

**South America Vision**

**International Strawberry Congress**



**Thanks for collaboration:**

**Nestor Molina**

*Agricultural Experiment Station INTA Bella Vista, Corrientes. Argentina*

**Daniel Kirshbaum**

*Agricultural Experiment Station INTA Famailla, Tucuman. Argentina*

**Nestor Tello de Meneses**

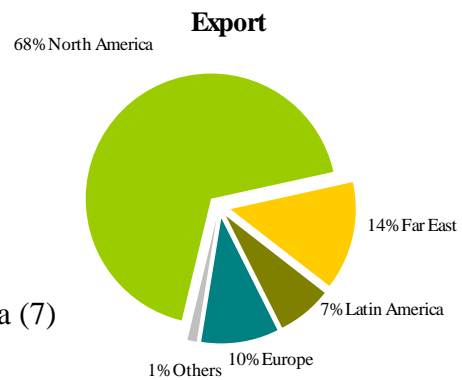
*Central Market of Buenos Aires. Argentina*

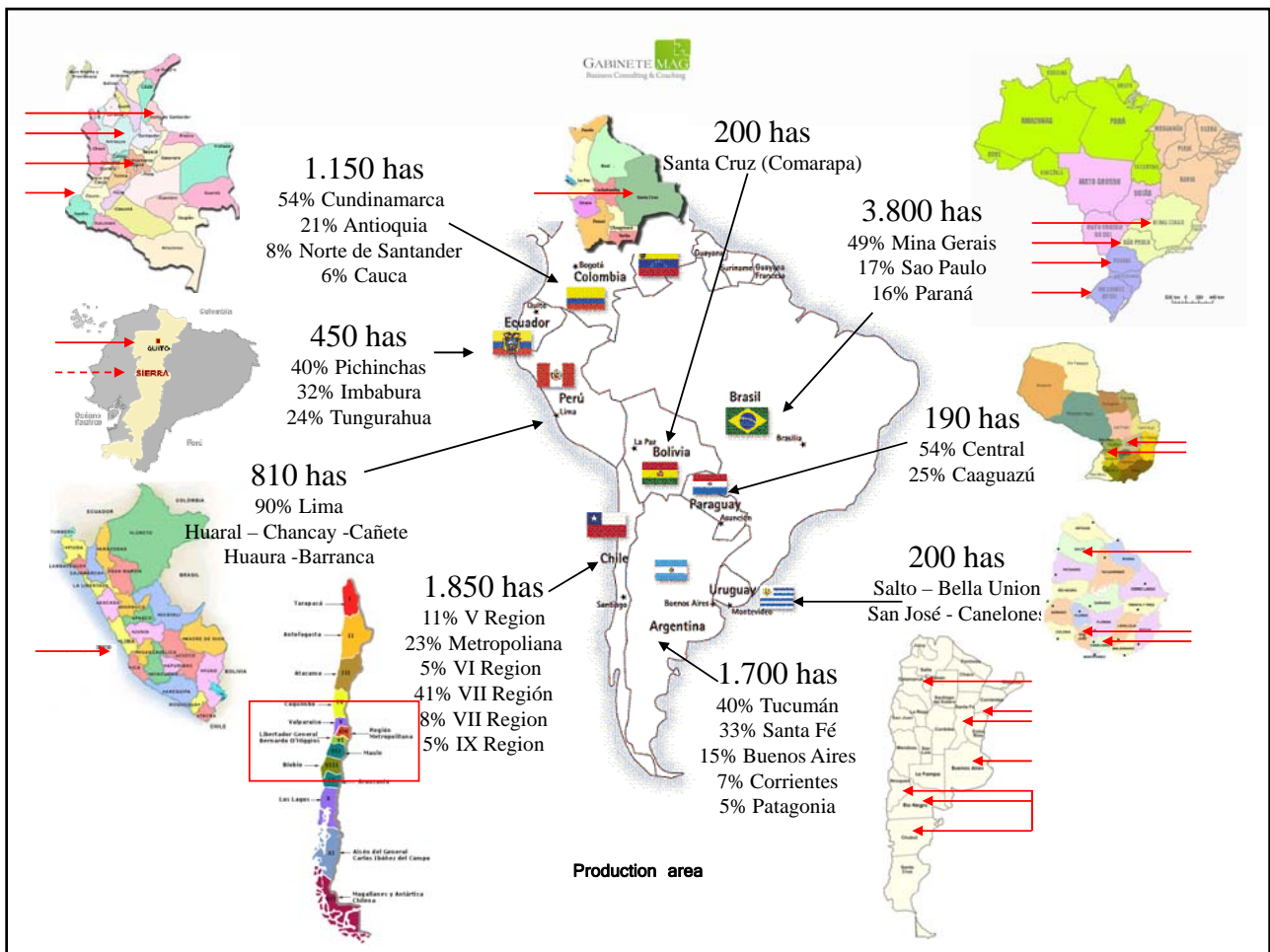
**Karen Jones**

*iQonsulting, Santiago. Chile*

### Summary 2009

- 10.550 hectare production
- 302.500 metric tons of crop
- 15% export (+frozen)
  - U.S.A.
  - Canadá - China - Brasil
  - Japan - France - Belgium - Germany
- Top ten world exporters: Chile (5) - Argentina (7)
- 68% fresh consumption
  - 0.53 kg/per capita
  - 3389 million total population
- 17% processing industry consumption local





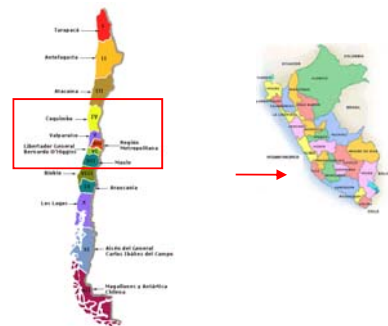
Production Cost



Production Cost	35 ton/ha
Peru	u\$s 9.450 / u.\$s 0.27
Chile	u\$s 10.850/ u\$s 0.31
Argentina	u\$s 11.982/ u\$s 0.34
Brasil	u\$s 13.600/ u\$s 0.39

Argentina	30 ton/ha	35 ton/ha	40 ton/ha
Production	u\$s 10.760	u\$s 11.982	u\$s 12.708
Packing	u\$s 6.287	u\$s 7.334	u\$s 8.382
Total cost EXW	u\$s 17.047	u\$s 19.316	u\$s 21.090
Total cost EXW/kg	u\$s 0,57	\$ 0,55	\$ 0,53

**Cost FOB u\$s 1,2/1,0**



### Brazil: consumer preference varieties (2009)

**Critical sensory attributes:** *sweetness*  
*color*  
*acidity*

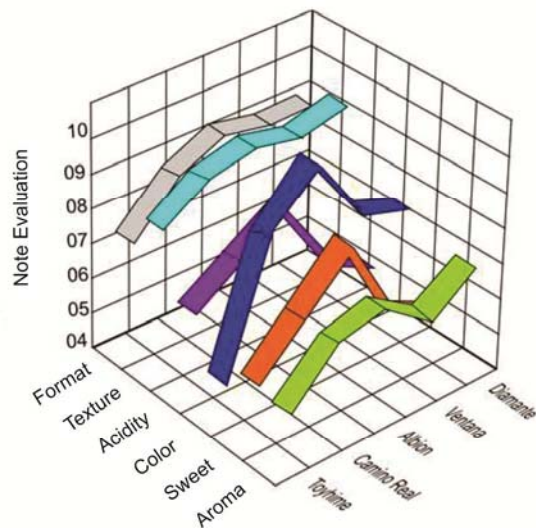
All varieties received high average scores for texture and shape, indicating a good grade for these attributes.

The most important variety is Albion



Laboratory testing of soluble solids ( Brix), acidity and ratio (ratio of soluble solids and acidity) confirmed the results of sensory analysis:

- The lower grades and lower values (Brix and Ratio) for the range of Diamante
- Top rated highest proportion of the variety Albion and Camino Real
- Differentiation for the sweetness and acidity of Albion varieties and Camino Real, Ventana, with lower levels
- Correlation between the degree of staining and soluble solids ( Brix)



<http://www.todafruta.com.br/portal/icNoticiaAberta.asp?idNoticia=18675>

Colombia: quality protocol variety Chandler (1997)



Chandler



Albion



## Argentina: characterization of varieties (2001)



	Individual average weight	Exterior paint	Color Juice	Firmness
Aromas	12.6 ± 2.7	2.85 ± 0.4	2.26 ± 0.2	559.2 ± 134.7
Camarosa	12.2 ± 1.8	2.64 ± 0.3	2.37 ± 0.1	535.2 ± 151.9
Diamante	15.6 ± 3.6	2.50 ± 0.3	2.21 ± 0.1	570.9 ± 153.2
Gaviota	12.8 ± 2.0	2.69 ± 0.2	2.26 ± 0.2	484.5 ± 144.5
Lsd (α = 0.05)	1.7	0.15	0.08	44.2

	Vitamin C	SS (°Brix)	Acidity	Relation SS / Acidity
Aroma	57.1 ± 14.9	5.89 ± 0.66	0.98 ± 0.12	6.01 ± 0.94
Camarosa	52.6 ± 19.2	6.90 ± 0.37	1.05 ± 0.12	6.57 ± 0.85
Diamante	57.9 ± 9.1	6.60 ± 0.55	1.03 ± 0.10	6.41 ± 0.90
Gaviota	61.0 ± 14.2	6.69 ± 0.90	0.85 ± 0.16	7.87 ± 1.55
Lsd (α = 0.05)	8.3	0.49	0.09	0.86

**Diamante:** is characterized by a greater weight of fruit but little development of internal and external red.

**Gaviota:** occurred during this month of good fruit but little firm external color and low acidity.

**Aromas:** presented an excellent skin color and firm but low level of sugars.

**Camarosa:** but smaller than a diamond, was the fruit of higher quality based on the characteristics evaluated in this trial.

## Uruguay: characterization of varieties (2006)

## Characterization would work "Las Brujas"

	Average weight	total soluble solids	Skin color			pH	Firmness
	(grs.)	(°Brix)	(a*)	(b*)	(a*/b*)		(gF)
<b>Araza</b>	18,3	4,86 F	47,6 BC	34,5 A	1,38	3,59 C	306 A
<b>Aromas</b>	33,9	5,24 E	66,8 A	9,2 D	7,26	3,54 D	294 A
<b>Camarosa</b>	28,1	6,74 B	33,9 D	27,3 B	1,24	3,54 D	312 A
<b>Ivahe</b>	31,6	7,32 A	52,4 C	28,5 AB	1,84	3,67 A	314 A
<b>Ivapita</b>	27,8	5,86 D	49,0 C	30,7 AB	1,60	3,62 B	314 A
<b>Seascape</b>	26,0	6,36 C	51,1 C	29,2 AB	1,75	3,38 E	298 A
<b>Ventana</b>	29,2	5,18 E	60,2 B	20,0 C	3,01	3,62 B	296 A
<b>Coef. Variation</b>		4,0	8,6	17,0		0,2	10,4

## Evaluation of farmers



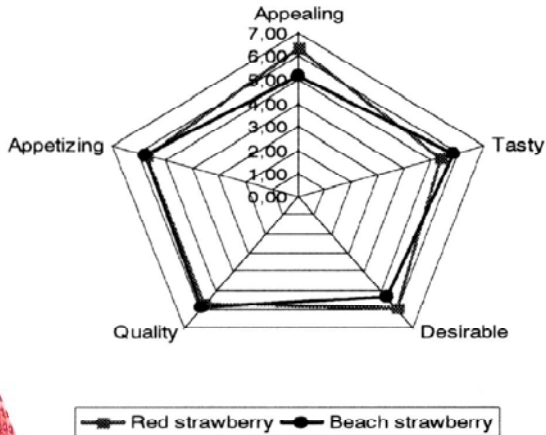
Variety	color	texture	taste	General appreciation
SEASCAPE	6,6 BC	6,9 AB	6,6 ABC	6,8 AB
AROMAS	6,6 BC	6,4 AB	5,8 D	6,1 B
CAMAROSA	7,5 A	7,2 A	7,0 AB	7,2 A
IVAHE	6,7 ABC	7,0 AB	7,3 A	7,1 A
VENTANA	6,9 AB	6,5 AB	5,8 D	6,1 B
ARAZA	7,0 AB	7,1 A	6,3 BCD	6,5 AB
IVAPITA	6,0 C	6,3 B	6,2 CD	6,1 B
<b>Coef. Variation</b>	24,1	21,8	25,4	23,4

[http://www.suc.org.uy/correosuc/correosuc4\\_archivos/frutillas.pdf](http://www.suc.org.uy/correosuc/correosuc4_archivos/frutillas.pdf)

[www.inia.org.uy/publicaciones/documentos/ad/ad\\_443.pdf](http://www.inia.org.uy/publicaciones/documentos/ad/ad_443.pdf)



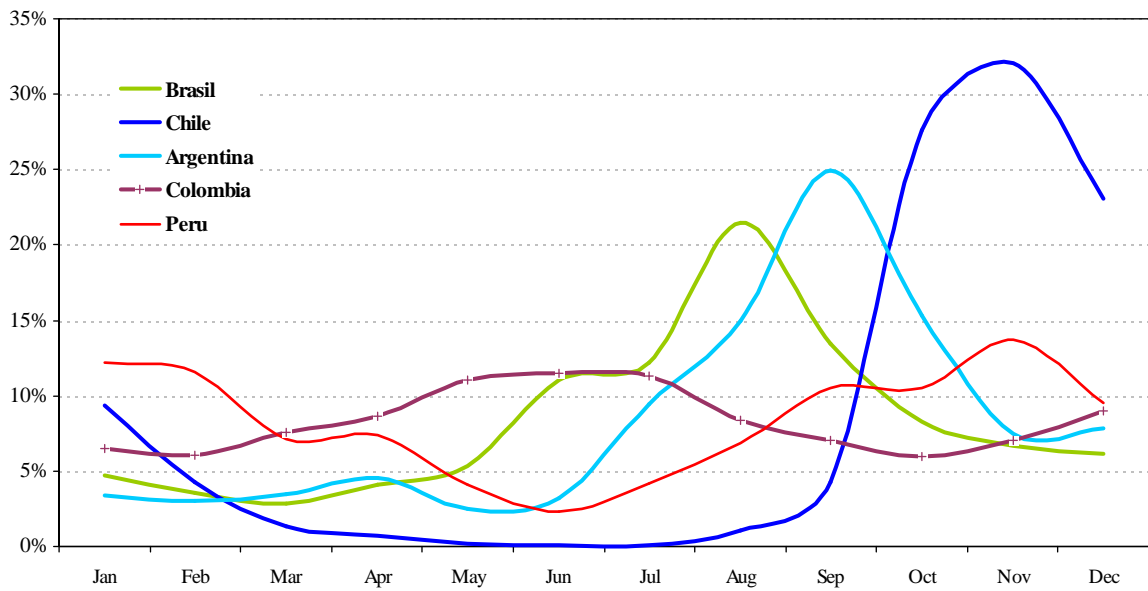
Chile: benchmarking red and white strawberry (2006)



<http://www.aeachile.cl/docs/r10/Adasme%20et%20al.pdf>

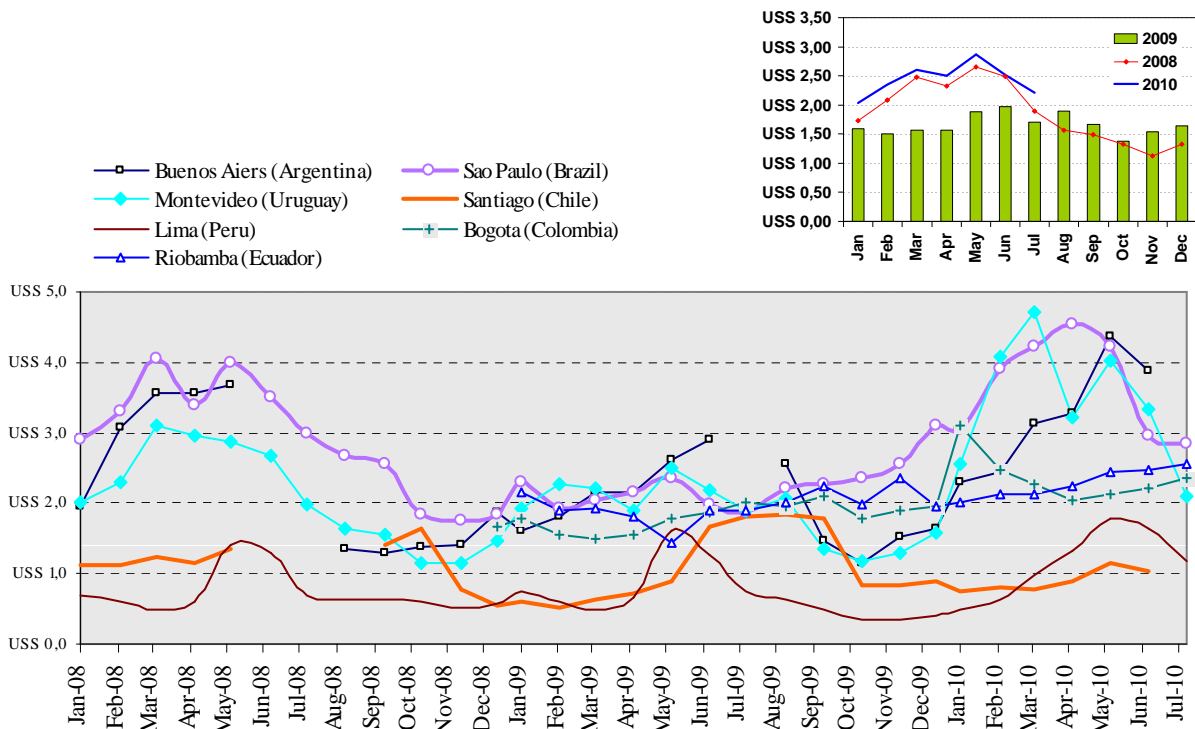


Monthly distribution of production (2008-2009)





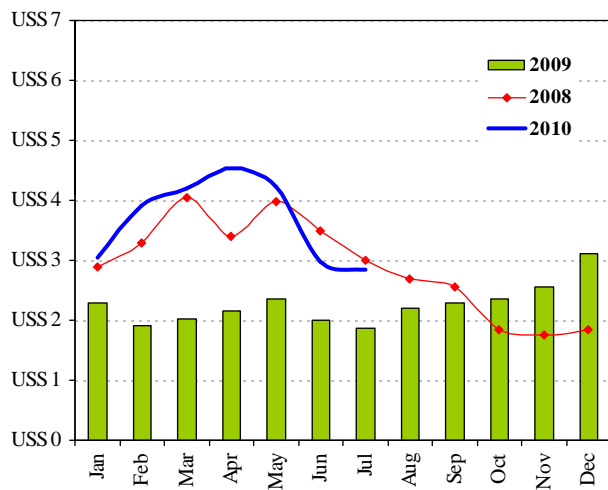
Evolution of the wholesale price per kilo (dollar)



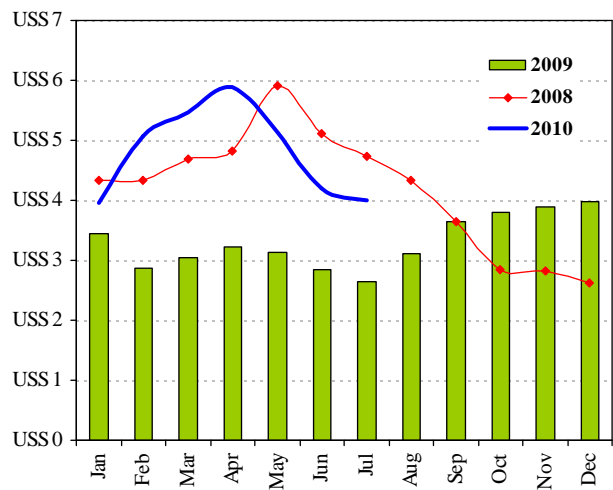


Benchmarking Brazil: wholesale and retail price (Dollar/kg)

Wholesale Price

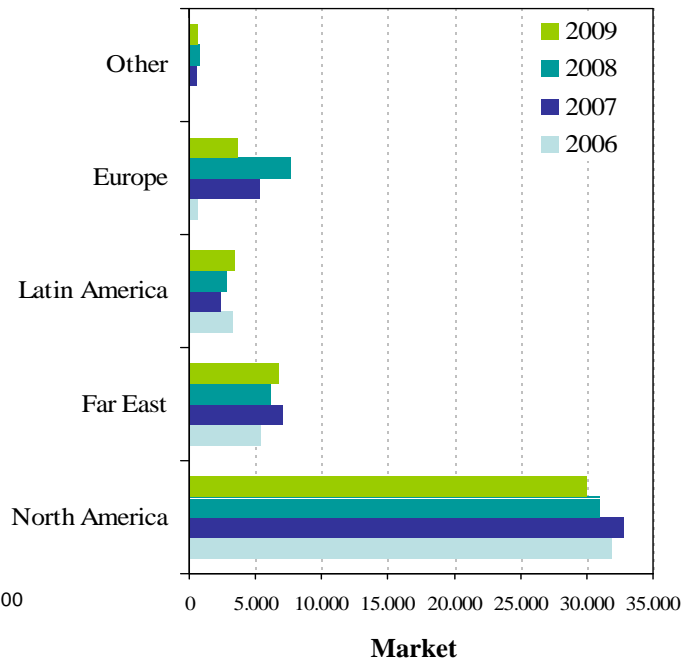
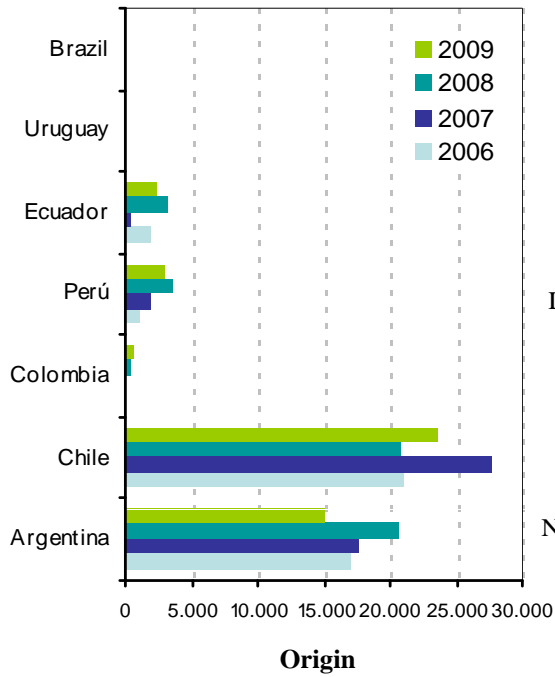


Retail Price



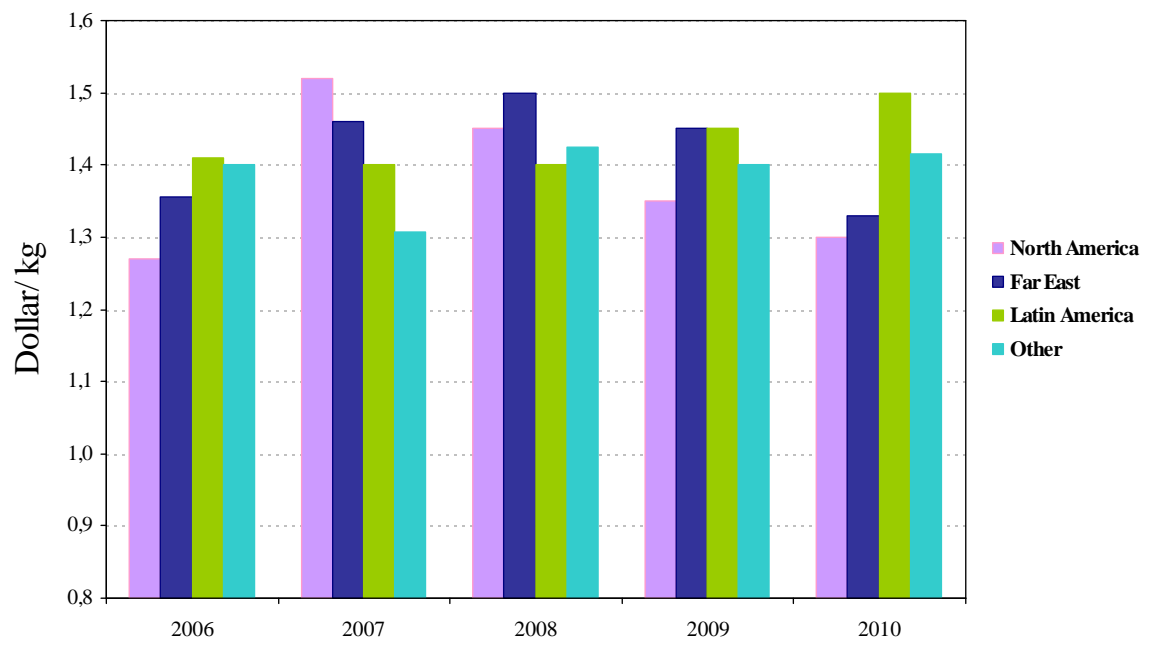


Export: origin and market (Metric Tons)



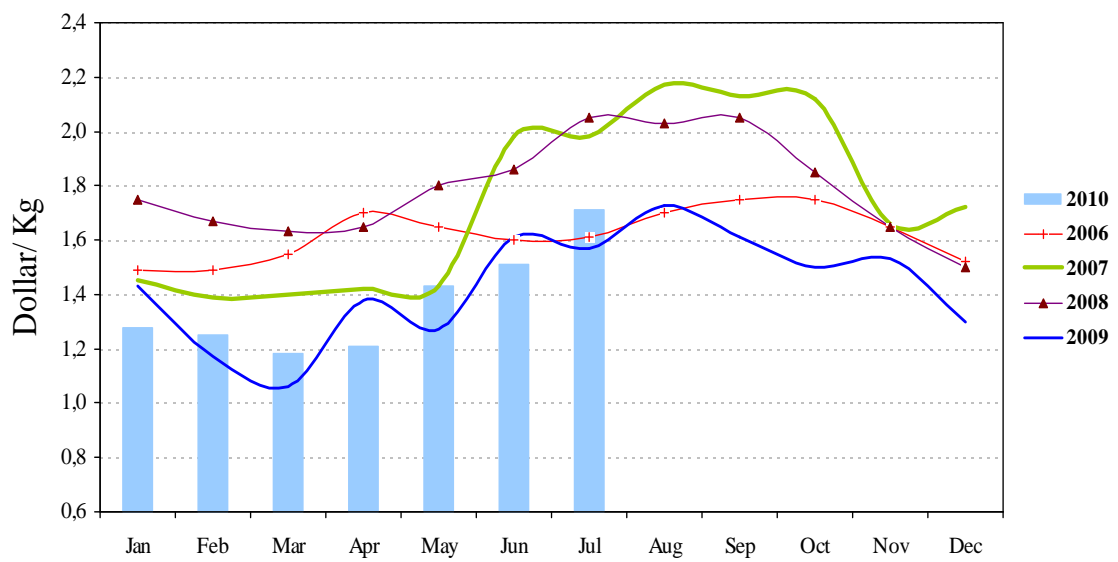


Price FOB export market (Argentina and Chile)





FOB price US (monthly)





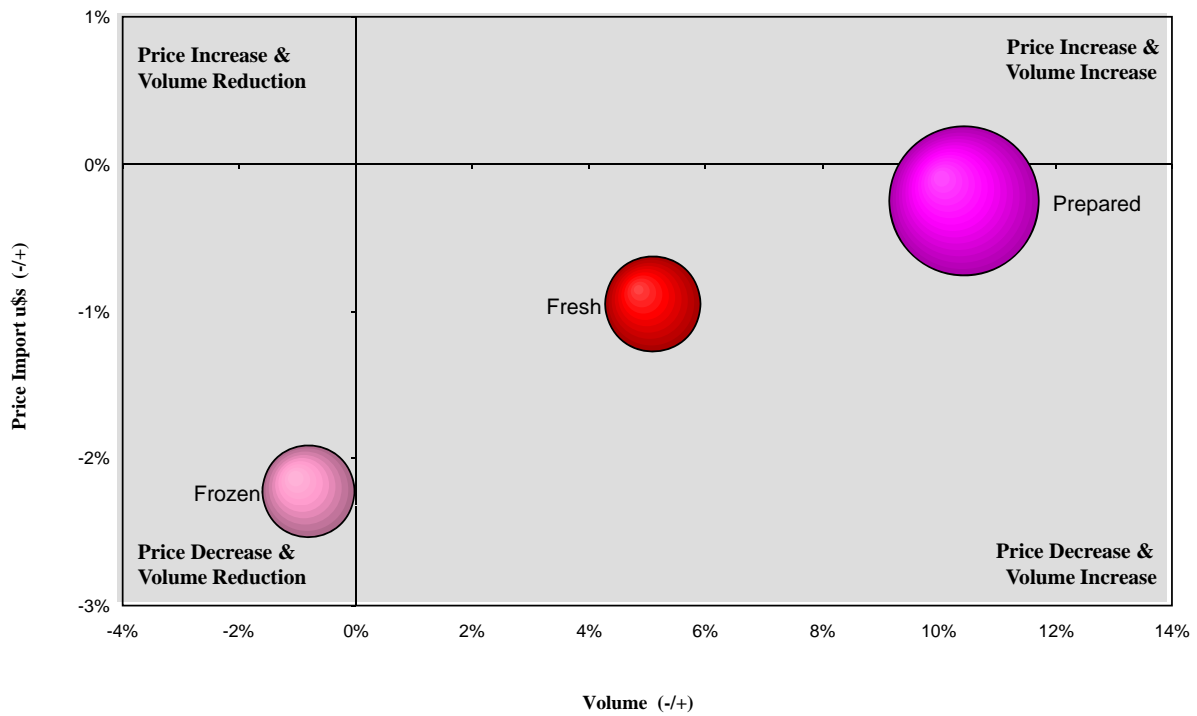
**United State (U.S.)**

**Market share: South America**



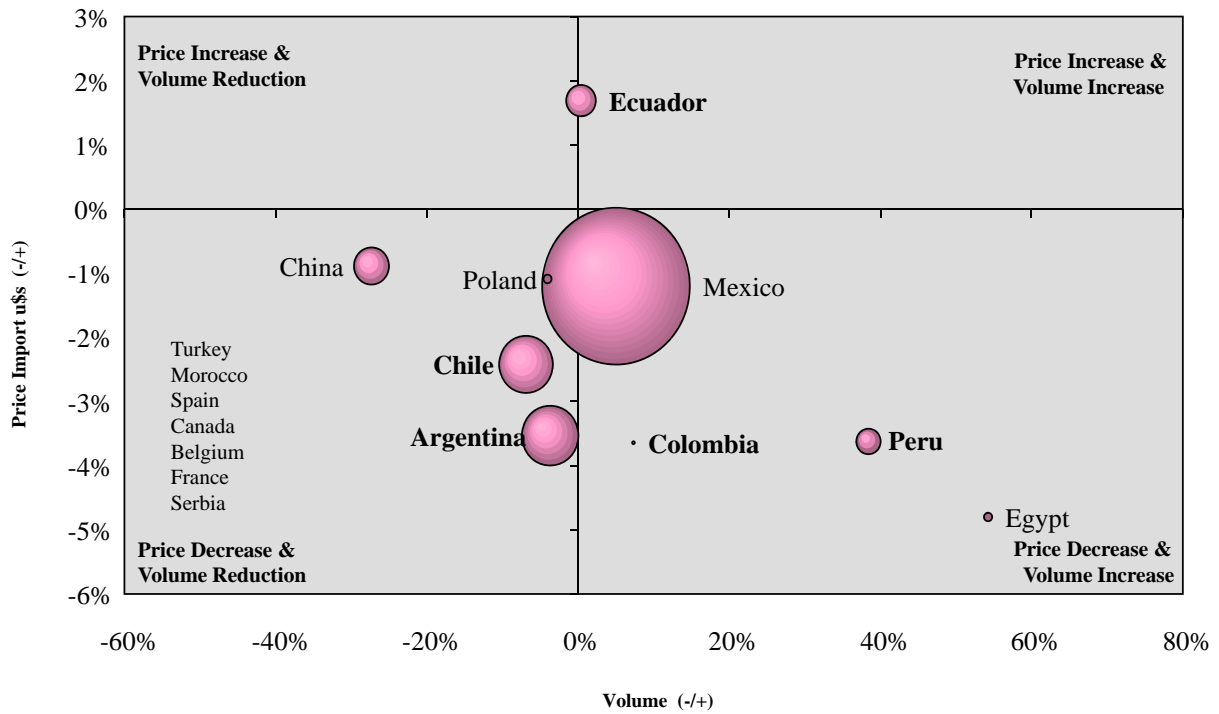


U.S.: import market strawberry trend (2006-2009)



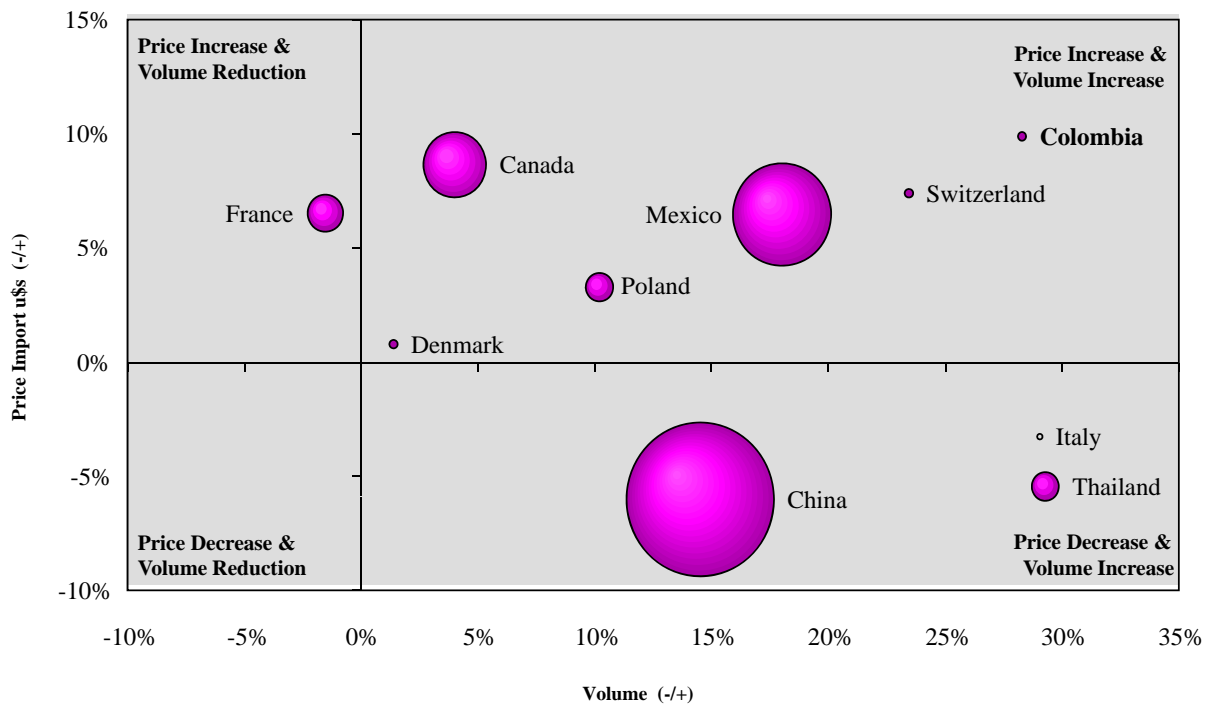


U.S.: import market frozen by origin (2006-2009)



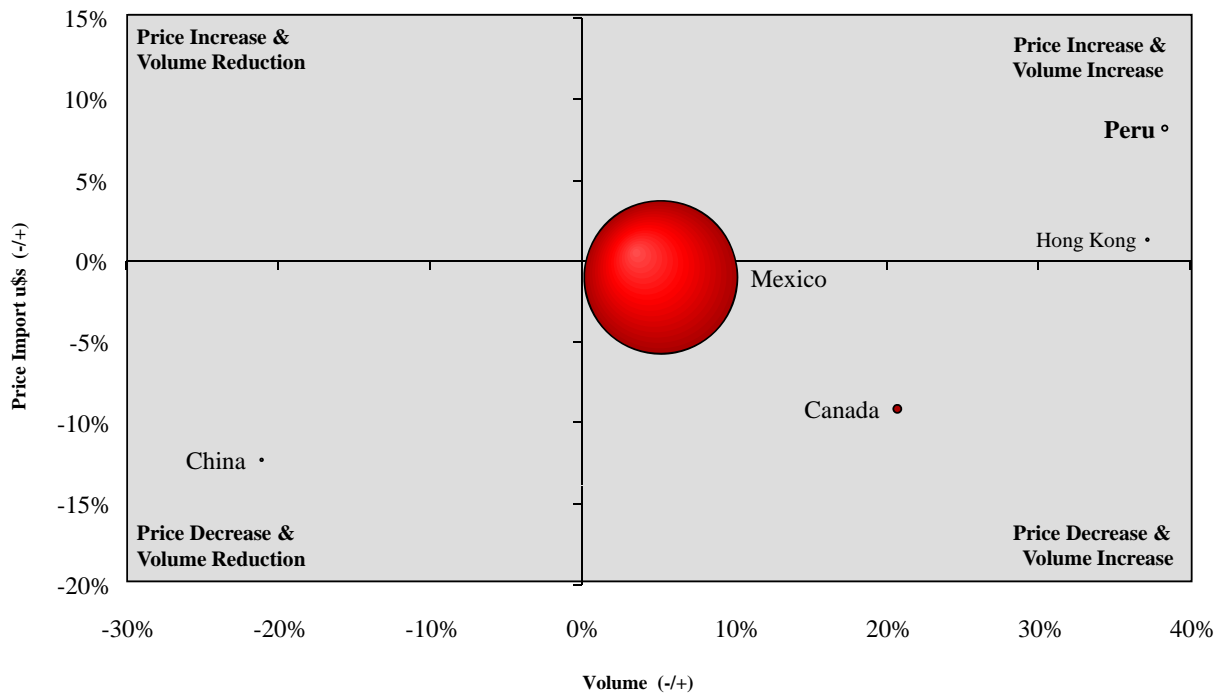


U.S.: import market trend prepared or preserved nesoi by origin (2006-2009)





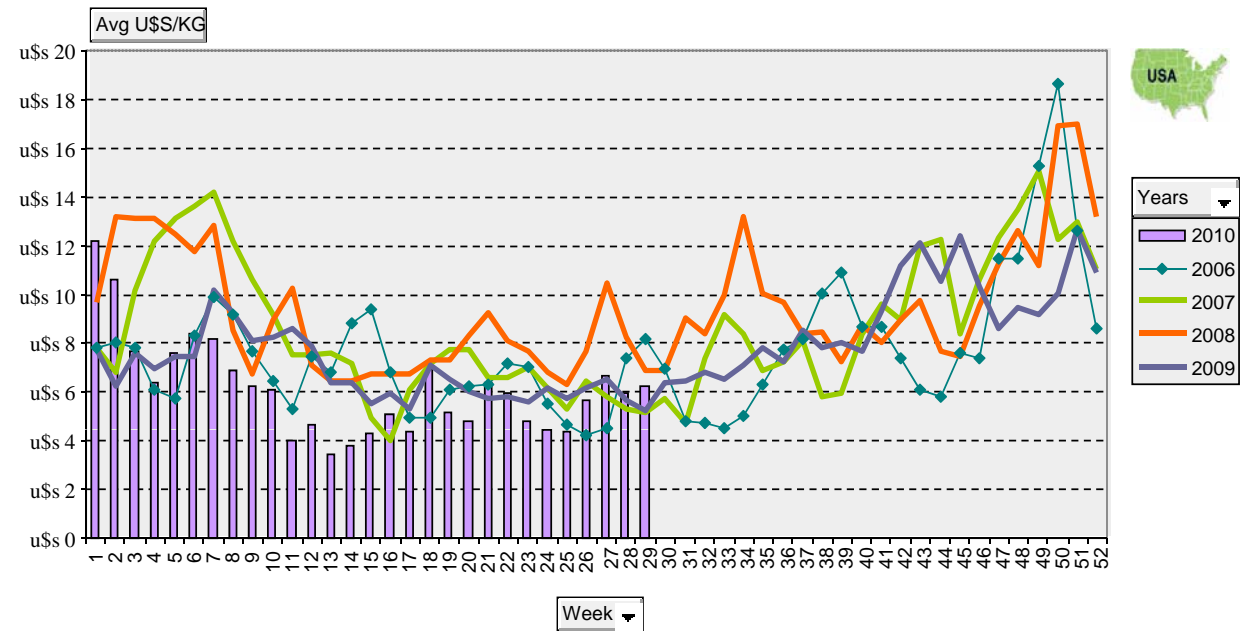
U.S.: import market fresh trend by origin (2006-2009)





U.S.: wholesale price strawberry

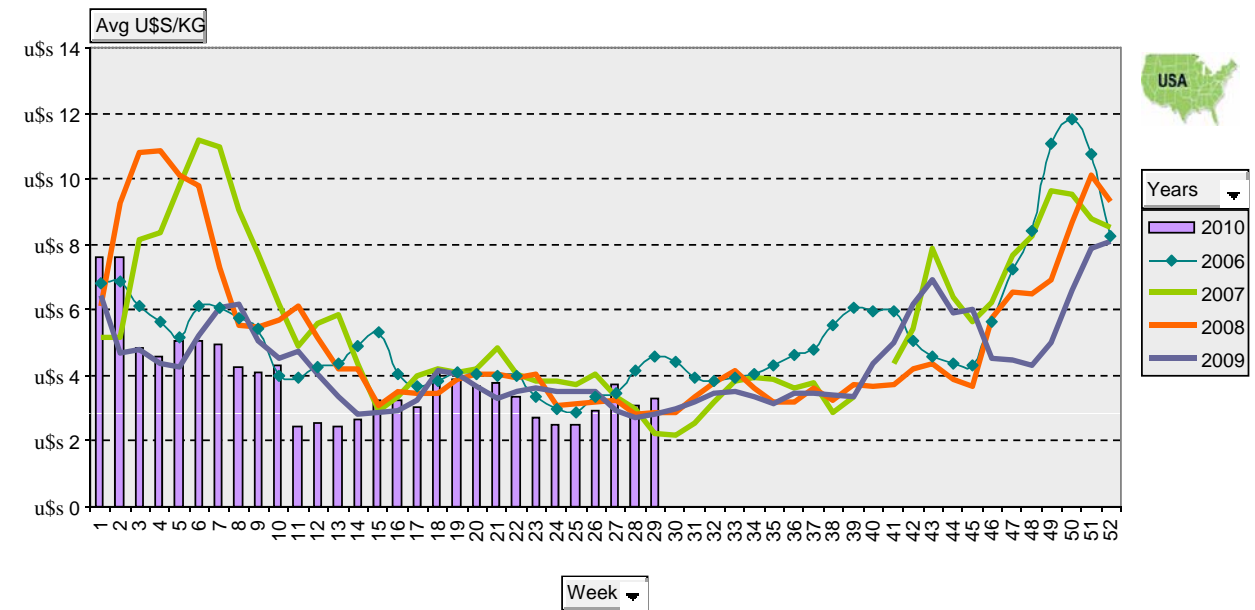
Fruit STRAWBERRIE Market (Todas) Origen (Todas) Price Terminal Market/Wholesal





U.S.: FOB price local and FOT price import strawberry

Fruit STRAWBERRIE Market (Todas) Origen (Todas) Price FOB o FOT





Europe (UE27)

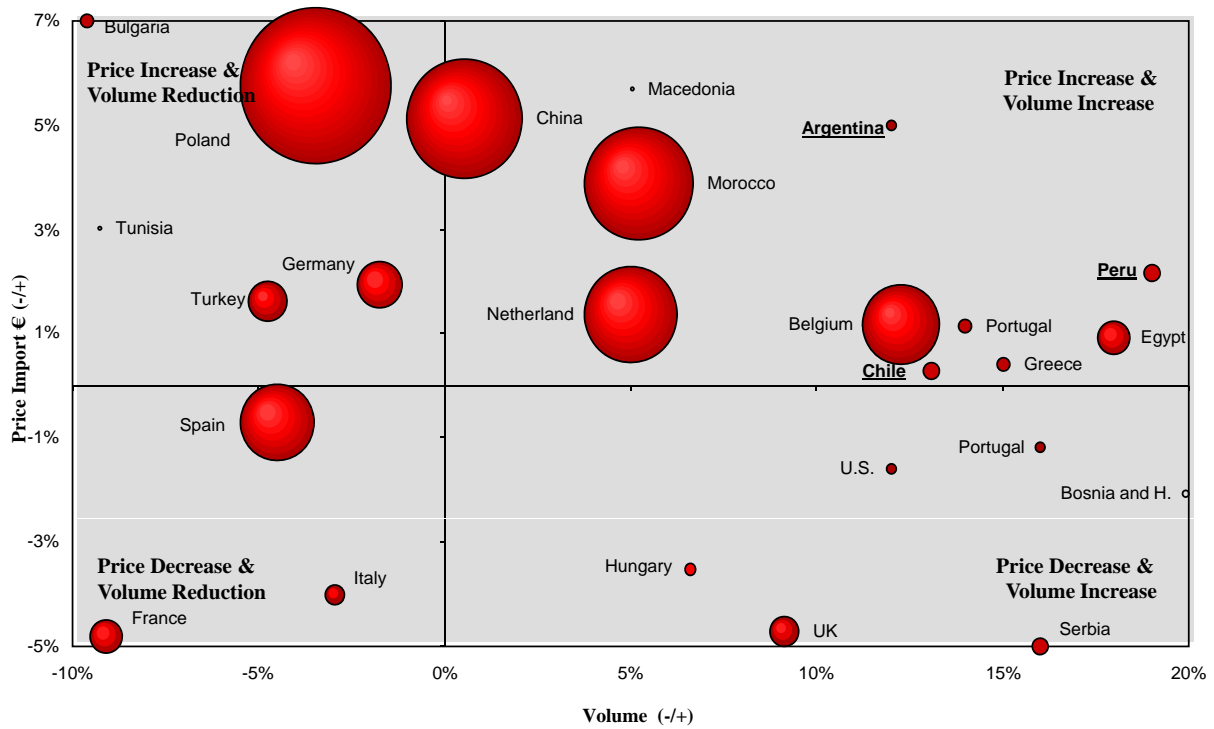
Market share: South America



GABINETE MAG  
Business Consulting & Coaching

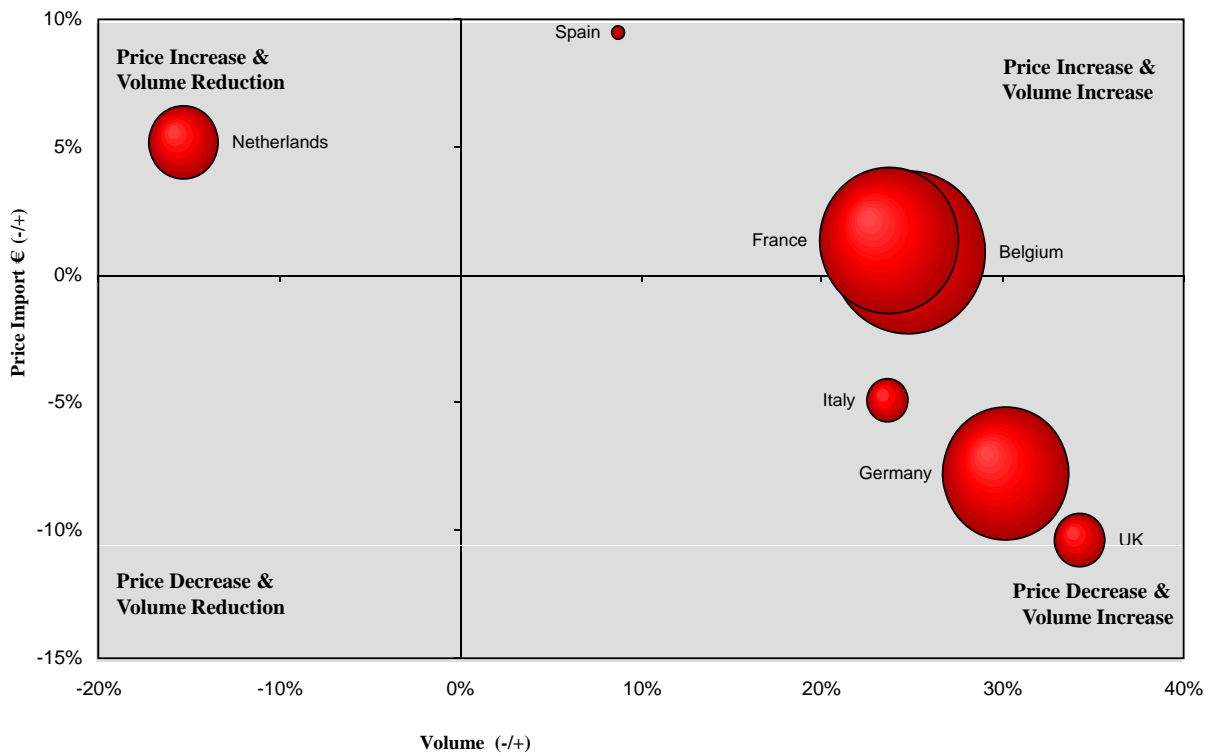


EU27: import market trend by origin (2005-2009)





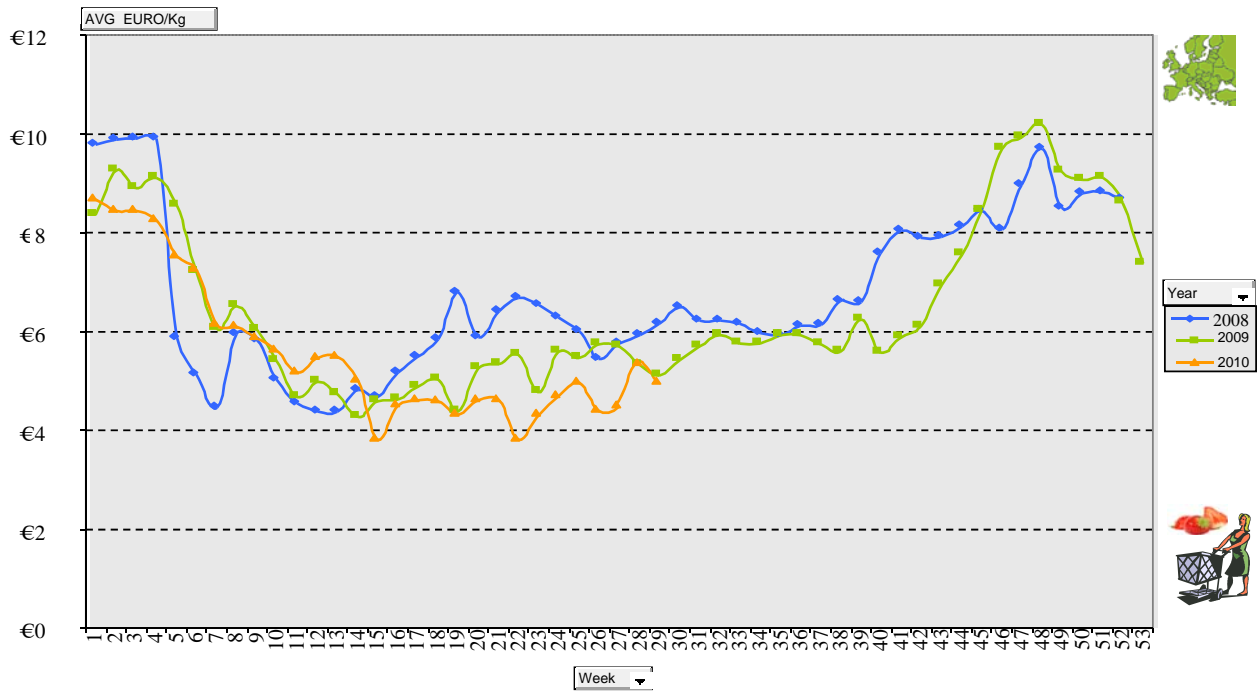
EU27: import market trend from South America (2005-2009)





EU27: price retail strawberry (euro/kg)

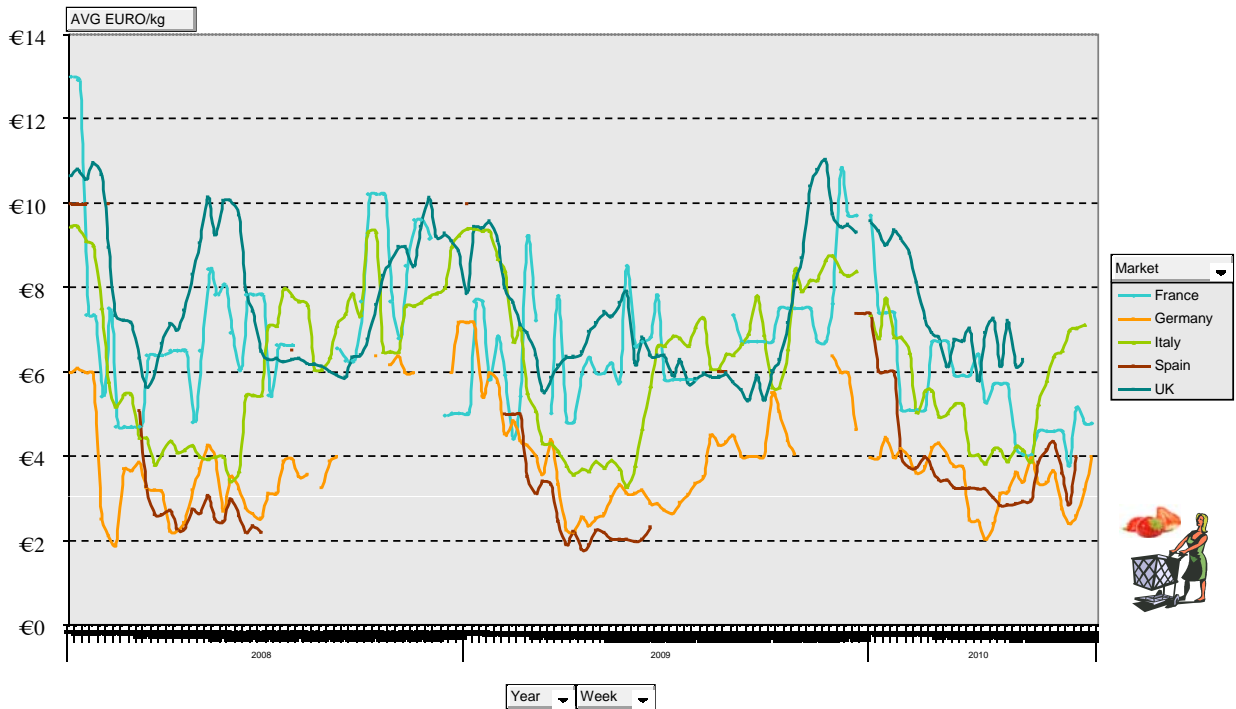
Variety Strawberries Type Normal Origin (Todas) Retail (Todas) Market (Todas)





EU27: price retail strawberry (euro/kg)

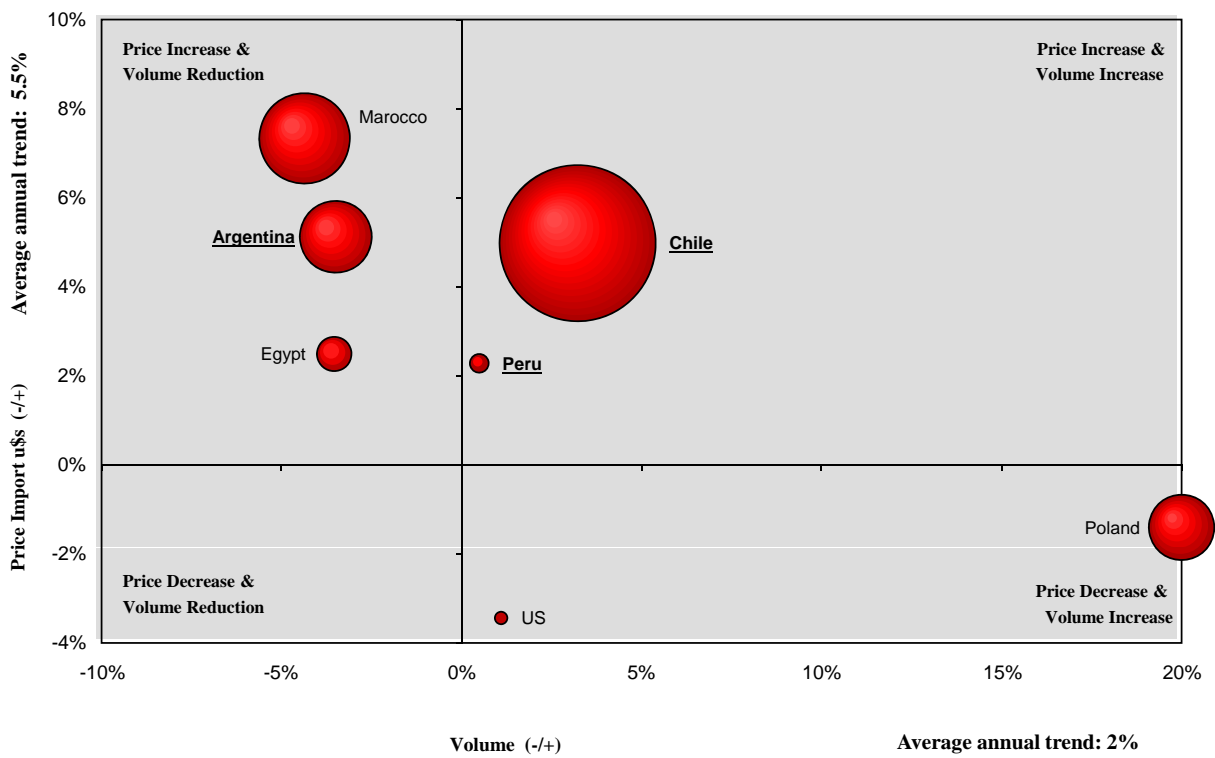
Variety Strawberries Type Normal Origin (Todas) Retail (Todas)





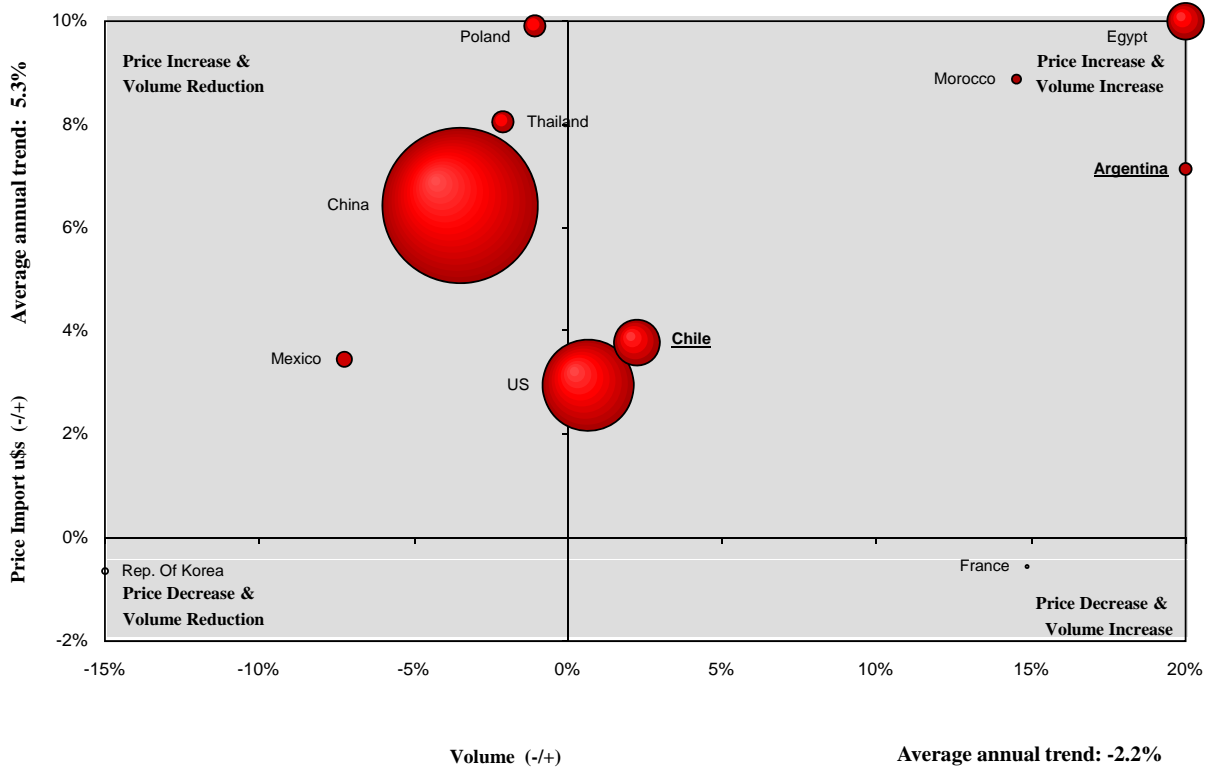


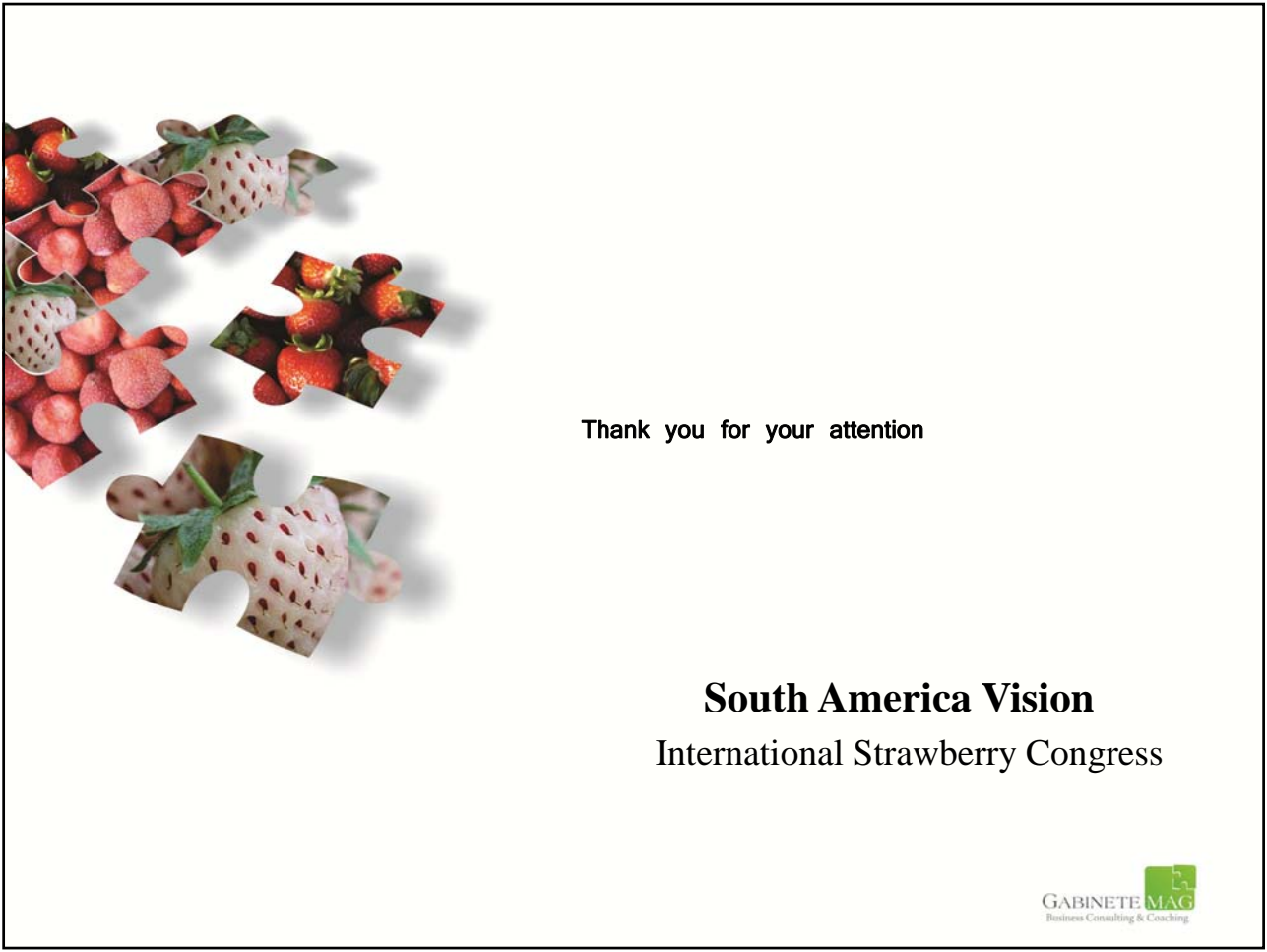
CHINA: trend origen import (2005-2009)





JAPAN: trend origen import (2005-2009)





Thank you for your attention

**South America Vision**  
International Strawberry Congress