

- The diversity of the origins comes from the appearance of new horticulture poles in Brazil and of the opening of the borders. Previously just a reference area for the supply of a type of fruits, is not more true today. The transparency need in the price formation requests something different from the traditional market in the destiny squares. In the exterior, no there is more no price fastened at the destiny squares there are many years.
- Most of the volumes doesn't go more physically by the markets, even if they are marketed by companies that also has boxes in the markets. Today, those companies have main offices and interposed freezers out of the area of the markets and they make their businesses a week with the supermarkets, whose buyers just visit in the wholesale markets. But they are the day complete in contact for telephone, fax and electronic interligação with the salespersons of the wholesale

companies.

The fixation of the price is not more done in way effective nor fair by the fact that:

- in Brazil 1997, the first ones 25 of the 360 organizations of supermarkets taken a census of for the you OPEN, Brazilian Association of Supermarkets, they make money little more than 50% of the total of the section. This means that they exist buyers less and less, needing larger amounts, in the total dependence of a system of efficient logistics for not letting to never lack products in the shelves ("it Lacks in the gondola is sinned", title of an article of the edition of abril/98 of SuperHyper, magazine of the you OPEN).
- The second consequence of this tendency is the wholesalers' necessary concentration and distributors: if they are only 25 buyers for 50% of the volumes one doesn't need more than 450 ofertantes each one with 0,1% of the volumes in the hand. On the contrary, one needs of few wholesalers, much larger than the current ones, capable to supply high amounts regularly. The concentration of the retail asks for the concentration of the wholesale, but it doesn't just sweat concentration: as we showed to proceed, the wholesale needs to modify his way to act totally, his/her function will develop in a very deep way.

It is the change that is happening now in the link of the wholesale, where few small ones can survive in a form similar to the current, supplying the small independent stores that you/they are developing for a service of proximity convenience.

In the case of the great retail organizations, the model of provisioning of their platforms and stores it is going by strong reverse-structuring. It is not believed that the existent wholesale net now can, without a deep conceptual and operational change, to change in a natural supplier of the great supermarket nets. Some specialists speculate that the battle will be won for who invests in the logistic system distribution: regional bases (platforms) adapted to receive closed trucks, to prepare and to give the products in the stores of the area of performance and potent resources of information that allow instantaneous replacements starting from the on-line control of the stocks. The largest 50 organizations of supermarkets of Brazil are investing in that logistics, that is already a reality in the first ones 5. The recent creation, under pulse of the you OPEN, of the association ECR Brasil (Efficient Answer to the Consumer), it is an important mark in that attitude change.

Some wholesalers are investing in the modernization of his business, seeking, with that, to adapt to that new distribution model, mainly to assist the smaller nets. The most varied organizations will coexist, if completing and competing and, probably, they will develop how it is happening today in England and in the whole Europe: the retailers are with the system logístico and the wholesalers specialize in the sourcing of the products, negotiating harvests in each area of the planet, to assure the necessary bulky entrances for the retail organizations, that they will receive them in their platforms, from where will be dispatched for each store. In the exterior, the supermarkets are improving their relationships with the wholesalers that have efficient logistics, in reason that, that is his understanding, it doesn't make sense for a supermarket to look for 165 references of fruits every day, each fruit tends a different history, a different area, different languages, erratic climatic conditions. It is better to leave this work for the professionals, that start to be pagos for the sourcing service, that becomes independent of the logistics.

The terminal markets of wholesale as we met them today, CEASAS, in Brazil, and Terminal Markets, in the United States, will stay to supply the small organizations and eventual complements of the needs of the big ones, but they are not more capable to form the prices in a correct way, for the simple reason that most of the offers, as well as of the search, it passes physically to his margin. That change, that was not drifted or manipulated by anybody, it simply happened, it creates a serious problem: the main function of the wholesale markets, that it was of creating conditions for formation of the prices in a transparent way, it doesn't exist more. The most efficient answers the this subject is today in the fixation of the prices in the origin, being organized cameras for type of fruit, that weekly regularize the prices. These cameras become efficient with specialization of the area, with concentration of offers of fruits that they represent an important part of the total offer, justifying the buyers' presence. In the Northeast, the first camera, the one of the grape in Juazeiro, under incentive of Cotia, and after Valexport, it is presenting excellent

results, even with half empiric performance. In the price formation, the Camera of the Grape of Juazeiro, tried to channel offers and buyers for the electronic auction installed in the area.

The basic application for the success in the market is the standardization, as the cat. 1, 2,.. of Europe or the fancy, extra fancy, etc. of the United States. It is a good demand for the producers, that start to be paid for the product quality. The system has countless advantages, in that you/they stand out the fixation of the price in the origin in a necessary and transparent way, allowing a better control, and the efficient information of the market trends, a lot of created times or noticed in the auction. Instead of leaving distant operators to decide the fixation of the price in the destiny squares, where they are not had complete information, and much less has the presence of the producers, this system brings the price for the door of the producer. Attending the sessions he will have, in real time, answer to offer, will find the buyers, comparing offers. Summarizing, the producer will have a managerial information of quality, available immediately. This system is advisable in the current situation of the section, in Brazil and in the rest of the world. To be improved, and to still give more safety to the producers, sacrificed them in the current model, it is necessary to introduce one more stage: the electronic interligação among auctions of areas that produce the same fruit. An example: in the case of the grape, it should be implanted and to interconnect auctions in the poles of Juazeiro/Petrolina, Pirapora, Jales, São Miguel Arcanjo and North of Paraná. In the mango, it had been the pole Juazeiro-Petrolina, the others don't present a size to hold the installation of electronic auction, but the union of the producers in camera, with permanent connection with Juazeiro.

In this new commercialization scenery, the wholesalers to survive should undertake changes in their operating systems. The ones that if they organize to assist the great nets they will develop for the sourcing, and their functions will be important in the chain again.

In foreign countries, the supermarkets are strategically beginning new relationships with the wholesale system, starting from the verification of the impossibility of looking for 165 references of fruits every day, each fruit tends a different history, coming of different area, different languages, erratic climatic conditions. In that case, the professionals start to be pagos for the sourcing service, that becomes independent of the logistics

In Brazil it is happening a slow transition for the model in practice in the foreign countries. In the measure in that the production continues disorganized, the dealers don't get if it and they facilitate the classic wholesalers' permanence in the market. This space won't stay open until always.

Flowchart - Mango Commercialization

| Operation | Responsible |
|---|---|
| Crop | the producer or his/her organization |
| ⇓ | |
| Improvement:<br>selection<br>preparation<br>treatments<br>packing | the commercial organization<br>of the producer |
| ⇓ | |
| Sell to the distributor | the commercial organization<br>of the producer |
| ⇓ | |
| Transport | org. of the produtor/terceiro |
| ⇓ | |
| Sell to the retailer and delivery | the distributor |
| ⇓ | |
| Presentation in the section | the distributor or the retailer |

The trading of the mango should follow this flowchart: to proceed this way assures the minimum of intermediation, and the total control on the destiny of production.

As each isolated producer doesn't have the time nor of the enough ways, humans and financial, to have a good performance in the powder-crop area and commercialization, the solution is to create some organization type among producers, and to turn her competent for this purpose. Ideally, she will belong to the producers, that they will always have total domain on her.

The production costs of the fruit in the foot, of R $0,20/kg, collect the actual costs, including the amortization of the investments, since the productivity reaches 22t/ha starting from the 6o. year.

Flowchart - Costs and joined value of each stage of the chain mango

- DOMESTIC MARKET

| Operation | COSTS |
|---|---|
| F Fruit in the foot | R$ 1,40/cx 7kg |
| ⇓ | + |
| Crop, selection, treatment, packing | R$ 1,05/cx 7kg |
| ⇓ | + |
| Transport | R$ 0,55 the 0,65/cx 7kg |
| ⇓ | + |
| Commercialization, entrega,reposição, promotion | R$ 1,00 to 1,50/cx |
| ⇓ | = |
| Total costs | RS 4,00 to 4,60/c |
| ⇓ | - |
| Medium value of sale | harvest: R$ 3 to 5,00/cx<br>entresafra: R$ 8-15/cx |
| ⇓ | = |
| Lucro/(Prejuízo) of the chain | safra:(R $1,60) to R$ 1,00/cx<br>entresafra: R$3,40 to 11,00/cx |

As it is shown here, to produce mangos in the harvest doesn't bring profit, on the contrary, the risks of damages are larger than the profit chances. To dominate the technique of floral induction becomes an absolute need.

- FOREIGN MARKET

| **Operation** | **CUSTS EUROPE** | **CUSTS USA** |
|---|---|---|
| Fruta no pé | R$ 0,80/cx 4kg | R$ 0,80/cx 4kg |
| ⇓ | + | + |
| Colheita, seleção, tratamento, embalagem, paletização, resfriamento | R$ 1,30/cx 4kg | R$ 2,00/cx 4kg |
| ⇓ | + | + |
| Transporte refrigerado | R$ 0,40/cx 4kg | R$ 0,40/cx 4kg |
| ⇓ | + | + |
| Custos no porto | R$ 0,20/cx 4kg | R$ 0,20/cx 4 kg |
| ⇓ | + | + |
| Taxa de comercialização | R$ 0,20/cx 4kg | R$ 0,20/cx 4 kg |
| ⇓ | = | = |
| **Custos Totais** | **RS 2,90/cx 4kg** | **R$ 3,60/cx 4kg** |
| ⇓ | (-) | (-) |
| Valor médio FOB | R$ 5,40/cx 4kg | R$ 5,90/cx 4 kg |
| ⇓ | = | = |
| **Lucro da cadeia** | **R$ 2,50/cx 4 kg** | **R$ 2,30/cx 4kg** |