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The Market for Organic Canned Tomatoes in Germany and the United States

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List of abbreviations

AHA	American Heart Association
B2B	Business to Business
b	billion
BLS	Bureau of Labor and Statistics
BPA	Bisphenol A
CBP	US Customs and Border Protection
CED	Common Entry Document
CFR	Code of Federal Regulations
CIF	Cost insurance freight
CVED	Common Veterinary Entry Document
DDP	Delivered, Duty Paid
EC	European Commission
EOS	Export Opportunity Survey
ERS	Economic Research Service
EU	European Union
EUR	Euro
FAO	Food and Agricultural Organization
FDA	Food and Drug Administration
FOB	Free on board
g	grams
GPO	Government Publishing Office
HS	Harmonized Commodity Description and Coding System
ICC	International Chamber of Commerce
ISIC	International Standard Industrial Classification
ITC	International Trade Centre
kg	kilogram
LoC	Letters of Credit
m	million
mg	milligram
MT	metric tons
NACE	Nomenclature des Activités Économiques dans la Communauté Européenne
NAICS	North American Industry Classification System
NOP	National Organic Program
NTR	Normal Trade Relations

PTAB	Processing Tomato Advisory Board
SITC	Standard International Trade Classification
SPS	Sanitary and Phytosanitary
T/T	Telegraphic Transfers
TTIP	Transatlantic Trade and Investment Partnership
UN	United Nations
UNSD	United Nations Statistics Division
US	United States
USDA	United States Department of Agriculture
USITC	United States International Trade Commission
US$	United States Dollar
WPTC	World Processing Tomato Council

Executive summary

This EOS provides detailed information regarding both the German and US markets for organic canned tomatoes and provides prognoses for future trends.

Germany does not produce any organic canned tomatoes. The US, however, is one of the largest producers of organic canned tomatoes in the world. Germany is the largest importer of organic canned tomatoes worldwide while the US imports very little. However, the US exports large quantities of organic canned tomatoes while Germany only re-exports small quantities.

The consumption in Germany is rising significantly with the growing awareness and desire for a healthier lifestyle. In the US, however, consumption levels remained relatively unchanged. Heavy price discounts and lack of consumer differentiation have led to the lack of growth in the US market. Both of these trends are expected to continue in the future.

In terms of market access, both countries show equal attractiveness to potential exporters. Changes in tariffs, regulations and non-tariffs are not expected to occur unless new trade agreements (such as TTIP) are ratified.

It is expected that sales promotion preferences will shift to online trade platforms in both countries, as rapid innovation and economic development is common for both Germany and the US. In addition, production innovations in the US might lead to a decrease in prices in both countries. The price premium that organic products command may also decline due to price-cutting strategies from the largest retailer in the US.

Based on the findings described within this EOS, the German market appears to have strong potential for export opportunities. The US market should not be pursued as an export market at this time.

1. Product description

This market brief covers the market for organic canned tomatoes in the United States and Germany.

The following codes apply to both organic and conventional canned tomatoes.

HS code
200210: Tomatoes, Whole or in Pieces (Prepared or Preserved; Excluding By Vinegar) ("Harmonized System," n.d.)

SITC
056.7: Vegetables, prepared or preserved, not elsewhere specified
(UNSD, n.d.)

ISIC
1030: Processing and preserving of fruit and vegetables
(UNSD, 2008)

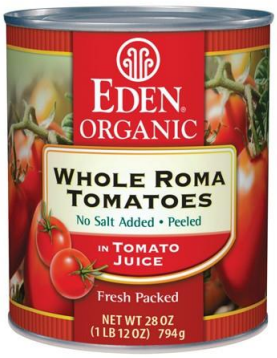
NAICS
311421: Fruit and Vegetable Canning
(US Census Bureau, 2012)

NACE
10.39: Other processing and preserving of fruit and vegetables
(National Institute of Statistics and Economic Studies, 2015)

Organic canned tomatoes are preserved in a can after having been grown and processed according to organic requirements. While there are many uses for organically grown processing tomatoes, the focus of this report is on tomatoes available in whole peeled, diced and crushed varieties.

There are a wide variety of canned organic tomatoes. Some varieties offer spiced options. The market also offers various flavors such as "fruity", "metallic", "robust", "mild", "overly seasoned" or varieties with added vitamins ("Canned tomatoes," n.d.).

Figure 1: Example of Canned Tomatoes



Source: Eden Foods (n.d.)

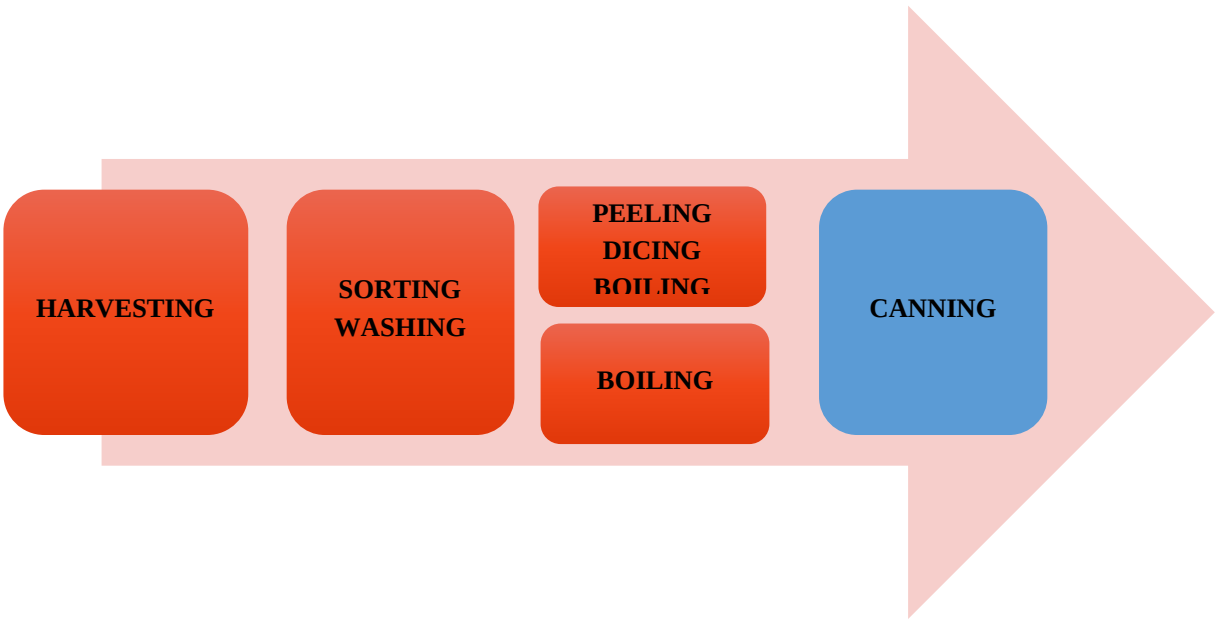
The tomato, or scientifically speaking the "*Lycopersium esculentum",* belongs to the botanical family Solanaceae ("Tomato," n.d.). The stem has rough hairs and spiral leaves. The tomato plant, which produces yellow flowers, can grow from 0.7 meters up to 2 meters. The vegetable is harvested only once per year. The nutritional values are indicated in Table 1.

Table 1: Nutritional Values of Canned Tomatoes per 100g	
Content	% Daily Value*
Calories 32	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 132mg	5%
Total Carbohydrate 7g	2%
Dietary Fiber 2g	8%
Sugars 0g	
Protein 2g	
Vitamin A	14%
Vitamin C	15%
Calcium	3%
Iron	7%
Source: SELF Nutrition (n.d.)	
* Percent Daily Values are based on a 2,000 calorie diet. The daily values may be higher or lower depending on calorie needs.	

Tomatoes originated in South America (“Tomato,” n.d.). Although tomatoes can handle many different growing conditions, low temperatures and short growing seasons can restrain growth. Tomatoes can be grown successfully in many soil types (from light sand to clay loams), although they perform best on medium-textured sandy loams (Cox, 2015). Processed tomatoes have been developed to have thicker skins. This helps to protect the tomato when harvested by machine and transported in bulk. Processing tomatoes are harvested when ripe and are normally canned within six hours of harvest (California Tomato Growers Association, n.d.).

Organic tomatoes are typically harvested by machines. During the sorting and washing process, all cracked, immature or excessively small tomatoes are removed. The sorting is usually done by an optical sorter, which automatically eliminates the products that do not meet established quality requirements. Whole tomatoes are placed either into a boiling water tank or into a 90°C steam chamber to facilitate skin removal. The tomatoes are then peeled, diced (if necessary), and canned. A juicer fills the empty space inside the can with natural tomato juice or semi-concentrated juice prior to sealing. The cans are then sealed and heated to an internal temperature of 95°C to ensure pasteurization and the elimination of any microorganisms. Finally, the cans are cooled, labeled and packaged for delivery (“Machinery,” n.d.).

Figure 2: Standard Stages of Processing Canned Tomatoes



The most important difference between organic and conventional canned tomatoes lies in the control of weeds. In all forms of organic growing, this needs to be done without the use of synthetic chemicals. Cover crops such as wheat, rye and clover are planted around the tomatoes plants to serve as an alternative weed control method (Diver, Kuepper & Born, 1995). Fertilization of organic crops takes place via a variety

of methods, including livestock manures and composts, commercial organic fertilizers and foliar sprays (which apply organic fertilizer directly to the leaves of the plant) (Neeson, 2004).

2. Production, foreign trade & consumption

Production

Germany production

Based on visits to retailers and organic wholesalers in Germany in addition to the information provided by WPTC, there is no production of organic canned tomatoes (as well as conventional canned tomatoes) in Germany.

United States production

The United States produced approximately 336,000 MT of organically processed tomatoes in 2014 (PTAB, 2014). Over 99% of the organic tomatoes destined for processing came from central California. While no available information discusses how organically processed tomatoes are consumed, approximately 17% of conventional processing tomatoes are used for canning in whole or diced form (USDA ERS, 2012). Table 2 shows production of organically processed tomatoes and estimated production of organic canned tomatoes from 2010-2014.

Table 2: Production of Organically processed Tomatoes and Estimated Production of Organic Canned Tomatoes in the US, 2010-2014 (MT)

Year	Organically processed Tomatoes	Organic Canned Tomatoes
2010	216,817	36,859
2011	262,176	44,570
2012	295,742	50,276
2013	257,640	43,799
2014	336,565	57,216

Sources: USDA ERS, 2012 and PTAB, 2014

Foreign trade

World exports

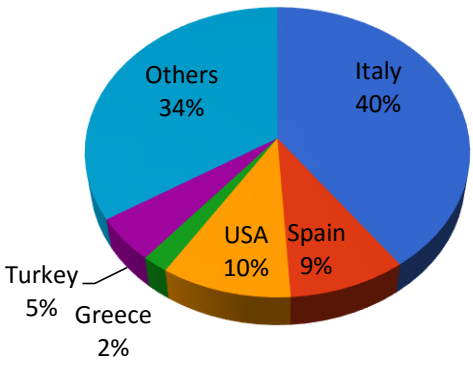
The trade data in Table 3 shows the export value and quantity of canned tomatoes from various countries. The leader in world exports in 2014 was Italy with approximately US$ 1.2 b, making up 40% of the total world exports of US$ 2.9 b (UN Comtrade, 2015). The data in UN Comtrade does not differentiate organic from conventional canned tomatoes.

Table 3: World Top 5 Exporters

	2010			2011			2012			2013			2014		
Country	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)
Italy	1116,5	960,3	$ 0,86	1165,2	1012,2	$ 0,87	1137,5	999,5	$ 0,88	1200,1	1100,8	$ 0,92	1184,7	1167,8	$ 0,99
Spain	98,4	72,1	$ 0,73	127,9	89,0	$ 0,70	163,9	104,9	$ 0,64	147,6	109,4	$ 0,74	161,1	115,2	$ 0,72
USA	53,1	42,1	$ 0,79	65,1	48,8	$ 0,75	65,2	49,5	$ 0,76	67,4	51,1	$ 0,76	69,5	55,4	$ 0,80
Greece	34,2	24,3	$ 0,71	35,1	24,3	$ 0,69	27,5	18,9	$ 0,69	31,8	21,4	$ 0,67	41,7	27,9	$ 0,67
Turkey	17,1	21,5	$ 1,25	15,3	21,7	$ 1,42	13,4	20,5	$ 1,53	11,4	23,7	$ 2,08	15,6	28,4	$ 1,82

Source: UN Comtrade Database, 2015

Figure 3: Top 5 Countries Export Value share



Source: UN Comtrade, 2015

World Imports

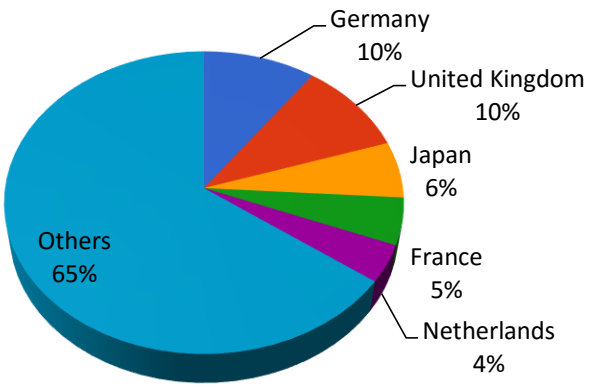
The trade data in Table 4 show the import value and quantity of canned tomatoes from various countries. The leader in world imports in 2014 was the United Kingdom with US$ 300 m, counting for up to 10% of world exports, followed up by Germany with US$ 210 m (UN Comtrade, 2015). The data in UN Comtrade does not differentiate organic from conventional canned tomatoes.

Table No 4: World Top 5 Importers

	2010			2011			2012			2013			2014		
Country	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)	Quantity (m MTs)	Value (m US $)	Price ($ per kg)
Germany	205,4	157,6	$ 0,77	222,6	171,7	$ 0,77	229,9	181,5	$ 0,79	224,1	191,3	$ 0,85	228,0	209,9	$ 0,92
United Kingdom	306,0	284,0	$ 0,93	362,8	320,9	$ 0,88	285,9	259,8	$ 0,91	300,6	277,0	$ 0,92	308,7	299,7	$ 0,97
Japan	95,4	104,9	$ 1,10	98,3	109,8	$ 1,12	103,6	118,0	$ 1,14	99,2	113,5	$ 1,14	98,4	112,2	$ 1,14
France	101,8	105,4	$ 1,04	108,3	114,9	$ 1,06	107,0	113,1	$ 1,06	224,1	122,8	$ 0,55	114,8	124,6	$ 1,09
Netherlands	45,1	34,3	$ 0,76	52,2	37,7	$ 0,72	55,9	40,5	$ 0,72	55,2	46,6	$ 0,84	58,6	50,9	$ 0,87

Source: UN Comtrade Database, 2015

Figure 4: Import Countries Value Shares 2014



Source: UN Comtrade, 2015

German and US trade

Germany

Imports

UN Comtrade data shows that the total value of canned tomatoes imported into Germany increased by 7% while the quantity imported grew by 2% from 2010 to 2014, implying a price increase of 5%. The major trade partner of Germany is Italy with more than 85% of the total German import share (UN Comtrade, 2015). As there is no production of organic tomatoes in the country, all canned tomatoes in Germany are imported. It is important to note that the data in UN Comtrade do not differentiate organic from conventional canned tomatoes. Organic canned tomatoes are estimated to be around 20.2% of total canned tomatoes based on field research. This observation is supported by the fact that 21% of all canned vegetables in Germany are organic (Schulz, von Muenchhausen & Haering, 2013). Import quantity estimates are included in Table 5.

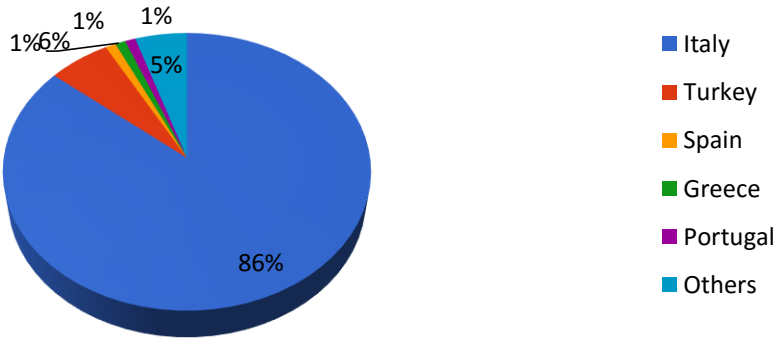
Table No 5: Top 5 Germany's Importing partners and Total Import from the world

	2010			2011			2012			2013			2014				
Country	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Imported growth in value between 2010 and 2014	Imported growth in quantity between 2010 and 2014
Italy	188,8	139,8	$0,74	204,6	149,4	$0,73	210,6	157,4	$0,75	201,5	160,6	$0,80	208,7	181,3	$0,87	6%	2%
Turkey	1,4	5,0	$3,69	1,7	7,7	$4,65	2,1	8,9	$4,31	2,7	12,2	$4,49	3,2	12,5	$3,87	26%	25%
Spain	1,9	1,5	$0,78	2,3	1,9	$0,83	3,0	2,4	$0,78	2,6	2,1	$0,81	4,0	2,9	$0,74	16%	18%
Greece	1,9	2,0	$1,04	1,7	2,1	$1,21	2,0	2,6	$1,27	2,6	3,2	$1,27	1,4	2,8	$1,99	11%	-3%
Portugal	0,9	0,7	$0,73	1,4	1,0	$0,72	2,2	1,5	$0,68	2,5	1,7	$0,70	2,7	2,0	$0,73	32%	32%
World	**205,4**	**157,6**	**$0,77**	**222,6**	**171,7**	**$0,77**	**229,9**	**181,5**	**$0,79**	**224,1**	**191,3**	**$0,85**	**228,0**	**209,9**	**$0,92**	**7%**	**2%**

Source: Trade Map, UN Comtrade Database, 2015

Source: UN Comtrade, 2015

Figure 5: Germany`s main import partners value share



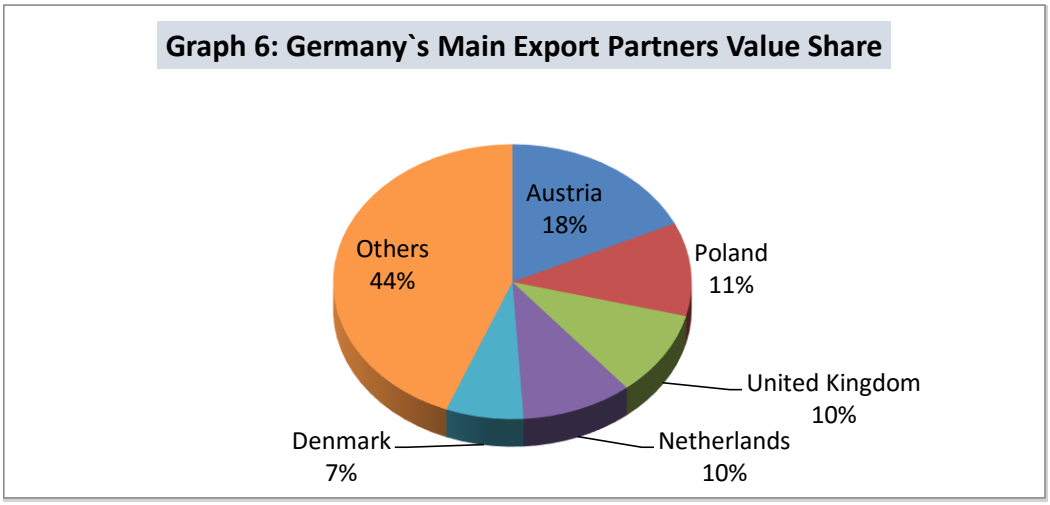
Exports

The total exports of German canned tomatoes decreased in quantity (6%) but increased in value (2%) from 2010 to 2014. The main export partner of Germany is Austria with an 18% share of Germany's exports (UN Comtrade, 2015). Due to the lack of German production, all exports are re-exported goods. Export estimates are shown in Table 6. Organic canned tomatoes are again estimated to be 20.2% of total canned tomatoes.

Table No 6: Top 5 Germany's Exporting partners and Germany's Total Export to the world

	2010			2011			2012			2013			2014				
Country	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Exported growth in value between 2010 and 2014	Exported growth in quantity between 2010 and 2014
Austria	2,2	2,4	$ 1,08	1,6	1,8	$ 1,13	1,1	1,5	$ 1,31	1,4	1,8	$ 1,28	1,7	2,6	$ 1,49	1%	-6%
Poland	0,5	0,8	$ 1,85	0,5	1,1	$ 2,13	0,4	1,0	$ 2,31	0,5	1,3	$ 2,43	0,6	1,6	$ 2,44	15%	8%
United Kingdom	0,1	0,2	$ 1,71	0,2	0,6	$ 2,51	0,3	0,6	$ 2,27	0,3	0,7	$ 2,92	0,4	1,4	$ 3,24	52%	32%
Netherlands	1,3	1,3	$ 0,97	1,1	1,1	$ 0,96	1,1	1,0	$ 0,93	1,1	1,2	$ 1,15	0,8	1,3	$ 1,62	2%	-9%
Denmark	1,8	2,5	$ 1,41	1,2	1,7	$ 1,41	0,8	1,3	$ 1,53	0,7	1,2	$ 1,60	0,7	1,0	$ 1,56	-19%	-22%
World	**8,5**	**12,5**	**$ 1,46**	**7,5**	**13,2**	**$ 1,76**	**6,0**	**10,3**	**$ 1,71**	**6,6**	**12,6**	**$ 1,92**	**6,6**	**14,1**	**$ 2,12**	**2%**	**-6%**

Source: Trade Map, UN Comtrade Database, 2015



Source: UN Comtrade, 2015

The United States

Imports

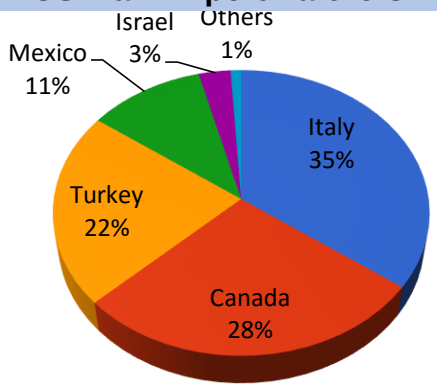
UN Comtrade data shows that the total value of canned tomatoes imported into the US increased by 10% while the quantity imported grew by 5% from 2010 to 2014. Canada, Turkey and Mexico are the largest trade partners (UN Comtrade, 2015). Again note that the data in UN Comtrade does not differentiate organic from conventional canned tomatoes. However, Young (2015) noted that the only statistically significant source of imported organic canned tomatoes for the US is Italy, with approximately 3% of the total US consumption coming from Italy.

Table No 7: Top 5 US Importing partners and US Total Import from the world

	2010			2011			2012			2013			2014				
Country	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Imported growth in value between 2010 and 2014	Imported growth in quantity between 2010 and 2014
Italy	3,34	3,02	$0,90	3,65	3,19	$0,87	3,87	3,34	$0,86	5,60	5,33	$0,95	5,11	5,96	$1,16	21%	14%
Canada	7,14	5,65	$0,79	3,08	2,69	$0,88	3,62	2,68	$0,74	3,79	2,80	$0,74	5,50	4,82	$0,88	-3%	-3%
Turkey	3,15	1,94	$0,62	3,12	1,85	$0,59	4,67	3,03	$0,65	4,62	2,64	$0,57	3,35	3,72	$1,11	18%	5%
Mexico	1,28	1,41	$1,10	1,63	1,61	$0,98	2,55	1,98	$0,78	2,08	2,08	$1,00	1,85	1,95	$1,06	9%	10%
Israel	0,09	0,09	$1,00	0,06	0,08	$1,24	0,13	0,13	$0,98	0,20	0,28	$1,39	0,32	0,51	$1,59	61%	45%
World	**15,30**	**12,39**	**$0,81**	**11,72**	**9708,00**	**$828,61**	**14,94**	**11,41**	**$0,76**	**16,50**	**13,40**	**$0,81**	**16,31**	**17,24**	**$1,06**	**10%**	**5%**

Source: Trade Map, UN Comtrade Database, 2015

Figure 7: US Main Import Partners Value Share



Source: UN Comtrade, 2015

Exports

Table 8 shows the total exports of conventional canned tomatoes. The top US export markets are Canada (which purchases about half of American exports), Mexico, Japan, South Korea, and Italy (USDA ERS, 2012). No data on exports of organic canned vegetables is publicly available. Exports of organic canned tomatoes are based on known organic percentages of the total California crop of processing tomatoes, which grew to 2.6% in 2014 (PTAB, 2014).

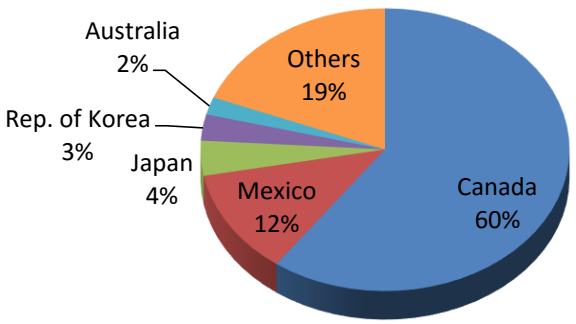
Table 8: US Conventional Canned Tomato and Estimated Organic Canned Tomato Exports, 2010-2014 (MT)

Year	Conventional Canned Tomatoes	Estimated Organic Canned Tomatoes
2010	52,944	1,006
2011	64,729	1,553
2012	65,000	1,690
2013	66,879	1,538
2014	69,515	1,807

Sources: UN Comtrade, 2015 and PTAB, 2014

Table No 9: Top 5 US Exporting partners and US Total Export to the world																	
	2010			2011			2012			2013			2014				
Country	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Quantity(m MT)	Value (m $)	Price ($ per kg)	Exported growth in value between 2010 and 2014	Exported growth in quantity between 2010 and 2014
Canada	34,6	27,2	$ 0,79	38,4	29,2	$ 0,76	38,8	30,2	$ 0,78	44,6	35,2	$ 0,79	39,4	33,1	$ 0,84	6%	4%
Mexico	4,4	3,1	$ 0,71	5,5	3,6	$ 0,65	6,1	4,1	$ 0,68	6,8	4,2	$ 0,63	8,6	6,8	$ 0,78	19%	17%
Japan	2,0	1,9	$ 0,97	4,4	3,3	$ 0,74	7,7	5,5	$ 0,72	4,2	2,8	$ 0,67	3,8	2,4	$ 0,62	3%	13%
Rep. of Korea	4,5	3,1	$ 0,70	3,4	2,3	$ 0,68	2,5	1,7	$ 0,68	2,4	1,6	$ 0,64	2,7	1,8	$ 0,69	-14%	-13%
Australia	2,4	1,9	$ 0,79	7,5	5,4	$ 0,72	2,8	1,9	$ 0,67	0,8	0,7	$ 0,82	1,3	1,0	$ 0,78	-29%	-29%
World	53,1	42,1	$ 0,79	65,1	48,8	$ 0,75	65,2	49,5	$ 0,76	67,4	51,1	$ 0,76	69,5	55,4	$ 0,80	6%	6%
Source: Trade Map, UN Comtrade Database, 2015																	

Figure 8: US Main Export Partners Value Share



Source: UN Comtrade, 2015

Apparent consumption

Germany

The estimated yearly consumption of Germany equals the total imports minus exports. Table 10 provides the estimated total consumption from 2010 – 2014.

Table 10: Apparent Consumption of Canned Tomatoes in Germany 2010-2014

Year	Production	Imports (1000 MT)	Exports (1000 MT)	Consumption ((Production + I) - E) (1000 MT)	Population of Germany (m)	Consumption per capita (kg)	Estimated consumption of organic canned tomatoes (kg)
2014	-	228 014	6642	221 372	80,9	2,7	0,54
2013	-	224 105	6588	217 517	80,6	2,7	0,54
2012	-	229 869	6642	223 227	80,4	2,8	0,56
2011	-	222 593	7514	215 079	81,8	2,6	0,52
2010	-	205 389	8534	196 855	81,8	2,4	0,48

Source: Estimated total consumption for 2010 – 2014

Germany's estimated yearly consumption increased just over 3% year (on a kg basis) since 2010. The total consumption nearly equals the volume of imports as there is no production in Germany and a small quantity of re-exports.

The United States

Consumption of organic canned tomatoes for the years 2010-2013 are provided in Table 11. Note that consumption of organic canned tomatoes has remained relatively flat in the recent years, with average annual growth rates of less than 1%.

Table 11: Consumption of Organic Canned Tomatoes in US 2010-2013

Year	US$ (1,000)	Consumption (1000 MT)	Population of US (m)	Consumption per capita (kg)
2010	33,698	9,707	309	0,031
2011	33,583	9,722	312	0,031
2012	33,083	9,752	314	0,031
2013	34,456	10,353	317	0,033

Source: USDA, calculations based on Young, 2015

Note: Due to the lack of exact information for the consumption of organic canned tomatoes in Germany and the US, we made estimations, using the information from Young, 2015 and the data presented in Table 10. The results show that Americans consume significantly less organic canned tomatoes. However, this data might not be reliable and realistic enough as per the lack of information, even though it could prove that consumption of organic canned tomatoes per capita is higher in Germany than in the US.

Comparison: *There is no production of organic canned tomatoes in Germany, but significant production in the US. The consumption in Germany is rising significantly with the growing awareness of healthier lifestyle in the country, but it remains unchanged in the US and it is expected to remain so in the future. Germany is the biggest world importer, while the US imports a small share of organic canned tomatoes from Italy.*

Outlook: *Based on increasing imports and consumption, along with a complete lack of domestic production, the German market appears to be an attractive market for exporters. The US, on the other hand, is expected to continue to increase production while consumption remains relatively flat and significantly lower than in Germany. The excess domestic supply is expected to continue to expand exports.*

3. Market characteristics

Germany

Consumer Preferences

Germans prefer canned tomatoes that are thin-skinned with “tender-firm walls”, and with large cavities full of flavorful jelly. Germans also prefer whole and firm processed tomatoes because they tend to hold their shape and don’t get “mushy” (“Understanding canned”, 2009).

In terms of origin, Pelzl (n.d.) concluded that Germans prefer imported organic and conventional canned tomatoes from South Italy. Discussions with organic food distributors Dennree, Alnatura and Naturata, along with visits to local grocery stores, confirmed that the majority of organic canned tomatoes are imported from Italy.

Market Segments

The market for organic canned tomatoes in Germany is divided into two segments: retail and industrial. The majority of organic canned tomatoes are sold through the retail channel (referring to products sold to consumers through retail distributors and supermarkets). In a survey done by Ökobarometr in 2013, 22% reported buying organic food “only/often” and 52% reported buying organic food “sometimes”. In the industrial segment, organic canned tomatoes are used for ready-made meals, food services and public catering. The survey also suggests that the increasing awareness of the negative impacts of pesticides and Genetically Modified Organisms (GMOs) on the consumers' health is significantly boosting the acceptance of organic food among the young population of Germany. About 23% of the interviewed below 30 years buy organic food “only/often” (Schulz, von Muenchhausen & Haering, 2013). While younger consumers’ purchases of organic food have increased, the opposite trend is observed among older consumers. The proportion of those aged 50-59, who never bought organic food increased nine percent in the past year, while the increase was 8% among over 60s. The proportion of 26 % of those aged 50-59, who frequently bought organic food, was still higher than that of younger consumers. (Scott-Thomas, 2013).

Conditions of Acceptance

The conditions of acceptance for organic canned tomatoes require the tomatoes to be biofresh and not to exceed legal levels of chemical substances and heavy metals. The levels of lead are limited to 0.5 mg/kg for canned vegetables (Büchel, 2008). Lead

seeps into tomatoes through soil or water, and causes harm to the nervous system and reproductive organs. Some lead compounds may even cause cancer. The German Federal Institute for Risk Assessment also restricts levels of tin in foodstuffs to the lowest possible extent. The legal tin level limit is 200 mg/kg. The levels of ergosterol within tomatoes must also be strictly controlled during production (Büchel, 2008). While ergosterol is not harmful, it indicates that moldy tomatoes were processed. According to Cook's Illustrated tomatoes with the lowest pH (i.e., the most acidic tomatoes) are more preferable. Calcium chloride is also one of conditions of acceptance, as it helps tomatoes hold their shape. ("Understanding canned", 2009).

Competition

The conventional alternative to organic canned tomatoes is their most prevalent competitor, primarily because of the lower prices. Fresh tomatoes are another competitor of organic canned tomatoes, primarily due to taste preferences. However, preserved tomatoes (organic and conventional) have a competitive advantage over their fresh competitor: a longer shelf life. This longer shelf life allows products to be transported to distant markets and allows users to store products for a longer period of time.

Demand Trends

The average German consumed 8.5 kgs of fresh tomatoes and 16.4 kgs of processed tomatoes including ketchup, tomato paste and sauces in 2014 (Bundesanstalt fur Landwirtschaft und Ernahrung, 2015). Field research in Cologne, Germany in November 2015 indicates that organic canned tomatoes constitute 20.2% of the total amount of canned tomatoes. This data is supported by a survey done by Ökobarometr in 2013, in which 22% reported buying organic food "only" or "often" (Schulz, von Muenchhausen & Haering, 2013).

Processed foods are becoming increasingly popular with the global urban population, which has less access to fresh food than rural populations ("Global", 2015). The demand for convenience food has increased due to a faster pace of life, more single-headed households and less time for cooking ("The EU Market", 2009).

The United States

Preferences

Versatility and high nutritional value make tomatoes the second most consumed vegetable in the US (USDA ERS, 2012). Consumers within the US that purchase organic food do so because it is more nutritious, safer to eat and more environmentally friendly to produce. While organic produce typically costs more than conventional produce, sales continue to increase due to concerns about food safety and environmental quality. Consumers of organic produce (and presumably organic canned tomatoes) are typically young adults between the ages of 18 to 29 years old. However, more than one in three Americans do not think about organic food enough to consciously include it in their diets (Riffkin, 2014).

Market Segments

Two main market segments for organic canned tomatoes can be identified within the U.S. market: retail (in supermarkets and grocery stores) and foodservice channels.

The more substantial market segment (in terms of volume of customers) for organic canned tomatoes is the retail channel, where the product is ultimately intended for household use as a well-established cooking ingredient. Organic food as well as organic canned tomatoes consumers want to keep healthy lifestyle. They are convinced of the benefits of organic and natural products for them, their daily lives and the environment. According to a market research company IRI and Spins the average age of the consumer of organic food is 40 and their average year income is $65,000 (Perreau F, 2013).

Organic canned tomatoes are most commonly used in Italian dishes, chili, soups and casseroles. Convenience and an extended shelf life are the primary reasons that consumers purchase canned tomatoes over fresh tomatoes. Ultimately, 75% of US tomato consumption occurs in canned form (Young, 2015).

Another market segment identified in the US is within the foodservice channel, which includes restaurants, schools and manufacturers of ready-made meals. Organic canned tomatoes are again used primarily as a cooking ingredient.

Conditions of Acceptance

There are several different conditions that impact customer choices regarding organic canned tomatoes including salt and acidity level, level of juiciness, meatiness, sweetness, tanginess, and overall flavor.

Customers accept sodium-free, low-sodium, or a no-salt-added versions of organic canned tomatoes because ingesting too much salt is a prime cause of increased blood pressure and a major cause of heart attacks and strokes (Hagedorn, 2009). Various organizations, including the USDA and the AHA recommend less than 2,300 mg of sodium per day for healthy people. In addition, the AHA provides Americans indicators on food labels that can be considered part of an overall healthy diet. High acidity levels can also impact the safety of organic canned tomatoes. Keeping the pH balance below 4.6 prevents Colostridium botulinum bacteria from growing and producing deadly neurotoxins (Ingham, 2011).

Competition

Conventional canned tomatoes are a major competitor for organic canned tomatoes. Fresh tomatoes are also a major competitor. Consumers tend to prefer fresh tomatoes to the preserved (organic or conventional) alternatives. However, preserved alternatives have a much longer shelf life and are much more convenient to consume.

Demand Trends

Demand for organic vegetables in the US has grown approximately 11% per year and is expected to continue at this page. Canned organic vegetables also are expected to continue to grow, albeit at a rate closer to 8% (USDA, 2014). Organic canned tomato sales, however, has grown less than 1%/year over the past four years (Young, 2015). Research shows that heavy price discounting of organic canned tomatoes (in an attempt to build market share) and a lack of consumer differentiation between organic and conventional tomatoes has led to the lack of growth in the US market (Kirchen, Armor & Panish, 2014, p.1). The minimal growth in the organic canned tomato market has come at the expense of the conventional canned tomato market, which has declined approximately 1%/year over the same time (p.2).

Comparison: *The German market demonstrates positive and steady consumption trends that are expected to grow in the future. The US market shows little growth in the organic canned tomato market and a decrease in demand of conventional canned tomatoes.*

Outlook: *Demand for organic canned tomatoes in Germany is expected to continue to increase because the awareness of healthier lifestyle becomes more important. However, consumption (on a US$ basis) in the US is relatively flat and expected to remain so in the future.*

4. Market access

Tariffs

Germany

Since Germany is a member of the EU, which is a customs union, goods imported to Germany are subjected to EU-wide import regulations and custom tariffs. Germany does not levy tariffs against other EU members. However, Germany has a third country duty of 14.40%. For some countries, Germany has established trade agreements (EC, n.d.). An overview of the tariffs of the trade agreements is given below.

Table 12: EU Import Tariffs

Country	Tariff
ERGA OMNES (REGA OMNES)	14.40%
Andorra	0%
Albania	0%
Bosnia and Herzegovina	0%
Central America	0%
CARIFORUM (excluding Haiti)	0%
Chile	0%
Cameroon	0%
Colombia	0%
Ecuador	0%
Egypt	0%
Economic Partnership Agreements	0%
Eastern and Southern Africa States	0%
Fiji	0%
Georgia	0%
Israel	0%
Iceland	0%
Jordan	0%
Japan	0%
Korea, Republic of (South Korea)	0%
Lebanon	0%
Overseas Countries and territories	0%
Marocco	0%
Moldova, Republic of	0%
Montenegro	0%
Former Yugoslav Republic of Macedonia	0%

Peru	0%
Papua New Guinea	0%
Occupied palestinian Territory	0%
San Marino	0%
GSP	0%
GSP+	0%
Turkey	0%
Ukraina	0%
Kosovo	0%
Serbia	0%
Source: EC, 2015	

The United States

The US has NTR with a vast majority of countries in the world. NTR is a status given to U.S. trade partners with a declared beneficial trade status. These countries pay a 12.50% import duty on canned tomatoes coming into the US. Due to trade agreements, many countries with NTR status do not face any import tariffs. These countries are listed in Table 13 (USITC, 2014 and CBP, 2015). However, the US-Morocco Free Trade Agreement includes tariff-rate quotas for preserved tomato products (CBP, 2015).

Table 13: US Import Tariffs	
Country	Tariff
Countries with NTR status	12.50%
Angola	0%
Antigua and Barbuda	0%
Aruba	0%
(The) Bahamas	0%
Bahrain	0%
Barbados	0%
Belize	0%
Benin	0%
Bolivia	0%
Botswana	0%
British Virgin Islands	0%
Burkina Faso	0%
Cameroon	0%
Canada	0%
Cape Verde	0%
Chad	0%
Columbia	0%
Comoros	0%

Congo (Republic)	0%
Cote D'Ivoire	0%
Curacao	0%
Djibouti	0%
Dominica	0%
Ecuador	0%
Ethiopia	0%
Fiji	0%
Gabon	0%
Georgia	0%
Ghana	0%
Grenada	0%
Guinea	0%
Guinea-Bissau	0%
Guyana	0%
Haiti	0%
Indonesia	0%
Iraq	0%
Israel	0%
Jamaica	0%
Kenia	0%
Lesotho	0%
Liberia	0%
Madagascar	0%
Malawi	0%
Mali	0%
Mauritania	0%
Mauritius	0%
Mexico	0%
Montserrat	0%
Mozambique	0%
Namibia	0%
Niger	0%
Nigeria	0%
Oman	0%
Peru	0%
Philippines	0%
Rwanda	0%
Sao Tome and Principe	0%
Senegal	0%
Sierra Leone	0%
Singapore	0%
South Africa	0%
St. Kitts and Nevis	0%
St. Lucia	0%

Tanzania	0%
Thailand	0%
Togo	0%
Trinidad and Tobago	0%
Uganda	0%
Ukraine	0%
Uzbekistan	0%
Vincent and the Grenadines	0%
Zambia	0%
Source: USITC, 2015	

Standards and regulations

The Codex Alimentarius Committee on Processed Fruits and Vegetables is primarily responsible for defining SPS standards for processed fruits and vegetables. As members of the Codex Alimentarius, both Germany and the US must adhere to these standards. The Codex Alimentarius was established by the FAO of the UN and the WHO to develop harmonized international food standards, which protect consumer health and promote fair practices in food trade (WHO, n.d.). The relevant document is ALINORM 07/30/27 (FAO of the UN, 2007).

Germany

International trade of organic canned tomatoes in Germany is regulated through the European Commission legislation. Regulation (EC) No 834/2007 sets the organic production standards and the control requirements for all products marketed and traded within the EU (International Federation of Organic Agricultural Movements, 2012). In addition, approved partners (Argentina, Australia, Costa Rica, India, Israel, Japan, Canada, New Zealand, Switzerland, Tunisia and the US) can import into the EU without additional inspection, as the standards of these countries are deemed acceptable (EC, n.d.).The German Customs Administration is involved in monitoring the import of foods from non EU-members and non-partners. Generally, these products can be declared at any German Customs office. For certain products of non-animal origin (including organic canned tomatoes), special monitoring procedures are required to protect health of consumers. For example, a common entry document must be submitted to the Customs offices (Ministry of Finance, n.d.). The Federal Ministry of Food and Agriculture is also responsible for food safety regulations (Federal Ministry of Food and Agriculture, n.d.).

The United States

The U.S. Government Publishing Office defines canned tomatoes under Title 21, Chapter I, Subchapter 2 (FDA, 2015).

The NOP (a division of the USDA) sets the standards for organic agricultural products. The USDA is also responsible for verifying that companies comply with government organic regulations. If confirmed, producers may use the organic certification when selling products in the US. The US has established trade partnerships with Canada, Japan and the EU, which allows for certification with minimal paperwork (US Mission to the EU, 2013). The CBP sets US import regulations (CBP, 2006). The CFR determines the quality of organic canned tomatoes, which results in a grade ranging between “Grade A” and “Substandard” for imported products (USDA, n.d.). Ergosterol, a constituent of the cell wall in some vegetable parasites (such as molds), has recently been recognized as an objective parameter for determining the quality of processed tomatoes. A maximum limit of 15 mg of ergosterol is allowed within tomato products (Kadakal and Artik, 2010). Imported products must comply with the levels set forth in the General Standard for Contaminants and Toxins in Food and Feed (FAO of the UN, 2009).

Non-tariff barriers

Germany

For imports from Japan a CED or CVED is needed. These are documents used to pre-notify the arrival of each consignment to ensure that the products are safe and meet the specific import condition. Imports from Crimea and Sevastopol are prohibited (EC, 2015).

The United States

The US-Morocco Free Trade Agreement includes tariff-rate quotas for preserved tomato products (CBP, 2015). Embargoed countries for the US include Cuba, Iran, Sudan, Syria and North Korea (Office of Research Support, n.d.).

Comparison: *Germany has a third country duty of 14.40%, while the US has a tariff of 12.50% for NTR. Each country has an organization which sets up general regulations for the import of goods. For both countries, the Codex Alimentarius Commission Committee on Processed Fruits and Vegetables is responsible for health standards.*

Each country has government agencies to ensure that these organic standards are being upheld.

Outlook: *Currently, there are many discussions about the introduction of the TTIP. If the introduction is successful, tariffs, regulations and non-tariff barriers will likely change. Any kind of trade agreements affecting Germany or the US can influence the market access for organic canned tomatoes positively or negatively.*

5. Prices

Consumers are generally willing to pay a premium price for organic food products. The high prices are a necessary result of the increased cost of growing, managing and harvesting of organic crops. Prices are also very dependent upon market venue and consumer product choice (Organic Farming Research Foundation, 2012).

Table 14: Italy's export (to Germany), Germany's import from the world and Top5 world exporters in 2010-2014

Italy's export to Germany (FoB)

Year (export)	Trade value (in 1000 US$)	Net weight (in tons)	Trade value per 1 kg (US$/kg)
2010	133110	170841	$0,78
2011	135918	172139	$0,79
2012	134783	171710	$0,78
2013	155583	191644	$0,81
2014	168743	185983	$0,91

Germany's import from the world (CIF)

Year (import)	Trade value (in 1000 US$)	Net weight (in tons)	Trade value per 1 kg (US$/kg)
2010	157605	205389	$0,77
2011	171745	222593	$0,77
2012	181500	229869	$0,79
2013	191256	224105	$0,85
2014	209851	228014	$0,92

World Top 5 Exporters (FoB World)
Price per 1 kg (US$)

Year (export)	Italy	Spain	USA	Greece	Turkey	Average price
2010	$0,86	$0,73	$0,79	$0,71	$1,25	$0,87
2011	$0,87	$0,70	$0,75	$0,69	$1,42	$0,89
2012	$0,88	$0,64	$0,76	$0,69	$1,53	$0,90

2013	$0,92	$0,74	$0,76	$0,67	$2,08	$1,03
2014	$0,99	$0,72	$0,80	$0,67	$1,82	$1,00
Source: UN Comtrade database, 2015						

Prices at producer level

Conventional farmers use different chemicals, antibiotics and pesticides to increase production efficiency. Organic farmers have to hire more workers, use more expensive alternatives for crop management, and wait longer for harvest (Valliant, 2014).

Germany

Germany imports both organic and conventional canned tomatoes from abroad. 86% of all canned tomatoes are imported from Italy. Export trade values from Italy to Germany were obtained to trace the prices. Import from the world and top exporters' trade values (chapter 2) are also presented.

The table above shows an increase of 19% in trade value per 1 kg. of Germany's import from the world. Note that the product's HS code does not differentiate between organically and conventionally processed tomatoes.

United States

Processing tomatoes are typically sold at contracted prices set months in advance of harvest. Organically processed tomato contract have been estimated using crop insurance pricing, which was updated for 2011 to allow producers to insure their crops at contracted prices (National Sustainable Agriculture Coalition, 2010). The cost of tomatoes is estimated to be 53% of the total cost of production (The Food Institute, 2014). Based on this information, producer prices for organic canned tomatoes are shown in Table 15.

Table 15: US Producer Prices for Raw Organically processed Tomatoes, 2011-2014 (US$/kg)	
	Raw Organically processed Tomatoes
2011	0.087
2012	0.092
2013	0.094
2014	0.096
Sources: USDA Risk Management Agency (n.d.) and The Food Institute (2014)	

Prices at wholesale level

Germany

Discounters dominate the market. Leading retailers have multiple retail chains, often with various types of retail formats such as large hypermarkets, discount and small neighborhood stores and outlets. In this case, the retailers do not involve wholesalers in their sourcing, as large retailers purchase organic canned tomatoes directly from producers. Italian wholesalers also may deliver the product to smaller retailers in Germany.

United States

Representatives in the US were unwilling to provide wholesale pricing information. Local wholesale retailers (such as Restaurant Depot and Costco) and Alibabi were used to approximate 2015 wholesale prices. Nielsen data from 2010-2013 shows a decline in unit pricing from 2010-2013 of approximately 4.2% (Young, 2015). This trend was extended to 2015 and used to estimate wholesale organic canned tomato prices for 2010-2014.

Table 16: Estimated US Wholesale Prices for organic Canned Tomatoes, 2010-2014 (US$/kg)	
	Organic Canned Tomatoes
2010	1.81
2011	1.77
2012	1.74
2013	1.70
2014	1.67
Sources: Young (2015), local wholesalers and Alibaba	

Prices at retail level

Germany

Field research in supermarkets of Cologne as of November 2015 indicates a retail price of EUR 1.24 per kg for conventional canned tomatoes and EUR 3.77 per kg for organic canned tomatoes. According to informal discussion with employees prices of the current and previous years are the same. Official representatives of these retail locations declined to provide pricing information for previous five years.

Table 17: Retail Prices for Conventional Canned Tomatoes (2014-2015) in Cologne, Germany

Distributor	Company	Product's title	Package in kg	Amount of units on shelf	Overall quantity on shelf in kg	Price in EUR per 1 kg	Whole quantity on shelf in EUR
	Heinz	Tomaten stückige	0.400	5	2.0	3.23	6
	DelMonte	Tomaten geschäft	0.480	8	3.8	4.15	16
	DelMonte	Tomaten geschäft	0.240	13	3.1	4.80	15
	Ja	Tomaten geschäft tin	0.400	21	8.4	0.98	8
	Ja	Tomaten geschäft carton	0.500	15	7.5	0.70	5
	Cirio	Tomaten filetti. Pomodorino	0.400	12	4.8	2.98	14
	Cirio	Tomaten pelati	0.400	9	3.6	2.38	9
	Rewe	Tomaten geschälte tin	0.425	9	3.8	3.50	13
	Rewe	Tomaten passierte carton	0.500	27	13.5	1.70	23
	Rewe	Tomaten fluchtfleisch carton	0.500	9	4.5	2.18	10
	Oro	Tomaten passierte carton	0.400	7	2.8	3.38	9
Rewe	Oro	Tomaten stückig tin	0.400	16	6.4	3.38	22
Netto	Beste Ernste	Tomaten passierte	0.500	39	19.5	0.78	15
	GartenKrone tin	Tomaten fein gehackte	0.400	288	115.2	0.80	92
Aldi	GartenKrone carton	Tomaten fein gehackte	0.500	269	134.5	0.70	94
	Freshona	Tomaten gehackte	0.400	136	54.4	0.98	53
LiDl	Freshona	Tomaten passierte carton	0.500	166	83.0	0.70	58
	Edeka gut und günstig	Tomaten ganz	0.400	60	24.0	1.60	38
	Edeka gut und günstig	Tomaten ganz	0.600	12	7.2	1.65	12
	Edeka gut und günstig	Tomaten passiert carton	0.500	11	5.5	0.78	4
	Valfrutta	Passierte Tomaten	0.500	15	7.5	1.98	15
	Oro di Parma	Tomaten passiert. Stückig	0.400	70	28.0	2.98	83
Edeka	Edeka	Tomaten fein passiert. Stucken	0.500	19	9.5	1.48	14
Total in kg. and EUR					552.6		631
Average value in EUR per 1 kg. (total value/total quantity)							1.14

Source: Field research

Table 18: Retail Prices for Organic Canned Tomatoes (2014-2015) in Cologne, Germany

Distributor	Company	Product's title	Package in kg	Amount of units on shelf	Overall quantity on shelf in kg	Price in EUR per 1 kg	Whole quantity on shelf in EUR
	Dennree	Cherry tomaten ganz	0.400	14	5.6	3.22	18
	Dennree	Tomaten fein stuckig	0.400	24	9.6	2.20	21
	Valfrutta	Tomaten polpa	0.400	6	2.4	2.90	7
	Denree	Tomaten passierte carton	0.500	7	3.5	1.79	6
Denn's Bio	Denree	Tomaten ganz geschält	0.400	15	6.0	2.50	15
	BioBio	Tomaten pizza	0.420	24	10.1	2.00	20
Netto	BioBio	Tomaten passierte carton	0.500	33	16.5	1.38	23
	Bioladen	Tomaten passierte glass	0.660	13	8.6	2.19	19
	Bioladen	Tomaten stückchen cubetti	0.400	22	8.8	2.73	24
	Naturata demeter	Tomaten püree glass	0.400	12	4.8	5.73	27
	Naturata demeter	Tomaten geschälte glass	0.660	14	9.2	4.98	46
Naturata	Naturata demeter	Tomaten passata glass	0.660	11	7.3	3.56	26
	Rapunzel	Tomaten geschält	0.480	2	1.0	4.77	5
	Rapunzel	Tomaten passata	0.410	2	0.8	3.34	3
	KrauterAlnatura	Tomaten ganze	0.240	34	8.2	3.50	29
	KrauterAlnatura	Tomaten stücke kraüter	0.240	31	7.4	3.96	29
	KrauterAlnatura	Tomaten stücke kraüter	0.240	28	6.7	3.54	24
	Alnatura	Tomaten fein passiert	0.690	18	12.4	7.48	93
	Naturata demeter	Tomaten geschälte glass	0.660	7	4.6	4.98	23
Alnatura	Naturata demeter	Tomaten passata glass	0.660	10	6.6	3.56	23
Total in kg. and EUR					140.1		481
Average value in EUR per 1 kg. (total value/total quantity)							3.43

Source: Field research

This research is based on the assumption that demand equals supply, as reflected in the range of products available on supermarkets' shelves. Density of the above retailers is evenly distributed at a rate of approximately 15-17 stores per city. Organic canned tomatoes contribute 20.2% to total canned tomatoes available on shelves. It is worth to mention that the obtained share of 20.2% does not include public catering and industrial usage of canned tomatoes.

United States

Retail pricing for organic canned tomatoes have historically averaged a 25% price premium over conventional canned tomatoes (Martin, 2014). Based on 2015 prices of organic canned tomatoes at both niche organic retailers (such as Whole Foods and Trader Joe's) and at mass-market retailers (such as Walmart), and inflation rates provided by the BLS, Table 19 estimates retail pricing for organic canned tomatoes from 2010-2014 for both domestic and imported brands.

Table 19: Retail Pricing info for organic Tomatoes at niche and mass-market Retailers (in US$/kg)

	Niche Retailers	Mass-Market Retailers
2010	3.49	3.30
2011	3.55	3.35
2012	3.55	3.35
2013	3.56	3.36
2014	3.57	3.37

Source: Field research and BLS (2015)

Value chain

The value chain of organic canned tomatoes includes farmers, organic certifying agencies, processing industries, wholesalers (in the US), logistics companies and retail distributors. The most significant costs are fresh processing tomatoes as well as packaging materials, such as aluminum cans, glass jars, cardboard boxes and plastic containers.

Table 20. Price development at Value chain of Canned tomatoes for 2010-2014 in Germany

Year	Export price per 1 kg (from Italy to Germany)*	Import price per 1 kg (to Germany from world)**	Retail prices***	
			Organic canned tomatoes per 1 kg	Conventional canned tomatoes per 1 kg
2010	$0,78	$0,77	-	-
2011	$0,79	$0,77		
2012	$0,78	$0,79		
2013	$0,81	$0,85		
2014	$0,91	$0,92	$3,70	$1,23

Source: UN Comtrade database, 2015

* Italy's export to Germany is presented as it makes 86% of Germany's import.

**Prices are generalised as there is no differentiation between organic and conventional prices of Canned Tomatoes imported in Germany

***Conversion as of for a corresponding year's average exchange rate (1EUR=1.08US$)

Table 21. Price development at Value chain of Organic domestic canned tomatoes for 2010-2014 in US

Year	Producer level		Wholesale level		Retail level (niche retailers)*	
	Price in US$	Price in %	Price in US$	Price in %	Price in US$	Price in %
2010	-	-	$1,81	51,8	$3,49	100
2011	$0,09	2,5	$1,77	49,9	$3,55	100
2012	$0,09	2,6	$1,74	49,0	$3,55	100
2013	$0,09	2,6	$1,70	47,7	$3,56	100
2014	$0,10	2,7	$1,67	46,8	$3,57	100

Source: Chapter 5 Prices

* Retail (final) price was taken for 100%

***Comparison**: Prices for organic canned tomatoes in the US have declined on a per unit basis over the last five years on wholesale level while it has been pointing upwards for retail level prices. This price decrease on wholesale may continue in the future, as Walmart has committed to greatly expanding its organic vegetable selection at price*

levels equivalent to conventional vegetables (Martin, 2014). The prices of the organic goods in Germany show significant difference between organic and conventional canned tomatoes. The price premium is expected to continue in this market. Prices for organic canned tomatoes increased over the past 5 years. However, technological advancements might change the current price trend (see chapter 10).

***Outlook**: Based on this information, the German market does not appear to be attractive to exporters as of the dominance of retail-discounters and expectations of technological processing advancements that might lead to a decrease in the price premium of organic canned tomatoes. However there is no data available (retail prices time series) to predict solid future trends. The US market should not be seen as an export market to pursue at this time as well due to price-cutting strategies from the largest retailer in America, which might lead to the disappearance of the price barrier for organic goods around the country. This in perspective is expected to cause all retailers to lower prices on organic canned vegetables in order to compete, thus potentially reducing margins on this product.*

6. Distribution channels

Supply chain

The distribution channel structure for organic canned tomatoes in Germany and the US is similar. The agricultural and production phase can happen in various countries (however, production does not happen within Germany). Once the canned product is imported into Germany or the US, it follows a similar path in the distribution and retail phases.

Figure 9: Supply Chain

Growing and harvesting

Farmers within the US who grow organic tomatoes must be certified and follow the standards regulated by the NOP (Kaiser and Ernst, 2011). Farmers within Germany follow similar regulations set forth by the EU Organic Program (EC, 2014). Production begins with certified organic seeds, planted on land that has been free of synthetic pesticides and artificial fertilizers for three years. Growers with split operations either use separate equipment or follow decontamination protocol before harvesting organic produce (Kaiser and Ernst, 2011). The tomatoes may be rejected after harvest due to bruising, decay or over-ripeness (UN, 2007).

Production and storage

After harvesting, organic tomatoes are transported to the processors via truck. Table 21 shows the conditions that need to be met by the transportation facilities (GDV die Deutschen Versicherer, n.d.). The maximum duration of storage for organic tomatoes before canning is shown in Table 22 (GDV, n.d.).

Table 22: Transportation Conditions of Organic Tomatoes before Canning				
Designation	Temperature	Rel. humidity	O2	CO2
green, unripe tomatoes	12.8 - 14.4°C	90 - 95%	3 - 5%	0%
pink tomatoes	10.0 - 11.1°C	90 - 95%	3 - 5%	0 - 3%
Source: Gesamtverband der Deutschen Versicherungswirtschaft e.V. (GDV), n.d.				

Table 23: Storage Conditions of Organic Tomatoes Before Canning		
Temperature	Rel. Humidity	Max. duration of storage
10 - 12°C	85%	approx. 14 days
10°C	80 - 85%	8 - 10 days
8 - 10°C	80 - 85%	7 - 14 days
Source: GDV, n.d.		

Processors can the product and store it in warehouses for a maximum duration of one year in a location of no more than 20°C and 60% humidity (GDV, n.d.).

Transportation and distribution

Processors ship the finished product year-round in response to customer demand. The distribution path varies depending on where the product was canned and the intended market for consumption. Non-perishable canned products move in water-tight van trailers, dry van containers, or rail boxcars (San Joaquin Valley Regional Planning Agencies, 2011). The canned product will pass through Customs upon entering the country following regulations outlined in Chapter 4. Canned tomatoes destined for individual consumer consumption pass through wholesale markets and proceed to retail locations (The Food Institute, 2014). Canned tomatoes destined for use in the industrial segment will be shipped directly to restaurants or ready-made meal manufacturers.

Competition in the Supply Chain

In the US, demand for organic produce is high, which the supply is often unable to meet. This alleviates competition amongst farmers but creates competition within the production phase because processors are unable to find enough suppliers. This causes processors to search outside the US for organically processed tomatoes (Public Broadcasting Service, 2007).

Farmers in Germany have also been unable to keep up with the organic boom and the growing demand ("German farmers", 2013). Processors from foreign countries compete for organic produce grown within Germany. However, because of the lack of domestic production of organic tomatoes, processors must search for suppliers outside of Germany.

Due to high demand, U.S. and German retailers must compete and pay premium prices for the finished product. However, some smaller farmers bypass retailers and engage in direct marketing by canning and selling their organic tomatoes onsite or through local farmer's markets.

Comparison: *The distribution channels within Germany and the US are relatively similar after the product is imported. The supply chain will vary depending on where the product is grown, where it is canned/processed, and the intended market (country) for consumption.*

Outlook: *No major changes are expected to occur in the distribution channels for either Germany or the US. While direct marketing does occur, it does not appear that the volume will have an impact on the distribution or retail phase.*

7. Commercial practices

Germany

German companies contact potential foreign partners by email, phone or through B2B e-commerce websites such as Alibaba. The trade agreements for importing organic canned tomatoes are standardized to the ITC model contract for international sale of goods, which specifies the product, quality, quantity, time and place of delivery (ITC, 2010). Moreover, in 2002 German food retailers from the Hauptverband des Deutschen Einzelhandels developed the International Food Standard, which is the common audit directive detail the scope of contracts for processed food trade (FAO of the UN, 2001).

Delivery terms are based on the Incoterms 2000 issued by the ICC. It is often required to use DDP, FOB or CIF delivery terms (Centre for the Promotion of Imports from Developing Countries, 2005, p. 93). Due to the fact that Germany imports organic canned tomatoes mainly from neighboring countries, bulk quantities are transported in containers by trucks and trains (“Main services”, n.d.).

An importer pays an exporter via bank transfer approximately 40 days after issuing an invoice. Although importers prefer LoC or T/T as methods of payment, “open account” is also widely used in the EU.

US

Organic canned tomato sales are operated under a contract between the various participants in the distribution chain. The first contact is generally established via phone or email. Standard templates for organic canned tomatoes sales contracts are provided and regulated by the FDA.

Organic canned tomatoes are transported in bulk quantities, primarily by rail or truck. European importers are strategically located close to local ports which enables efficient loading and shipping of goods by sea through vessels (“Logistics”, n.d.). When the organic canned tomatoes are imported from overseas, CIF delivery terms are used. Because California produces over 99% of US organic canned tomatoes processors can locate near the organic tomato farms and ensure easy accessibility by freight railroads (San Joaquin Valley Regional Planning Agencies, 2011).

The payment transaction is normally processed within 25-30 days after receipt of invoice through LoC or T/T.

Outlook: *The latest trend in the communication between suppliers and retailers is based on direct mail orders and e-commerce. No changes are expected to occur in commercial practices unless an importing or exporting country will change.*

Comparison: *Commercial practices in the US and Germany are similar in the terms of ordering procedure, payment methods and transportation modes. In these countries importers aim to maintain long-term relationships with suppliers through well-established commercial practices This makes both the German and US markets attractive for trading.*

8. Packaging and labeling

Packaging

Cans used for canned tomatoes are typically made of aluminum, steel, tin or aluminum alloy. Aluminum cans are most common and are usually internally coated with lacquer to prevent the aluminum from oxidizing and interacting with the food (Ricci, n.d.). As previously mentioned, bulk quantities of canned tomatoes are usually transported in containers by trucks and trains. In addition, an alternative form of packaging, aseptic carton packaging is becoming increasingly popular because they are lightweight, easier to pack and ship (due to their shape), and easier to recycle (The Food Institute, 2014).

Germany

Packaging regulations are defined in the “Verpackungsverordnung” (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, 1998). The Commission Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 outlines general procedures for food safety. Regulation 1881/2006 describes the maximal levels of contaminants allowed in food (“Commission regulation”, 2006). Table 23 provides an overview of EU regulations affecting food packaging and organic products (ITC, 2012, p. 15).

Table 24 : EU Regulations Affecting Food Packaging	
Mandatory Regulations	Product Regulations 2201/96. Authorized Food additives directive 89/107/EEC.95/2EC. Authorized Flavorings directive 88/388/EEC
	Packaging marking and labelling directive 75/106/EEC. Obligations for the packaging of: fruits juice and concentrates, dried fruits and vegetables, frozen fruit and vegetables.
	Environment Measures-Organic Production directive 2092/91/EEC
Voluntary Regulations	HACCP, Directive 93/437EC and legislation COM/2000/0438, ISO 9000, ISO 14001, corporate level standards, private standards, BRC, international standard for auditing, international Federation of Organic Agriculture Movements (IFOAM)
Source: ITC, 2012	

Directive 94/62/EC regulates all packaging and packaging waste for markets within the EU. Table 24 shows European standards and further defined requirements of this directive, formulated by the European standardization body (Centre for the Promotion of Imports from Developing Countries, 2011).

Table 25: European Standards

Standard No.	Title	Function
EN 13427:2004	Packaging – Requirements for the use of European Standards in the field of packaging and packaging waste	Guidelines
EN 13428:2004	Packaging – Requirements specific to manufacturing and composition – Prevention by source reduction	Optimized use of packaging
EN 13429:2004	Packaging – Reuse	Reusable packaging
EN 13430:2004	Packaging – Requirements for packaging recoverable by material recycling	Material recoverable packaging
EN 13431:2004	Packaging – Requirements for packaging recoverable in the form of energy recovery, including specification of minimum inferior calorific value	Energy recoverable packaging
EN 13432:2000	Packaging – Requirements for packaging recoverable through composting and biodegradation – Test scheme and evaluation criteria for the final acceptance of packaging	Compostable packaging

Source: EU, 1994

Sections 87 through 91 of the Codex Alimentarius on Organically Produced Foods provide information on packaging and transportation for organic products (see annex 2) (ITC, 2012, p. 14).

The United States

Commercial canning is controlled in the US by the FDA and the USDA Food Safety Inspection Service (“US regulations”, n.d.). The packaging requirements for canned tomatoes are specified under the Code of Federal Regulations, Title 21, Section 155.190. Canned products must also comply with contaminant levels set forth in the General Standard for Contaminants and Toxins in Food and Feed (FAO of the UN, 2009).

Organic canned tomatoes may be packed in tomato juice, tomato puree, or tomato paste. Cans with seam defects (droops, false seems, loose seams) or that show signs that the product is adulterated (swollen, leaking, contains viable microorganisms or decomposition) are unacceptable. The standard fill for canned tomatoes should be no less than 90% of the total capacity of the container. All products regulated by the FDA must meet the same requirements, whether imported from abroad or produced domestically (FDA, 2015).

Labeling

Germany

Food imported into the EU must follow EU labeling regulations. The manufacturer or the importer is responsible for ensuring proper labeling ("Regulation", 2011). According to the European Parliament, the label should meet the following requirements:

Table 26: EU Labeling Regulations

Characteristics	Description
Content and presentation	a) Name of the product; b) List of ingredients; c) Substances that may cause allergies or intolerances (nuts, milk, mustard, fish, grains containing gluten, etc.) d) Quantity of certain ingredients or categories of ingredients; e) Net quantity; f) Date of minimum durability or "best before" date; g) Special storage conditions (if applicable); h) Name and address of the food processor or importer; i) Country of origin; j) Instructions for use (if necessary); k) Alcohol strength by volume (for beverages containing more than 1.2% alcohol by volume); l) Nutritional information.
Language	The information must be displayed in a language that the consumer can easily comprehend (European Parliament and Council, 2011). This would typically be a native language. Thus, in Germany, the label should be in German.
Units of measurement	Metric system

Source: "Regulation", 2011

Organically certified products can be labeled with the EU organic farming logo, which makes the product easy to identify by the consumer and gives "a visual identity to the organic farming sector" (EC, 2015).

Figure 10: EU Organic Farming Logo

Source: EC, 2015

United States

As mentioned in Chapter 4, the labeling of organic products that are produced in the US or imported for sale are governed by the USDA NOP. The NOP sets requirements for how the produce should be grown, processed and handled, and sets labeling requirements that are based on the percentage of organic ingredients in a product (National Sanitary Foundation, n.d.).

The product must be labeled in accordance with the General Standard for the Labeling of Prepackaged Foods (FAO of the UN, 2009). The label on organic canned tomatoes must include the country of origin, an ingredient list and a nutrition label (FDA, 2013).

Products labeled as organic must also display:

- Name and contact information of the agent who certified the business
- Name of the company who manufactured or processed the product
- USDA organic seal (if the product is labeled “100% organic” or “organic”)
- Certifying agent seal (except for products that contain less than 70% certified organic ingredients)
- Percentage of organic ingredients (USDA, 2009).

Comparison: *In Germany and the US the same packaging is used for processed tomatoes. In Germany, the EC and the Codex Alimentarius set regulations for the packaging of organic canned tomatoes. In the US, it is the FDA and the USDA Food Safety Inspection. Canned tomatoes imported to Germany must follow the labeling regulations of the EC. In the US, the NOP governs the labeling for organic food.*

Outlook: *There has recently been an increase in popularity of BPA-free cans due to concerns that BPA may be harmful to one's health. In addition, aseptic carton packaging is becoming increasingly popular over canned packaging because they are lightweight, easier to pack and ship (due to their shape) and are easier to recycle. Sustainable packaging is getting more important. Just recently the BIOCOPAC project has developed a bio-lacquer for metal cans which is made of tomato skins and which can be applied on the internal and external surfaces of the can (EC, 2015).*

9. Sales promotion

Trade fairs and exhibitions

The common way to promote organic canned tomatoes for potential exporters is to attend trade fairs and exhibitions. Associations organizing the events serve suppliers in the food and beverage industries and increase opportunities to network among industry colleagues. During the event an exhibitor obtains an opportunity to source new leads, grow his market share and nurture his business network and existing client relationships. Interested parties of the product may take participation in the following trade fairs and exhibitions organized in Germany and the US:

Germany

Anuga Köln

Koelnmesse GmbH

Messeplatz 1

50679 Cologne, Germany

Website: www.anuga.de

Tel: +49 221 8210

BIOFACH

NürnbergMesse GmbH

Messezentrum

90471 Nuremberg, Germany

Website: www.biofach.de

Tel: +49 9118 6068996

BioNord, BioWest, BioSüd, BioOst

Regional organic trade fairs

Website: www.biomessen.info

FOOD & LIFE

GHM Gesellschaft für Handwerksmessen mbH

Press and Public Relations Department

Willy-Brandt-Allee 1

81829 München

Germany

Website: www.food-life.de

Tel: +49 8918 9149160

Fax: +49 8918 9149160

Die Slow Food Messe

Landesmesse Stuttgart GmbH (LMS)

Messepiazza 1

70629 Stuttgart

Germany

Website: www.messe-stuttgart.de

Tel.: +49 7111 85600

Fax: +49 7111 85602440

E-mail: info@messe-stuttgart.de

The United States

Biofach America

NASFT Fancy Food Shows (Summer / Winter)

National Association for the Specialty Food Trade, Inc.

136 Madison Avenue, 12th Fl.

New York, NY 10016

USA

Website: www.biofach-america.com

Tel.: +1 646 8780140

Fax: +1 646 8780240

E-mail: info@nasft.com

FOOD PROCESSING EXPO

Tomato Processing School

California League of Food Processors

2485 Natomas Park Dr.,

Ste. 550, Sacramento,

CA 95833

Website: www.clfp.com

Tel: +1 916 6408150

Fax: +1 916 6408156

Natural Products Expo West

Anaheim Convention Center

800 West Katella Avenue

Anaheim, CA

USA

Website: www.expowest.com

Tel: Customer Service: +1 866 4584935

Tel: Registration: +1 866 4584935

Sustainable Foods Summit North America

North American Representative Office

2640 Greenwich Street #405

San Francisco, CA 94123

USA

Website: www.sustainablefoodssummit.com

Tel: +1 415 2541116

E-mail: info@sustainablefoodssummit.com

International Production and Processing Expo

Georgia World Congress Center

285 Andrew Young International Blvd NW

Atlanta, 30313-1513, Georgia, USA

Website: www.ippexpo.com

For IPPE sales inquiries,

Tel: +1 703 5583574

E-mail: snovak@afia.org

Institute of Food Technologists

525 W. Van Buren, Ste 1000, Chicago, IL 60607

Website: www.am-fe.ift.org/cms/

Tel: +1 312 7828424

Fax: +1 312 7828348

E-mail: info@ift.org

SOHO EXPO

SouthEast Natural Products Association (SENPA)

5946 Main Street, New Port Richey, FL 34652

Website: www.southeastnpa.org

Tel: +1 727 8460320

Fax: +1 800 5451374

GUELPH ORGANIC TRADE SHOW

Box 116, Collingwood, ON, L9Y 3Z4

Website: www.guelphorganicconf.ca

Tel: +1 705 4440923

Fax: +1 705 4440380

E-mail: organix@auracom.com

PROCESS EXPO

Food Processing Suppliers Association

1451 Dolley Madison Boulevard, Suite 101

McLean, Virginia 22101-3850

Website: www.myprocessexpo.com

Tel: +1 703 7612600

E-mail: info@fpsa.org

Trade magazines

Natural food suppliers, health food stores, food cooperatives, supermarkets, and natural/organic producers promote organic canned tomatoes in trade magazines as well. Trade magazines publish articles designed to educate or to provide with information retailers related to trends in the natural foods industry, emergent product categories and industry analysis. It also can include legal advice, merchandising tips, industry news research and various advertisements of different product categories. The following trade magazines include information about organic canned tomatoes and processed food:

Germany

Biowelt

INGER Verlagsgesellschaft mbH

Luisenstraße 34

49074 Osnabrück, Germany

Website: www.biowelt-online.de

Tel.: +49 5415 8054430

Fax: +49 5415 8054498

E-mail: runge@ingerverlag.de

Lebensmittel Zeitung

Deutscher Fachverlag GmbH

Mainzer Landstraße 251

60326 Frankfurt am Main, Germany

Website: www.lebensmittelzeitung.net

Tel: +49 6975 951172

E-Mail: wisken@lebensmittelzeitung.net

Bioland

Bioland Verlags GmbH

Kaiserstr. 18

55116 Mainz, Germany

Website: www.bioland.de

Tel: +49 6131 23979 0

Fax: +49 61312397927

E-mail: beratung(at)bioland.de

The United States

WholeFoods Magazine

WFC, Inc.

4041 Hadley Rd, Suite 101,

South Plainfield, NJ 07080

Website: www.wholefoodsmagazine.com

Tel: +1 908 7691160

Fax: +1 908 7691171

E-mail: info@wfcinc.com

Acres U.S.A. Magazine

4029 Guadalupe St.

Austin, TX 78751

Website: www.acresusa.com

Tel: +1 512 8924400

Fax: +1 512 8924448

E-mail: info@acresusa.com

PROCESSED FOOD INDUSTRY

#208-209, IJS PLACE, X320, DELHI GATE BAZAR,

NEW DELHI – 110002. INDIA

Website: www.pfionline.com

Tel: +1 910 1123284148

E-mail: info@pfionline.com

Food Processing

Putman Media, Inc.,

1501 E. Woodfield Road, Schaumburg,

Illinois, 60173,

Website: www.foodprocessing.com

Tel: +1 630 4671300

E-mail: webmaster@putman.net

Produce Processing

Great American Media Services and Produce Processing

75 Applewood Drive, Suite A P.O. Box 128 Sparta, MI, 49345

Website: www.produceprocessing.net

Tel: +1 616 8879008

E-mail: frontdesk@greatamericanpublish.com

Dairy Foods

BNP Media

155 N. Pfingsten Rd., Suite 205

Deerfield, IL 60015

Website: www.dairyfoods.com

Tel: +1 248 3623700

Fax: +1 248 3620317

E-mail: DRY@halldata.com

Food Business News

Sosland Publishing Co.

4801 Main St., Suite 650, Kansas City, MO 64112 USA

Website: www.foodbusinessnews.net

Tel: +1 816 7561000

Fax: +1 816 7560494

Comparison: *Entry fees to US trade fairs and exhibitions are usually slightly higher than in Germany. In both countries admission guidelines for exhibiting a product consist of same procedures and necessary documentation.*

Outlook: *It is expected that a preference in sales promotion will be shifted to online trade platforms on both continents, as innovation and economic development paste is common for Germany and US (see annex 3). The same trend applies for trade magazines, as they are transforming into digital online information sources providing issues periodically to the readers' observation. Online advertisements are already highly used by brands and suppliers to reach highly desirable audience effectively.*

10. Market prospects

Germany

Due to unfavorable climate conditions and high transportation costs of fresh organic tomatoes, there are no prospects of producing organically processed tomatoes in Germany. The fact that the German market entirely depends on imports creates a highly lucrative market for exporters. According to UN Comtrade (2015), imports of canned tomatoes have increased (by 2% on a quantity basis and 7% on a value basis) in the past four years. This trend is expected to continue. Moreover, consumption of organic canned tomatoes in Germany grew at an annual rate of just above 3%/year (on a kg basis). Local distributors expect this growth to continue. Consequently, the amount of imports is also expected to grow to meet this increase in demand.

Conventional canned tomatoes act as a substitute product for organic canned tomatoes. Conventional canned tomatoes are still preferred by a majority of customers due to the lower cost. However, local distributors predict that demand for organic food will continue to increase as awareness of healthier lifestyles becomes more important.

On the processing side, canned tomato products have benefited from innovations in the peeling, dicing and sorting processes. Advanced technologies, which utilize less energy, less time and result in a higher quality product are being studied (Barrett, 2015). German distributors believe that these advances will lead to a decrease in production costs, and consequently to a decrease in the import price. Ultimately, this is also expected to lead to increased demand for organic canned tomatoes.

The German market value chain is characterized by dominance of retail-discounters which is unfavorable market entry condition. This situation is expected to remain unchanged due to expected mergers among major retailers, further increasing their market power.

The tariff situation for organic canned tomatoes is favorable for many countries. Although the third country tariff of 14,40% is slightly higher than the tariff in the US (12.50%), Germany is part of the EU. As a customs union, the EU is a free trade area that imposes a common external tariff for some non-EU countries. Most importers into Germany are EU members, thus exempted from tariffs. These are very favorable conditions for importers within the EU. The only significant change to tariffs in the possibly near future is the TTIP, a potential trade agreement between the EU and the US. If both sides adopt the TTIP, it would reduce tariffs on US goods imported into the EU, thus increasing the potential profitability of imported US goods into Germany.

The United States

Production of organically processed tomatoes has grown in the past decade, with the 2014 crop valued at just under USD$15 m (USDA, 2014). Future innovations in technology are expected to decrease processing time and increase production (Barrett, 2015). However, California farmers may face significant obstacles in obtaining water due to a severe drought in the region (Carlton and Brat, 2015). If the drought continues, it is possible that producing a water-intensive crop such as organic tomatoes may become less profitable, thus reducing the production of processing tomatoes. This would enhance the import-demand of tomatoes.

US consumers continue to demand more organic food products. Organic food sales now exceed 4% of the total food market and are expected to steadily increase in the coming years (USDA, 2014). However, a majority of this growth is expected to be in fresh organic fruits and vegetables, and not for products such as canned tomatoes. Sales of organic canned tomatoes have grown by less than 1%/year (on a US$ basis) and are expected to continue to grow at this rate. As domestic production growth continues to exceed consumption, the amount of organic canned tomatoes exported from the US has increased by 3.4% annually (on a US$ basis) and is expected to continue to grow (Jaenicke and Demko, 2015, p. 33).

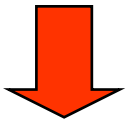
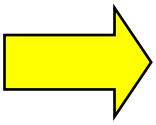
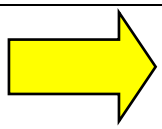
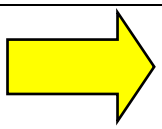
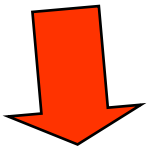
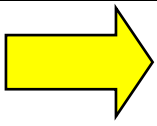
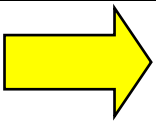
Organic canned tomatoes average a 25% price premium over conventional canned tomatoes. However, Walmart has declared a goal of selling organic food products for the same price as conventional food. This move is in response to research that shows 91% of Walmart shoppers would consider buying organic food if it were cheaper (Martin, 2014). This price reduction may cause other organic retailers to lower their prices, thus reducing the price premium and potentially encouraging farmers to produce other, more lucrative crops. This price reduction would also lead to decrease in profit margins for retailers, potentially encouraging them to stock shelves with higher-margin alternatives.

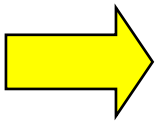
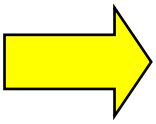
Comparison and outlook: *While demand for organic canned vegetables is expected to increase in both countries, the opportunities for import into these countries vary. In Germany imports have grown steadily over the past year and this trend is expected to continue. Germany continues to be the largest market in Europe for the consumption of organic foods (Germany Trade & Invest, 2014, p. 7). Germany also faces limited hindrances from tariffs to meet local demand. The US, however, is among the world leaders in production of organic canned tomatoes. At the same time, domestic consumption is expected to grow at a slow rate. This combination leads to limited opportunities for importers. The price premium that organic products have typically demanded may also decline due to price-cutting strategies from the largest retailer in America.*

Based on this information, the German market appears to have strong potential for import opportunities. The US market, however, should not been seen as an import market to pursue at this time. However, the US market should be monitored in the near future, as the California drought may negatively affect US production, therefore increasing the import opportunity into the US.

Table 27 shows the market prospect summary including an indication of the attractiveness for the German and US market.

Table 27: Market Prospect Summary

Chapter	Germany	USA	One sentence explanation based on analysis in report
2 Trade, Production, Consumption			Increasingly attractive in Germany as of the rising import and consumption. Not that attractive conditions for the US as the consumption is steady and the country imports very few
3 Market characteristics			Demand for organic canned tomatoes in Germany is expected to continue to increase because the awareness of healthier lifestyle becomes more important. The US market shows little growth in the organic canned tomato market and a decrease in demand of conventional canned tomatoes.
4 Market Access			Tariffs stay at the same level, unless new trade unions are formed (i.e TTIP)
5 Prices			Less attractive for exporters whereas there is expected decrease in prices in Germany as a result of technological advancements. The German market value chain is characterized by dominance of retail-discounters which is unfavorable market entry condition. However there is no data available (retail prices time series) to predict solid future trends. Due to Walmart's goal of selling organic food products for the same price as conventional food, reduction of the price premium is awaited in US as well.
6 Distribution channels			No changes are expected to occur in the distribution processes

7 Commercial practices			Commercial practices remain the same in both countries unless the main importing/ exporting countries change.
8 Packaging and Labeling			Increasingly attractive for organic canned tomatoes exporters due to increasing interest and concern for more sustainable packaging and organic labeling in both countries
9 Sales Promotion			It is expected that a preference in sales promotion will be shifted to online trade platforms vigorously in both countries, as innovation and economic development pace is common for Germany and the US.

11. References

Barrett, D. M. (2015). Future innovations in tomato processing. Retrieved December 1, 2015, from http://www.fruitandvegetable.ucdavis.edu/files/217152.pdf

BLS. (2015). CPI Tables. Retrieved December 1, 2015, from http://www.bls.gov/cpi/tables.htm

Büchel, J. (2008, September 16). Rundum überzeugt hat nur ein produkt. Retrieved November 4, 2015, from https://www.ktipp.ch/tests/tests/detail/d/rundum-ueberzeugt-hat-nur-ein-produkt/

Bundesanstalt fur Landwirtschaft und Ernahrung. (2015, June 29). *Tomatenverzehr bleibt mit 25 Kilogramm konstant [Tomato consumption remains a constant 25 kg]* [Press release]. Retrieved December 1, 2015, from http://www.ble.de/SharedDocs/Downloads/08_Service/04_Pressemitteilungen/150629_Tomatenstatistik.pdf?__blob=publicationFile

California Tomato Growers Association. (n.d.). Facts About Tomatoes. Retrieved December 1, 2015, from http://www.ctga.org/TomatoFacts

Canned tomatoes. (n.d.). Retrieved October 28, 2015, from http://www.goodhousekeeping.com/food-products/canned-tomatoes/

Carlton, J., & Brat, I. (2015, July 13). California drought leaves few farmers unscathed. Retrieved December 1, 2015, from http://www.wsj.com/articles/california-drought-leaves-few-farmers-unscathed-1436809802

CBP. (2015, November 13). Countries the US can do business with. Retrieved December 1, 2015, from https://help.cbp.gov/app/answers/detail/a_id/310/kw/NTR%20MFN%20rates/suggested/1

Center for the Promotion of Imports from Developing Countries. (2011). EU legislation: Packaging and packaging waste. Retrieved December 1, 2015, from http://www.s-ge.com/sites/default/files/EU%20legislation%20Packaging%20and%20packaging%20waste.pdf

Centre for the Promotion of Imports from Developing Countries. (2005). Prepared fruit and vegetables. 93. Retrieved December 1, 2015, from http://www.jedco.gov.jo/files/eu_market_survey_pre_frui.pdf

Commission regulation (EC) No. 1881/2006. (2006, December 20). Retrieved December 1, 2015, from http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX%3A32006R1881&qid=1449811296469&from=EN

Cox, B. (2015). Field production of organic tomatoes. Retrieved October 28, 2015, from http://www.extension.org/pages/18653/field-production-of-organic-tomatoes#.Vij3CmvInBy

Diver, S., Kuepper, G., & Born, H. (1995). Organic tomato production. *Appropriate Technology Transfer for Rural Areas,* 1-3. doi:10.1002/ffj.1811

EC. (2014, March 22). EU Policy. Retrieved December 1, 2015, from http://ec.europa.eu/agriculture/organic/eu-policy/index_en.htm

EC. (2015, December 9). TARIC measure information. Retrieved December 1, 2015, from http://ec.europa.eu/taxation_customs/dds2/taric/measures.jsp?Lang=en&SimDate=20151130&Taric=200210&LangDescr=en

EC. (n.d.). Import/Export: Trade in organic products. Retrieved December 1, 2015, from http://ec.europa.eu/agriculture/organic/eu-policy/eu-rules-on-trade/import-export/index_en.htm

Eden Foods. (n.d.). Whole tomatoes, organic [Digital image]. Retrieved December 1, 2015, from http://www.edenfoods.com/store/media/catalog/product/cache/1/image/9df78eab33525d08d6e5fb8d27136e95/1/0/103960.jpg

EU. (1994, December 31). European Parliament and Council directive 94/62/EC. Retrieved December 1, 2015, from http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX%3A31994L0062&from=en

The EU market for canned fruit and vegetables. (2009). 1-2. doi:10.1038/130032a0

FAO of the UN. (2001). World markets for organic fruit and vegetables: Opportunities for developing countries in the production and export of organic horticultural products. Retrieved December 1, 2015, from http://www.fao.org/docrep/004/y1669e/y1669e00.htm

FAO of the UN. (2007). Draft CODEX standard for processed tomato concentrates. *ALINORM 07/30/27 Processed Tomato Concentrates*. Retrieved December 1, 2015, from http://www.wptc.to/pdf/commissions/codex44.pdf

FDA. (2013). A food labeling guide. Retrieved December 1, 2015, from http://www.fda.gov/downloads/Food/GuidanceRegulation/UCM265446.pdf

FDA. (2015, April 1). Code of federal regulations: Title 21. Retrieved December 1, 2015, from http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=155.190

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. (1998). *Regulation on the prevention and recycling of packaging waste*

(Rep.). Retrieved December 1, 2015, from http://www.gesetze-im-internet.de/bundesrecht/verpackv_1998/gesamt.pdf

Federal Ministry of Food and Agriculture. (n.d.). Safe food. Retrieved December 1, 2015, from http://www.bmel.de/EN/Food/Safe-Food/safe-food_node.html

Food and Agriculture Organization of the United Nations. (2009). CODEX general standard for contaminants and toxins in food and feed. *CODEX STAN 193-1995 Page 1 of 44*. Retrieved November 4, 2015, from http://www.fao.org/fileadmin/user_upload/livestockgov/documents/1_CXS_193e.pdf

The Food Institute. (2014). *Almanac of Tomato Products* (Rep.). Upper Saddle River, NJ: Food Institiute.

GDV Die Deutschen Versicherer. (n.d.). Tomatoes. Retrieved December 1, 2015, from http://www.tis-gdv.de/tis_e/ware/gemuese/tomaten/tomaten.htm#verpackung

German farmers can't keep up with organic boom. (2013, March 14). Retrieved December 1, 2015, from http://www.dw.com/en/german-farmers-cant-keep-up-with-organic-boom/a-16811400

Germany Trade & Invest. (2014). The food and beverage industry in Germany. Retrieved December 1, 2015, from http://www.gtai.de/GTAI/Content/EN/Invest/_SharedDocs/Downloads/GTAI/Industry-overviews/industry-overview-food-beverage-industry-en.pdf

Global fruit and vegetable processing. (2015, September). Retrieved November 4, 2015, from https://www.ibisworld.com/gosample.aspx?cid=0&rtid=1

Hagedorn, D. (2009). How to be sodium saavy. Retrieved December 1, 2015, from http://edition.cnn.com/2008/HEALTH/diet.fitness/10/14/cl.sodium.savvy/index.html?iref=24hours

Harmonized system codes commodity classification. (n.d.). Retrieved October 28, 2015, from http://www.foreign-trade.com/reference/hscode.htm?CFID=1559194&CFTOKEN=4062e8444ccc7681-FDED3CBE-C776-E422-874BB2C379BAADC8&jsessionid=8430b64a2ed28e43aa0b13726b7a1c58b6e5

Ingham, B. (2011). *Farm to market: Food safety and the Pickle Bill* (Rep.). Retrieved December 1, 2015, from UW Extension website: http://monroe.uwex.edu/files/2011/05/Wisconsins-Pickle-Bill_4-Ingham-5-26-11-Used.pdf

International Federation of Organic Agricultural Movements. (2012). *European organic regulations (EC) No. 834/2007, 889/2008 and 1235/2008* (Rep.). Retrieved December 1, 2015, from International Federation of Organic Agricultural

Movements website: http://www.ifoam-eu.org/sites/default/files/page/files/ifoameu_reg_regulation_dossier_201204_en.pdf

ITC. (2010). Model contracts for small firms. Retrieved December 1, 2015, from http://www.intracen.org/uploadedFiles/intracenorg/Content/Exporters/Exporting_Better/Templates_of_contracts/3%20International%20Commercial%20Sale%20of%20Goods.pdf

ITC. (2012). *Packaging for organic foods* (Tech.). Retrieved December 1, 2015, from http://www.intracen.org/Packaging-for-Organic-Foods/

Jaenicke, E., & Demko, I. (2015). Preliminary analysis of USDA's organic trade data: 2010 to 2014. Retrieved December 1, 2015, from http://ota.com/sites/default/files/indexed_files/OTAJaenickeMay2015_TradeDataReport.pdf

Kadakal, C., & Artik, N. (2010, August 10). A new quality parameter in tomato and tomato products: Ergosterol. Retrieved November 4, 2015, from http://www.ncbi.nlm.nih.gov/pubmed/15540647

Kaiser, C., & Ernst, M. (2011). Organic tomatoes. Retrieved December 1, 2015, from https://www.uky.edu/Ag/CCD/introsheets/organictomatoes.pdf

Kirchen, T., Armor, B., & Panish, C. (2014, April). *Why the U.S. canned tomato market requires a bold change* (Tech.). Retrieved December 1, 2015, from SIG Comboblic website: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwiYqMuq1tHJAhXIbR4KHV8eA0MQFggbMAA&url=https%3A%2F%2Fwww.sig.biz%2Ffileadmin%2Fcontent%2F6_Media%2FWhite_papers%2FTomato_White_Paper.pdf&usg=AFQjCNFs21ocL-YdD2lErdGSmAysrz9Xng&bvm=bv.109395566,d.eWE

Logistics and transportation integrated. (n.d.). Retrieved December 1, 2015, from http://www.italcomex.it/en/logistics/

Machinery for whole peeled tomatoes production. (n.d.). Retrieved October 28, 2015, from http://www.fenco.it/tomato-processing-lines/machinery-for-whole-peeled-tomatoes-production/

Main services. (n.d.). Retrieved December 1, 2015, from http://sole-trade.com/servizi/

Martin, A. (2014, November 6). Wal-Mart promises organic food for everyone. Retrieved December 1, 2015, from http://www.bloomberg.com/bw/articles/2014-11-06/wal-mart-promises-organic-food-for-everyone

Ministry of Finance. (n.d.). Food and feed. Retrieved December 1, 2015, from http://www.zoll.de/EN/Businesses/Movement-of-

goods/Import/Restrictions/Goods/Food-and-feed-organic-farming/Food-and-feed/food-and-feed.html

National Institute of Statistics and Economic Studies. (2015). French classification of activities. Retrieved December 1, 2015, from http://www.insee.fr/en/methodes/default.asp?page=nomenclatures%2Fnaf2008%2Fnaf2008.htm

National Sanitary Foundation. (n.d.). Organic labeling requirements. Retrieved December 1, 2015, from http://www.nsf.org/consumer-resources/green-living/organic-certification/organic-labeling-requirements

National Sustainable Agriculture Coalition. (2010, August 31). RMA dropping surcharge on some organic crops [Web log post]. Retrieved December 1, 2015, from http://sustainableagriculture.net/blog/rma-drops-surcharge-on-some-organic-crops/

Neeson, R. (2004). Organically processed tomato production. *AGFACTS*. Retrieved October 28, 2015, from http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0018/113418/organic-tomato-processing.pdf

Office of Research Support. (n.d.). Embargoed/Sanctioned countries. Retrieved December 1, 2015, from https://ors.duke.edu/orsmanual/embargoedsanctioned-countries

Organic Farming Research Foundation. (2012, July 31). Organic FAQs. Retrieved December 1, 2015, from http://ofrf.org/organic-faqs

Perreau F. (2013). The seven shopper segments of organic products. Retrieved February 26, 2016, from http://theconsumerfactor.com/en/7-shopper-segments-organic-products/

Pelzl, S. (n.d.). Qualität bei dosentomaten [Quality of canned tomatoes]. Retrieved November 4, 2015, from http://www.experto.de/hobby-freizeit/essen-trinken/qualitaet-bei-dosentomaten-der-trick-mit-den-zwei-buchstaben.html

PTAB. (2014). Organic tonnage by county. Retrieved December 1, 2015, from http://www.ptab.org/2014OrganicByCounty.pdf

Public Broadcasting Service. (2007, February 20). Competition fosters success of organic food industry. Retrieved December 1, 2015, from http://www.pbs.org/newshour/bb/business-jan-june07-wholefoods_02-20/

Regulation (EU) No. 1169/2001 of the European Parliament and of the Council. (2011, October 25). Retrieved December 1, 2015, from http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX%3A32011R1169&qid=1449812971607&from=EN

Ricci, A. (n.d.). Two reasons why you need to avoid canned fruit and beverages [Web log post]. Retrieved December 1, 2015, from http://www.anneshealthykitchen.com/why-you-need-to-avoid-canned-foods-and-beverages/

Riffkin, R. (2014, August 7). Forty-five percent of Americans seek out organic foods. Retrieved November 4, 2015, from http://www.gallup.com/poll/174524/forty-five-percent-americans-seek-organic-foods.aspx

San Joaquin Valley Regional Planning Agencies. (2011). *Tomato Industry Profile*. Retrieved December 1, 2015, from http://www.sjvcogs.org/pdfs/2012/Tomato021712.pdf

Schulz, K., Von Muenchhausen, S., & Haering, A. M. (2013). Strengthening organic food value chains in Germany. *Foodscapes*. Retrieved December 1, 2015, from http://orgprints.org/24922/7/24922.pdf

Scott-Thomas C. (2009). Young Germans increase organic food purchases. Retrieved February 26, 2016, from http://www.foodnavigator.com/Market-Trends/Young-Germans-increase-organic-food-purchases

SELF Nutrition. (n.d.). Nutrition facts: Tomatoes, crushed, canned. Retrieved December 1, 2015, from http://nutritiondata.self.com/facts/vegetables-and-vegetable-products/2774/2

Tomato. (n.d.). Retrieved October 28, 2015, from https://www.plantvillage.com/en/topics/tomato/infos/diseases_and_pests_description_uses_propagation

UN Comtrade. (2015). Trade map [database]. Retrieved December 1, 2015, from http://www.trademap.org

Understanding canned tomato products [Web log post]. (2009, June 06). Retrieved November 4, 2015, from https://vegetarische.wordpress.com/2009/06/06/understanding-canned-tomato-products

United Nations. (2007). Safety and quality of fresh fruits and vegetables: A training manual for trainers. Retrieved December 1, 2015, from http://unctad.org/en/Docs/ditccom200616_en.pdf

UNSD. (2008, August 11). ISIC Rev. 4. Retrieved October 28, 2015, from http://unstats.un.org/unsd/cr/registry/isic-4.asp

UNSD. (n.d.). SITC Rev. 3. Retrieved October 28, 2015, from http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=14&Lg=1&Co=056

US CBP. (2006). *Importing into the United States: A guide for commercial importers* (Rep.). Retrieved December 1, 2015, from

http://www.cbp.gov/sites/default/files/documents/Importing%20into%20the%20U.S.pdf

US Census Bureau. (2012). 2012 NAICS definition. Retrieved December 1, 2015, from http://www.census.gov/cgi-bin/sssd/naics/naicsrch

US Mission to the EU. (2015, August 3). US-EU organic equivalency arrangement. Retrieved December 1, 2015, from http://www.usda-eu.org/trade-with-the-eu/trade-agreements/us-eu-organic-arrangement/

US regulations for canned foods. (n.d.). Retrieved December 1, 2015, from http://www.meatsandsausages.com/canning/food/regulations

USDA. (2009). Labeling packaged products under the national organic standard. Retrieved December 1, 2015, from http://www.ams.usda.gov/sites/default/files/media/NOP%20Labeling%20Packaged%20Products.pdf

USDA. (2014, April 7). Organic agriculture: Organic market overview. Retrieved December 1, 2015, from http://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-market-overview.aspx

USDA ERS. (2012, October 9). Vegetables & pulses: Tomatoes. Retrieved November 4, 2015, from http://www.ers.usda.gov/topics/crops/vegetables-pulses/tomatoes.aspx

USDA. (n.d.). Canned tomatoes grades and standards. Retrieved December 1, 2015, from http://www.ams.usda.gov/grades-standards/canned-tomatoes-grades-and-standards

USDA Risk Management Agency. (n.d.). AIB landing page. Retrieved December 1, 2015, from http://webapp.rma.usda.gov/apps/actuarialinformationbrowser/

USITC. (2014). *Harmonized tariff schedule of the United States (2014)* (pp. 20-5-20-6, Rep.). Retrieved December 1, 2015, from http://www.usitc.gov/publications/docs/tata/hts/bychapter/1400c20.pdf

Valliant, M. (2014, January 23). Top 10 reasons why organic food is more expensive. Retrieved December 1, 2015, from http://www.hellawella.com/top-10-reasons-organic-food-is-so-expensive/4727

WHO. (n.d.). What is the CODEX alimentarius. Retrieved December 1, 2015, from http://www.codexalimentarius.org/codex-home/en/

Young, G. (2015). *Tomato trends and future needs in the USA* (Rep.). Kagome USA.

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Annex 2: Packaging Germany - Codex Alimentarius

Sections 87, 88, 89, 90 and 91 of the Codex Alimentarius on Organically Produced Foods.

Section 87: Packaging materials should preferably be chosen from bio-degradable, recycled or recyclable sources.

Section 88: Product integrity should be maintained during any storage and transportation and handling by use of the following precautions:

a) Organic products must be protected at all times from co-mingling with non-organic products;

b) Organic products must be protected at all times from contact with materials and substances not permitted for use in organic farming and handling.

Section 89: Where only part of the unit is certified, other product not covered by these guidelines should be stored and handled separately and both types of products should be clearly identified.

Section 90: Bulk stores for organic product should be separate from conventional product stores and clearly labelled to that effect.

Section 91: Storage areas and transport containers for organic product should be cleaned using methods and materials permitted in organic production. Measures should be taken to prevent possible contamination from any pesticide or other treatment not permitted for use in organic production before using a storage area or container that is not dedicated solely.

(ITC, 2012)

Annex 3: Online trade platforms

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