2.3. Carrot

The carrot (Daucus carota L) is a vegetable of high consumption in fresh in the country. Data of the DGEEC indicate that daily per-cápita consumption in the metropolitan area is 37,1 grams.

The most important areas of carrot production are located in the departments of Itapúa (especially the District of María Auxiliadora), Caaguazú and Caazapá. These departments produced together approximately 25.585 tons of carrot in 2001, volume that represents 95% of the total national production, *TableE-1, Annex E.*

Farmers carry out the sow of carrot during the whole year, however, sowing is intensified during the months of March to October with a traditional cultivation system that sow the seeds in definitive places. The varieties of carrot used have production cycles of approximately 90 days.

The national carrot supply begins in the month of July until January, but the product supply concentrates on the months of November and December, *Table E-2, Annex E.*

2.3.1. Channels of commercialization

The main agents involved in the commercialization of carrot are the national producers, wholesalers, retailers and the consumers. The commercialization flow chart presented in *Figure 7 and 8* illustrates the commercialization market according to the main agents involved at national level. The study estimated that in the commercialization process a global loss of 10% on the total supply exists (2.015 tons).

The methodology used for the construction of the commercialization flow charts in volume and value is presented:

Table 23-A: Methodology to estimate carrot commercialization volume – National supply. Year 2002

Oferta	*Volumen (tn)*	*Metodologia de estimación*	*Fuente*
Producción Nacional Disponible	13.060	1. Promedio de los últimos años (1996-2001), de la producción nacional (16.325 tn) 2. Se estima una pérdida por cosecha de 20%. (3.265 tn) 3. Producción Nacional Disponible (1-2) = 13.060 tn	DCEA
Importación Registrada	2.754	4. Datos sistematizados en base a registros de Aduanas (Sistema SOFIA) = 2.754 tn	DGA
Importación No Registrada	4.332	**(A) Estimación de volumen ingresado al país, de origen brasilero, no registrado**: 5. Volumen comercializado en CEASA-PR (Foz de Yguazú), año 2002 (2.696 tn), se estima un 80% que ingresa al país = 2.157 tn 6. Estimación de ingreso desde otros mercados de Foz de Iguazú. Se estima un 15% del volumen ingresado desde CEASA (2.157 x 15%) = 323 tn 7. Volumen Total estimado de ingreso desde Brasil (5 + 6) = 2.480 tn	Registros de CEASA-PR (Central de Curitiba) y estimación dada por Directivos de CEASA-PR (Foz de Yguazú) y entrevistas a mayoristas de DAMA
		8. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen brasilero = 988 tn 9. Volumen de ingreso de origen brasilero No Registrado (7 - 8) = 1.492 tn	DGA
		(B) Estimación de volumen ingresado al país, de origen argentino, no registrado: 10. Se consideran las proporciones de ingreso de zanahoria de origen extranjero en el Sistema SOFIA, Brasil (35%) y Argentina (65%) como iguales a las proporciones de ingreso al Paraguay desde Argentina y Brasil. 11. Estimación del volumen total ingresado al Paraguay, en base al cálculo de lo ingresado desde el Brasil (2.480 x 100/35) = 7.086 tn 12. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen argentino (1.766 tn). 13. Volumen total estimado de ingreso desde Argentina (11- 7) = 4.606 tn 14. Volumen no registrado desde la Argentina (13-12) = 2.840 tn **(C) Volumen Total de Ingreso No Registrado (9 + 14) = 4.332 tn**	
Total oferta	**20.146**		

Table 23-B: Methodology to estimate volume of carrot marketed by wholesalers. Year 2002

Mayoristas	*Volumen (tn)*	*Metodología de estimación*	*Fuente*
DAMA	12.468	1. Los 26 mayoristas identificados fueron clasificados en grupos, según el volumen que comercializan. Grupo / Numero / Prom/año / Total I / (2) / 1.158,6 / 2.317 II / (7) / 844,8 / 5.914 III / (17) / 249,3 / 4.238 2. Volumen Total comercializado en DAMA (GI +GII + GIII) = 12.468 tn	Entrevistas a Mayoristas de DAMA Observación directa en DAMA
Fuera de DAMA (Gran Asunción)	2.649	3. Promedio de venta anual x 3 mayoristas individualizados 883 x 3 = 2.649 tn **Observación:** Los mayoristas de San Lorenzo no comercializan este rubro.	Entrevistas a mayoristas ubicados fuera de DAMA
Ciudad del Este	720	4. Promedio de venta anual x 3 mayoristas :240 x 3 = 720 tn	Entrevistas a mayoristas de Ciudad del Este
Encarnación	792	5. Promedio de venta anual x 10 mayoristas: 79,2 x 10 = 792 tn	Entrevistas a mayoristas de Encarnación
Coronel Oviedo	137	6. Promedio de venta anual x 3 mayoristas: 45,7 x 3 = 137 tn	Entrevistas a mayoristas de Coronel Oviedo
Total mayoristas	**16.766**		

Table 23-C: Methodology to estimate volume of carrot marketed by retailers. Year 2002

Minoristas	*Volumen (tn)*	*Metodología de estimación*	*Fuente*
Supermercado	754		
(A) Directo de oferta		(A) 1. Se estimó un 5% sobre el volumen total de ingreso extranjero (7.086 x 5%) = 354 tn 2. Se estima un volumen de compra directa de productores: 400 tn 3. Total de compra directa (1+2) = 754 tn	Entrevista a Gerentes de Supermercados
(B)A través de mayoristas	9.655	(B) 1. Mayoristas DAMA: Se estimó un porcentaje promedio de venta a supermercados por mayoristas para los grupos II y III, en base al volumen total comercializado en DAMA. Para el Grupo I se determinó según lo manifestado por cada mayorista:	Entrevistas con Mayoristas

	Volumen venta a Supermercado (tn)	Porcentaje Promedio (%)	Total (tn)
GI Mayorista 1	1.050	80	840
Mayorista 2	1.267	30	380
GII	5.914	70	4.140
GIII	4.237	30	1.271
Total	12.468		6.631

2. Mayoristas No-DAMA: Se estimó en base al porcentaje promedio de venta a supermercados por mayoristas del Gran Asunción ubicados fuera de DAMA 2.649 x 92,01% = 2.437 tn
3. Estimación del porcentaje promedio de venta a supermercados por mayoristas de Otras Localidades:

		Fuente
Ciudad del Este	= 0 tn	Entrevista a Gerentes de supermercados
Encarnación: 792 x 69%	= 546 tn	Entrevista a técnico del MAG
Cnel.Oviedo: 137 x 30%	= 41 tn	

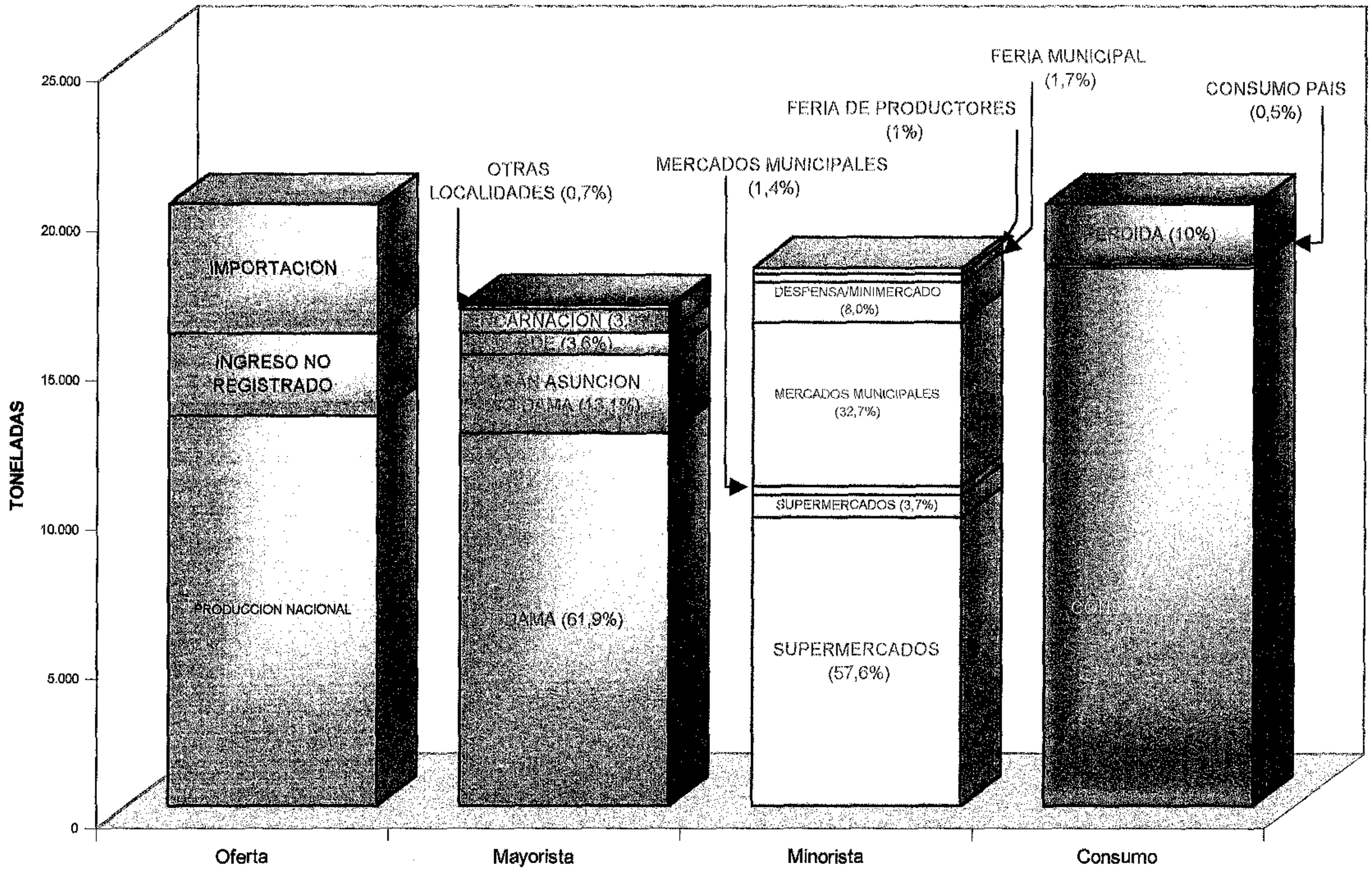
Table 23-C: (Continuation)

Otros minoristas		Del volumen total comercializado por mayoristas se resta las ventas a supermercados: 16.766 – 9.655 = 7.111 tn	Entrevistas a vendedores de Mercados Municipales
		Este volumen se distribuye proporcionalmente en base a preferencia por lugar de compra según la encuesta a consumidores: Mercado Municipal (77 %); Despensa/Minimercado (19%) y Feria Municipal (4%).	Encuesta a consumidores
▪ Mercado Municipal			
(C) A través de mayoristas	5.476	(C) 7.111 x 77% = 5.476 tn	
(D) Directo de oferta	300	(D) Volumen estimado según entrevistas a vendedores de los Mercados Municipales.	
▪ Despensa / Minimercado	1.351	7.111 x 19% = 1.351	Encuesta a consumidores
▪ Feria Municipal	284	7111 x 4% = 284	Encuesta a consumidores
▪ Feria de Productores	200	Sumatoria de volumen comercializado por las Ferias de Productores, determinado en base a datos proveídos por feriantes e informantes calificados	
Total minoristas	**18.020**		

Table 23-D: Methodology to estimate carrot consumption volume. Year 2002

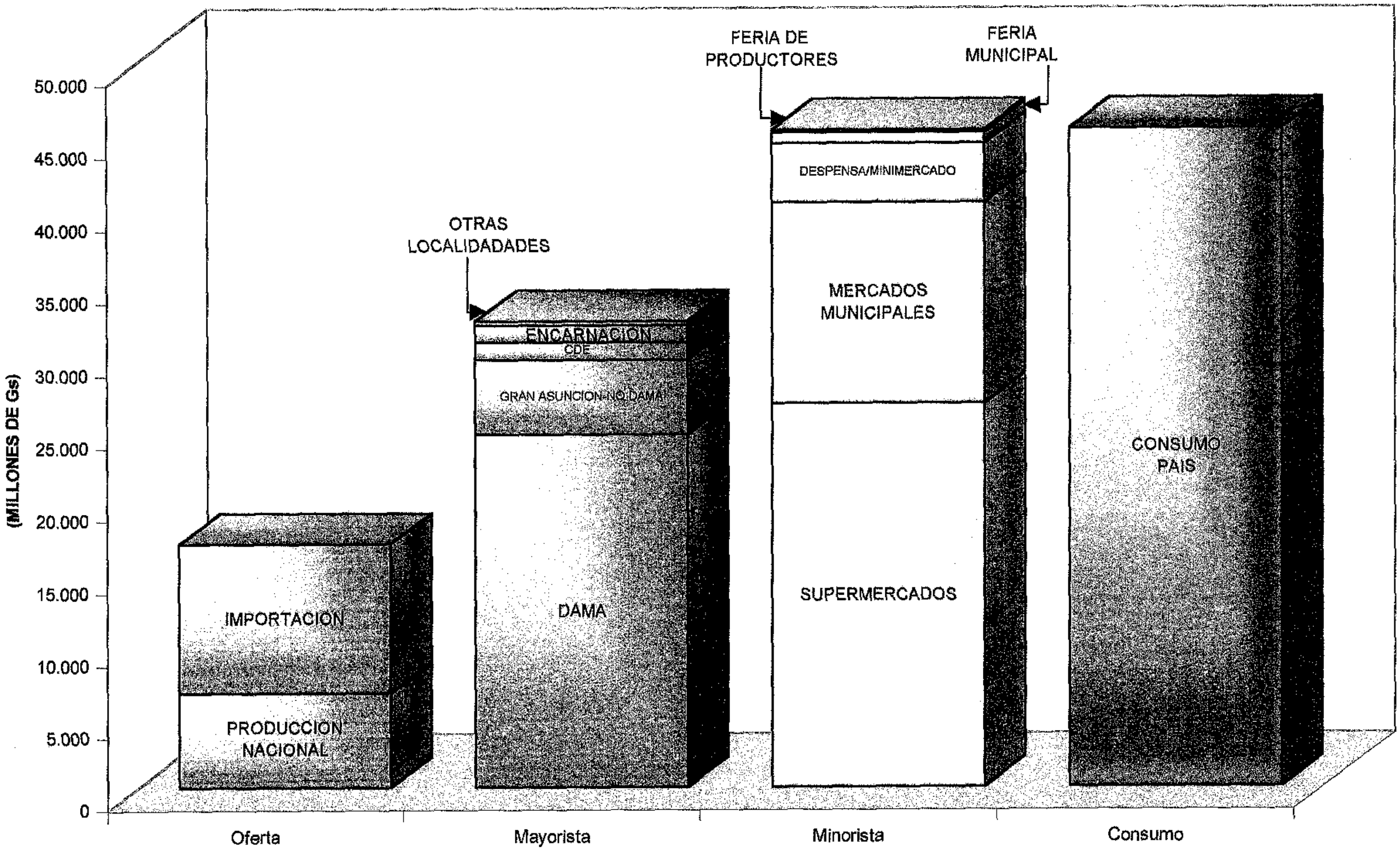
Consumidores	*Volumen (tn)*	*Metodología de estimación*	*Fuente*
Consumo país	18.131	1. Se determina el volumen total comercializado por los minoristas: 18.020 tn 2. Se estima un nivel de consumo resultante de la diferencia entre la oferta total y el volumen de la sumatoria de lo comercializado por minoristas, las exportaciones y las pérdidas en la comercialización: Consumo: 20.146 – (18.020 + 0 + 2.015) = 111 tn 3. Volumen total de Consumo país (1 + 2) = 18.131 tn	
Exportación	0	El Banco Central del Paraguay no registra exportación: 0 tn	BCP
Pérdida	2.015	Se estima una pérdida del 10% de la oferta total por manipuleo en el proceso de comercialización: (20.146 x 0.10) = 2.015 tn	
Total	**20.146**		

Figure 7: Flow chart of carrot commercialization in Paraguay (Volume in tons). Year 2002



Ref. Las letras y porcentajes dentro del gráfico tienen el mismo color de las columnas de valores de donde proviene cada segmento.

Figure 8: Flow chart of carrot commercialization in Paraguay (in millions of Guaraníes). Year 2002



The carrot supply in Paraguay is composed of the available national production and for carrot of foreign origin. The available annual national production reaches on the average around 13.000 tons, *Table E-3, Annex E.*

The other sector that contributes to the supply is the carrot of foreign origin. Imports and carrot not registered at the entrance points add up to a total volume of 7.086 tons, *Table 24.*

Table 24. Estimate of carrot supply in Paraguay by origin . Year 2002

Origin	*Volume (Toneladas)*	*Percentage (%)*
National Production Available	13.060	64,83
Import	2.754	13,67
Not registered entrances	4.332	21,50
Total	*20.146*	*100,00*

Source: Elaborated on data from DGA, CEASA (Brazil) DDV/MAG.

Data registered by the Dirección General de Aduanas indicate that in the year 2002 approximately 2.754 tons of carrot entered to the country, of which 988 tons entered from Brazil and 1.766 tons from Argentina, *Table E-4 of the Annex E.*

It is important to highlight that of the total volume of foreign carrot marketed, the study estimates that approximately 61% corresponds to volumes not registered officially, *Table E-5, Annex E.*

The distribution of carrot differs according to its origin. For instance, the national production is distributed by producers to wholesalers located in or outside DAMA, to wholesalers of the municipal markets of interior towns, to consumers in the municipal markets, or is directly sold on farm, *Figure 7.*

In DAMA the national carrot is marketed by organizations like NIKKEI, CEPACOOP, and CECOPROA that have producers associated to them, *Table 25.*

Table 25. Volume of national carrot marketed in DAMA, by Association, Year 2002

Association	*Marketed volume (Tons)*
NIKKEI	701,07
CECOPROA	405,95
CEPACOOP	173,82
Total	*1.280,84*

Source: Elaborated based on interviews to managers of the associations.

On the other hand, the carrot of foreign origin is channeled mainly through wholesalers and occasionally by retailers (supermarkets) that acquire the product in origin, specifically from CEASA and other markets of Foz of Yguazú (Brazil), Market of Posadas and commercial stores from Clorinda (Argentina).

Table 26 shows the volume of carrot acquired by wholesalers according to their location area. It stands out the concentration of the carrot supply through the wholesalers located in DAMA.

Table 26. Volume of carrot acquired by wholesalers, according to location area. Year 2002

Location area	*Volume (Tons)*	*Percentage (%)*
DAMA	12.468	74,36
GRAN ASUNCIÓN (EXCLUIDO DAMA)	2.649	15,80
OTHER CITIES OF THE COUNTRY		
Ciudad del Este	720	
Encarnación	792	
Coronel Oviedo	137	
Sub total OTHER CITIES OF THE COUNTRY	1.649	9,84
Total	*16.766*	*100,00*

Source: Elaborated based on interviews to wholesalers located in DAMA, Great Asunción, Ciudad del Este, Encarnación and Coronel Oviedo.

From the total supply of carrot 74,36% is channeled by wholesalers who distribute the product to supermarkets and other retailers, *Figure 7*. Nowadays supermarkets are important capturing 57,6% of all the volume marketed by wholesalers. The remaining volume is sold to other retailers located in DAMA, municipal fairs, groceries and mainly in the municipal markets, *Table 27*.

Table 27. Volume of carrot distributed from wholesalers to retailers. Year 2002

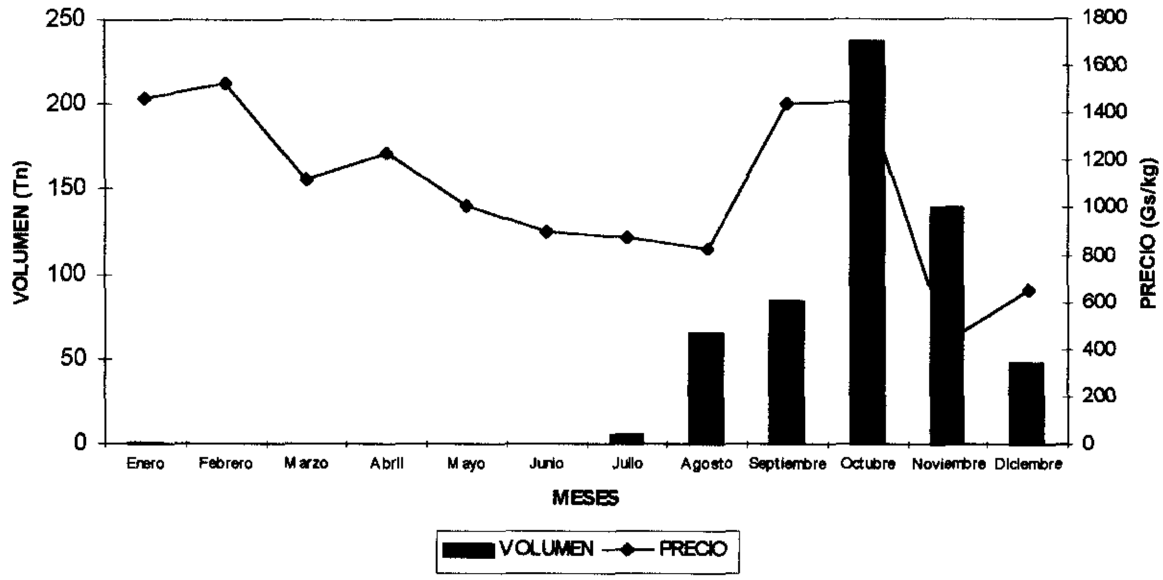
Retailers	*Volume (Tons)*	*Percentage (%)*
SUPERMARKETS	9.655	57,59
OTHER RETAILERS		
Municipal markets	5.476	
Despensas/Minimercados	1.351	
Municipal fairs	284	
Sub Total OTHER RETAILERS	7.111	42,41
Total	*16.766*	*100,00*

Source: Elaborated based on interviews with supplying wholesalers of supermarkets, feriantes other retailers.

2.3.2. Prices and seasonality

The seasonal pattern affects the process of commercialization of the carrot in Paraguay altering the quantity supplied and impacting in the prices. November and December are the months when the national production enters to the market producing a substantial decrease in the prices of commercialization of carrot, *Figure 9*.

Figure 9: Volume and monthly price of carrot. 2002



The commercialization of carrot during 2002 have been carried out in the period of July to December with supply concentration during the months of October and November (65%) .The values used in the precedent graph correspond to CEPACOOP and CECOPROA data of the year 2002, *Table E-6, Annex E.*

It is necessary to mention that the prices governing during the year are determined directly by prices paid by wholesalers in the markets of Foz of Yguazú (Brazil) Clorinda and Posadas (Argentina). This way, the foreign carrot has higher prices during the first months of the year (January and February), diminishing persistently until the month of August.

2.3.3. Value of commercialization according to origin and channel

2.3.3.1 Value of commercialization by origin

The total valued of commercialization of the national and foreign carrot was estimated in 16.805 millions of Guaraníes, *Figure 8 and Table 28.* The higher value in the commercialization come from the foreign product that on average has a higher price than the national product.

Table 28. Estimated of carrot commercialization value by origin. Year 2002

Origin	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millions of Gs)*	*Percentage (%)*
National	13.060	500	6.530	38,86
Foreign	7.086	1.450	10.275	61,14
Total	*20.146*		*16.805*	*100,00*

Source: Elaborated based on interviews with associations' managers

It is presented in the following Table the sources of estimate of carrot prices.

Table 29: Prices established for carrot commercialization. March 2003

Origin	*Price (Gs/Kg)*	*Observations*
National	500	It corresponds to on farm price , according to interview to producers
Foreign	1.450	It corresponds to price based on data provided for wholesalers importers.
WHOLESALERS		
DAMA	1.950	Estimate based on interviews with wholesalers of DAMA.
Gran Asunción	1.950	Estimate based on interviews with wholesalers located outside of DAMA.
Ciudad del Este	1.650	Estimate based on interviews with wholesalers of the Municipal Market of Ciudad del Este.
Encarnación	1.500	Estimate based on interviews with wholesalers of the Municipal Market of Encarnacion
Coronel Oviedo	2.000	Sale price provided by technicians and wholesalers of the area.
RETAILERS		
Supermarkets	2.540	Estimate based on sale prices of Great Asunción's main supermarkets and Encarnación.
Municipal markets	2.400	Estimate based on sale prices of Municipal markets of San Lorenzo and Encarnación.
Despensas/Minimercados	3.000	Estimate based on sale prices in Despensas and Minimercados of San Lorenzo and Encarnación.
Municipal fairs	2.700	Estimate based on sale prices in Asunción's Municipal Fairs and Encarnación.
Producers fairs	900	Estimate based on sale prices in the Producers Fairs of Encarnación and Ciudad del Este.

2.3.3.2. Value of commercialization according to wholesalers

DAMA continues being the main place where carrot sales are carried out. The 75,67% of total marketed value in 2002 was through wholesalers located in DAMA. It is noticeable that wholesalers located in other towns like City of the East, Great Asunción and Colonel Oviedo commercialized for a total value of 8,25%, *Table 30.*

Table 30. Estimate of carrot sales by wholesalers, according to location area. Year 2002.

Area	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millions of Gs)*	*Percentage (%)*
DAMA	12.468	1.950	24.313	75,67
GRAN ASUNCIÓN	2.649	1.950	5.166	16,08
OTHER CITIES OF THE COUNTRY				
Ciudad del Este	720	1.650	1.188	3,70
Encarnación	792	1.500	1.188	3,70
Coronel Oviedo	137	2.000	274	0,85
Sub Total OTHER CITIES OF THE COUNTRY	1.649		2.650	8,25
Total	*16.766*		*32.128*	*100,00*

Source: Elaborated based on interviews to Wholesalers.

2.3.3.3. Value of commercialization according to retailers

The total value of retailers´ sale to consumers were estimated in 45.301 millions of Guaraníes, of which 58,36% corresponds to carrot sales carried out in supermarkets, equivalent to 26.439 millions of Guaraníes, approximately.

In accord to estimates carried out by the study, carrot transactions carried out by other retailers is small, except the value marketed through municipal markets and despensas that totaled 95% of the value marketed by the other retailers, *Table 31.*

Table 31. Estimate of carrot sales by retailers. Year 2002

Retailers	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*	*Percentae (%)*
SUPERMRKETS	10.409	2.540	26.439	58,36
OTHER RETAILERS				
Municipal Markets	5.776	2.400	13.862	30,60
Despensas/Minimercados	1.351	3.000	4.053	8,95
Municipal Fairs	284	2.700	767	1,69
Fairs of Producers	200	900	180	0,40
Sub Total OTHER RETAILERS	7.611		18.862	41,64
Total	**18.020**		**45.301**	**100,00**

Source: Elaborated based on interviews to wholesalers and retailers.

2.3.3.4. Value of commercialization according to final consumption destination

The total value corresponding to consumers purchases of carrot through all the commercialization channels reached approximately 45.356 millions of Guaraníes, this amount come from consumers sales (45.301 millions of Guaraníes), and the value corresponding to sales of 111 tons valued at the price received by producers (500 Gs/Kg), *Table 32.*

Table 32. Estimated carrot commercialization value according to final consumption destination. Year 2002

Retailers	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*
Country Consumption (through retailers)	18.020	2513,98*	45.301
Country Consumption (on farm)	111	500,00	55,5

** Correspond to average prices weighted by retailers sales volume (see Table 31).*

2.3.3. Margins of commercialization of a representative channel

The commercialization margins, according to the origin of the offer, indicate that the difference among the price paid by consumers and the price average received by producers of farm is 2.040 Gs/Kg, which represent total margin of commercialization of 80%, *Table 33.*

Table 33. Total margin of commercialization of carrot. 2002

Prices	*Value (Gs/Kg)*	*Margin (Gs/Kg) (%)*
On farm price	500	
Wholesalers selling price	1.950	
Retailers selling price	2.540	2.040 (80%)

** Estimate based on data provided by wholesalers, retailers producers.*

2.4. Pumpkin

The pumpkin (Cucurbita maxima) is one of the vegetables that is marketed in fresh in the country. Data of the DGEEC indicate that the per-cápita consumption in the metropolitan area is 37,1 daily grams. The main varieties consumed in the country belong to the group Cururú and the hybrid Tetzakabuto.

The most important areas in pumpkin production are located in the Departments of Caaguazú, Central and Alto Paraná. The sow of pumpkin is carried out preferably from August to January in Paraguay, however, production exists practically during the whole year, *Table E-2, Annex E.*

2.4.1. Channels of commercialization

The main agents involved in pumpkin commercialization are the national producers, wholesalers, retailers and consumers. The flow charts of pumpkin commercialization are presented in *Figures 10 and 11.* These figures illustrates the market of national commercialization, according to the main involved agents. The study estimated that in the process of commercialization of this vegetable a global loss of 10% on the total offer exists (2.074 tons).

The methodology used for the construction of the commercialization flow charts in volume and value is presented:

Table 34-A: Methodology to estimate pumpkin commercialization volume– National supply. Year 2002

Oferta	*Volumen (Tn)*	*Metodología de estimación*	*Fuente*
Producción Nacional Disponible	19.200	1. No existen estadísticas oficiales de la producción de este rubro, por tanto, la producción nacional se estimó en (21.333 tn) 2. Se estima una pérdida por cosecha de 10%. (2.133 tn) 3. Producción Nacional Disponible (1-2)= 19.200 tn	DCEA
Importación Registrada	38	4. Datos sistematizados en base a registros de Aduanas (Sistema SOFIA) = 38 tn	DGA
Importación No Registrada	1.507	**(A) Estimación de volumen ingresado al país, de origen brasilero, no registrado:** 5. Volumen comercializado en CEASA-PR (Foz de Yguazú), año 2002 (1.679 tn), se estima un 80% que ingresa al país = 1.343 tn 6. Estimación de ingreso desde otros mercados de Foz de Iguazú. Se estima un 15 % del Volumen ingresado desde CEASA (1.343 x 15%) = 202 tn 7. Volumen Total estimado de ingreso desde Brasil (5 + 6) = 1.545 tn	Registros de CEASA-PR (Central de Curitiba) y estimación dada por Directivos de CEASA-PR (Foz de Yguazú) y entrevistas a mayoristas de DAMA
		8. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen brasilero = 38 tn 9. Volumen de ingreso de origen brasilero No Registrado = (7 - 8) = 1.507 tn	DGA
		(B) Estimación de volumen ingresado al país, de origen argentino, no registrado: 10. Se consideran las proporciones de ingreso de zapallo de origen extranjero en DAMA, Brasil (100%) y Argentina (0 %) como iguales a las proporciones de ingreso al Paraguay desde Argentina y Brasil. 11. Estimación del volumen total ingresado al Paraguay, en base al cálculo de lo ingresado desde el Brasil (1.545 x 100/100) = 1.545 tn 12. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen argentino (0 tn). 13. Volumen total estimado de ingreso desde Argentina (11- 7) = 0 tn 14. Volumen no registrado desde la Argentina (13-12) = 0 tn **(C) Volumen Total de Ingreso No Registrado (9 + 14) = 1.507 tn**	
Total oferta	**20.745**		

Table 34-B: Methodology to estimate volume of pumpkin marketed by wholesalers. Year 2002

Mayoristas	***Volumen (Tn)***	***Metodología de estimación***	***Fuente***
DAMA	12.592	1. Los 36 mayoristas identificados fueron clasificados en grupos, según el volumen promedio anual que comercializan. Grupo / Número / Prom/año / Total I / (2) / 189 / 378 II / (8) / 540 / 4.320 III / (26) / 303,6 / 7.894 2. Volumen Total comercializado en DAMA: (GI +GII + GIII) = 12.592 tn	Entrevistas a Mayoristas de DAMA Observación directa en DAMA
Fuera de DAMA (Gran Asunción)	462	3. Promedio de venta anual x tres mayoristas individualizados 154 x 3 = 462 tn **Observación**: Los mayoristas de San Lorenzo no comercializan este rubro.	Entrevistas a mayoristas ubicados Fuera de DAMA
Ciudad del Este	180	4. Promedio de venta anual x 3 mayoristas: 60 x 3 = 180 tn	Entrevistas a mayoristas de Ciudad del Este
Encarnación	582	5. Promedio de venta anual x 10 mayoristas: 58,2 x 10 = 582 tn	Entrevistas a mayoristas de Encarnación
Coronel Oviedo	215	6. Promedio de venta anual x 3 mayoristas: 71,7 x 3 = 215 tn	Entrevistas a mayoristas de Coronel Oviedo
Total mayoristas	**14.031**		

Table 34-C: Methodology to estimate volume of pumpkin marketed by retailers. Year 2002

Minoristas	*Volumen (Tn)*	*Metodología de estimación*	*Fuente*
Supermercado			
(A) Directo de oferta	877	(A) 1. Se estimó un 5% sobre el volumen total de ingreso extranjero (1.545 x 5%) =77 tn 2. Se estima un volumen de compra directa de productores: 800 tn 3. Total de compra directa (1+2) = 877 tn	Entrevistas a Gerentes de Supermercados
(B) A través de mayoristas	6.516	(B) 1. Mayoristas DAMA: Se estimó un porcentaje promedio de venta a supermercados por mayoristas para los grupos II y III, en base al volumen total comercializado en DAMA. Para el Grupo I se determinó según lo manifestado por cada mayorista:	Entrevistas con Mayoristas

	Volumen venta a Super (tn)	Porcentaje Promedio	Total (tn)
GI Mayorista 1	240	0,80	192
Mayorista 2	138	0,30	41
GII	4.320	0,70	3.024
GIII	7.894	0,30	2.368
Total	12.592		5.625

		2. Mayoristas No-DAMA: Se estimó en base al porcentaje promedio de venta a supermercados por mayoristas del Gran Asunción ubicados fuera de DAMA 462 x 92% = 425 tn	
		3. Estimación del porcentaje promedio de venta a supermercados por mayoristas de Otras Localidades. Ciudad del Este = 0 tn	Entrevista a Gerentes de supermercados
		Encarnación: 582x 69% = 401 tn Cnel.Oviedo: 215 x 30% = 65 tn	Entrevista a técnico del MAG

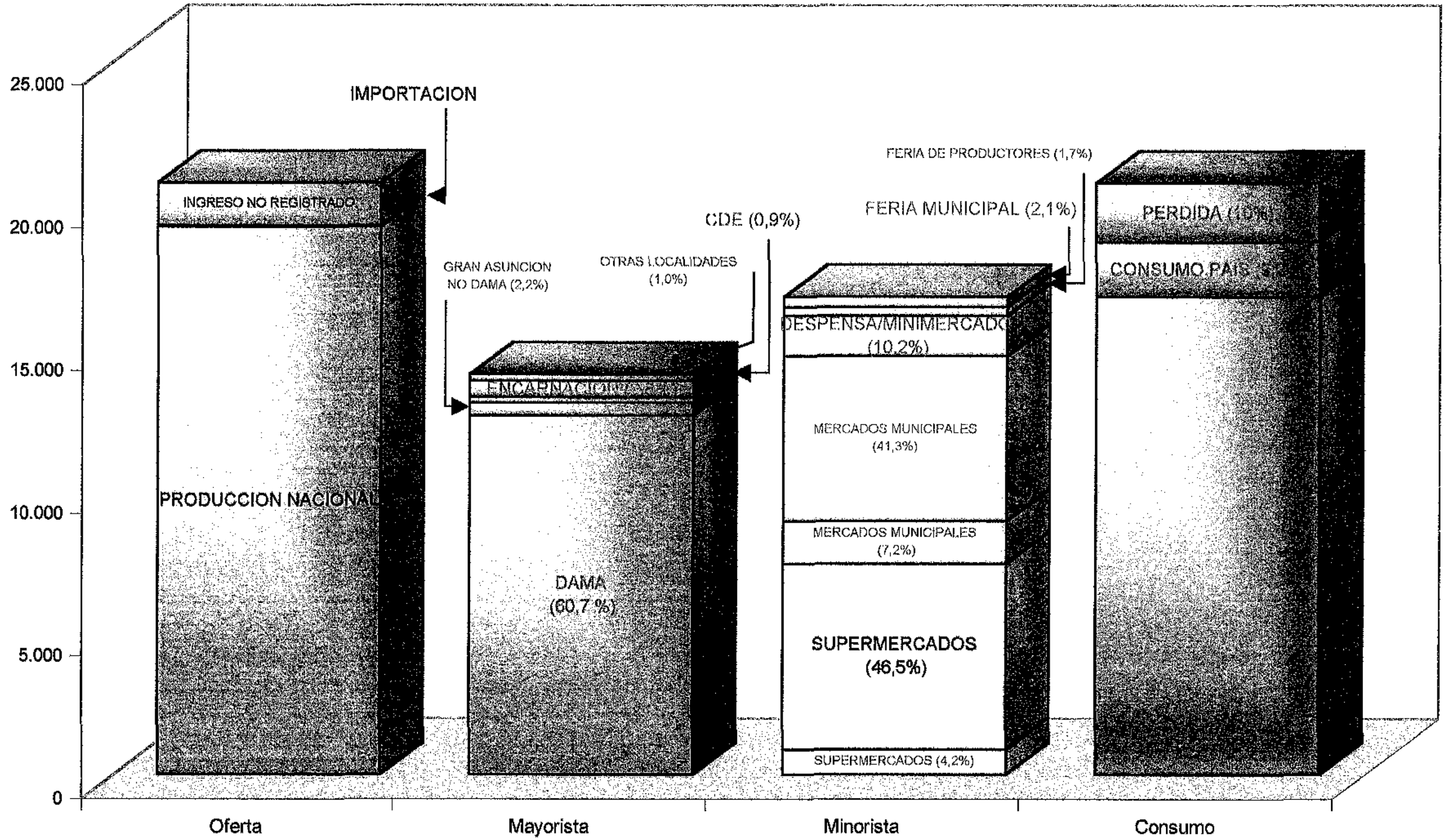
Table 34-C: (Continuation)

Otros minoristas		Del volumen total comercializado por mayoristas se resta las ventas a supermercados: 14.031 – 6.516 = 7.514 tn	Entrevistas a vendedores de Mercados Municipales
		Este volumen se distribuye proporcionalmente en base a preferencia por lugar de compra según la encuesta a consumidores: Mercado Municipal (77 %); Despensa/Minimercado (19%) y Feria Municipal (4%).	Encuesta a consumidores
▪ Mercado Municipal			
(C) A través de mayoristas	5.786	(C) 7.514 x 77% = 5786 tn	
(D) Directo de oferta	1.500	(D) Volumen estimado según entrevistas a vendedores de los Mercados Municipales: 1.500.	
▪ Despensa / Minimercado	1.428	7.514 x 19% = 1.428 tn	Encuesta a consumidores
▪ Feria Municipal	301	7.514 x 4% = 301 tn	
▪ Feria de Productores	350	Sumatoria de volumen comercializado por las Ferias de Productores.	Entrevista a feriantes e informantes calificados
Total minoristas	**16.758**		

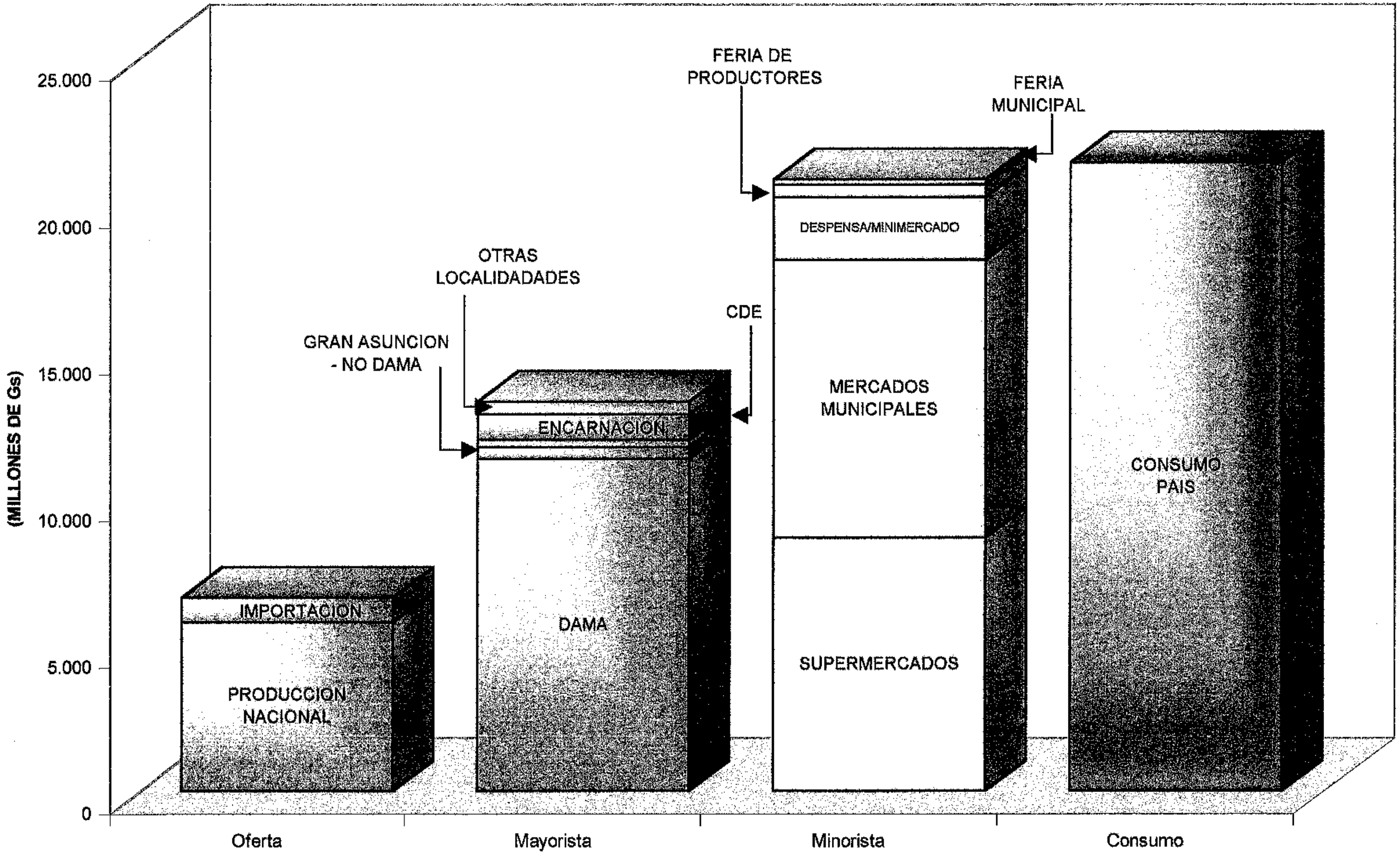
Table 34-D: Methodology to estimate pumpkin consumption volume. Year 2002

Consumidores	*Volumen (Tn)*	*Metodología de estimación*	*Fuente*
Consumo país	18.671	1. Se determina el volumen total comercializado por los minoristas: 16.758 tn 2 Se estima un nivel de consumo resultante de la diferencia entre la oferta total y el volumen de la sumatoria de lo comercializado por minoristas, las exportaciones y las pérdidas en la comercialización: Consumo: 20.745 – (16.758 + 0 + 2.074) = 1.913 tn 3. Volumen total de Consumo país (1 + 2) = 18.671 tn	
Exportación	0	El Banco Central del Paraguay no registra exportación: 0 tn	▪ BCP
Pérdida	2.074	Se estima una pérdida del 10% de la oferta total por manipuleo en el proceso de comercialización: (20.745 x 10%) = 2.074 tn	
Total	**20.745**		

Figures 10: Flow chart of pumpkin commercialization in Paraguay (Volume in tons). Year 2002



Figures 11: Flow chart of pumpkin commercialization in Paraguay (in millions of Guaraníes). Year 2002



The pumpkin supply in Paraguay is conformed by the available national production and for product of foreign origin. This study estimated the national annual available production in 19.200 tons, *Table E-3 of the Annex E.*

The other sector constituted by product of foreign origin contributes with a volume of 1.545 tons including imports and the entrances of not registered products, *Table 35.*

Table 35. Estimate of pumpkin supply by origin in Paraguay. Year 2002

Origin	*Volume (Tons)*	*Percentage (%)*
National Production Available	19.200	92,55
Imports	38	0,18
Not Registered entrances	1.507	7,27
Total	*20.745*	*100,00*

Source: Elaborated on data of DGA, CEASA (Brazil) DDV/MAG.

Data registered by the Dirección General de Aduanas reveal that in the year 2002 entered to the country a total volume of 38 tons of pumpkin from Brazil, *Table E-4, Annex E.*

It is important to highlight that of the total volume of foreign pumpkin marketed, the study estimated that approximately 97% corresponds to volumes not registered officially, *Table E-5 Annex E.*

The distribution of pumpkin differs according to its origin. The national production is distributed by producers to wholesalers located in or outside DAMA, to wholesalers located at municipal markets of interior towns and to consumers at the municipal markets, or directly to consumers on farm, *Figure 11.*

On the other hand, the foreign pumpkin that enters to the country is channeled by wholesalers, mainly and sporadically by retailers (supermarkets) that acquire the product in origin, specifically from CEASA and other markets of Foz of Yguazú (Brazil).

The offer of national pumpkin in DAMA is marketed by producers associated to organizations like NIKKEI, CEPACOOP and CECOPROA, among other, like one observes in the *Table 36.*

Table 36. Volume of national pumpkin marketed in DAMA, by Association. Year 2002

Association	*Marketed volume (Tons)*
NIKKEI	97,45
CECOPROA	138,43
CEPACOOP	97,5
Total	*333,38*

Source: Elaborated based on interviews to associations managers.

Table 37 shows the volume of acquired pumpkin by wholesalers according to their location area. It stands out the large amount of pumpkin offered through wholesalers located in DAMA.

Table 37. Volume of pumpkin channeled by wholesalers, according to location area. Year 2002

Location area	*Volume (Tons)*	*Percentage (%)*
DAMA	12.592	89,74
GREAT ASUNCION (EXCLUDED DAMA)	462	3,29
OTHER CITIES OF THE COUNTRY		
Ciudad del Este	180	
Encarnación	582	
Coronel Oviedo	215	
Sub total OTHER CITIES OF THE COUNTRY	977	6,96
Total	***14.031***	***100,00***

Source: Elaborated based on interviews to wholesalers located in DAMA, Great Asunción, Ciudad del Este, Encarnación and Coronel Oviedo.

The pumpkin is channeled by wholesalers (90%) who distribute the product to supermarkets and other retailers, *Figure 10*. It is noticeable the current supermarkets importance since they captured 46,44% of all the volume marketed by wholesalers in 2002. The remaining volume is sold to other retailers located in DAMA, municipal markets, municipal fairs and despensas and minimercados, *Table 38*.

Table 38. Volume of pumpkin distribution from wholesalers to retailers. Year 2002

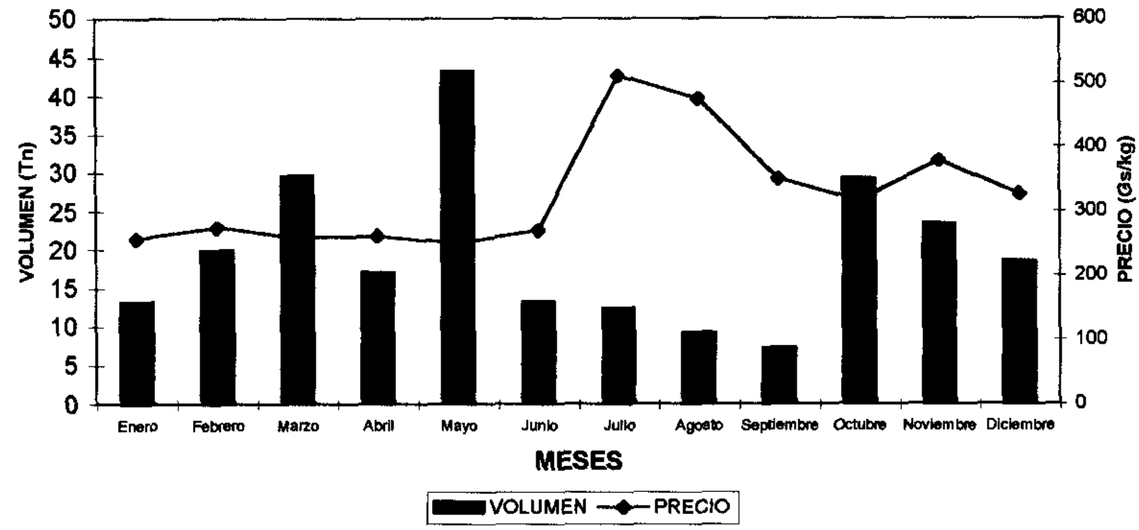
Retailers	*Volume (Tons)*	*Percentage (%)*
SUPERMARKETS	6.516	46,44
OTHER RETAILERS		
Municipal markets	5.786	
Despensas/Minimercados	1.428	
Municipal fair	301	
Sub Total OTHER RETAILERS	7.515	53,56
Total	***14.031***	***100,00***

Source: Elaborated based on interviews to supplying wholesalers of supermarkets, feriantes other retailers.

2.4.2. Prices and seasonality

Data from CECOPROA and CEPACOOP, year 2002, allow to analyze pumpkin price behavior. The analysis identified price fluctuations correlated with the seasonality of the supply. For instance, low monthly volumes were marketed from June to September and the highest prices took place during these months of the year. On the other hand, two entrance periods of the national production were identified, one from March to May and another from October to December, during these months the pumpkin price decreased, *Figure 12*.

Figure 12: Volume and monthly price of pumpkin. 2002



The values used in the precedent figure denote that in the year 2002 during the months of March to May, 36% of the volume was marketed, and, 30% from October to December. The market entrance of the national production of pumpkin are the highest during these months depressing the price levels, *Table E-6, Annex E.*

On the other hand, it is necessary to mention that the prices that govern in most of the year are determined directly by the prices of the acquired foreign pumpkin in origin for the big and medium wholesalers of DAMA, mainly in the markets of Foz of Yguazú (Brazil).

2.4.3. Value of commercialization according to origin and channel

2.4.3.1. Value of commercialization by origin

The total commercialization value of the pumpkin coming from the national production and of the foreign product it was estimated in 6.610 millions of Guaraníes, *Figure 11 and Table 39.* The biggest proportion of this value come from the national product whose commercialization volume is very superior to the foreign product, in spite of the price difference like can be observed in *Table 39.*

Table 39. Estimate of pumpkin commercialization value by origin. Year 2002

Origin	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millions of Gs)*	*Percentage (%)*
National	19.200	300	5.760	87,14
Foreign	1.545	550	850	12,86
Total	***20.745***		***6.610***	***100,00***

Source: Elaborated based on interviews to managers of the associations.

In the following table the sources of estimate of pumpkin prices is presented

Table 40: Prices established for pumpkin commercialization. March 2003

Origin	*Price (Gs/Kg)*	*Observations*
Nacional	300	It corresponds to on farm price, based on producers interviews
Foreign	550	It corresponds to purchase price based on data provided by wholesalers importers.
WHOLESALERS		
DAMA	900	Estimate based on interviews with wholesalers of DAMA.
Gran Asunción	900	Estimate based on interviews with wholesalers located outside of DAMA.
Ciudad del Este	1.300	Estimate based on interviews with wholesalers of the Municipal Market of Ciudad del Este.
Encarnación	1.500	Estimate based on interviews with wholesalers of the Municipal Market of Encarnación.
Coronel Oviedo	2.000	Sale price provided by technicians and wholesalers of the area.
RETAILERS		
Supermarkets	1.170	Estimate based on prices average of sale of Great Asunción's main supermarkets and Encarnación.
Municipal markets	1.300	Estimate based on prices sale average in San Lorenzo's Municipal Markets and Encarnación.
Despensas/Minimercados	1.500	Estimate based on prices sale average in despensas and Minimercados of San Lorenzo and Encarnación.
Municipal Fair	1.400	Estimate based on prices sale average in Asunción's Municipal Fairs and Encarnación.
Fairs of Producers	500	Estimate based on prices sale average in the Fairs of Producers of Encarnación and Ciudad del Este.

2.4.3.2. Value of commercialization according to wholesalers

In relation to wholesalers' sales by their location area, DAMA continues being the main place where they are carried out considering that approximately 85,30% of total value marketed in the 2002 was carried out through wholesalers located in DAMA. In contrast, the markets wholesalers located in other towns like Ciudad del Este, Great Asunción and Colonel Oviedo market for a value that corresponds hardly to 11,57% of the total marketed, *Table 41.*

Table 41. Estimate of pumpkin sales by wholesalers according to location area. Year 2002.

Area	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millions of Gs)*	*Percentage (%)*
DAMA	12.592	900	11.333	85,30
GREAT ASUNCION	462	900	416	3,13
OTHER CITIES OF THE COUNTRY				
Ciudad del Este	180	1.300	234	1,76
Encarnación	582	1.500	873	6,57
Coronel Oviedo	215	2.000	430	3,24
Sub Total OTHER CITIES OF THE COUNTRY	977		1.537	11,57
Total	*14.031*		*13.286*	*100,00*

Source: Elaborated based on interviews to Wholesalers.

2.4.3.3. Value of commercialization according to retailers

Sales carried out by retailers to consumers was estimated that reached 20.860 millions of Guaraníes, 41,47% corresponding to pumpkin sold in supermarkets, valued in approximately 8.650 millions of Guaraníes.

Estimates made by the study indicate also that pumpkin sales carried out by other retailers is small. It stands out that, among the other retailers, that the value marketed through the municipal markets and despensas constitutes 95% of the marketed by this channel, *Table 42.*

Table 42. Estimate of pumpkin sales by retailers. Year 2002

Retailers	*Volume (Tons)*	*I price (Gs/Kg)*	*Value (Millions of Gs)*	*Percentage (%)*
SUPERMARKETS	7.393	1.170	8.650	41,47
OTHER RETAILERS				
Municipal markets	7.286	1.300	9.472	45,41
Despensas/Minimercado	1.428	1.500	2.142	10,27
Municipal Fairs	301	1.400	421	2,02
Producers Fairs	350	500	175	0,84
Sub Total OTHER RETAILERS	9.365		12.210	58,53
Total	*16.758*		*20.860*	*100,00*

Source: Elaborated based on interviews to wholesalers and retailers.

2.4.3.4. Value of commercialization according to final consumption destination

The value of total purchases carried out by consumers through all the commercialization channels reached approximately 21.434 millions of Guaraníes, that come from sales to consumers (20.860 millions of Guaraníes) and the amount corresponding to sales of 1.913 tons valued with the price received by the producers on farm (300 Gs/Kg), *Table 43.*

Table 43. Estimated pumpkin commercialization value according to final consumption destination. Year 2002

Destination	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*
Country Consumption (through retailers)	16.758	1.244,78*	20.860
Country Consumption (on farm)	1.913	300,00	574

Correspond to average prices weighted by retailers sales volume(see Table 42).

2.4.4. Margins of commercialization of a representative channel

The commercialization margins according to the origin of the supply indicates that differences among the price paid by the consumer and the price average received by the producer on farm. The difference is of 870 Gs/Kg that represents a total margin of commercialization of 74%, *Table 44.*

Table 44. Total margin of commercialization of pumpkin. 2002

Prices and margins	*Value (Gs/Kg)*	*Margin (Gs/Kg) (%)*
On farm price	300	
Wholesalers selling price	900	
Retailers selling price	1.170	870 (74%)

Source: Estimate based on data provided by wholesalers, retailers and producers.

2.5. Onion

The onion (Allium stump L) it is a horticultural produce of high consumption in the country. Data of the DGEEC indicate that onion per-cápita consumption in the metropolitan area is 34,2 daily grams.

The most important areas in onion production are in Caazapá, Caaguazú and Itapúa. In the year 2001, these departments had a production of approximately 12.185 tons corresponding to 78% of the total national production, *Table-1, Annex E.*

The onion sow can be carried out in our country during the months of February to June; however, farmers sow mainly of March to April using a of traditional cultivation systems in seedbeds (45 to 60 days) then plant to the definitive place, being the production cycle 150 to 170 days.

The supply of national onion begins in October and extends until January, being observed high volumes in the months of November and December, *Table-2, Annex E.*

2.5.1. Channels of commercialization

The main agents involved in onion commercialization are the national producers, wholesalers, retailers and consumers. The commercialization flow charts presented in Figures 13 and 14 illustrates at the national level the commercialization market of onion according to main agents involved. In the process of commercialization of this produce, it was estimated that exists a global loss of 15% (5.416 tons) on the total offer.

The estimate methodology for the construction of the commercialization flow charts in volume and value is presented:

Table 45-A: Methodology to estimate onion commercialization volumes – National supply. Year 2002

Oferta	*Volumen (tn)*	*Metodología de estimación*	*Fuente*
Producción Nacional Disponible	9.692	1. Promedio de los últimos años (1996-2001), de la producción nacional (12.923 tn) 2. Se estima una pérdida por cosecha de 25%. (3.231 tn) 3. Producción Nacional Disponible (1-2)= 9.692 tn	DCEA
Importación Registrada	7.315	4. Datos sistematizados en base a registros de Aduanas (Sistema SOFIA) = 7.315 tn	DGA
Importación No Registrada	19.097	**(A) Estimación de volumen ingresado al país, de origen brasilero, no registrado:** 5. Volumen comercializado en CEASA-PR (Foz de Yguazú), año 2002 (7.050 tn), se estima un 80% que ingresa al país = 5.640 tn 6. Estimación de ingreso desde otros mercados de Foz de Iguazú. Se estima un 15% del volumen ingresado desde CEASA (5.640 x 15%) = 846 tn 7. Volumen Total estimado de ingreso desde Brasil (5 + 6) = 6.486 tn	Registros de CEASA-PR (Central de Curitiba) y estimación dada por Directivos de CEASA-PR (Foz de Yguazú) y entrevistas a mayoristas de DAMA
		8. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen brasilero = 1.333 tn 9. Volumen de ingreso de origen brasilero No Registrado = (7 - 8) = 5.153 tn	DGA
		(B) Estimación de volumen ingresado al país, de origen argentino, no registrado: 10. Se consideran las proporciones de ingreso de cebolla de origen extranjero en DAMA: Brasil (24,557%) y Argentina (75,443%) como iguales a las proporciones de ingreso al Paraguay desde Argentina y Brasil. 11. Estimación del volumen total ingresado al Paraguay, en base al cálculo de lo ingresado desde el Brasil (6.486 x 100/24,56) = 24,557 tn 12. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen argentino (5.959 tn). 13. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de otros países (23 tn). 14. Volumen total estimado de ingreso desde Argentina (11- (7+13) = 19.903 tn 15. Volumen no registrado desde la Argentina (14-12) = 13.944 tn **(C) Volumen Total de Ingreso No Registrado (9 + 15) = 19.097 tn**	
Total oferta	**36.104**		

Table 45-B: Methodology to estimate volume of onion marketed by wholesalers. Year 2002

Mayoristas	*Volumen (tn)*	*Metodología de estimación*	*Fuente*
DAMA	18.590	1. Los 33 mayoristas identificados fueron clasificados en grupos, según el volumen promedio anual que comercializan. Grupo Numero Prom/año Total I (2) 1.158,5 2.317 II (12) 966 11.592 III (19) 246,4 4.681 2. Volumen Total comercializado en DAMA (GI +GII + GIII) = 18.590 tn	Entrevistas a Mayoristas de DAMA Observación directa en DAMA
Fuera de DAMA (Gran Asunción)	2.430	3. Promedio de venta anual x 3 mayoristas individualizados 775 x 3 = 2.325 tn 4. Mayoristas de San Lorenzo = 105 tn 5. Total fuera DAMA (3 + 4) = 2.430 tn	Entrevistas a mayoristas ubicados fuera de DAMA Mayoristas de San Lorenzo
Ciudad del Este	900	6. Promedio de venta anual x 3 mayoristas: 300 x 3 = 900 tn	Entrevistas a mayoristas de Ciudad del Este
Encarnación	1.320	7. Promedio de venta anual x 10 mayoristas: 132 x 10 = 1.320 tn	Entrevistas a mayoristas de Encarnación
Coronel Oviedo	518	8. Promedio de venta anual x 3 mayoristas: 172,7 x 3 = 518 tn	Entrevistas a mayoristas de Coronel Oviedo
Total mayoristas	**23.758**		

Table 45-C: Methodology to estimate volume of onion marketed by retailers. Year 2002

Minoristas	*Volumen (tn)*	*Metodología de estimación*	*Fuente*
Supermercado (A) Directo de oferta	1.621	(A) 1. Se estimó un 5% sobre el volumen total de ingreso extranjero (26.412 x 5%) =1.321 tn 2. Se estima un volumen de compra directa de productores: 300 tn 3. Total de compra directa (1+2) = 1.621 tn	Entrevistas a Gerentes de Supermercados
(B) A través de mayoristas	13.939	(B) 1. Mayoristas DAMA: Se estimó un porcentaje promedio de venta a supermercados por mayoristas para los grupos II y III, en base al volumen total comercializado en DAMA. Para el Grupo I se determinó según lo manifestado por cada mayorista:	Entrevistas con Mayoristas

	Volumen venta a Supermercado (tn)	Porcentaje Promedio (%)	Total
GI Mayorista 1	1.050	80	840
Mayorista 2	1.268	30	380
GII	11.592	70	8.114
GIII	4.680	30	1.404
Total	18.590		10.738

Metodología de estimación	Fuente
2. Mayoristas No-DAMA: Se estimó en base al porcentaje promedio de venta supermercados por los 3 mayoristas del Gran Asunción ubicados fuera de DAMA (no incluye el volumen comercializado por mayoristas de San Lorenzo) : 2.325 x 91,83% = 2.135 tn	Entrevista a Gerentes de supermercados
3. Estimación del porcentaje promedio de venta a supermercados por mayoristas de Otras Localidades. Ciudad del Este = 0 tn Encarnación: 1.320 x 69% = 911 tn Cnel.Oviedo: 518 x 30% = 155 tn	Entrevista a técnico del MAG

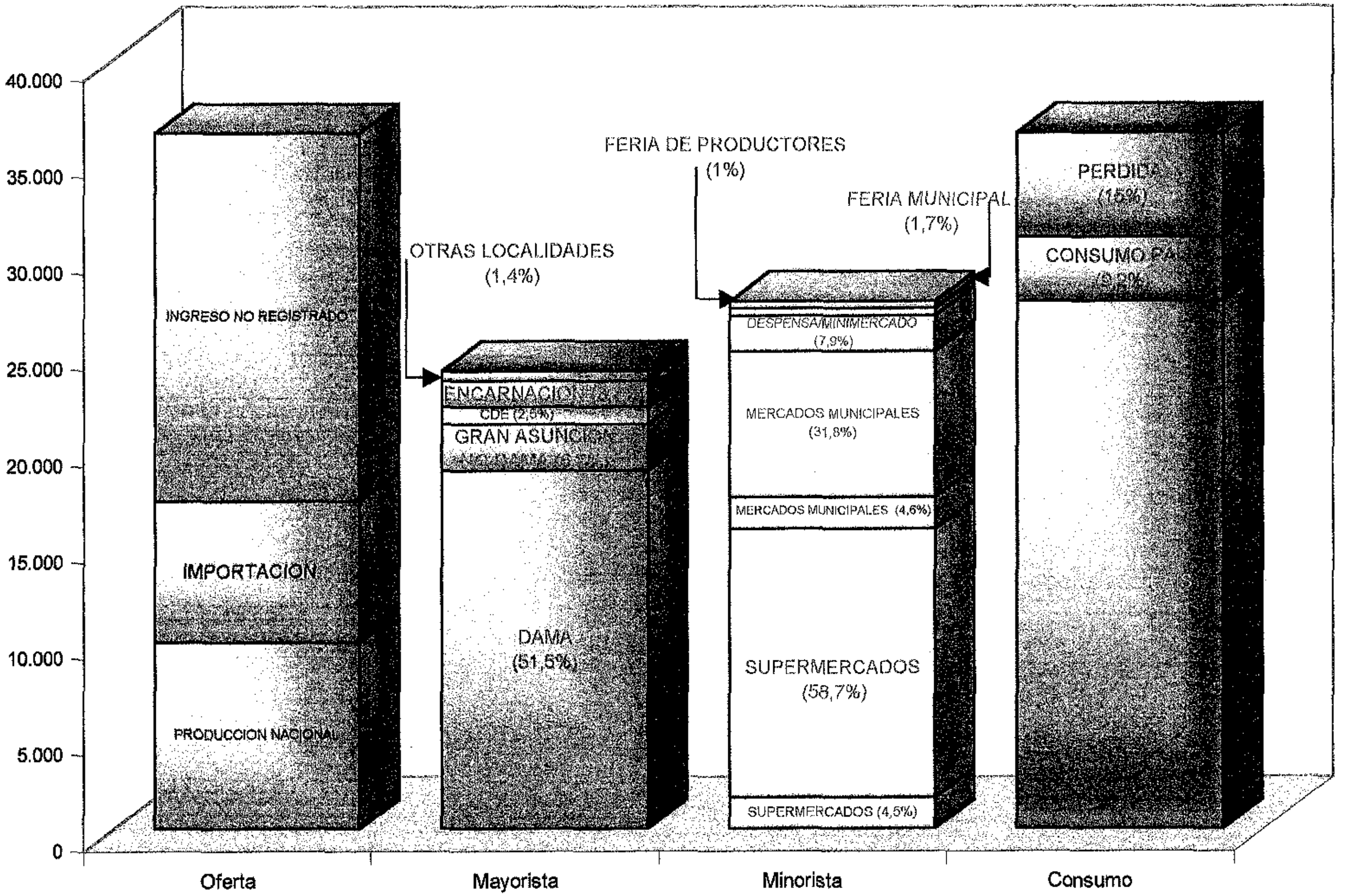
Cuadro 45-C: (Continuation)

Otros minoristas		Del volumen total comercializado por mayoristas se resta las ventas a supermercados: 23.758 - 13.939 = 9.819 tn	Entrevistas a vendedores de Mercados Municipales
		Este volumen se distribuye proporcionalmente en base a preferencia por lugar de compra según la encuesta a consumidores: Mercado Municipal (77 %); Despensa/Minimercado (19%) y Feria Municipal (4%).	Encuesta a consumidores
▪ Mercado Municipal			
(C) A través de mayoristas	7.560	(C) 9.819 x 77% = 7.560 tn	
(D) Directo de oferta	1.650	(D) Volumen estimado según entrevistas a vendedores de los Mercados Municipales:1.650.	
▪ Despensa / Minimercado	1.865	9.819 x 19% = 1.865 tn	Encuesta a consumidores
▪ Feria Municipal	393	9.819 x 4% = 393 tn	Encuesta a consumidores
▪ Feria de Productores	350	Sumatoria de volumen comercializado por las Ferias de Productores, determinado en base datos proveídos por feriantes e informantes calificados	
Total minoristas	**27.378**		

Table 45-D: Methodology to estimate onion consumption volume. Year 2002

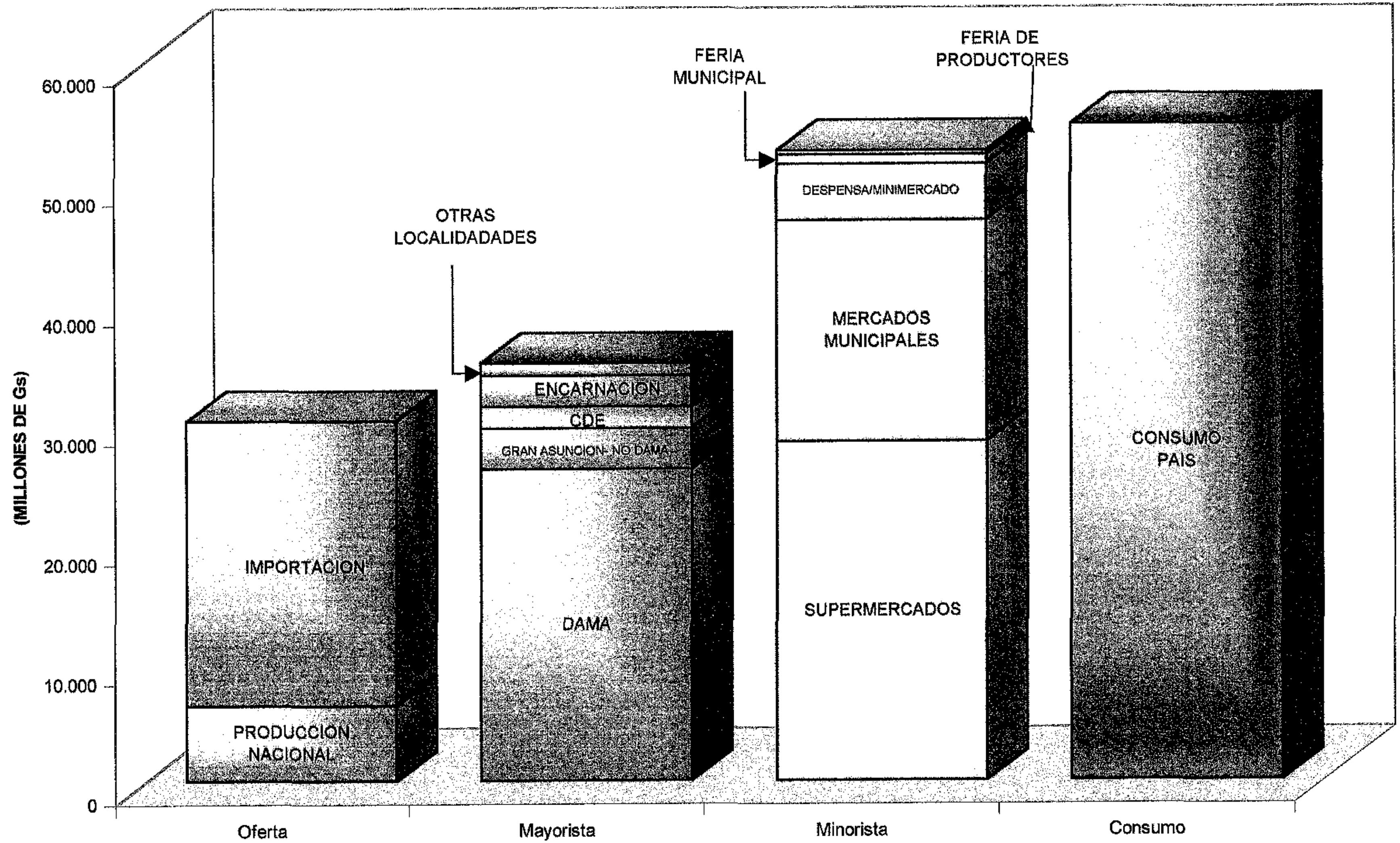
Consumidores	*Volumen (tn)*	*Metodología de estimación*	*Fuente*
Consumo país	30.688	1. Se determina el volumen total comercializado por los minoristas: 27.378 tn 2. Se estima un nivel de consumo resultante de la diferencia entre la oferta total y el volumen de la sumatoria de lo comercializado por minoristas, las exportaciones y las pérdidas en la comercialización: Consumo: 36.104 – (27.378 + 0 + 5.416) = 3.310 tn 3. Volumen total de Consumo país (1 + 2) = 30.688 tn	
Exportación	0	El Banco Central del Paraguay no registra exportación: 0 tn	BCP
Pérdida	5.416	Se estima una pérdida del 15% de la oferta total por manipuleo en el proceso de comercialización: (36.104 x.15%) = 5.416 tn	
Total	**36.104**		

Figures 13: Flow chart of onion commercialization in Paraguay (Volume in tons). Year 2002



Ref. Las letras y porcentajes dentro del gráfico tienen el mismo color de las columnas de valores de donde proviene cada segmento.

Figures 14: Flow chart of onion commercialization in Paraguay (in millions of Guaraníes). Year 2002



In Paraguay onion supply is composed by the available national production and for onion of foreign origin. The available national production reaches annually approximately an average of 9.692 tons, *Table E-3, Annex E.* The other sector that contributes to onion supply is produce of foreign origin that includes imports and not registered entrances, reaching a total volume of around 26.412 tons, *Table 46.*

Table 46. Estimate of onion supply by origin in Paraguay. Year 2002

Origin	*Volume (Toneladas)*	*Percentage (%)*
National Production Available	9.692	26,84
Imports	7.315	10,78
Not Registered entrances	19.097	28,14
Total	***36.104***	***100,00***

Source: Elaborated on data of DGA, CEASA (Brazil) DDV/MAG.

Data registered by the Dirección General de Aduanas indicate that in 2002 entered to the country approximately 7.315 tons of onion; 1.333 from the Brazil, 5.959 tons from Argentina and 23 tons from other countries, *Table E-4, Annex E.*

It is important to highlight that, according to the study estimates, approximately 72,3% of the marketed total volume of foreign onion corresponds to volumes of entrances not registered officially *Table E-5, Annex E.*

The distribution of onion differs according to its origin. On one hand, the national production is distributed by producers to wholesalers located in or outside DAMA, to wholesalers of the municipal markets of interior towns and to consumers in the municipal markets, or sell directly on farm, *Figure 13.* On the other hand, the onion of foreign origin that enters to the country is channeled mainly by wholesalers and in some cases by retailers (supermarkets) who acquire the product in origin, specifically from CEASA and other markets of Foz of Yguazú (Brazil), Supply Market of Posadas and of local commercial of Clorinda (Argentina).

Table 47 shows the volume of onion acquired by wholesalers according to their location area. It stands out the mass of onion offered through wholesalers located in DAMA.

Table 47. Volume of onion channeled by wholesalers, according to location area. Year 2002

Location area	*Volume (Toneladas)*	*Percentage (%)*
DAMA	18.590	78,25
GRAN ASUNCIÓN (EXCLUDED DAMA)	2.430	10,23
OTHER CITIES OF THE COUNTRY		
Ciudad del Este	900	
Encarnación	1.320	
Coronel Oviedo	518	
Sub total OTHER CITIES OF THE COUNTRY	2.738	11,52
Total	*23.758*	*100,00*

Source: Elaborated based on interviews to wholesalers located in DAMA, Great Asunción, Ciudad del Este, Encarnación and Coronel Oviedo.

The onion supply is channeled mainly (66%) by wholesalers who distribute the product to supermarkets and other retailers, Figure 13. Supermarkets are important because they capture 58,7% of all the volume marketed by wholesalers. The remaining volume is sold to other retailers located in DAMA, municipal fairs, despensas and mainly to municipal markets, *Table 48.*

Table 48. Volume of onion distribution from wholesalers to retailers. Year 2002

Retailers	*Volume (Tons)*	*Percentage (%)*
SUPERMRKETS	13.939	58,67
OTHER RETAILERS		
Municipal Markets	7.560	
Despensas/Minimercados	1.865	
Municipal Fairs	393	
Sub Total OTHER RETAILERS	9.818	41,33
Total	*23.757*	*100,00*

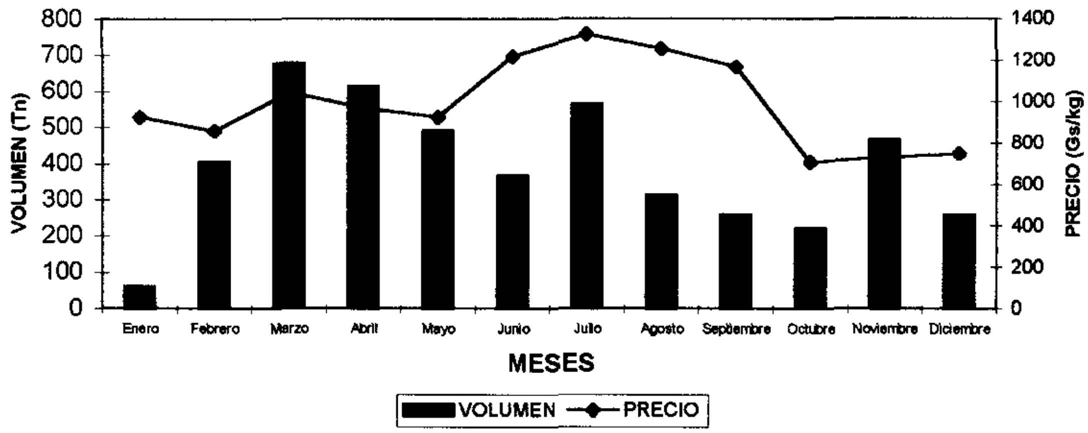
Source: Elaborated based on interviews to supplying wholesalers of supermarkets, feriantes other retailers.

2.5.2. Prices and seasonality

Local prices of onion are governed during most part of the year by prices paid for foreign onion by big and medium wholesalers of DAMA in the markets of Foz of Yguazú (Brazil), Clorinda and Posadas (Argentina).

In the months of October to December a decrease is observed in the prices of commercialization of onion coincident with the entrance of national production to the market. In these months it is also manifested a light decrease of the marketed total volume, according data obtained from DAMA, *Figure 15.*

Figure 15: Volume and monthly price of onion. 2002



The highest prices are observed during the months of June to September, in these months 32% of the total volume of the year is marketed. The lowest prices are manifested during the months of October to January, when 21% of the total annual volume is marketed. This period of low prices coincides with the period of entrance of the national production.

2.5.3. Value of the commercialization according to origin and channel

2.5.3.1. Value of the commercialization by origin

The total value of commercialization of national and foreign onion were estimated in 30.071 millions of Guaraníes, *Figure 14 and Table 49*. The biggest commercialization value comes from the foreign product that has a bigger volume that the national onion and also a higher price average, like is observed on *Table 49*.

Table 49. Estimate of onion commercialization value by origin. Year 2002

Origin	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*	*Percentage (%)*
National	9.692	650	6.300	20,95
Foreign	26.412	900	23.771	79,05
Total	***36.104***		***30.071***	***100,00***

Fuente: Estimado en base a datos de la DGA CEASA (Brasil) y DDV/MAG.

In the *Table 50* the sources of estimate of prices of onion are presented.

Table 50. Prices established for onion commercialization. March 2003

Origin	*Price (Gs/Kg)*	*Observations*
National	650	It corresponds to on farm price, according to producer interviews
Foreign	900	It corresponds to purchase price based on data provided by wholesalers importers .
WHOLESALERS		
DAMA	1.400	Estimate based on interviews with wholesalers of DAMA.
Gran Asunción	1.400	Estimate based on interviews with wholesalers located outside DAMA.
Ciudad del Este	2.000	Estimate based on interviews with wholesalers of Ciudad del Este Municipal Markets.
Encarnación	1.950	Estimate based on interviews with wholesalers of Encarnación Municipal Market.
Coronel Oviedo	2.000	Sale price provided by technicians and wholesalers of the area.
RATAILERS		
Supermarkets	1.820	Estimate based on sale prices average of Great Asunción and Encarnacion's main supermarkets.
Municipal Markets	2.000	Estimate on sale prices average of San Lorenzo and Encarnación. Municipal Markets
Despensas/Minimercados	2.500	Estimate based on sale prices average in Despensas and Minimercados of San Lorenzo and Encarnación.
Municipal Fairs	2.000	Estimate based on sale prices average in Asunción and Encarnación Municipal Fairs.
Farmers Fairs	1.000	Estimate based on sale prices average in Farmers Fairs of Ciudad del Este and Encarnación.

2.5.3.2. Value of commercialization according to wholesalers

DAMA continues being the main sale place of onion sales by wholesalers considering their location area, 74,71% of the marketed total value was carried out through wholesalers located in DAMA. It is of highlighting that the wholesalers located in other towns like Ciudad del Este, Gran Asunción and Coronel Oviedo market for a total value that doesn't exceed 16%, *Table 51.*

Table 51. Estimate of onion sales by wholesalers according to location area. Year 2002.

Zone	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*	*Percentage (%)*
DAMA	18.590	1.400	26.026	74,71
GRAN ASUNCIÓN	2.430	1.400	3.402	9,77
OTHER CITIES OF THE COUNTRY				
Ciudad del Este	900	2.000	1.800	5,17
Encarnación	1.320	1.950	2.574	7,39
Coronel Oviedo	518	2.000	1.036	2,97
Sub Total OTHER CITIES OF THE COUNTRY	2.738		5.410	15,53
Total	*23.758*		*34.838*	*100,00*

Source: It corresponds to price of March of 2003, based on interviews with wholesalers of the different study areas.

2.5.3.3. Value of the commercialization according to retailers

Retailers sales to consumers was estimated in a total value of 52.538 millions of Guaraníes, 53,90% corresponds to sales carried out in supermarkets, estimated in 28.319 millions of Guaraníes.

Estimates carried out by the study indicate that onion sales through other retailers are small, except the volume marketed in the municipal markets and groceries that reached 95,30% of the total marketed by this channel, *Table 52.*

Table 52. Estimate of onion sales by retailers. Year 2002

Retailers	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millions of Gs)*	*Percentage (%)*
SUPERMARKETS	15.560	1.820	28.319	53,90
OTHER RETAILERS				
Municipal Markets	9.210	2.000	18.420	35,06
Despensas/Minimerc.	1.865	2.500	4.663	8,87
Municipal Fairs	393	2.000	786	1,50
Fairs of Producers	350	1.000	350	0,67
Sub Total OTHER RETAILERS	11.818		24.219	46,10
Total	*27.378*		*52.538*	*100,00*

Fuente: Elaborado en base a entrevistas a mayoristas y minoristas.

2.5.3.4. Value of commercialization according to final consumption destination

The value of the purchases by consumers through all the commercialization channels reached around 54.690 millions of Guaraníes, mainly from sales to consumers (52.538 millions of Guarani) and the value corresponding to the sale of 3.310 tons valued with the price received by the producer (650 Gs/Kg), *Table 53.*

Table 53. Estimated onion commercialization value according to final consumption destination. Year 2002

Retailers	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*
Country Consumption (through retailers)	27.378	1.918,99*	52.538
Country Consumption (on farm)	3.310	650,00	2.152

* *Correspond to average prices weighted by retailers sales volume (see Table 52).*

2.5.4. Margins of commercialization of a representative channel

The commercialization margins, according to the origin of the offer, it indicates that the difference among the price paid by the consumer and the price average received by the producer in property is of 1.170 Gs/Kg, representing a total margin of commercialization of 64%, *Table 54.*

Table 54. Total margin of commercialization of onion. 2002

Concept	*Value (Gs/Kg)*	*Margin (Gs/Kg)(%)*
On farm price	650	
Wholesalers selling price	1.400	
Retailers selling price	1.820	1.170 (64%)

Source: Estimate based on data provided by wholesalers, retailers producers.

2.6. Potato

The potato (the tuberosum of Solanum) it is one of the vegetables of more consumption in the country. The consumption per-cápita in the metropolitan area it is of 172,2 daily grams, according to data provided by the DGEEC.

Potato's national production is very low, being the Department of Caaguazú that of production with approximately 570 annual tons, other departments that lives it produces potato Itapúa, Missions and it plows Caazapá, *Table E-1, Annex E.*

Potato's sow can be carried out in Paraguay during Julio to March, using a traditional cultivation system of tuber-seeds that has a production cycle of 100 to 110 days. The available national production reaches annually around 1.120 tons that added to foreign origin potato (37.500 tons), total 38.636 tons. Approximately 97% of potato's total supply in the country is of foreign origin, coming from Argentina (68%) and Brazil (32%).

2.6.1. Channels of commercialization

The main agents involved in the commercialization of the potato constitute the suppliers, wholesalers, retailers and consumers. The commercialization flow charts presented in the Figures 16 and 17 shows the national market of commercialization according to the main involved agents. The study estimates that in the commercialization process to global loss of 10% exists (3.864 tons) on the total offer.

Next the methodology used for the construction of the commercialization flow charts in volume and values is presented:

Table 55-A: Methodology to estimate potato commercialization volume– National supply. Year 2002

Oferta	*Volumen (Tn)*	*Metodología de estimación*	*Fuente*
Producción Nacional Disponible	1.127	1.Promedio de los últimos años (1996-2001), de la producción nacional (1.502 tn) 2. Se estima una pérdida por cosecha de 25%. (376 tn) 3. Producción Nacional Disponible (1-2)= 1.127 tn	DCEA
Importación Registrada	9.752	4. Datos sistematizados en base a registros de Aduanas (Sistema SOFIA) = 9.752 tn	DGA
Importación No Registrada	27.757	**(A) Estimación de volumen ingresado al país, de origen brasilero, no registrado:** 5. Volumen comercializado en CEASA-PR (Foz de Yguazú), año 2002 (13.023 tn), se estima un 80% que ingresa al país = 10.418 tn 6. Estimación de ingreso desde otros mercados de Foz de Iguazú. Se estima un 15% del volumen ingresado desde CEASA (10.418 x 15%) = 1.563 tn 7. Volumen Total estimado de ingreso desde Brasil (5 + 6) = 11.981 tn	Registros de CEASA (Central de Curitiba) estimación dada Directivos de CEASA (Foz de Yguazú) y entrevi a mayoristas de DAMA
		8. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen brasilero = 2.223 tn 9. Volumen de ingreso de origen brasilero No Registrado = (7 - 8) = 9.757 tn	DGA
		(B) Estimación de volumen ingresado al país, de origen argentino, no registrado: 10. Se consideran las proporciones de ingreso de papa de origen extranjero en DAMA: Brasil (31,9%) y Argentina (68,058%) como iguales a las proporciones de ingreso al Paraguay desde Argentina y Brasil. 11. Estimación del volumen total ingresado al Paraguay, en base al cálculo de lo ingresado desde el Brasil (11.981x 100/31,942) = 37.509 tn 12. Ingreso registrado del producto al país (Base de datos de Sistema SOFÍA), de origen argentino (7.529 tn). 13. Volumen total estimado de ingreso desde Argentina (11- 7) = 25.529Tn 14. Volumen no registrado desde la Argentina (13-12) = 18.000 tn **(C) Volumen Total de Ingreso No Registrado (9 + 14) = 27.757 tn**	
Total oferta	**38.636**		

Table 55-B: Methodology to estimate volume of potato marketed by wholesalers. Year 2002

Mayoristas	*Volumen (Tn)*	*Metodología de estimación*	**Fuente**
DAMA	13.500	1. Los 26 mayoristas identificados fueron clasificados en grupos, según el volumen promedio anual que comercializan. Grupo / Numero / Prom/año / Total I / (2) / 2.190 / 4.380 II / (8) / 675 / 5.400 III / (16) / 232,5 / 3.720 2. Volumen Total comercializado en DAMA (GI +GII + GIII) = 13.500 tn	Entrevistas a Mayoristas de DAMA Observación directa en DAMA
Fuera de DAMA (Gran Asunción)	3.198	3. Promedio de venta anual x 3 mayoristas individualizados 1.002 x 3 = 3.006 tn 4. Mayoristas de San Lorenzo = 192 tn 5. Total fuera DAMA (3 + 4) = 3.198 tn	Entrevistas a mayoristas ubicados Fuera de DAMA Mayoristas de San Lorenzo
Ciudad del Este	900	6. Promedio de venta anual x 3 mayoristas: 300 x 3 = 900 tn	Entrevistas a mayoristas de Ciudad del Este
Encarnación	1.344	7. Promedio de venta anual x 10 mayoristas: 134,4 x 10 = 1.344 tn	Entrevistas a mayoristas de Encarnación
Coronel Oviedo	495	8. Promedio de venta anual x 3 mayoristas: 165 x 3 = 495 tn	Entrevistas a mayoristas de Coronel Oviedo
Total mayoristas	**19.437**		

Table 55-C: Methodology to estimate volume of potato marketed by retailers. Year 2002

<table>
<tr><th>Minoristas</th><th>Volumen (Tn)</th><th>Metodología de estimación</th><th>Fuente</th></tr>
<tr><td>Supermercado
(A) Directo de oferta</td><td>1.875</td><td>(A) 1. Se estimó un 5% sobre el volumen total de ingreso extranjero (37.509 x 5%) =1.875 tn
2. Se estima un volumen de compra directa de productores: 0 tn
3. Total de compra directa (1+2) = 1.875 tn</td><td>Entrevistas a Gerentes de Supermercados</td></tr>
<tr><td>(B) A través de mayoristas</td><td>10.798</td><td>(B) 1. Mayoristas DAMA: Se estimó un porcentaje promedio de venta a supermercados por mayoristas para los grupos II y III, en base al volumen total comercializado en DAMA. Para el Grupo I se determinó según lo manifestado por cada mayorista:
<table>
<tr><th></th><th>Volumen venta a Super</th><th>Porcentaje Promedio (%)</th><th>Total (tn)</th></tr>
<tr><td>GI Mayorista 1</td><td>1500</td><td>80</td><td>1.200</td></tr>
<tr><td>Mayorista 2</td><td>2.880</td><td>30</td><td>864</td></tr>
<tr><td>GII</td><td>5.400</td><td>70</td><td>3.780</td></tr>
<tr><td>GIII</td><td>3.720</td><td>30</td><td>1.116</td></tr>
<tr><td>Total</td><td>13.500</td><td></td><td>6.960</td></tr>
</table>
2. Mayoristas No-DAMA: Se estimó en base al porcentaje promedio de venta supermercados por los 3 mayoristas del Gran Asunción ubicados fuera de DAMA (no incluye el volumen comercializado por mayoristas de San Lorenzo) : 3006 x 92,95% = 2.764 Tn

3. Estimación del porcentaje promedio de venta a supermercados por mayoristas de Otras Localidades:.
Ciudad del Este = 0 tn
Encarnación: 1.344 x 69% = 926 tn
Cnel.Oviedo 495 x 30% = 148 tn</td><td>Entrevistas con Mayoristas

Entrevista a Gerentes de supermercados

Entrevista a técnico del MAG</td></tr>
</table>

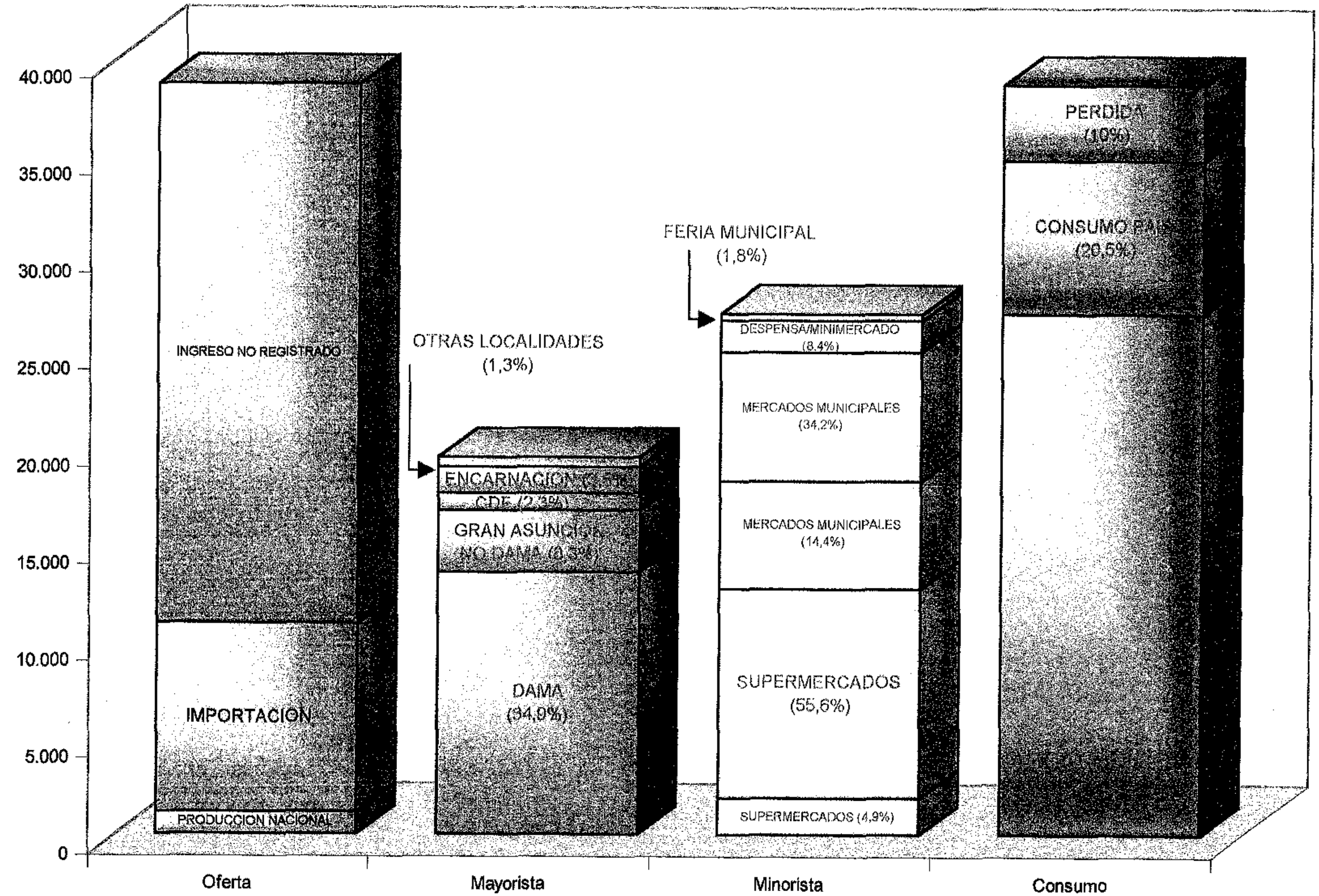
Table 55-C: (Continuation)

Otros minoristas		Del volumen total comercializado por mayoristas se resta las ventas a supermercados: 19.437 – 10.798 = 8.639 tn Este volumen se distribuye proporcionalmente en base a preferencia por lugar de compra según la encuesta a consumidores: Mercado Municipal (77 %); Despensa/Minimercado (19%) y Feria Municipal (4%).	Entrevistas a vendedores de Mercados Municipales Encuesta a consumidores
▪ Mercado Municipal (C) A través de mayoristas	6.652	(C) 8.639 x 77% = 6.652 tn	
(D) Directo de oferta	5.550	(D) Volumen estimado según entrevistas a vendedores de los Mercados Municipales.	
▪ Despensa / Minimercado	1.641	8.639 x 19% = 1.641 tn	Encuesta a consumidores
▪ Feria Municipal	346	8.639 x 4% = 346	Encuesta a consumidores
▪ Feria de Productores	0	Sumatoria de volumen comercializado por las Ferias de Productores, determinado en base datos proveídos por feriantes e informantes calificados	
Total minoristas	**26.862**		

Table 55-D: Methodology to estimate potato consumption volume. Year 2002

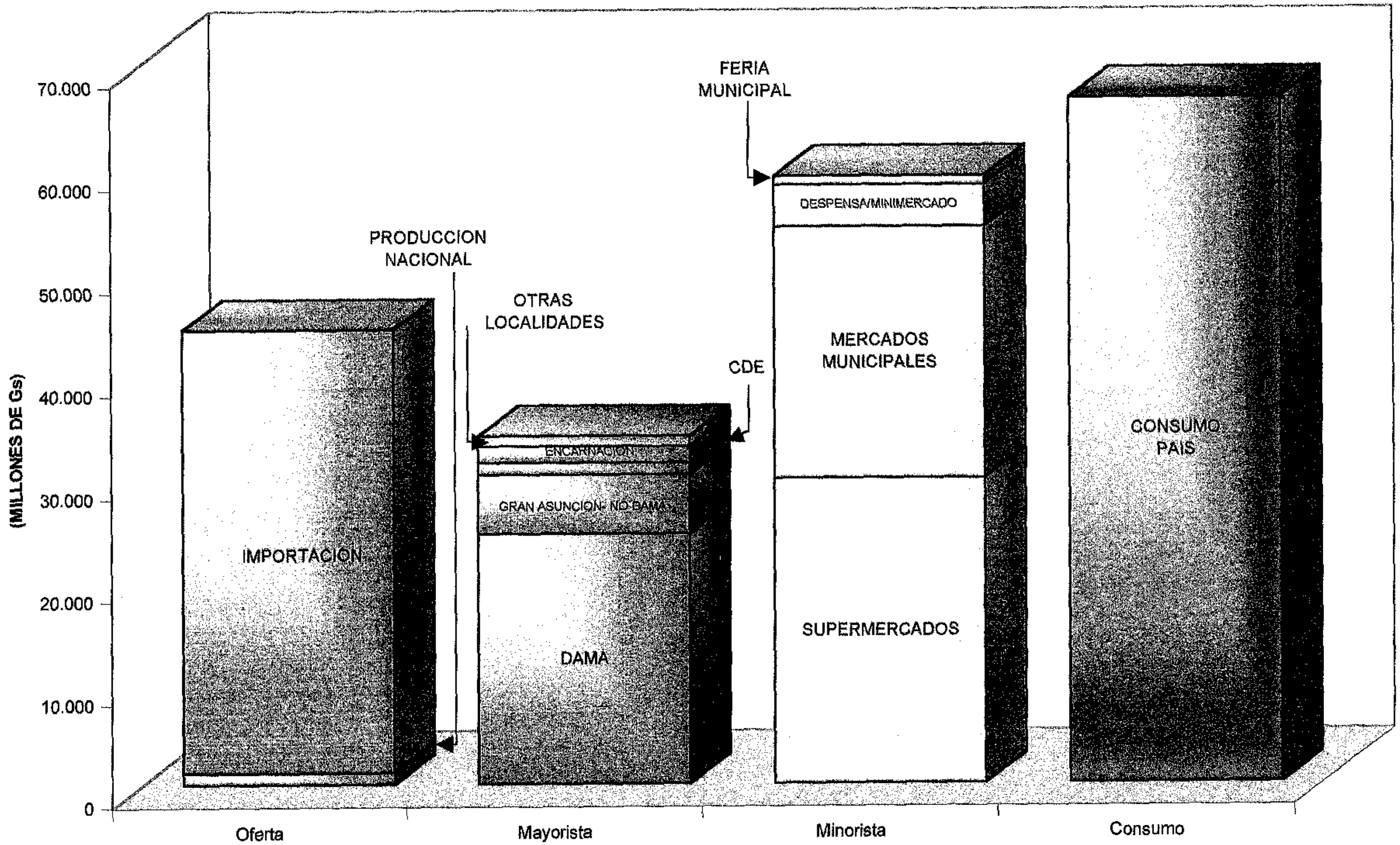
Consumidores	*Volumen (Tn)*	*Metodología de estimación*	*Fuente*
Consumo país	34.772	1. Se determina el volumen total comercializado por los minoristas: 26.862 tn 2. Se estima un nivel de consumo resultante de la diferencia entre la oferta total y el volumen de la sumatoria de lo comercializado por minoristas, las exportaciones y las pérdidas en la comercialización: Consumo: 38.636 – (26.862 + 0 + 3.864) = 7.910 tn 3. Volumen total de Consumo país (1 + 2) = 34.772 tn	
Exportación	0	El Banco Central del Paraguay no registra exportación: 0 tn	;BCP
Pérdida	3.864	Se estima una pérdida del 10% de la oferta total por manipuleo en el proceso de comercialización: (38.636 x 10%) = 3.864 tn	
Total	**38.636**		

Figures 16: Flow chart of potato commercialization in Paraguay (Volume in tons). Year 2002



Ref. Las letras y porcentajes dentro del gráfico tienen el mismo color de las columnas de valores de donde proviene cada segmento.

Figures 17: Flow chart of potato commercialization in Paraguay (in millions of Guaraníes). Year 2002



Potato's total offer in Paraguay is represented by the available national production (3%) and for that of foreign origin (97%), reaching an annual total of 38.636 tons, *Table-3,Annex E.*

The product of foreign origin, constituted by the imports and the not registered incomes has to very high participation on the total supply of potato in Paraguay, *Table 56.*

Table 56. Estimate of potato supply by origin in Paraguay. Year 2002

Origin	*Volume (Toneladas)*	*Percentage (%)*
National Production Available	1.127	2,92
Imports	9.752	25,24
Not registered entrances	27.757	71,8
Total	***38.636***	***100,00***

Source: Elaborated on data of DGA, CEASA (Brazil) DDV/MAG.

Data registered by the Direccion General de Aduanas indicate that in the year 2002 entered to the country approximately 9.752 tons of potato, 2.223 tons entered from Brazil and 7.529 from Argentina, *Table E-4, Annex E.*

It is important to highlight that of foreign potato's marketed total volume, it was estimated that 74% corresponds to entrance volumes not registered officially, *Table-5, Annex E.*

The potato that enters to the country is channeled in its biggest part by wholesalers and part by retailers (supermarkets) that acquire the product in origin, specifically from CEASA and other markets of Foz of Yguazú (Brazil); Market of Posadas and Clorinda (Argentina).

Table 57 shows wholesalers acquisition of potato according to area of location. It stands out the biggest supply of product by wholesalers located in DAMA.

Table 57. Volume of potato channeled by wholesalers, according to location area. Year 2002

Zona de ubicación	*Volumen (Toneladas)*	*Porcentaje (%)*
DAMA	13.500	69,46
GRAN ASUNCIÓN (EXCLUDED DAMA)	3.198	16,45
OTHER CITIES OF THE COUNTRY		
Ciudad del Este	900	
Encarnación	1.344	
Coronel Oviedo	495	
Sub total OTHER CITIES OF THE COUNTRY	2.739	14,09
Total	***19.437***	***100,00***

Source: Elaborated based on interviews to wholesalers located in DAMA, Great Asunción, Ciudad del Este, Encarnación Colonel Oviedo.

Potato's total supply is channeled mainly (50%) through wholesalers who distribute the product to supermarkets and other retailers, *Figure 16.* Supermarkets are important because market 55,6% of the total volume traded by the wholesalers. The volume remaining 44,5%

wholesalers sold to other retailers like those located in DAMA, markets and municipal fairs and despensas, *Table 58.*

Table 58. Volume of potato distribution from wholesalers to retailers. Year 2002

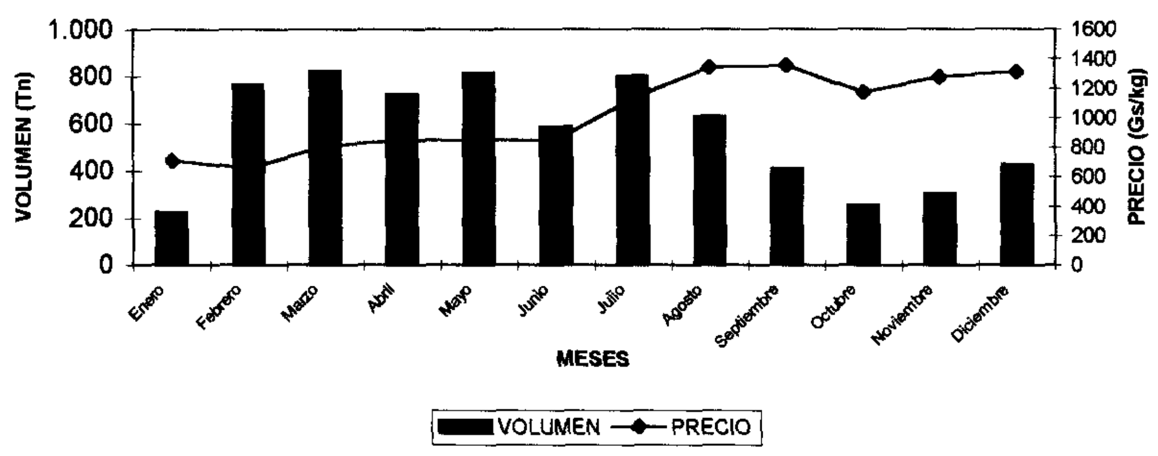
Retailers	*Volume (Tons)*	*Percentage (%)*
SUPERMARKETS	10.798	55,55
OTHER RETAILERS		
Municipal Markets	6.652	
Despensas/Minimercados	1.641	
Municipales Fairs	346	
Sub Total OTHER RETAILERS	8.639	44,45
Total	*19.437*	*100,00*

Source: Elaborated based on interviews to supplying wholesalers of supermarkets, feriantes other retailers.

2.6.2. Prices and seasonality

One of the main characteristics of potato commercialization is that big price variations due to seasons are not observed. Prices increase constantly during the year being relatively stable during the months of February to June, although in this period big volumes of the tuber are marketed, *Figure 18.*

Figure 18: Volume and monthly price of potato. 2002



The values used in the precedent graph correspond to DAMA, standing out that in the year 2002, 55% of the volume marketed through DAMA was carried out in the mentioned period. On the other hand, the prices that govern in most of the year are determined directly by prices paid by the big and medium wholesalers of DAMA who acquire foreign potato's in the markets of Foz of Yguazú (Brazil), Clorinda and Posadas (Argentina), mainly.

2.6.3. Value of commercialization according to origin and channel

2.6.3.1. Value of commercialization by origin

The valued of commercialization of the potato of national production and foreign potato was estimated in 44.206 millions of Guaraníes, *Figure 18 and Table 59*. The highest value in the commercialization comes from the foreign product that has a price average higher then the national product.

Table 59. Estimate of potato commercialization value by origin. Year 2002

Origin	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millions of Gs)*	*Percentage (%)*
National	1.127	950	1.071	2,42
Foreign	37.509	1.150	43.135	97,58
Total	***38.636***		***44.206***	***100,00***

Source: Estimate based on data of Dirección General de Aduanas, CEASA (Brazil) and of the DDV/MAG.

Table 60 presents the sources of estimation of potato prices.

Table 60: Prices established for potato commercialization. March 2003

Origin	*Price (Gs/Kg)*	*Observations*
National	950	It corresponds to on farm price, according to producer interviews
Foreign	1.150	It corresponds to purchase price based on data provided by wholesalers importers .
WHOLESALERS		
DAMA	1.800	Estimate based on interviews with wholesalers of DAMA.
Gran Asunción	1.800	Estimate based on interviews with wholesalers located outside DAMA.
Ciudad del Este	1.300	Estimate based on interviews with wholesalers of Ciudad del Este Municipal Markets.
Encarnación	1.200	Estimate based on interviews with wholesalers of Encarnación Municipal Market.
Coronel Oviedo	2.000	Sale price provided by technicians and wholesalers of the area.
RETAILERS		
Supermarkets	2.340	Estimate based on sale prices average of Great Asunción and Encarnacion's main supermarkets.
Municipale Markets	2.000	Estimate on sale prices average of San Lorenzo and Encarnación. Municipal Markets
Despensas/Minimercados	2.500	Estimate based on sale prices average in Despensas and Minimercados of San Lorenzo and Encarnación.
Municipal Fairs	2.400	Estimate based on prices average in Asuncion and Encarnacion Municipal Fairs

2.6.3.2. Value of commercialization according to wholesalers

Regarding wholesalers sale by location area, DAMA continues being the main place where they potato's sales are carried out. 71,83% of the total value marketed is carried out through wholesalers located in DAMA. It is of highlighting that the wholesalers markets located in other towns like Ciudad del Este, Gran Asunción and Coronel Oviedo market for a total value that doesn't exceed 12%, *Table 61.*

Table 61. Estimate of potato sales by wholesalers sales according to location area. Year 2002.

Zone	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Milions of Gs)*	*Percentage (%)*
DAMA	13.500	1.800	24.300	71,83
GRAN ASUNCION	3.198	1.800	5.756	17,02
OTHER CITIES OF THE COUNTRY				
Ciudad del Este	900	1.300	1.170	3,46
Encarnación	1.344	1.200	1.613	4,77
Coronel Oviedo	495	2.000	990	2,93
Sub Total OTHER CITIES OF THE COUNTRY	2.739		3.773	11,15
Total	***19.437***		***33.829***	***100,00***

Source: It corresponds to price of March of 2003, based on interviews with wholesalers of the different study areas.

2.6.3.3 Value of commercialization according to retailers

In relation to sales carried out by retailers to consumers they reached approximately a total of 58.992 millions of Guaraníes, 50,27% comes from potato's sales carried out in supermarkets, valued in 29.655 millions of Guaraníes. Also, potato sales estimates at municipal markets reached in the year 2002 a total value of 24.404 millions Guaraníes, representing 83% of the value marketed by other retailers, *Table 62.*

Table 62. Estimate of potato sales by retailers. Year 2002

Retailers	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*	*Percentage (%)*
SUPERMARKETS	12.673	2.340	29.655	50,27
OTHER RETAILERS				
Municipal Markets	12.202	2.000	24.404	41,37
Despensas/Minimerc.	1.641	2.500	4.103	6,95
Municipales Fairs	346	2.400	830	1,41
Fairs of Producers	0			0,00
Sub Total OTHER RETAILERS	14.189		29.337	49,73
Total	***26.862***		***58.992***	***100,00***

Source: Correspond to price of March of 2003, based on prices collected in the purchase places.

2.6.3.4. Value of commercialization according to final consumption destination

The estimates of potato purchases by consumers through all the commercialization channels reached 66.507 millions of Guaraníes, coming from sales to consumers (58.992 millions of Guaraníes), and the value corresponding to 7.910 tons valorized at price received by producers on farm (950 Gs/Kg), *Table 63.*

Table 63. Estimated potato commercialization value according to final consumption destination. Year 2002

Retailers	*Volume (Tons)*	*Price (Gs/Kg)*	*Value (Millones de Gs)*
Country Consumption (through retailers)	26.862	2.196,11*	58.992
Country Consumption (on farm)	7.910	950,00	7.515

** Correspond to average prices weighted by retailers sales volume (see Table 52).*

2.6.4. Margins of commercialization of a representative channel

The commercialization margins according to the origin of the offer indicates that the difference among the price paid by the consumer and the price average received by the producer on farm is 983 Gs/Kg, representing a total margin of commercialization of 50,9%, *Table 64.*

Table 64. Total margin of commercialization of potato. 2002

Price	*Value (Gs/Kg)*	*Margin (Gs/Kg)(%)*
On farm price	950	
Wholesalers selling price	1.800	
Retailers selling price	2.340	1.390 (59%)

Fuente: Estimate based on data provided by wholesalers, retailers producers.