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Tomato Paste In Iraq

Updated Industry Analysis



Inma
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The Tomato Paste Industry and Market: Overview

Tomato derivatives are various products with different characteristics. Tomatoes can be boiled to evaporate the water they contain. Depending on how much water is removed, and what other ingredients are mixed into the pulp, it is possible to obtain a large number of products. With regard to the purpose of this short study, only tomato paste will be taken into consideration.

Tomato paste is made from whole processing tomatoes generally containing between 4.5 to 6.0 percent tomato solid.¹ With regard to solid content, the industry normally refers to TSS (total soluble solids), a measure which excludes all insoluble solids. In accordance with generally accepted market standards, tomato paste must contain at least 14 percent TSS. On average, 6kg of fresh tomatoes are required to make 1 kg of tomato paste 26-28 Brix.² Most common tomato paste in is “concentrate²” or double concentrate with 26-28 Brix, but “concentrate³” or triple concentrate with 36-38 Brix is also present in the market.



Triple concentrate is especially popular in China where it is exported to the markets where it is diluted and resold. High density paste can save freight, and this is a major reason why TSS 36-38 dominates China's export oriented production. Processing tomatoes have lower value (commonly 7-8¢ per kg) than fresh tomatoes (55-60¢ per kg).

Tomato paste is a commodity in a competitive global market. Worldwide, there are three major players in tomato paste production: the United States, Europe (mainly Italy and Spain) and China. US production remains stable and is mainly reserved for the domestic consumption. International prices for tomato paste are basically set by Europe and above all China. **The market price for tomato paste in 2009 is experiencing a record high: \$1,130/MT (Tomato Paste 3 Brix 35-38) representing a 69% increase vs. 2008 and double vs. 2007 price of \$598/MT.**³ The soaring price experienced in the last two years resulted from a poor Chinese harvest in 2007⁴ and from Europe's steep decline in production due to low profitability in the years 2003 – 2007 and in response to a fundamental reform of the EU Common Agricultural Policy (CAP) that drastically reduced EU tomatoes subsidies in 2008 (a reduction on average of €20/MT).⁵

¹ Commonly expressed in Brix.

² In countries such as Italy, Spain and Iran characterized by the presence of specific “high” TSS values (6%) 1 kg of tomato paste may require as little as 5 kg of tomatoes.

³ FOB price in China.

⁴ A fungal disease destroyed 60% of the Inner Mongolia crop, causing a drop in China's processing tomato production of almost 1 million MT vs. expected.

⁵ Europeans farmers received a subsidy of 34.5 euro/ton for processing tomatoes before 2008. The average subsidy decreased to 16 euro/ton in 2008, when the traditional production subsidy (by tons produced) was replaced by area payments (by acreage planted).

China is filling the gap left by Europeans and more and more Chinese farmers shifted from cotton to processing tomatoes because of higher returns. Chinese supply has already started (planted crop 2009) to react to the high price for the commodity in the market and China's industry is expecting a record 7.6MMT of processing tomato production in 2009, a 20% increase from the 6.4MMT in 2008. Assuming normal weather conditions continue through the end of the marketing year, China's tomato paste production is expected to reach 1.1 MMT in 2009, this record production is mainly due to acreage expansion in the major producing provinces of Xinjiang and Inner Mongolia. Needless to say an expansion of Chinese tomato paste production, of the size expected in 2009, will affect international price for the commodity now at an ever high price of almost \$1,130/MT (Tomato Paste 3 Brix 35-38).

Tomato Paste in Iraq

The tomato paste industry in Iraq was created in the late 70's under Saddam with heavy subsidies and protection from imported competitor products. Traditionally, Gulf countries such as UAE and Saudi Arabia, heavily depend on imports of "concentrate3" to produce their tomato paste (reconstituted). Saudi Arabia and United Arab Emirates are both in the top ten import countries of tomato paste from China with respectively 28,800 and 35,100MT, in the year 2008.⁶

Recent years in Iraq have been characterized by a limited amount of tomato paste production using domestically grown tomatoes. Over the last decade the Iraqi tomato paste industry has heavily relied on imports of finished products (from Iran and Turkey) or imports of "concentrate3" from China subsequently reconstituted, packaged and marketed in Iraq. Since the year 2008 there has been a renewed interest for tomato paste production in Iraq following the unusual high price in the international market for "concentrate3". Currently two factories (the Hariri factory in Kurdistan region and the Balad factory in Salah ad Din province) have reported some production in Iraq made out of locally grown tomatoes. However quantity produced and price paid for the tomatoes at farm gate have not been disclosed.

Historically the Iraqi tomato paste industry has not enjoyed structural competitive advantages for the following reasons:

- **High costs in tomatoes production.** *Inma* estimates⁷ current production cost of tomatoes in Iraq is around ID 260/kg (\$22¢ per kg), much higher than Iran, Spain, USA and China where the production costs is between \$5¢ and \$10¢ per kg.⁸
- **Lack of specific varieties for processing.** Iraq has not specific varieties for tomato processing (solid contents >5.0%) meaning it uses dual varieties suitable primarily for table tomatoes and, residually for processing. Dual varieties used in Iraq have on average only 4.5% solid content (specific processing tomatoes variety have TSS>5.5%) meaning processing costs are high due to the higher amount of energy required for evaporation, and yields lower (ratio tomato/tomato paste).

⁶ Italy is current the biggest importer of tomato paste from China with 90,600MT, followed by Russia (83,440), Japan and Nigeria.

⁷ Based on *Inma* tomato Project in Wassit, 2008. Refer to Appendix A for detailed calculations.

⁸ Star Group source and Tomatoland 2009.

- **Low tomato yields.** Yields in Iraq, are low (frequently <20MT/ha). Tomato paste competitiveness depends essentially from the cost of raw material (60% of the total production cost). Usually, 70-80MT/ha is widely regarded by the tomato industry as the minimum yield required for a sustainable operation. Low Iraqi yields are attributed to poor seeds and soil salinity.
- **High energy costs.** After raw material energy is the most important cost in tomato processing (approximately 12% to 20% of the full cost depending on the source of energy). The lack of cheap grid electricity and natural gas and the necessity of using expensive diesel generators means Iraq has an additional cost (\$55-\$60/MT) in energy as compared to neighboring or competing countries such as Iran, China, the Gulf countries and even Turkey (although to a lesser extent).
- **Competition from the fresh/table tomatoes market.** Farmers in Iraq do not grow tomatoes specifically for processing; the “table” market is the main focus since prices are higher although very volatile. Frequently, excluding the harvesting peak periods, table tomatoes crowd out processing tomatoes generating abrupt fall in supply that disrupt production in continuous tomato processing production lines.⁹
- **High financial expenses.** Tomato paste is typically a product with potentially significant stocking costs because of the high seasonal manufacturing. Interest rates, although declining, are still very high in Iraq as compared to other countries and generate a burden in an industry such as tomato paste that has a high seasonality and requires huge working capital. Tomato processing season could in fact last 2-3 months at the best in Iraq.
- **Lack of economies of scale.** Economies of scale also play against Iraq where most of the factories would work with a capacity of 300 tons/day (raw material). Turkey and Iran work with capacity of 700 MT/day (the exporters), China and USA with capacity exceeding 2,000 MT/day.
- **Relatively high packaging costs.** Packaging is also likely (and usually) to be a disadvantage for Iraq since factories commonly must import all the packaging material with the exception of carton boxes.

Under the current circumstances (year 2009) of unusually high international prices for concentrated tomato paste, it is economic and competitive to produce tomato paste in Iraq with locally grown tomatoes as follows:

Currently tomato paste “concentrate2” made in Iraq is sold at retail for ID 2,000 per kg (\$1.66/kg). Ex-factory price for packaged product is around \$1.16/kg. Imported Chinese tomato paste is delivered in Iraq at \$1,250/MT (concentrate 3) meaning equivalent “concentrate2” would be around \$928/MT. (\$0.93/kg). Ex-factory price, for finished product, using concentrate from China would be around \$1.45-\$1.50/kg therefore more expensive than Iraqi tomato paste (\$1.15-\$1.20/kg) made with locally grown tomatoes. Iranian product (a country with a price for tomato paste almost as competitive as China)¹⁰ has a price similar to China as a result of a higher production cost (on average +8%/kg) and a lower transportation costs (on average -82%).

⁹ All the existing tomato processing production lines in Iraq are continuous, rather than batches, meaning production can only be stopped at a very high costs (cleaning of the entire line). Typically tomato paste line in USA, Europe and China work three shifts a day in the short harvesting season.

¹⁰ Source: Gallina Blanca – Star Company.

Table 1: Comparison Price and Cost Tomato Paste from Imported Concentrate and Locally procured Tomatoes (Iraq, 2007 – 2009)

Type of Tomato Paste	Iraq		China	
	Values in \$ per MT 2007	Values in \$ per MT 2009	Values in \$ per MT 2007	Values in \$ per MT 2009
“Concentrate3”/MT FOB	-	-	598	1,150
“Concentrate3”/MT Delivered Iraq	700	1,250	-	-
Equivalent “Concentrate2”	520	930	-	-
Finished Product from concentrate imported	800	1,450	-	-
Finished Product from Local tomatoes (Estimate)	1,160	1,200	-	-
Retail Price	1,550	1,700	-	-

Source: *Inma*

At a price of \$1.16/kg (ex-factory) tomato paste processors in Iraq cannot afford to pay farmers more than \$10¢ per kg for the tomatoes, when the production costs for tomatoes in Iraq is on average 22¢ per kg. Farmers may consider 10¢ per kg for the tomatoes an attractive price when there is a surplus of production with virtually no value in the market, nevertheless this level of price will not cover their production cost although increasing their total income. In other countries big producers of tomato paste (Italy, USA, Turkey) typically tomatoes are sold to processors at full costs (no profit) in the worst scenario. Production costs in these countries are around 7¢ per kg, and margins slim (in EU, a reduction of the subsidy of €20/MT was sufficient to push many tomatoes growers out of business).

Nevertheless the medium/ long term competitiveness of tomato paste made in Iraq depends, on farmers' acceptance of very low price for the raw material and on the existence, in the market, of significant surpluses due to a low demand from the more lucrative table tomatoes sector. Currently, in the absence of farmers specialized on tomato processing, surpluses in Iraq are still limited and unable to regularly feed big tomato paste processing lines. In the current model tomatoes for processing are residual crop that utilizes surplus tomatoes not absorbed by the table market, availability of this surplus is limited in quantity and time.

The long term sustainability of a strong tomato paste industry in Iraq will depend basically on two factors:

1. The drastic reduction of tomato production costs (from \$22¢ per kg to approximately \$10¢ per kg, achieved through improved productivity and specialization with farmers dedicated 100% to tomato processing using varieties specific to tomato processing rather than double purpose.¹¹
2. An international (FOB) price of Chinese “concentrate3” tomato paste no lower than \$850/MT.

¹¹ Double purpose varieties are those suitable for table and processing tomatoes. (Usually skewed on table characteristics but acceptable for processing).

The reduction in production costs will mainly depend on yields increase to a minimum level of 70-80MT/ha¹², something feasible on principle in Iraq but still far from the current scenario (average yields for tomatoes are <30MT/ha).¹³

With regard to the international price of tomato paste, China's leading producers express concern that the current high price (unthinkable only two years ago), could bring the resurgence of Europe's small factories, and the rapid expansion of local production capacity in China.

According to industry sources, the ideal price for China's tomato paste industry is \$800-900/MT, as opposed to the current \$1,130/MT and an average price of only \$600/MT in the period 2003 - 2007. A return of "concentrate3" tomato paste international price to the level of the years 2000 – 2007 is likely to crowd out the Iraqi tomato paste industry (local procurement of tomato). International price for "concentrate3" around \$800-\$900/MT will probably generate a mix model with production split between reconstituted and, probably in a limited quantity, and from locally procured tomatoes. Only international price for tomato paste "concentrate3" above \$1,100/MT will guarantee the Iraqi tomato processors a competitive edge in costs, provided farmers will be willing to accept price for tomatoes around \$10¢ per kg.

¹² Countries with competitive tomato paste industries all have, on average, minimum yields of at least 70MT/ha and frequently >100MT/ha.

¹³ In particular is imperative to adopt in Iraq new hybrids varieties.

Appendix A

Gross Margin per Dunum Tomato Wasit Project					
TOMATO	Unit	N° Units	Price/Unit (ID)	Total Cost (ID)	Total (\$)
Crop produce: Tomato	kg	6,000	500	2,430,000	2,025
Crop produce:	kg	0	0	0	0
Total Revenue				2,430,000	2,025
Seed/seedling	kg			50,000	42
Total Chemicals	ID			75,000	63
- Pesticides	Liter	3	50,000	75,000	63
- Insecticides	Liter	3	10,000	0	0
- Fungicides	Liter	3	50,000	0	0
Total mineral fertilizer	kg			150,000	125
DAP	kg	100	650	150,000	125
Urea	kg	80	300	0	0
Packing boxes	Box			50,000	42
Cost of hired machinery	ID			230,000	192
- Land preparation	Dunum	1	32,000	80,000	67
- Irrigation	Dunum	1	60,000	0	0
- harvesting	Dunum	1	180,000	150,000	125
- Plastic and Steel Frame	Ton	0.00	0	0	0
Manual labor	person/day	50	15,000	750,000	625
Transportation				50,000	42
Total Variable Costs	ID			1,355,000	1,129
Financial Expenses				216,000	180
Total Costs				1,571,000	1,309
Gross Margin	ID			1,075,000	896
Gross Margin on Revenue %				44.2%	

Total costs of \$1309 / 6000 kg = .218 or 22 cents per kg