

SQUEEZE OUT:

The truth behind the orange juice business

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Introduction



WHY ORANGE JUICE?

Orange juice is the most important variety of fruit juice worldwide. Globally, consumers each drank an average of 7.8 litres in 2013¹. The production and sale of food and drinks generates billions worldwide, and it is large corporations which are responsible for labour and production conditions in the industry. However, when it comes to assuming responsibility, these corporations stress that they are under no legal obligation. This orange juice study shows a transparent picture of the entire supply chain, from the cultivation of oranges to the marketing of juice. Research findings in Brazil and Europe shed light on something that food retailers are all too happy to cover up: dependence and exploitation.

In this study we provide an overview of the citrus industry in Brazil, highlighting the economic profile of the main companies present in the rural sector (farming and orange harvest), and the industrial sector (processing of oranges for juice production). We approached the companies Sucocítrico Cutrale Ltda. (Cutrale), Citrosuco S / A Agro (Citrosuco) and Louis Dreyfus Commodities Agroindustrial S / A (LDC), as well as the European supermarkets Aldi and Lidl.

We would like to give special thanks to the men and women who contributed to this work: union leaders, university experts and representatives of NGOs - either by giving interviews or for the information provided. Special thanks to the following institutions: Confederação Nacional dos Trabalhadores nas Indústrias da Alimentação, Agroindústria, Cooperativas de Cereais e Assalariados Rurais – Contac/CUT; Sub Sede Bauru – CUT Bauru; Federação dos Empregados Rurais Assalariados do Estado de São Paulo – Feraesp/CUT; Gerências Regionais do Ministério do Trabalho e Emprego de Bauru e de Marília/SP - – GRTEs/MTE; Grupo Móvel de Fiscalização Rural do MTE no Estado de São Paulo; Sindicato dos Trabalhadores Rurais de Bauru - STR Bauru; Sindicato dos Empregados Rurais de Duartina - SER Duartina/CUT; Sindicato dos Trabalhadores e Empregados Rurais de Piratininga – STER Piratininga/UGT; Sindicato dos Trabalhadores nas Indústrias de Alimentação e Afins de Mogi Mirim e Região – Stiaamm/CUT, TIEGlobal.

METHODOLOGY

This study was based on a qualitative research method. The description of working conditions and identification of environmental problems in orange juice production was based on field studies in Brazil conducted by Christliche Initiative Romero (CIR) in June/July 2013,¹ and by CIR and GLOBAL 2000 in July 2015; as well as on a study commissioned by CIR from the Instituto Observatório Social (IOS) in 2013. The IOS is based in São Paulo. The Institute focuses on investigating and evaluating labour, social and environmental standards of multinational companies in Brazil. The update of the first study is based on an appraisal of interviews with trade union representatives, plantation workers and factory workers. The in-depth, open ended interviews were combined with academic literature, corporate documentation and information from NGOs and the Brazilian government.

Firstly, a preliminary identification of the production units as well as trade unions representing working men and women in each of the manufacturing plants and the rural production units was conducted. Due to the large number of rural and industrial production units and of trade unions

¹ CIR:http://www.ci-romero.de/fileadmin/media/informieren-themen/studien/CIR_Orange_juice_study_low_sp.pdf (accessed on: 22.09.2015).

representing the workers (which are mostly concentrated in the state of Sao Paulo)ⁱⁱ, a general overview of the sector was prepared by noting the economic profile of the companies and conducting in-depth interviews. The priority focus was rural workers and their respective trade unions in the regions of Bauru, Avaré and Araraquara. The mapping of the rural production units was done by IOS as well as by the trade unions that represent the workers in the area. This mapping was based on a few selected units that work in processing plants, selected from the companies Citrosuco; Cutrale and LDC in the cities of Matão, Conchal and Engenheiro Coelho in the state of São Paulo.

In addition to primary sources (individual interviews with workers and with their trade union representatives), various secondary sources were used, such as materials from the companies or industry, trade associations, government / MPT, trade press, and universities.

The research strategy focused on case studies and the articulation of cases by trade unions.

Given the exploratory nature of this work, it should not be understood as a general picture of the behaviour of companies which were surveyed in Brazil, but rather as an initial contribution to information sharing and trade union discussions on the issue. It also sheds light on problems within the supply chain from the plantation to the consumer.

It is important to remark, however, that the general mood amongst the plantations and factory workers was one of great fear. It was difficult to find workers who were willing to talk about their situation. Some of the workers who agreed to be interviewed withdrew their participation at the last minute, feeling they had to be careful about such contacts.

In its synthesis of the environmental impacts, the study follows a life-cycle approach. In a life-cycle view, the whole production chain of a product is considered with all inputs needed to produce it (e.g. fertilizer, pesticides, energy) as well as impacts that occur when the product is used and later disposed of (including packaging).

The life cycle approach is also multi-dimensional. It does not only focus on one criterion or indicator (for example the CO₂ footprint), but considers different impacts on the environment like waste, toxicity or resource use. Only by considering all these stages and impacts, can a holistic picture of the environmental impact be provided, which then supports sustainable solutions.

The Basics of Orange Juice



HOW ORANGE JUICE IS MADE

A single orange contains 70 milligrams of Vitamin C, which provides over 100 per cent of the recommended Vitamin C daily dose. Oranges are also rich in fibre. Orange juice is produced by squeezing sweet or bitter oranges and/or mandarins. However, fruit juice legislation stipulates that a drink can only be described as fruit juice if it contains 100 per cent juice and pulp from the fruit in question.² Orange juice may not contain additives such as colourings or preservatives.

Commercially available orange juice is produced as directly squeezed juice or, since 1945, from concentrate. NFC stands for "Not From Concentrate". This refers to pasteurized juice, which is first heated and then cooled again. This is done to deactivate enzymes and kill microorganisms in order to extend the shelf life of the orange juice. In this process NFC retains its original volume as well as the juice's aromatic substances.

In order to produce concentrate, the slightly volatile aromatic substances must be extracted from the juice before it is evaporated to one-seventh of its initial volume. These aromatic substances are added back into the juice by the bottler. FCOJ is used as an abbreviation for Frozen Concentrate Orange Juice. The frozen concentrate can be stored at -10° C for 36 months. However, 20 percent of the vitamin C is lost when this method is used. FCOJ is five to six times more concentrated than NFC, and therefore is significantly more expensive to transport. In the last ten years sales of NFC have increased. It is considerably more aromatic and closer to the natural taste of freshly squeezed orange juice, and also creates higher profit margins for the juice industry.

Products that contain 25 to 99% of fruit content are categorised as nectar, to which water, sugar and other components are usually added. Products with less than 25% fruit content are categorised as fruit or still drinks, like lemonades. Nectar and still drinks are generally cheaper than juice.

MARKET LEADER BRAZIL

Oranges are likely to have originated around 4,000 years ago in South Asia, probably in what is now China. This is also reflected in the fact that in many languages the orange is referred to as an apple from China (e.g. Apfelsine in German). In the middle ages Arabs brought oranges to Europe, and they arrived in America around 1500 with one of Christopher Columbus' expeditions. Brazil offers more favourable growing conditions than the region in which oranges originated. A third of all oranges are now grown in Brazil, and more than half of all orange juice is produced there.³ Brazil's share of world trade in Frozen Concentrate Orange Juice (FCOJ) is over 80 per cent.⁴ The USA is the second most important orange-growing country.⁵ However, whereas Florida primarily produces

² "Fruchtsaft- und Erfrischungsgetränkeverordnung vom 24. Mai 2004 (BGBl. I S. 1016), die zuletzt durch Artikel 3 der Verordnung vom 30. Juni 2015 (BGBl. I S. 1090) geändert worden ist", http://www.gesetze-im-internet.de/bundesrecht/frsaftv_2004/gesamt.pdf. (accessed on: 22.09.2015).

³ C.f. Neves, Marcos Fava: O retrato da Citricultura Brasileira, 2010, p.29-32

⁴ C.f. Commodities: Orange Juice, <http://www.investopedia.com/university/commodities/commodities14.asp> (accessed on: 22.09.2015).

⁵ https://www.fairtrade-deutschland.de/fileadmin/user_upload/materialien/download/download_unterrichtseinheit_safttag_aug2010.pdf (accessed on: 22.09.2015).

oranges for the domestic US market, 98 percent of Brazilian juice is produced for export.⁶ The Brazilian state of São Paulo alone accounts for over half of the fruit juice concentrate consumed worldwide. The largest importer is the European Union, which receives roughly two-thirds of exports.ⁱⁱⁱ

Oranges are cultivated on very extensive plantations as a monoculture. These single crop areas are extremely vulnerable to pests and plant diseases. They therefore need intensive treatment with chemical plant protection products. In the late 1930s the “Tristeza” virus destroyed virtually the entire orange harvest in Brazil. After years of experimentation, crossbreeding produced new resistant varieties. These contributed to Brazil’s emergence as one of the leading players in orange production over subsequent decades. After a drop in exports in the Second World War, the sector began to develop and expand in the fifties. The government actively promoted the expansion of cultivated areas. However, global demand for oranges remained much lower than the quantity of fruit produced in the country. That gave rise to the idea of increasing sales and boosting profit margins by processing the fruit to make juice.

In 1959 the firm Mineira de Bebidas opened the first factory producing fruit juice concentrate. Citrusuco (part of the Fischer group) was one of the first companies that specialized in transporting this concentrate. Nowadays exports of fruit play only a minor role. 70 percent of oranges are squeezed for juice.⁷ Only 0.2 percent of the 2009/10 harvest was exported as whole fruit.⁸ Whilst there were only 76 juice extraction machines in Brazil in the 1970s, by 2010 this figure had risen to 1,178.⁹ 90 percent of Brazil’s juice presses are in the state of São Paulo.¹⁰ Cultivation of oranges has been intensified in this region since the 1970s, in the wake of the destruction of all the coffee plantations in the area due to frost and diseases (in particular *Hemileia vastatrix* or coffee rust). Oranges offered a particularly viable alternative: on the one hand, the climate and soil were suitable, whilst on the other hand sufficient cheap labour was also available; like coffee, oranges are also a very labour-intensive crop.¹¹

CULTIVATION

Orange plants are propagated vegetatively (using seedlings for instance). Depending on the variety and the growing conditions, young trees only bear fruit after three to five years; subsequently they produce a full crop for a further 25 to 40 years (in Brazil, approximately 140 kilograms per tree per annum).¹² Juice oranges are special varieties bred for high juice content. Plant care and soil maintenance are mechanized. The citrus fruits are, however, primarily harvested by hand as they do not all ripen at the same time. Oranges are grown in orange groves, with the various varieties cultivated specifically for the juice industry including Hamlin, Westin, Rubi, Pera, Valencia, Natal

⁶ C.f. Jeffrey T. Lewis, In Brazil, Farmers Ripping Out Orange Trees, Wall Street Journal (June 13, 2013).

⁷ C.f. Neves, Marcos Fava: O retrato da Citricultura Brasileira, 2010, p.82

⁸ C.f. Neves, Marcos Fava: O retrato da Citricultura Brasileira, 2010, p.65

⁹ C.f. Neves, Marcos Fava : An Overview of the Brazilian Citriculture, p.4

¹⁰ C.f. Neves, Marcos Fava: O retrato da Citricultura Brasileira, 2010, p.64

¹¹ C.f. Borges & Costa: A Evolução do Agronegócio Citrícola Paulista e o Perfil da Intervenção do Estado. Revista Uniara, n. 17/18, 2005/2006, p. 101 -102.

¹² https://www.fairtrade-deutschland.de/fileadmin/user_upload/materialien/download/download_unterrichtseinheit_safttag_aug2010.pdf (accessed on: 22.09.2015).

and Folha Murcha. As these varieties ripen at different times, the harvest period in Brazil runs from July to January. If the oranges are picked too early, the juice tastes bitter. Oranges ripe for picking are not necessarily orange since the colour only develops after a period of colder nights with temperatures around 5° C. Nights are not so cold in countries such as Brazil, which means that the oranges mainly stay green or yellow. Green oranges can be ripe and sweet enough for making juice. In order to maintain a consistent standard throughout the year, the varieties are mixed in varying proportions during and after juice production.

As for most products sold in large quantities but with low margins, there is also pressure in the orange industry to keep increasing efficiency in cultivation to keep costs as low as possible. A high yield per hectare is required from the oranges grown for industrial processing. In the last 30 years there has been an enormous increase in productivity thanks in part to denser planting. Whereas in the past 250 trees were planted per hectare, nowadays there may be as many as 850 trees per hectare.¹³ On smaller plantations, an average of 280 crates (each of 40.8 kg) of oranges is harvested per hectare, whilst on larger plantations the yield can be up to 900 crates per hectare.¹⁴ As well as being more efficient, large plantations also have better administrative structures to meet the requirements of international purchasers. For example, they can produce country-specific pesticide profiles and label the fruit accordingly. Orange growers constantly have to deal with new pests and diseases which damage their trees and affect the harvest. One particularly devastating example is a disease called “greening” which is very difficult to control, spreads very rapidly and causes enormous damage. Pesticides, fungicides and insecticides are applied in order to mitigate these problems, and enormous amounts of artificial fertilizer and pesticides are used, which has led to higher production costs over the last few years. The cost of fertiliser and pesticides accounts for around 23 per-cent of production costs at farm level (up to factory gate).¹⁵ It seems also that the working and safety conditions on large plantations belonging directly to the three multinational juice companies are better compared with those of their suppliers.

¹³ http://www.citrusbr.com.br/download/Retrato_Citricultura_Brasileira_Marcos_Fava.pdf, p9 (accessed on: 22.09.2015).

¹⁴ Neves V.G. Trombin and R. B. Kalakic 2013 Competitiveness of the Orange Juice Chain in Brazil. *International Food and Agribusiness Management Review Volume 16, Special Issue 4, p 151*
http://www.ifama.org/files/20120068_%287%29.pdf

¹⁵ Neves, M.F., V.G. Trombin and R. B. Kalakic 2013 Competitiveness of the Orange Juice Chain in Brazil. *International Food and Agribusiness Management Review Volume 16, Special Issue 4, p 153*
http://www.ifama.org/files/20120068_%287%29.pdf

INFOBOX: GREENING DISEASE

CITRUS GREENING DISEASE (Chinese: 黃龍病; pinyin: huánglóngbìng; literally: "Yellow Dragon Disease"), abbreviated as HLB, is a citrus disease caused by a vector-transmitted pathogenic bacteria, *Candidatus Liberibacter* spp. The disease is transmitted by the Asian citrus psyllid, *Diaphorina citri* Kuwayama, and the African citrus psyllid, *Trioza erytreae* Del Guercio, also known as the two-spotted citrus psyllid.

The disease was first described in 1929 and first reported in China in 1943. The African variation was first reported in 1947 in South Africa, where it is still widespread. Originally the Asian citrus psyllid (*Diaphorina citri*) only occurred in tropical and subtropical Asia, but since at least 2005 it is also reported in Brazil and Florida, together with the first occurrences of the greening sickness in those countries.

Greening is the most destructive disease on citrus in Brazil, and has affected around 14 percent of citrus plants in the state of São Paulo, according to an estimate made by Fundecitrus. 100 percent of fruit farms are contaminated with the HLB bacteria, which affect 70 percent of trees. In the current situation in São Paulo, at least 30 percent of the fruits dropped, which is double the number compared with last year.¹

To protect the sensitive young plants Sao Paulo's citrus seedlings must be grown in nurseries with anti-insect screens – a policy that pre-dates the first HLB detection by one year and helped control the initial spread of the disease.

On commercial farms, growers apply insecticides for population control. In residential or organic orchards, Fundecitrus has offered assistance in spreading parasitoid *Tamarixia radiata* to combat the disease-carrying psyllids.



Left photo: leaves from infected orange trees (left) compared with healthy (right). Middle photo: the vector of the disease, the Asian citrus psyllid; and (right photo) the wasp *Tamarixia radiata* that preys on the psyllid's larva and is used as an alternative to pesticides.

Foto credits (from left to right): <http://entnemdept.ufl.edu/creatures/citrus/acpsyllid.htm>; <http://www.hungrypests.com/the-threat/asian-citrus-psyllid.php>; <http://entnemdept.ifas.ufl.edu/InsectID/Beneficials.html>

THE ECONOMICS OF ORANGE PRODUCTION

Juice producers pay farmers around 3,4 euros per crate of oranges (40.8 kg).¹⁶ Such payments often do not even cover production costs, so consequently the ranks of landless plantation workers are constantly growing. As a result of the juice industry's price policy, many small farmers are on the verge of ruin or have already given up and sold their land for less than it is worth. Today 40 percent of oranges are grown by 51 producers (0.4 per cent), who have over 400,000 trees.¹⁷ However, three out of four growers farm small plantations with fewer than 10,000 trees.¹⁸ In 2009, 44 percent of plantation owners were no longer able to produce the minimum number of oranges needed to secure their livelihoods.¹⁹ Some farmers have extended their production to include sugar cane or have switched crops entirely, as they could not survive in the competitive orange-growing sector.²⁰

Juice multinationals may also opt to purchase oranges directly. In these cases the company buys the entire harvest, and provides labour and transport. For each crate harvested, the orange growers receive an agreed price, which is set in US dollars and is generally paid in advance. If the world market price on the New York Stock Exchange falls during the harvest, the farmers must repay the difference. A further option is to sell fruit directly to juice manufacturers. The juice producing company pays for the cost of the harvest and transport to the juice plant. Payment is made on delivery at the spot rate. The farmers currently receive around 3,4 euros per 40.8-kilogram crate – if they can transport the oranges to the processing plant. That is only around 8 cents per kilogram of oranges. However, prices fluctuate dramatically from year to year. Total costs per crate for farmers amount to around 70 cents, which includes the cost of harvesting (43 cents) and transport (27 cent).²¹ That leaves farmers with 2,70 euros per crate (40.8 kg)²². A third, although infrequently used option, is to conclude a contract with a guarantee. In this scenario however, exchange-rate losses are borne by the seller.

PROCESSING

In the juice plants the oranges are sorted, washed and fed into juice extraction equipment. This presses each of the fruits individually, so that peel does not enter the concentrate, which would give it a bitter taste. The aromatic substances are then removed from the squeezed juice so that these are not lost during processing. These aromatic substances are then added to the juice once

¹⁶ <http://cepea.esalq.usp.br/citros/>

¹⁷ C.f. https://www.fairtrade-deutschland.de/fileadmin/user_upload/materialien/download/download_unterrichtseinheit_safttag_aug2010.pdf (accessed on: 22.09.2015).

¹⁸ Neves, M.F., V.G. Trombin and R. B. Kalacic 2013 Competitiveness of the Orange Juice Chain in Brazil. *International Food and Agribusiness Management Review Volume 16, Special Issue 4, p 154*
http://www.ifama.org/files/20120068_%287%29.pdf

¹⁹ IOS: Cultivo de laranja e produção de suco: indicativos de déficit de trabalho decente na Citrusuco S/A Agroindústria Sucocítrico Cutrale Ltda. Louis Dreyfus Commodities Agroindustrial S/A

²⁰ C.f. Companhia Nacional de Abastecimento (Conab): Ministério da Agricultura, Pecuária e Abastecimento. Acompanhamento da Safra de Laranja 2011/2012. Terceiro Levantamento – SP; Estimativa da Safra no Triângulo Mineiro – MG, 12/2011, p. 6.

²¹ C.f. Neves, Marcos Fava: O retrato da Citricultura Brasileira, 2010

²² C.f. M. Fay: Brazil Citrus Annual 2014

again when it is bottled or packaged.

At the end of the pressing process the water is removed from the juice, creating the concentrate. One tonne of orange juice is squeezed out of 250 crates: six tonnes of juice produce one tonne of concentrate, which currently costs around 1.900 euro²³ on the world market, where FCOJ is traded internationally.²⁴ The market price varies as a function of how good the harvest has been and is highly weather-dependent. Storms in Brazil, for example, lead to the price shooting up, as a poorer harvest is expected.²⁵

The freight travels to Europe in special ships with ISO tank containers. The three juice multinationals Cutrale, Citrosuco and Louis Dreyfus, have set up their own “tank farms” to store the concentrate in Europe’s major ports, and do business directly with European packaging and bottling companies. The juice concentrate (NFC and FCOJ) is shipped from Santos in Brazil and is imported into Europe through the ports of Rotterdam (Cutrale), Antwerp (Citrosuco) and Ghent (Louis Dreyfus and Citrosuco). In the ports the juice is pumped into storage tanks, and is then transported by HGV (heavy good vehicles) to bottling plants across Europe. Depending on the final product, water and aroma are added to the concentrate again and concentrates from different growing regions are mixed to suit differing consumer tastes.²⁶

Bottlers of juice-based beverages generally buy orange juice on the basis of per-season contracts, picking the best offer from the three orange juice manufacturers. They buy from several manufacturers to ensure steady supplies of juice. The juice is transported to supermarkets for sale to consumers in bottles or cartons.

CARTELS AND MARKET CONCENTRATION IN BRAZIL

In order to survive in a highly competitive market, there is increasing concentration in all areas of the orange juice production chain. The numerous small or medium sized orange producers are currently confronted with three processing multinationals. Whereas 15 to 20 small firms were still active in orange juice production between 1970 and 1990,²⁷ since the 1980s the major players have begun to take over smaller firms and to drive them out of the market. The wave of consolidations peaked in December 2012 when Citrovita was taken over by Citrosuco.²⁸ Together with Louis Dreyfus Commodities and Cutrale, the three firms now control the global orange juice market and generally supply over 50 per cent of the juice used by major bottling companies. Experts cite economies of scale as one of the reasons for this consolidation, along with greater scope to invest in logistics programmes and to make more efficient use of juice extraction equipment.²⁹ This pronounced consolidation gives the three remaining firms enormous market power in price negotiations with orange producers and makes it possible for them to regularly push prices lower than the cost of production. To that end, they also adopt strategies that involve

²³ www.finanzen.net/rohstoffe/orangensaftpreis

²⁴C.f.

http://www.intracen.org/uploadedFiles/intracen.org/Content/Exporters/Market_Data_and_Information/Market_information/Market_Insider/Fruit_Juice/Fruit%20Juice%20Market%20April.pdf

²⁵ C.f. Neves, Marcos Fava: O retrato da Citricultura Brasileira, 2010

²⁶ C.f. http://www.ifama.org/files/conf/2011/Symposium%20Papers/284_Symposium%20Paper.pdf

²⁷ C.f. <http://www.iea.sp.gov.br/out/verTexto.php?codTexto=3018> (accessed on: 22.09.2015).

²⁸ C.f. Rural BR: Após fusão com Citrosuco, Citrovita fecha unidade em São Paulo, 29.02.2012. At: <http://www.canalrural.com.br/noticias/agricultura/apos-fusao-com-citrosuco-citrovita-fecha-unidade-sao-paulo-388> (accessed on: 15.08.2013).

²⁹ C.f. Neves, Marcos Fava: O retrato da Citricultura Brasileira, 2010, p.60.

price manipulation on the New York Stock Exchange to ensure prices drop during the harvest, subsequently followed by price stabilization.³⁰ In order to retain their monopolistic position, Citrosuco, LDC and Cutrale have bought their own terminals at ports in Europe, the USA and Asia. Dumping prices are used to drive out other market participants. Since this kind of monopoly position has been established, the following practices have become commonplace: prices and deadlines are established unilaterally; the quality of products is called into question or a fair price is not paid; and contracts are breached (see the unfair trading practices box on page 47). At the start of the harvest, the firms agree how much they want to pay producers this year. All the firms pay the same price. They also fix a producer price, as noted by an expert on the sector, Flávio Viegas.³¹ This is also confirmed by the former owner of CTM Citrus, Dino Tofini, whose juice plants were recently bought up by Citrosuco and Cutrale:

“We would meet every Wednesday and decide who we would buy from. Every firm had their own region. We divided the state of São Paulo between us. Cutrale was present throughout the country. Citrovita was more present in the Matoa region. We were more active in the Limeira region. Back then we would agree on a price of 3.20 dollars (about 2,40 euros) per crate.”³²

The headquarters of the juice company, and numerous documents were confiscated. However, to date investigations into the dealings of the juice giants are still in a ‘logjam’ and the documents are off-limits. The only additional information to emerge is a detailed report from 2012 on the firms’ price-fixing agreements by the Associação Brasileira dos Citricultores, which filed a lawsuit alleging that a cartel had been established. The court ruled that the firms must pay a fine.³³

³⁰ C.f. Carta Capital: O cartel invencível da laranja, 15.5.2012. At: <http://www.cartacapital.com.br/politica/o-cartel-invincivel-da-laranja/> (accessed on: 15.09.2015).

³¹ Revista Globo Rural: Queremos indenização. Nosso prejuízo soma Us\$ 7 bilhões. O presidente da Associação Brasileira de Citricultores (Associtrus), Flávio Viegas, luta pelo fim da cartelização do setor, 06/2010. At: <http://revistagloborural.globo.com/revista/Common/0,,ert149206-18286,00.html> (accessed on: 15.08.2013).

³² Movimento dos Trabalhadores Rurais sem Terra (MST): Exfabricante de suco de laranja denuncia Cutrale por formação de cartel, 15.3.2010. At: <http://www.mst.org.br/node/9319> (accessed on: 15.08.2013).

³³ C.f. Carta Capital: O cartel invencível da laranja, 15.5.2012. At: <http://www.cartacapital.com.br/politica/o-cartel-invincivel-da-laranja/> (accessed on: 15.09.2015).

The Players in the Orange Juice Game



CITROSUCO/CITROVITA

Citrosuco/Citrovita is the largest orange-juice exporting firm worldwide. It produces 40 percent of Brazil's orange juice output.³⁴ The firm has three plants in Brazil, orange plantations in Florida, a port terminal in Brazil, four more abroad and its own fleet of ships. It employs more than 6,000 staff; during the harvest this figure can be as high as 10,000.³⁵

Citrosuco came into being in 1963 on the basis of cooperation between a German bottling company (Eckes), the Pasco Packing Company (a juice manufacturer from Florida) and a German immigrant, Carl Fischer. In 1928, whilst en route to Argentina, which was enjoying an economic boom at the time, Fischer settled in Santos in Brazil, bought his first plantation, Citricola, and set up a fruit trading company. In 1963, together with entrepreneur Ludwig Eckes, he bought an orange processing plant in the city of Matão and founded the company Citrosuco Paulista. Citrosuco is now a subsidiary of the Fischer Group. The latter provides maritime transport services for oil platforms. This shipping link guaranteed Citrosuco's rapid expansion. Fischer soon recognized the potential of the European market and his was one of the first companies to begin transporting fruit juice concentrate rather than fruit juice.

Citrovita's corporate history does not begin until 1989. It is a subsidiary of the industrial conglomerate Votorantim, which is active in areas such as cement and concrete, mining and metallurgy, paper, financial services and chemicals, and conducts its business in the citrus sector through Citrovita. In 2012, when the two firms merged, alarms were triggered worldwide. Citrosuco and Citrovita were both market leaders throughout the entire production chain. The merger was ultimately approved, with certain caveats, including guarantees of longer term contracts for suppliers.³⁶ The merged giants supply 100 countries with 22 percent of the orange juice consumed worldwide. In addition to the plantations run directly by the firm, which supply around 30 percent of its needs, the firm also has 2,500 independent orange suppliers.³⁷ Due to the scale of the merger (turnover of both companies in Europe exceeds the threshold values above which EU merger provisions apply) it also came to the attention of the European Commission.³⁸ Despite the enormous influence over the market the new giant would exert, the European Union took the view that sufficient potential for pressure from the major competitors on the market would still exist, and offer adequate protection from excessive price increases for consumers.³⁹ Brazilian workers are, however, not protected. Shortly after the merger, a plant in Matão was closed, with the direct loss of 173 jobs.⁴⁰ Restructuring of the firm is continuing, and thousands of jobs are now affected. The company has announced that workers will receive a redundancy payment: a month's wage for

³⁴ C.f. <http://www.citrosuco.com.br/en/our-company.php#historia> (accessed on: 15.09.2015).

³⁵ C.f. FSB Comunicações. Citrosuco/Citrovita, 05/2010. At:http://www.mzweb.com.br/votorantim/web/arquivos/Votorantim_Citrovitaannouncement.pdf (accessed on: 15.08.2013).(accessed on: 15.09.2015).

³⁶ C.f. Economia: CADE aprova fusão da Citrovita e Citrosuco, criando gigante do suco. Aprovação impõe condições que constarão de termo de compromisso. Fusão cria a maior empresa mundial de suco de laranja, 14.12.2011. At: <http://g1.globo.com/economia/negocios/noticia/2011/12/cade-aprova-fusao-da-citrovita-e-citrosuco-criando-gigantedo-suco.html> (accessed on: 15.08.2013).

³⁷ C.f. FSB Comunicações. Citrosuco/Citrovita, 05/2010. At:http://www.mzweb.com.br/votorantim/web/arquivos/Votorantim_Citrovitaannouncement.pdf (accessed on: 15.08.2013).

³⁸ C.f. http://ec.europa.eu/competition/mergers/cases/decisions/m5907_20110504_20682_1898514_EN.pdf (accessed on: 22.09.2015).

³⁹ C.f. Valor OnLine: União Europeia aprova fusão entre Citrosuco e Citrovita, 04.05.2011. At: http://www.valor.com.br/search/apachesolr_search/fus%C3%A3o%20citrovita%20citrosuco?page=1&solrsort=created%20desc&filters=type%3Avalor_international_conteudo (accessed on: 14.8.2013).

⁴⁰ C.f. <http://economia.estadao.com.br/noticias/negocios,citrovita-fecha-unidade-de-matao-interior-de-sao-paulo,104529e> (accessed on: 22.09.2015).

workers who have been employed for less than ten years and two month's wages for all other employees.

Corporate Social Responsibility: This study was sent to Citrosuco so that their comments could be added to the report. Citrosuco did not comment on this study and did not provide additional information.

CUTRALE "SUCOCITRICO"

Cutrale was founded by Sicilian Guiseppe Cutrale, initially as an orange export company, and in 1967 began to produce juice. Today Cutrale owns 400,000 acres of groves, representing as much as 40 percent of its total processing, with the remaining 60 percent supplied by independent growers.⁴¹ The family-owned company also has plants and plantations in Florida. Cutrales' clients include multinational groups such as Nestlé, Coca-Cola, and Parmalat, and it is Minute Maid's largest supplier.⁴² To diversify, Cutrale began growing soy to export to Asia, and together with the banking group Safra took over Chiquita Brands. The chairman Jose Luis Cutrale is one of the richest people in Brazil with a fortune of US\$2.5 billion.⁴³

Cutrale pursues an aggressive market strategy. Considerable pressure is exerted on suppliers to sell their oranges or land. As a result of the company's formidable market power, farmers find themselves in an extremely poor negotiating position. Reports in the journal *Veja* indicate that the company uses threats and intimidation during pricing negotiations.⁴⁴ For example, threats have been made to some farmers that the firm will not buy any more oranges from them unless they sell their land to Cutrale. In addition, producers also complain that Cutrale does not respect contractual agreements. Since the 1990s the Conselho Administrativo de Defesa Econômica (CADE) has taken action on a number of occasions in response to Cutrale's aggressive trading practices and there are numerous complaints that the firm has established a cartel. However, so far Cutrale has not been convicted of any unfair competitive practices. It is generally assumed that this is partly because of the family's good political contacts. The billionaire chairman gave 6 million reais to Brazilian President Dilma Rousseff's re-election campaign, 4 million for the "Fome zero" program of Lula and 9.8 million to members of the opposition party that governs Sao Paulo state.

Corporate Social Responsibility: This study was sent to Cutrale so that their comments could be added to the report. Cutrale did not comment on this study and did not provide additional information.

⁴¹ c.f. <http://brasileconomico.ig.com.br/noticias/nprint/120855.html>. (accessed on: 22.09.2015).

⁴² C.f. Jose Luis Cutrale, <http://www.forbes.com/profile/jose-luis-cutrale-1/>

⁴³ C.f. Jose Luis Cutrale, <http://www.forbes.com/profile/jose-luis-cutrale-1/>

⁴⁴ C.f. "O campeão mundial do suco de laranja" (14/5/2003). Disponível em: <http://RevistaVeja.abril.com.br/140503/p_038.html> (accessed on: 22.09.2015).

LOUIS DREYFUS COMMODITIES

Louis Dreyfus Commodities (LDC) is one of the world's leading agricultural companies. LDC is a French firm and does 70 percent of its business in Brazil. LDC is among the country's ten largest exporters and transports around 80 million tonnes of commodities per year. It is also the third largest orange processing firm in the world and accounts for 15 percent of global orange juice production.⁴⁵ LDC has its own terminal at the port of Santos in Brazil, three orange juice plants (FCOJ and NFC), and more than 14 million fruit trees, mostly oranges.⁴⁶ Besides orange juice LDC exports sugar cane, agricultural fuel, coffee, cotton, metals and rice. The firm's history can be traced back to 1851, when Léopold Louis-Dreyfus, the son of a French farmer, began to trade in seeds. LDC operates in over 100 countries.⁴⁷

In 2012 LDC was found guilty of making false allegations about the quality of the oranges supplied to the company.⁴⁸ The quality of oranges is determined on the basis of the acidity of the juice. Purchasers may demand price reductions if the acidity threshold is exceeded. The case brought against the company was that as a response to the drop in world market prices, it had entered deliberately incorrect entries in its accounts about the quality of the fruit it received. Before the harvest, LDC had already negotiated that it would pay around three euro per crate. However, the world market price later fell below this level as it was a very good harvest. LDC therefore called into question the quality of the oranges delivered and insisted on a 10-per-cent discount on the agreed price. More than 300 suppliers were affected by this penalty.⁴⁹

Corporate Social Responsibility: LDC commented on this study and the additional information provided is included in the section on Social Problems of Orange Juice Production.

BOTTLERS IN FOCUS

Bottling companies mix, process and package all kinds of liquid food into cartons, plastic bottles and glass bottles. They are multi-product companies: orange juice is just one item from a large portfolio of beverages such as juices, nectars and non-carbonated soft drinks made from other fruit flavours, bottled waters, soft drinks, energy drinks, milk-based beverages, and other non-alcoholic ones.

Since Brazil exports 95 percent of its production, the country is highly dependent on these bottlers. Recently, as concentration in the retailing sector increased, a number of packaging companies merged, and more than 100 packaging companies and bottlers sold their businesses. According to CitrusBR, just 30 bottlers purchase and bottle the equivalent of 71 percent of orange juice produced worldwide. Out of this total, the 10 largest orange juice bottlers account for 52 percent of the market (Refresco-Gerber, PepsiCo, Coca-Cola, etc).

⁴⁵ C.f. <http://www.ldcom.com/global/en/about-us/glance> (accessed on: 22.09.2015).

⁴⁶ C.f. <http://www.ldcom.com/global/en/our-business/our-platforms/juice> (accessed on: 22.09.2015).

⁴⁷ C.f. <http://www.ldcom.com/global/en/about-us/around-world/> (accessed on: 15.08.2013).

⁴⁸ C.f. Notícias Agrícolas: Citricultores ganham processo contra a Coinbra-frutesp, 11.05.2012. At:<http://www.noticiasagricolas.com.br/noticias/laranjacitrus/105616citricultores-ganham-processo-contra-a-coinbra-frutesp.html> (accessed on: 15.08.2013).

⁴⁹ C.f. Notícias Agrícolas: Entrevista com Fábio Mesquita Ribeiro, 11.05.2012. At: <https://www.youtube.com/watch?v=1cTLKN50WR8> (accessed on: 15.08.2013).

REFRESCO-GERBER

Refresco Gerber is the leading European bottler of soft drinks and fruit juices with production facilities in the Benelux, France, Germany, Spain, Italy, the UK, Poland and Finland. Headquartered in Rotterdam, it employs around 4,100 staff across 9 countries.⁵⁰ The company produces around 6 billion litres of soft drinks and generates revenues of approximately 2 billion euros.⁵⁰ It also offers an extensive range of product and packaging combinations from 100 percent fruit juices to carbonated soft drinks and mineral waters in cartons, PET, Aseptic PET, cans, pouches and glass bottles. However, fruits juices represent its main revenue, constituting 40 percent of annual turnover in 2014.⁵¹ In 2013, Refresco and Gerber Emig merged to become Refresco Gerber. Products are offered in Benelux, France (all retailers' store-brands),⁵² Germany (Aldi, Rewe, Lidl), the United Kingdom (Tesco, Sainsbury), Spain Italy, Finland, and Poland.

Corporate Social Responsibility: Refresco-Gerber did not comment on this study and did not provide additional information.

PEPSICO

PepsiCo is one of the top ten agribusiness food and beverage multinationals. Headquartered in New York City, it is present all around the world through continental and national subsidiaries. It employs more than 271,000 people and in 2014 had an annual turnover of US\$66.7 billion.⁵³ Juice bottling provided net revenue of US\$13.1 billion, which was 20 percent of total corporate net revenue.⁵⁴ PepsiCo is the largest orange juice bottler in France and the third largest in the UK.⁵⁵ PepsiCo operates in more than 45 countries, from Russia to Portugal and from Turkey to Norway. PepsiCo Europe processes and distributes beverage concentrates, fountain syrups and finished goods under various brands including Pepsi, Pepsi Max, 7UP, Diet Pepsi and Tropicana, and its fruits juices are sold globally under many brands (Trop 50, Tropicana Essentials, Tropicana Pure Premium, Tropics, etc.). These branded products are sold to authorized bottlers, independent distributors and retailers.

Corporate Social Responsibility: PepsiCo did not comment on this study and did not provide additional information.

COCA-COLA

Like PepsiCo, Coca-Cola is one the top ten agribusiness food and beverage multinationals. Headquartered in Atlanta, it is present in North America, Europe, Eurasia and Africa, the Asia Pacific and Latin America. It employs 129,000 people worldwide, licenses more than 500 non-alcoholic beverage brands in 200 countries, owns 900 plants and benefits from a network of 250 bottling partners. Some of its non-alcoholic beverages that contain orange juice and/or FCOJ are Minute Maid (Minute Maid Orange, Minute Maid Multivitamins) and Fanta (Fanta Orange, Fanta

⁵⁰ <http://www.refresco-gerber.com/company-info/about-us/>

⁵¹ <http://www.refresco-gerber.com/wp-content/uploads/2015/04/Factsheet-March-2015.pdf>

⁵² <http://www.refresco.fr/nos-clients.html>

⁵³ [Pepsico 2014 Annual Report](#)

⁵⁴ <http://www.pepsico.eu/company/about-pepsico.html>

⁵⁵ MARKESTRAT, The orange Juice business, Center for Research and Projects in Marketing and Strategy, Marcos Fava Neves and others

Tropical). In 2014, its annual turnover was US\$45,998 billion. Its activity in Europe represents 13 percent of the global turnover.⁵⁶ In 2014, it was the third largest bottling company in Ukraine and the second largest in Romania.⁵⁷

Corporate Social Responsibility: Coca-Cola commented on this study and emphasised that according to their Code of Conduct they do not tolerate the practices documented in this study. Although Coca-Cola regularly audits and controls the juice companies and the plantations they own directly, this does not include subcontractors. Among other initiatives, Coca-Cola is involved in the business network SAI, working group Brazil. In response to this study, the company admitted that the implementation of fundamental workers' rights in Brazil is a complicated task and communicated its interest to further engage in dialogue with retail and civil society organisations to this end.

⁵⁶ <http://www.coca-colacompany.com/our-company/infographic-coca-cola-at-a-glance>

⁵⁷ MARKESTRAT, The orange Juice business, Center for Research and Projects in Marketing and Strategy, Marcos Fava Neves and others

RETAILERS IN FOCUS

In 2010, five large retail chains controlled more than 70 percent of the retailing market in eleven European countries.⁵⁸ In 2015, the three equal largest European retailers, according to their total food sales on European markets, were the Schwarz Group, Carrefour and Tesco.

The role of retailers is constantly increasing as average consumption from 2008 to 2018 is expected to rise two percent for hypermarkets, 2.6 percent for supermarkets and 4.6 percent for discounters. Within this there are country-to-country variations, as for example consumers in Germany are more attracted by the discounting model, where as those in France prefer the hypermarket format.⁵⁹

Table 1: Source: Planet Retail, September 15th 2015 available on lebensmittelzeitung.net
For the Global Ranking of retailers: see Annex IV^{iv}

Nr	Retailer	Total food banner sales on European markets(mil. euros) in 2014	Number of outlets 2014	Sales area 2014
1	Schwarz-Gruppe	72.9	11,270	14,065,531
2	Carrefour	54.4	9,687	10,767,783
3	Tesco	52.2	4,760	6,499,844
4	Aldi	48.3	8,166	6,439,754
	Aldi Süd	27.4	3,305	2,695,259
	Aldi Nord	20.8	4,861	3,744,495
5	Edeka	45.9	13,299	10,684,858
6	Rewe Group	40.1	10,183	8,738,711
7	Auchan	34.5	3,430	7,524,717
8	Leclerc	30.2	758	3,437,538
9	ITM	28.8	2,716	4,201,719
10	Metro Group	26.	1,015	7,654,829

THE LOGIC OF STORE BRANDS

A key retail strategy is development of store brands, a chain's own private label. Store brand products are sold at a lower price than most branded competitors, because their marketing costs are minimal and they profit from large purchase volumes: they are on average cheaper by about 30 percent compared with than brand-name products.⁶⁰

Globally, Europe has the highest store brand penetration of national markets. The share of supermarket store brand products is estimated to reach 40 percent of EU food retail sales.⁶¹ The reasons for this development include a widespread conviction that these products offer good value for good money, as well as the opportunity for higher margins for retailers, and a profitable way for

⁵⁸ [WRIGLEY Neil, The Globalization of Trade in Retail Services, OECD, 2010](#) p.4

⁵⁹ [Tackett Kelly, European Grocery Retailing, Change is the only constant, Planet Retail](#)

⁶⁰ [Symphony IRI Group, "Private Label in Europe 2012, Is there a limit to growth?", October 2012,](#) p.2

⁶¹ [Tim EALES, "Private Label in Western Economies, Closing the price gap, losing share", IRI, December 2014,](#) p.4

manufacturers to make use of spare capacity. In Europe 66 percent of orange juice is sold by store brands⁶²

Store brands always have a ready distribution channel, which means, that they are guaranteed to have a prominent spot on the shelves. Whereas previously, store brand products were mostly inexpensive everyday items, today most supermarkets offer store brands at all price levels, including for orange juice.⁶³ Store brand products are especially strong contenders in product groups where there is only a small difference between products with regard to specific features or packaging. On the supermarket store-brands' market, suppliers have to comply with high-quality standards for low production cost.⁶⁴

RETAILER PROFILES

ALDI

German discount supermarket chain Aldi has over 10,000 stores in 18 countries with a turnover in excess of 62.2 billion euros and over 250,000 employees.⁶⁵ Founded by brothers Karl and Theo Albrecht in 1961 it remains privately owned. Aldi (short for Albrecht Diskont) is organized and operated as two distinct entities with Aldi Nord headquartered in Essen and Aldi Süd is decentral organized. Die Aldi Einkauf GmbH & Co oHG. erbringt die nationale und internationale Dienstleistungen für die Gruppe. Aldi Nord is responsible for its stores in Belgium, the Netherlands, Luxembourg, France, Poland, Spain, Denmark, and Portugal, and also operates the 'Trader Joe's' supermarket chain in the United States. Aldi Nord's biggest market outside of Germany is France with 680 stores. Aldi Süd's responsibilities are in the United States (operating under the Aldi name), Austria and Slovenia (as Hofer), United Kingdom, Ireland, Australia, Hungary, Greece (2008-2010) and Switzerland. In Europe the annual gross turnover is 48,305 million euros across more than 8,000 outlets.

The art of less

The basic idea of the discount principle, aiming to compete above all with supermarkets and corner shops, was to reduce sales outlets to the essentials: no expensive shop fittings, no decoration in the stores and no advertising. Goods are sold straight out of boxes placed on palettes or wooden shelves. The Albrechts reduced their range to around 300 articles: so-called rapid rotation (i.e. high sales frequency) basic foodstuffs. There was no product duplication in the range and no highly perishable fresh goods. This saved on cost-intensive stock care, shop assistants, expensive refrigeration cabinets and energy costs.

There were only a small number of staff in each branch, and all staff members had to be able to handle all the essential steps in the sales process in the branch. That still applies. Removing essential retail trade functions and applying enormous pressure to all cost centres – from staff costs to purchasing prices – gives Aldi considerable advantages vis-à-vis competitors. That allows Aldi to sell goods cheaply whilst still making a profit, in keeping with their business model.⁶⁶

⁶² http://www.citrusbr.com.br/download/Retrato_Citricultura_Brasileira_Marcos_Fava.pdf, p.6

⁶³ Ibid. p.10

⁶⁴ (Only French) [Avis n° 15-A-06 du 31 mars 2015 relatif au rapprochement des centrales d'achat et de référencement dans le secteur de la grande distribution](#)

⁶⁵ http://www.institut-fuer-familienunternehmen.de/pdf/IFF_Presseinformation_150708.pdf (15.9.2015)

⁶⁶ C.f. Fritz, Wolfgang: Die Aldisierung der Gesellschaft. eine ökonomische Perspektive, 2005, pp. 10ff.

Aldi's Price Dictatorship

Aldi still adheres to the discount principle today. It has introduced various innovations, including a wider product range, more branded products and special offers to attract customers, more convenience foods (ready-to-eat products) and a series of services such as EC (electronic cash) or photo services. In addition to restricting the range of products on offer, Aldi's employment strategy is one reason why it is the cost leader. Own-brands account for 95 percent of the group's turnover.⁶⁷ For example, orange juice is sold as an Aldi own brand: "Rio d'oro" (Aldi South) or "Sonninger" (Aldi North). Both consortia also offer organic orange juice and juices for children and adolescents (Junior/Aldi Nord and LeoLausemaus / Aldi South) as well as other Store-brand orange juices.

Aldi North and Aldi South, which exert enormous power vis-à-vis suppliers due to the huge quantities purchased, generally do their product purchasing separately. There are, however, regular meetings at senior management level and intensive exchanges between individual departments. Common approaches are adopted on points such as the product range, supplier conditions and pricing policy.

Aldi's purchasing strategy affords a reliable planning framework in terms of quantities and costs. That also fosters low purchasing prices. Both Aldi groups have a fixed core of system suppliers, which includes juice suppliers. Stute Nahrungsmittelwerke in Paderborn is one of Aldi's main suppliers. In some cases business relationships with suppliers and producers in Brazil have already existed for many years. Purchase prices are established in joint negotiations and are influenced by general market conditions.

Suppliers run the risk of becoming highly dependent upon the discounter due to Aldi's purchasing power. That is particularly true if they supply more than 50 percent of their capacity to the chain. Aldi is certainly quick to drop suppliers; a product does not remain in the range if it does not sell well. Of the approximately 1,000 articles in Aldi's product range an estimated 350 products per year are replaced by other products, or are changed significantly. There is rigorous price control from procurement to point of sale. Competitors are also subjected to Aldi's price dictatorship: if the discounter reduces prices, competitors do the same for their own brands within just a few hours.

ALDI AND COOPERATE SOCIAL RESPONSIBILITY

Since 2007, Aldi Nord and Aldi Süd have been members of the Business Social Compliance Initiative (BSCI) and have demanded that a number of their suppliers also join this initiative. This has led to a proliferation in the number of BSCI members. Almost half of the members have direct or indirect business ties with Aldi. However, the company has been unable to set an example to demonstrate how violations of labour rights can be sanctioned and remedied when they are discovered.

Aldi is not involved in any independent verification by way of a multi-stakeholder initiative. The conclusion therefore is that Aldi does not give adequate consideration to the negative impact which its own procurement policy has on labour conditions. Shifting responsibility on to suppliers by demanding that they sign up to the BSCI is not a suitable method of implementing social

⁶⁷ C.f.: Spiegel: Aldi-Schwäche – all die Probleme, 28.07.2010. at: <http://www.spiegel.de/wirtschaft/unternehmen/aldi-schwaecher-all-die-probleme-a-708952-druck.html> (accessed on: 15.08.2013).

standards. There are no known rules in place which would demonstrate how planning could be improved to ensure that excessive overtime for workers is avoided. The BSCI does not demand a living wage.

ALDI SÜD commented on this study and emphasized that the situation on orange juice plantations “does not reflect what Aldi Süd is standing for” (editor’s translation of quote in German). The company states that it works in close contact with its juice providers, who are members of Sure-Global-Fair (SGF)⁶⁸, as well as the AIJN Fruit Juice CSR Plattform. ALDI SÜD continues that CSR is implemented in all national organizations of the company and is coordinated internationally. In its own view, ALDI CSR-Policy defines a binding framework for business operations, which is based on national legislation, the core ILO-conventions, as well as the international bill of human rights. This framework is supposed to be in force for all stages of the supply chain. Since 2014 ALDI is a member of the Supply Chain Initiative (<http://www.supplychaininitiative.eu>). According to the company’s statement, ALDI has contributed greatly to the increase in Fair Trade labelled products in the country of Germany by dedicating more of their products to the certification scheme. In addition to Fair Trade there are a number of ALDI products labelled in accordance with other certification schemes, such as UTZ and Rainforest Alliance.

Furthermore in its response to this study, Aldi mentions a number of CSR initiatives that do not concern orange juice, but other product categories.

LIDL AND KAUFLAND

Since the early 1990s Lidl has become the most rapidly expanding discounter in Germany and internationally. Together with sister company Kaufland, which runs self-service department stores and hypermarkets, Lidl is part of entrepreneur Dieter Schwarz’ eponymous group. Lidl is more widely represented in international markets than its main competitor, Aldi. Lidl operates in all European Union countries, except for the Baltic States (but it has plans to expand in Lithuania), and in Switzerland. In France Lidl has 1,500 outlets, in Germany 3,300 outlets. In Germany alone Lidl now employs 68,000 staff, with 170,000 employees in its global workforce. The Schwarz Group, with its 72,907 million euros gross turnover in Europe (2014), has approximately 11,270 outlets and 350,000 employees.⁶⁹

The corporate structure is an opaque mesh of firms and foundations. The Lidl area alone is made up of 300 individual firms.⁷⁰ The extremely convoluted structure of the retail group is one of the factors that conceal its power structures and decision-making procedures. As a result, burdensome disclosure obligations are circumvented, employee co-decision rights are undermined and the establishment of a group or overall works council is hampered or prevented.⁷¹ In addition, the Schwarz Group also achieves enormous tax reductions with this strategy. Despite this lack of transparency, business experts agree that Schwarz Unternehmenstreuhand KG (SUT) forms the

⁶⁸ Citrosuco/Citrovita, Cutrale und Louis Dreyfus Commodities sind als Mitglieder des brasilianischen Verbands der Citrus Exporteure (Citrus BR) Mitglied in der SGF, der Schutzgemeinschaft der Fruchtindustrie, und werden regelmäßig SGF (Sure – Global – Fair) auditiert. Informationen unter: www.sgf.org.

⁶⁹ http://www.t-online.de/wirtschaft/unternehmen/id_69032514/schwarz-gruppe-erzielt-rekordumsatz-mit-lidl-und-kaufland.html (accessed on: 15.09.2015).

⁷⁰ <http://www.sueddeutsche.de/wirtschaft/lidl-der-geheimnisvollste-unternehmer-deutschlands-1.899752>

⁷¹ *ibid.*

actual centre of power as the lead holding for both Lidl and Kaufland. A somewhat less important but still key role is played by Dieter Schwarz Stiftung GmbH. Lidl and Kaufland also function as foundations, although not for tax reasons; the main motivation for this structure is likely to be the fact that such structures do not fall within the scope of co-decision legislation.⁷²

Like fellow German supermarket Aldi, Lidl has a no-frills approach of displaying most of its products in their original delivery cartons, allowing the customers to take the product directly from the carton. When the carton is empty, it is simply replaced with a full one. Staffing is minimal, so that a profit can still be made even though the prices are low. Together with Aldi, Lidl has carved out its own niche with this approach. In contrast to Aldi, there are generally more branded products on offer and while Lidl imports many low-priced gourmet foods from Europe, it also sources many local products from the country where the store is located. Like Aldi, Lidl has special weekly offers, and its stock of non-food items often changes with time.

LIDL AND COOPERATE SOCIAL RESPONSIBILITY

According to the Schwartz Group, seven people report to the directors of its purchasing departments concerning corporate social responsibility (CSR). Lidl emphasizes that it considers CSR in its purchasing policy. Its CSR code is, publicly available on their website. The code applies not only to Lidl own-brand products, but encompasses all product groups and the entire purchasing chain, including subcontractors. According to Lidl's own information, the firm has no influence on brand manufacturers. In order to implement the code, there have been training courses with three employees and four managers on CSR since 2011 at Lidl HQ in Neckarsulm. Lidl was, however, unable to provide examples of the way in which violations of employment laws are followed up on and resolved. The firm is not part of an independent verification process through a multi-stakeholder approach.

In conjunction with Edeka, Lidl and Kaufland are vigorously involved at the European level in seeking to avoid legislation that would oblige retailers and the food industry to comply with fair business practices throughout the value-added chain.⁷³ They seek to develop a cross-Europe system based on voluntary commitments as a "competition-friendly" alternative.

Lidl provided comments to this study, emphasising that they were the first German retail chain to introduce Fair Trade labelling to their private label production (Lidl's own brand Fairglobe), including Fairglobe Orange Juice. Furthermore, the company points out, that it has been the first German retail chain to have its beverage packaging certified with the FSC-Mix in 2009. Since 2014 this applies to all beverage cardboard packaging sold by Lidl, including Orange Juice. Lidl is a member of the European Supply Chain Initiative (www.supplychaininitiative.eu), a voluntary business initiative. Lidl points out that it has been among the first companies to implement the ten baseline principles of this initiative. According to Lidl, sustainability initiatives on European level, such as activities of the CSR Fruit Juice Platform are monitored and dialogue with other stakeholders is actively pursued, in order to ameliorate the situation collaboratively.

Towards the end of 2015, Lidl will offer orange juice certified by Rainforest Alliance in Germany, Austria and the Netherlands.

⁷² C.f. Lebensmittelzeitung: Stille Gesellschaft, Lebensmittelzeitung (print edition, 11th March 2011).

⁷³ C.f. Lebensmittelzeitung: Weg frei für Selbstregulierung, 28.06.2013. at: http://www.lebensmittelzeitung.net/news/top/protected/ernaehrungswirtschaft-Will-sich-zufairemUmgang-bekennen_99998.html (accessed on:15.08.2013).

The Environmental Problems of Orange Juice Production



INTERNATIONAL FOOD SUPPLY CHAINS FROM THE GLOBAL SOUTH

AND THE ENVIRONMENT

Market mechanisms currently described as *unfair trade practices* cause social and workers' rights violations, as well as long-lasting environmental damage. Large and economically powerful multinational companies have considerable influence on national legal frameworks, meaning that their own focus on profit maximization leads to laws protecting short term corporate profit, while denying or externalizing environmental and health costs to society.

In this context, the ongoing destruction of natural capital is an important social problem, because especially the disadvantaged segments of the population have no means to substitute lost natural capital (for example, for people living in poverty it is not possible to substitute polluted drinking water by purchasing clean; a phenomenon which has led to natural capital being coined the 'GDP of the poor'.)⁷⁴

⁷⁴ TEEB (2010), The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A Synthesis of the Approach, Conclusions and Recommendations of TEEBB <http://www.teebweb.org/our-publications/teeb-study-reports/synthesis-report/>

OVERVIEW OF ENVIRONMENTAL IMPACTS OF ORANGE JUICE

PRODUCTION.

Figure 1 gives a simplified overview of the physical dimension of European orange juice consumption in Brazil. Note that not all of the 740,000 tons of FCOJ imported into the EU are reconstituted into orange juice. FCOJ is also used to produce all kind of other soft-drinks and nectars.

The relevant life cycle stages of the orange juice production

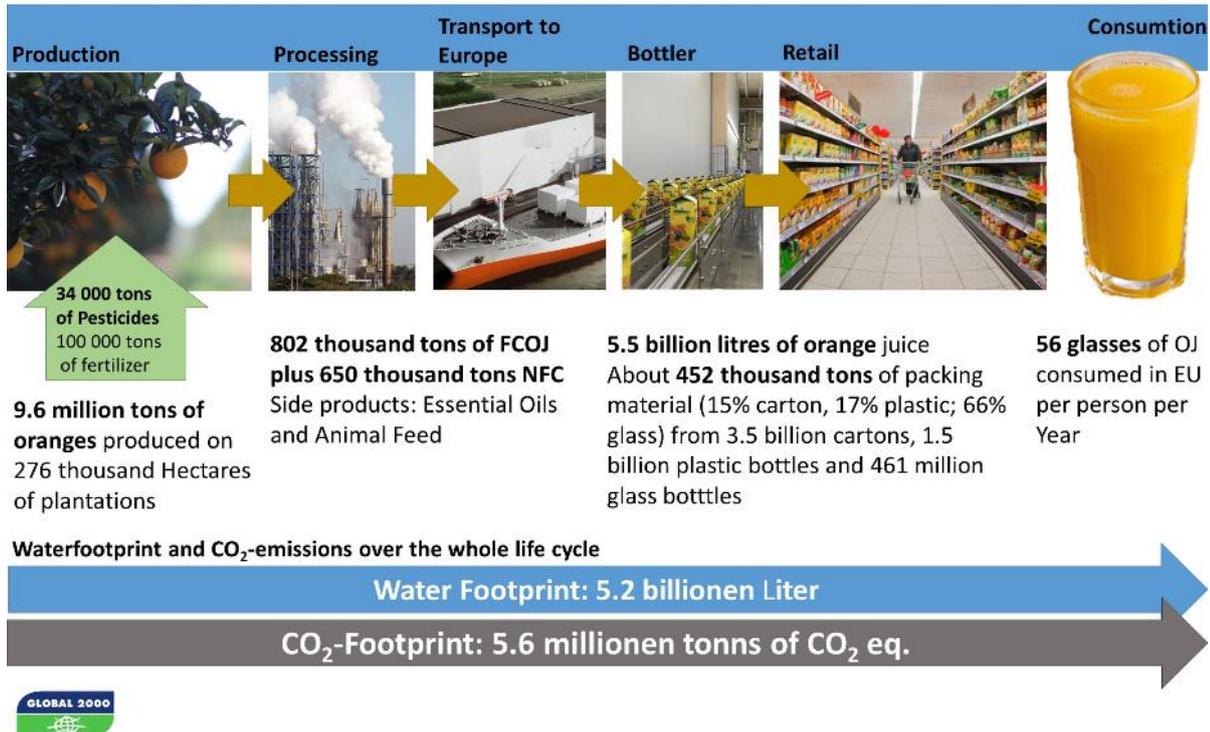


Figure 1: The main stages of orange juice production. The numbers taken represent the year 2014.⁷⁵ Pesticide and fertilizer input per ha from 2009.⁷⁶ To calculate the CO₂ footprint the average of 4 LCA studies was taken.⁷⁷ The water footprint has been estimated using data from the water footprint network.⁷⁸ Numbers for the distribution between different packaging were taking from 2009,⁷⁹ the weights of the different packaging varieties were taken from a LCA on packing of drinks,⁸⁰ and the weights of the different drinking-carton components from Tetra-pack webpage.⁸¹

⁷⁵ TETRA PAK. 2010-2013. Worldwide Center for Research and Development and Business. Intelligence. Modena, Italy. Internal database

⁷⁶ C.f. Neves, Marcos Fava : An Overview of the Brazilian Citriculture 2009

⁷⁷ Carbon & water footprint of oranges and strawberries. A literature review. Mordini, M., Nemecek T., Gaillard G. Hrsg. Zürich, Agroscope Reckenholz-Tänikon ART. . December , 2009, 1-76 S.
<http://www.saiplatform.org/uploads/Library/WG%20Fruit%20-%20ART%20Final%20Report.pdf>

⁷⁸ <http://waterfootprint.org/en/resources/interactive-tools/product-gallery/>

⁷⁹ <http://www.statista.com/statistics/421657/fruit-juice-and-nectar-types-of-packaging-eu/>

⁸⁰ Umweltbundesamt Hintergrundpapier: ÖKOBILANZ FÜR GETRÄNKEVERPACKUNGEN FÜR ALKOHOLFREIE GETRÄNKE UND WEIN II 2002
[tpcomprod.blob.core.windows.net/static/documents/summary_uba_studies_german.pdf](http://tocomprod.blob.core.windows.net/static/documents/summary_uba_studies_german.pdf)

⁸¹ <http://176.58.118.13/sourcing-performance-data>

HABITAT CONVERSION

In Brazil orange juice plantations have been and are still largely planted on land that has been under cultivation before. The first large scale planting of orange trees replaced coffee plantations after the coffee crises in the 1930s. Conversion of natural land into orange plantations, and therefore loss of habitat, is not an environmental problem in Brazil. However, the impact of orange production on neighboring semi-natural habitats, for example through aerial pesticide spraying can be huge.

In other orange producing countries like Belize, conversion of forest into orange plantations is still an issue.⁸²

PESTICIDE USE AND AGRICULTURE IN BRAZIL

Pesticides are used in conventional agriculture in Brazil; over 90 of farmers rely on pesticide use.⁸³ However, the amounts and types used vary largely between and within different crops. The increasing development of organic agriculture and its professionalization have demonstrated that larger farm operations can also be run effectively without using pesticides at all; but even within conventional agriculture, the way the crops are managed can affect the amount and types of pesticides used.

In 2013, Brazilian buyers purchased US\$10 billion worth, or 20 percent, of the global pesticide market. Since 2008, Brazilian demand has risen 11 percent annually – more than twice the global rate.⁸⁴ One factor blocking more forceful safeguards is Brazil's increasingly powerful agricultural lobby. In last year's elections, agribusiness trailed only the construction industry as a source of donations for the re-election of President Dilma Rousseff. Brazilian food and agricultural companies accounted for about a quarter of the money she received from big donors, or 89.5 million reais, electoral filings show. That figure is based on an analysis of the 118 largest donations to Rousseff's campaign, equal to 1 million Brazilian reais (US\$300,000) or more each.⁸⁵

⁸² Jason Clay World Agriculture and the Environment A Commodity-By-Commodity Guide To Impacts And Practices 2013. Island Press. P146

⁸³ IBGE (Instituto Brasileiro de Geografia e Estatística) Censo Agropecuário 2006. Brasil, Grandes Regiões e Unidades da Federação (2006) Rio de Janeiro

⁸⁴ Agência Nacional de Vigilância Sanitária. Programa de Análise de Resíduos de Agrotóxicos em Alimentos (PARA). Relatório de Atividades de 2011 e 2012. Brasília: Agência Nacional de Vigilância Sanitária; 2013

⁸⁵ <http://www.reuters.com/investigates/special-report/brazil-pesticides/> 4.2015 accessed 15.9.2015

ECONOMICS OF PESTICIDES

Since 2008, Brazil is the world leader in pesticide consumption.⁸⁶ The Brazilian pesticide market experienced a rapid expansion over the last decade (190 percent increase), at a pace of growth more than double that of the global market (93 percent).

- According to the Brazilian National Health Surveillance Agency (ANVISA), for the 2010/2011 harvest, 936,000 tons of pesticides were used, involving financial transactions of US\$ 8.5 billion.⁸⁵
- Eight companies control 72 percent of the national market (*Syngenta, Bayer, BASF, FMC, DuPont, Dow, Monsanto, Iharabras.*)⁸⁵
- An effort to re-evaluate 14 controversial pesticides used in Brazil, most of them banned elsewhere, is now in its seventh year, slowed by lawsuits from manufacturers and opposition from many lawmakers.⁸⁵
- At least four major pesticide makers – U.S.-based FMC Corp., Denmark's Cheminova A/S, Helm AG of Germany and Swiss agribusiness giant Syngenta AG – sell products in Brazil that are no longer allowed in their domestic markets.^{87 88}

HEALTH AND FATAL INCIDENTS:

- Between 2007 and 2011, according to data from the Information System of Compulsory Notification Conditions (SINAN), there was an increase of 67.4 percent of new non-fatal labor accidents due to pesticides in Brazil.
- Between 2007 and 2013, the number of reported cases of human intoxication by pesticides has more than doubled, from 2,178 to 4,537.
- In the same period, the annual number of deaths linked to pesticide poisoning climbed from 132 to 206. Public health specialists say the actual figures are higher because tracking is incomplete.

USE OF GENETICALLY MODIFIED PLANTS AND PESTICIDES

- Permission for use of transgenic seeds in crops, and their dissemination in farming areas, are associated with increase in pesticide consumption, taking into account the intensive use of herbicides, accountable for 45% of the volume used, followed by fungicides (14%), and insecticides (12%). This is especially the caused by the herbicide tolerant varieties e.g Round Up Ready Soybean, produced by the agro-chemical giant Monsanto.
- 2013 Fundecitrus started tests with genetically modified oranges in December last year in the Ibaté area.⁸⁹ The GM plants should have potential for black spot, fruit fly (*Ceratitidis capitata*) and citrus canker tolerance.

⁸⁶ Agência Nacional de Vigilância Sanitária. Programa de Análise de Resíduos de Agrotóxicos em Alimentos (PARA). Relatório de Atividades de 2011 e 2012. Brasília: Agência Nacional de Vigilância Sanitária; 2013

⁸⁷ PAN; Highly hazardous pesticides from BASF, Bayer, and Syngenta! Results of an international investigation. 2012. http://www.pan-germany.org/download/Big3_EN.pdf

⁸⁸ <http://www.reuters.com/investigates/special-report/brazil-pesticides/> 4.2015 accessed 15.9.2015

⁸⁹ <http://www.fundecitrus.com.br/>

PESTICIDES AND ORANGES

Oranges are one of the most pesticide intensive fruit crops, and require the most pesticides per hectare of all export-crops grown in Brazil⁹⁰. In 2009, 30 thousand tons of pesticides, equivalent to 19 thousand tons of active ingredient, were used in the Brazilian citrus sector, at a total cost of R\$ 201 million.

Pesticide use has intensified particularly since the ‘greening-sickness’ arrived in Brazil. To fight the transmitter of the disease, (the Asian citrus psyllid, a small insect), massive amounts of pesticides from the neonicotinoid group are sprayed, up to twelve times a year. Prof. Dr. Osmar Malaspina, Claro Rio de UNESP Institute of Social Insects, says “We do not know what effects this massive use of pesticides will have on the long run. We are concerned but we did have too little possibility to influence the regulations”. The USEP has now started to investigate the impact of pesticides used in orange plantations on the wild bee populations in adjunct habitats.

Table 2: The most dangerous pesticides used in the integrated production of oranges. Some of these substances are banned in the EU for the others strong restrictions exist e.g. allowing the use only in special instances.

Substances listed are registered for use in Brazilian integrated production of oranges. (Source CitrusBR)	Information on toxicity
Abamectin	Highly toxic for birds, fish, aquatic organisms, toxic for reproduction (EU Cat.2)
Beta-cyfluthrin	Neurotoxic; WHO highly hazardous pesticide (1B)
Chlorpyrifos	Highly toxic for birds, fish, bees, aquatic organisms, neurotoxic, toxic for reproduction
Cypermethrin	Highly toxic for aquatic organisms
Dimethoate	toxic for reproduction
Spinetoram	toxic for reproduction
Spirodiclofen	Suspected of being carcinogenic; toxic for reproduction; neurotoxic
Etofenprox	Toxic for reproduction
Fenpyroximate	Toxic for reproduction
Flufenoxuron	Not permitted in the EU ; toxic for lactation: May cause harm to breast-fed children
Phosmet	Toxic for reproduction; neurotoxic; highly toxic for bees and birds
Hexythiazox	Suspected of being carcinogenic
Imidacloprid	Toxic for reproduction; highly toxic for bees and birds
Malathion	neurotoxic
Imazalil*	Toxic for reproduction
Tebuconazole	Toxic for reproduction
Thiamethoxam	Highly toxic for bees
Trifloxystrobin	Toxic for reproduction

⁹⁰ C.f. Neves, Marcos Fava : An Overview of the Brazilian Citriculture 2009

Diquat dibromide	Inhalation may be dangerous to life, extremely persistent in the soil, toxic for birds, fish, bees, earthworms
Paraquat dichloride	Not permitted in the EU; Inhalation may be dangerous to life, suspected of being carcinogenic; toxic for reproduction
Diuron	EU carcinogenic level 2; suspected of being toxic for reproduction
Glyphosate	Carcinogenic according to WHO
Glufosinate-ammonium	EU toxic for reproduction level 2; neurotoxic
Gibberellic acid	Suspected of being mutagenic (BPDB)
Fipronil	Highly toxic for bees, birds, aquatic organisms, neurotoxic, suspected of being carcinogenic and toxic for reproduction (Use in EU is restricted)
Bifenthrin	Probably carcinogenic, highly toxic for aquatic organisms; not permitted in Austria, Germany and Switzerland

PESTICIDE EFFECTS ON BIODIVERSITY: THE EXAMPLE OF POLLINATORS

Brazil is home to over 3,000 bee species.⁹¹ Besides the honey bee that was introduced by the European settlers, different species of stingless bees are responsible for honey production for at least the last 1,500 years. Although some major Brazilian export crops like soy or sugar cane do not depend on pollination through insects, oranges and many other fruit and vegetable crops do. The massive use of pesticides in Brazilian agriculture, together with increasing loss of habitats, has already been shown to have a tremendous negative effect on bees in Brazil.

Although the occurrence of Colony Collapse Disorder (CCD) in Honey Bees (*Apis mellifera*) has already been registered in several Brazilian states since 2008, more recently there were also some cases of CCD in stingless bees (*meliponíneos*) in the state of Sao Paulo. According to Prof. Dr. Osmar Malaspina, Claro Rio de UNESP, one of the first cases of loss of bees in Brazil took place in Brotas-Sao Paulo when a beekeeper lost more than 200 Africanized bee colonies in an orange plantation, after this had been sprayed with the pesticide Thiomethoxam.

In the municipality of Rio Claro-SP alone the loss of 10 thousand hives of Africanized bees through insecticides has been reported between 2008 and 2010.⁹² The CBA-Brazilian Confederation of Beekeeping has already officially expressed its concerns to the MAP, MMA and IBAMA against the use of neonicotinoids;⁹³ but with no effect.

⁹¹ <http://www.semabelhasemalimento.com.br/home/perguntas-frequentes/?lang=en>

⁹² França, M. S. J. *O sumiço das abelhas*, Unesp Ciência, v.34, 2012

⁹³ parecer da CBA publicado em Mensagem Doce, N. 119, novembro de 2012

CLIMATE IMPACT OF ORANGE JUICE AND CONSUMER BEHAVIOUR

What is the climate impact of the glass of orange juice on your breakfast table? To answer this question a life cycle perspective needs to be applied, which considers not only the emissions associated with production, but also those associated with purchasing and consumption. From this perspective it becomes clear that we as consumers can have a direct impact on the environmental footprint of our juice.

The agricultural stage of production (especially production of the concentrate) does require large amounts of energy; although as bio-based fuels are strong in Brazil, the impact of this energy need on CO₂ emissions is slightly reduced.

However, using the car for your shopping trip to the retailer may add more to the CO₂ footprint of that glass of orange juice than was created throughout the entire transport process from South America to Europe. Comparing the results from four lifecycle studies indicates that a litre of orange juice has about the equivalent of one kilogram of CO₂ attached to it.⁸ This is comparable, for example, to organic milk, and the numbers are similar for other fruit juices.⁹

Further, the authors of a Swiss study that reviewed available Life Cycle Assessments on oranges, orange juice and strawberries, conclude that little convincing data to determine the carbon footprint of oranges have been published. The underlying data and assumptions of the four studies (all commissioned by juice bottlers or producers) that investigated the LCA of Brazilian orange juice are not all fully disclosed, and the authors conclude that due to uncertainties and differences in methodology “...the explanatory power of the values and a deeper interpretation [of the results] is limited.”⁹⁴

COMPARISON OF DIFFERENT PACKING OPTIONS:

The most common packaging for orange and other juices is carton (38 percent) followed by plastic (27 percent) and glass bottles (8 percent).⁹⁵

The environmental performance of packaging strongly depends on which collecting systems are used, which can vary from country to country; as well as the efficiency of recycling processes, and how much recycled material is used in production of new packaging. Another key aspect is the assumption about the winding number of multi-way bottles.

As a general rule, multi-way packaging is always more environmentally friendly than single-use packaging.⁹⁶ The second best option is composite board packaging. The least environmentally friendly option is single-use glass containers or bottles.

⁹⁴ Carbon & water footprint of oranges and strawberries. A literature review. Mordini, M., Nemecek T., Gaillard G. Hrsg. Zürich, Agroscope Reckenholz-Tänikon ART. . December , 2009, 1-76 S.

<http://www.saiplatform.org/uploads/Library/WG%20Fruit%20-%20ART%20Final%20Report.pdf> p15

⁹⁵ <http://www.statista.com/statistics/421657/fruit-juice-and-nectar-types-of-packaging-eu/>

⁹⁶ Umweltbundesamt Hintergrundpapier: ÖKOBILANZ FÜR GETRÄNKEVERPACKUNGEN FÜR ALKOHOLFREIE GETRÄNKE UND WEIN II 2002 tpcomprod.blob.core.windows.net/static/documents/summary_uba_studies_german.pdf

⁹⁶ <http://176.58.118.13/sourcing-performance-data>

Social consequences of orange juice production



WORKING ON THE PLANTATIONS

Cultivation of oranges is very labour-intensive. The fruit is mostly picked by hand. Most pickers travel from plantation to plantation, harvesting oranges, sugar cane or other products depending on the season. Generally they work for wages too low to allow them to live with dignity. They bear the brunt of ruthless competition between the three multinational juice companies. Their work is physically demanding, poorly paid, and without legal protection.

In July 2015 in the Brazil, the orange juice network Atibai was built as an exchange platform for workers within the juice supply chain, all the way from the rural sector to the supermarkets. The network is supported by union networks like TIEGlobal and also by NGOs like CIR. The network highlighted the following core problems within the supply chain of orange juice: precarious employment, low salary, long working hours, discrimination, and health and safety problems.

JOB SECURITY AND PRECARIOUS EMPLOYMENT

Most workers on plantations in the state of São Paulo are migrants or come from peripheral rural areas in adjacent districts. They are generally men aged between 30 and 49 with little formal education. It is common practice to conclude seasonal contracts on the plantations. These contracts mean that workers are always under pressure to be extremely productive, as otherwise they have no prospect of being hired during the next harvesting season.

Within the subcontracting system, 'lider' (leader) is the name used for the local labour contractors who recruit workers, usually from the poorer regions of north-east Brazil. The lider is employed by the company, if a worker makes a mistake the lider delivers punishment, for example salary reduction. The lider receives a commission, which is dependent on the workers' productivity. Workers who harvest too little are not given any work in the next season. That also applies to seasonal harvest workers who miss work too often because they feel unwell. All the workers interviewed explained that they are constantly monitored by their lider. **"You are 24 hours under pressure and control..."**, said Juan.^{97*} In July 2015 the workers on a Cutrale supplier plantation hadn't been paid for several weeks. Their debts increased on a daily basis, due to expenses for the transport to the plantation, the accommodation and food supply, which has also been provided by and sold by the lider at prices more than double the normal food prices. If the worker borrows money for the family left at home, the interest rates are usurious. Their employment had not been freely chosen. The workers had no possibility to leave the plantation: They were indebted to the lider and they couldn't afford the bus ride back home, because they did never receive their salary. **"If you would like to leave, then you have to pay 300 reais"**, explained Angel* a farm-worker in SP. This is a system of modern system of slavery. **"There is no respect for human rights. Workers who bring in the harvest for these companies are not chained up as slaves once were. Different means are used to keep them captive."** said Márcio Propheta Sormani Bortolucci lawyer of the rural worker of Piratininga.

The lider is also responsible for arranging accommodation for the workers. The accommodation inspected for this study in Avaré, in company with the Minister for Labour, had only basic furniture

⁹⁷ *All workers' names in this report are pseudonyms

(beds, tables, chairs), and insufficient toilet facilities and access to water. The accommodation structures were not domestic housing, but rather whatever other structures happened to be available, for example bars. More than 10 people were forced to sleep in a space only eight metres squared, some in hammocks. 60-80 reais (circa 25 euros) are deducted from workers' wages for this accommodation, which is a breach of Brazilian labour law.

In response to this study, LDC pointed out, that in the cases of LDC's own plantations, workers are directly employed with LDC and usually come from the local periphery. Therefore there are no accommodations and there is no subcontracting practice on LDC plantations.

In contrast to the plantations, systematic outsourcing is proscribed by law in the factories. Outsourcing does however occur in the areas where this is legal, such as cleaning work, warehousing or security services. Most workers are only there for a short time before being replaced by others. 'Long-term contracts' are for one to – at most – two years.

REMUNERATION / SALARY

Generally, the harvesters stand on ladders propped against the orange trees to harvest the fruit. They have sacks fastened to their bodies. Once workers have filled the sacks (which can hold up to 30 kilos), they climb down the tree and empty the oranges they have picked into a larger bag. Each of the harvest hands has their own large bag. Their daily wage is calculated on the basis of the quantity they fill into these bags. Normally these large bags hold the contents of 50 to 60 sacks. The workers must harvest 60 sacks a day to earn the standard minimum wage in the state of São Paulo, which is 690 reais (155 euros) per month, so in total harvesters must pick 1.5 tons per day to receive the minimum wage. For every additional sack that the workers deliver they receive a bonus. According to information from the harvest workers, they are paid an extra 0.42 reais (circa 9 cents) for each additional sack. That means that in Brazil a seasonal harvest worker earns on average ten euros a day for picking nearly two tonnes of oranges. ***“The salary is not enough for the daily food expenses...”*** said Gisela.* A study by the Brazilian trade unions indicates that 14 euros per day is the absolute subsistence minimum.⁹⁸ If the trees are old and don't have a lot of oranges the price per bag stays unchanged, but working time to get the same number of oranges is higher.

Interviews undertaken for this study in 2015 revealed that little has changed in the two years since the first study: there are often irregularities when the oranges are delivered. The plantation owners are responsible for weighing the large bags, and the lider pays the harvest workers. This settlement procedure lacks transparency, making it more difficult for workers to check whether they have really been paid for the work they have done. Workers are not present when the crates are weighed; or the scales are inaccurate, and often the workers do not know how much the lider is paid per crate harvested, as the labour contractors deduct their own commission before paying the workers, and on the pay check the harvested weight is not recorded. ***“We don't even know how much we will receive per crate for each day”*** said Gisela.*

The workforce in the juice plants is much smaller than on the plantations. Factory workers are paid slightly better than the labourers in the fields. Wages at Cutrale are at 972 Reais per month. ***“Cutrale pays one of the lowest wages in the food sector in the state of São Paulo.”*** said Alfred.*

⁹⁸ <https://foodpolicyforthought.wordpress.com/2014/10/12/how-fair-is-your-oj-fair-trade-brunch-by-oxfam/>

WORKING HOURS

Officially there is a 44-hour working week on the plantations. Workers are entitled to a one-hour lunch break. There are no suitable spaces or shelters for breaks on the plantations. Workers either eat in buses or out in the fields. Rooms provided for breaks were often found to contain empty bottles and bags of chemicals. However, there is in any case such pressure of workers to achieve and exceed targets that they often have to miss their lunch break, and are *de facto* forced to work longer hours. During the harvest, workers are expected to work at weekends too. In September 2015 Cutrale was fined R \$ 200,000 for violations of employment law, including denying weekly rest to employees. According to documents in the case, the employees worked up to 27 days without a break. The time cards also showed poor practice over a number of years, with workers often receiving only one day off per month. ***“It is startling that a company with an extraordinary economic power finds reasons to refer their employees to such a cruel regime, causing employees practically to live only to work.”*** says the prosecutor Rafael de Araújo Gomes. Piecework is done in the factories too. In interviews, workers mentioned that the topic of productivity is omnipresent and is the only criterion used to measure a worker’s performance. ***“I have seen colleagues coming to the factory with temperature because they were afraid of losing their job if they stayed off work sick,”*** said Isabell.*Cutrale is also criticized for putting workers under so much pressure every day that they work for at least two to three hours more without taking proper breaks. Marcio* said: ***“We are just numbers. The pressure we have each day is enormous.”*** During the harvest, working hours in the factories are extended to up to 14 hours. The overtime worked is not paid in full. It is a standard practice in the factories for workers to be invited to meetings with supervisors outside regular working hours to avoid any loss of working time.

HEALTH AND SAFETY

Workers from all firms indicated that the ladders they are supposed to use are not suitable for the work. This frequently leads to injuries and accidents. Specifically, the ladders are all the same length, but the orange trees grow to very different heights, so the workers have to take risks to harvest all the oranges from the tall trees. In addition, when the ladders are too high for certain trees, the workers have to pick the fruit bent over and injure their backs. Back pain, and pain in the arms and shoulders are the most frequently mentioned health consequences. Other frequently mentioned ailments include headaches, eye pain (due to the strong sun) and colds. There is extremely intense pressure to keep working despite ill health. For example, if a worker falls off a ladder during the harvest, he or she is quickly told it was not a bad fall and pushed to keep on working. Workers who fall ill whilst at work are assumed to be malingering. Many workers go to work sick out of fear of being laid off. ***“If I have pain the doctor of the company gives me pills,”*** said Cicero.*

Chemicals are often sprayed whilst the workers are harvesting in the fields, causing allergic reactions and other health problems. Eight women on a Citrosuco plantation were taken to a hospital suffering from poisoning. The women were discharged at their own request, and against medical advice, after a Citrosuco representative visited the hospital.

The containers that hold toxic agrochemicals for spraying are handled without due care. The consequences of this careless handling of toxic substances include burning eyes and headaches.

“We have to go out into the fields immediately after pesticide spraying”, said Joan.* The workers also have to go out into the orange groves immediately after rain. The poisonous substances penetrate directly through their clothing and come into contact with their skin.

Tractor drivers in particular are exposed to the risks arising from agrochemicals without any protection. The tractors often do not have cabins, so the drivers are directly exposed to pesticides. Enrique* a former tractor driver, said **“I asked the Louis Dreyfus to change my workplace, as I felt so sick of the pesticide, but they did not. The doctor told me that my sickness clearly comes from the exposure to pesticides.”** Since he left the plantation, cabins for the tractor have become obligatory by law, but generally only the large company-owned plantations meet this regulation.

Insufficient training is provided, especially to isolated rural suppliers, in how to deal with poisonous substances, or on health and safety issues. Employers do not inform workers of the dangers to which they are exposed during their work, or how to take protective action. Protective clothing is either not available or is inadequate, and although it is provided for some workers, there are complaints about its poor quality. The shoes have cracks, and as a result the workers run the risk of bites on their feet from poisonous insects or snakes.

There is no first aid equipment available for workers during the harvest. In general first aid supplies are only available on the *finca*, the landowner’s country house, which in some cases is too far away from the workplace. Drinking water is not made available to labourers out in the fields. There is a lack of toilet facilities on the plantations.

The buses or pick-ups that transport workers to the plantations are in an extremely dilapidated state. These vehicles are often not even registered. In general, the labour contractors (lidors) transport the workers to the plantations in their own pick-ups. That means that claims can only be made against the labour contractors if there is an accident, but Cutrale, Citrosuco and LDC are not liable. One employee reported that he was asked not to wear the company uniform on the way to work, as it would make it too easy for the press to identify who was responsible if there were an accident.

In 2013 Samuel said: **“Yesterday we were being transported from the plantation after work, both front wheels of the bus came loose and rolled away. Luckily we could escaped unscathed as the road was not asphalted. We didn’t get home until around 2 o’clock the next morning.”**

The roads are a further problem as they become muddy and slippery when it rains. **“We always get stuck here when it rains”, said Paul.*** As a result, a journey that normally takes two hours can take four to six hours longer as the buses become stuck in the mud. The workers are then not able to meet the required piecework rate, and workers on probation lose their jobs as a result.

The workers often don’t have health insurance. If they go to the doctor of the company they will get pills for the pain. The only examination they really get is before starting to work; at the end of the season they are not checked, so as to avoid evidence of illness as a result of the work (occupational disease). Several cases of occupational diseases are pending in the courts, but Cutrale denies them. For the workers it is a difficult situation, because they can pay neither for the medicine nor the doctor.

It is extremely hot in the factories. There is insufficient light, and it is extremely noisy. The air in the factories is poor, oil is combusted and the workers breathe in the fumes. There is no ventilation. There is no general provision of protective clothing in the factories. Often the equipment provided

does not fit. Obtaining appropriate protective clothing involves considerable bureaucratic effort for employees. As a general rule, workers should receive hearing protection, protective goggles and a helmet. Cutrale requires its employees to sign a document stating that they will accept deductions from their wages for any damage to protective clothing or tools. ***“Working for Cutrale is bad for your health and a risk to life and limbs.”,said Juan.**** At the factory of Citrusuco a worker died while cleaning in August 2015.

“Everything is made to look OK before the labour inspectors come to the factory”, said Cicero.* It seems that the working and safety conditions on the large plantations belonging to the three multinational firms are better compared with those of their suppliers. Also, during the official visit of the research team to the LDC plantation next to Duartina, all workers had proper protection clothing, the bus was taken care of, drinking water, shadow and resting places were supplied. It was also stated that all the workers handling chemicals had to go through a training.

LDC commented in response to this study: “All crop protection products we use are authorized by the Agriculture Ministry, which also determines the re-entry periods in the fields. We do not schedule the harvest of these fields within these periods. All of this is strictly controlled and even blocked in our computer systems. We hire and inspect all vehicles that transport our employees. All employees enter the bus already wearing their uniforms and go back home also wearing them. The use of a protective uniform is compulsory at Louis Dreyfus Commodities, and in accordance with our rigorous internal policy on safety and health matters, our company continually invests in equipment, materials and technology that ensure a healthy, safe and sound working environment for our employees. Before engaging in any activity within our company our employees are trained on health and safety issues to ensure their protection, in accordance with all applicable regulatory requirements, as well as company policy.”

DISCRIMINATION

In addition to economic disadvantage and discrimination, women are victims of constant psychological, physical and sexual attacks. The long working hours hamper family life, so female workers with children suffer particularly from this state of affairs. The general rule both in the factories and out in the fields is that if you don't work, you don't get paid. For mothers, this means that they cannot go to the doctor with their children or attend events at their schools. A great deal of pressure is exerted to ensure that women do not miss work. One woman reported that her boss had asked provocatively which was more important to her: her job or her child.

In LDC and Cutrale factories many pregnant women or women with children have been dismissed. ***“The companies don't have child care as obliged by law. After the legal time before and after the pregnancy they just dismiss the workers. Or give to women only short term contracts”,*** said unionist Abel Barreto.

In addition to gender-based discrimination, workers also encounter other forms of humiliation. In some cases talking is forbidden in the factories. Workers are frequently cursed and insulted in the plantations and factories; some supervisors at Cutrale curse workers as “asses”. In certain cases workers are also addressed by number rather than by name. Rebecca*: ***“Every day employees are***

treated as if they were worthless". Paulo* testifies: ***"At Cutrale workers are not respected or acknowledged as human beings. Everyone is aware of this and sees it happening."*** Workers report that they are asked to sign forms by management without knowing what is contained in the forms.

LDC commented in response to this study: "We do not dismiss pregnant women, neither in our factories, nor in our farms or offices. At the moment there are several women on maternity leave in our farms, and this is properly documented. We strictly adhere to the law and are completely opposed to any form of discrimination."

FREEDOM OF ASSOCIATION

There is a pronounced anti-union attitude in both the plantations and factories. Workers who have contacts with trade unions run the risk of being dismissed from their jobs. For example, just being seen with a trade union member in the street or in a bar can mean that the employee will be put on the "black list". Márcio Propheta Sormani Bortolucci (lawyer for the rural worker of Piratininga): ***"Freedom does not exist on the plantations. The workers are very afraid to talk about their situation"***. He explains that workers generally hide when trade unionists approach the plantations to avoid being spotted with them. In addition, the plantations are surrounded by fences, making it difficult to start a conversation with the workers. The companies forbid the trade unionists access to the plantations, and subject them to strict surveillance if they manage nonetheless to gain access.

Juan* said: "There is no freedom of speech, no freedom to raise complaints, to demand workers' rights. Workers are punished if they lodge a complaint. They are warned, suspended or put on a "black list" if they call anything into question."

Labour contractors are used explicitly to exert psychological pressure on workers. There are several known cases of Cutrale dismissing trade union members or strikers.

A general practice to avoid strong unions and their collective bargain power is to register the workers in regions next to the plantation, where yellow unions are present⁹⁹. Abel Barreto said at the foundation meeting of the international juice network in Atibaia in June 2015: ***"The juice industry is making profits, but people remain in misery, we will continue to fight. We need international solidarity and to overcome boundaries."***

What the Atibaia juice network demands:

- Access for unions to plantations and factories
- Secure employment
- Better and transparent salaries
- No more working pressure
- Safety and health care
- Shorter working hours
- Workplaces without discrimination

⁹⁹ The union system in Brazil based in the militarist regime and was adapted from the Italians.

Call For Change: The SUPPLY CHA!NGE Project



TIME TO CHANGE

The situation described above in respect to orange juice production in Brazil and employment conditions in the European retail trade demonstrates that firms do not take sufficient account of their responsibilities. This is a situation that we in the Supply Cha!nge project would like to change.

We members of the project are a group of civil society organizations from across Europe and the global south. Our main objective is to make supermarket store brands (sometimes known as 'own brands' or 'private labels') fairer and more sustainable.

We know that so far, supermarkets don't do enough to counter these problems. Compared with their enormous influence, the efforts of supermarket chains to prevent human rights violations and to reduce the environmental damage along their product supply chains are often disappointing.

This is why we demand tangible action from supermarkets, national governments and the European Union to improve labour conditions in countries of the global south, and to reduce environmental damage along the supply chain. Supermarkets need to take responsibility for the circumstances under which their private labels are produced. Governments both in producing and consuming countries need to adopt legislation that obliges supermarkets to respect human and workers' rights along their supply chains and act in a responsible manner concerning environmental issues.

WHAT YOU CAN DO AS A CONSUMER

Be conscious of your choices when buying! In the case of orange juice, go for fair trade or organic. Both production systems provide a better price for farmers and workers, and organic farming additionally uses no pesticides at all, while fair trade uses only a reduced amount.

Write to your retailer. Ask them where their orange juice comes from, if they care how it is produced and if they think that consumers want to drink juice which was potentially produced by slave labor and is wrecking the environment in the producing countries.

Regarding your own impact: use public transport, walk or bike to the supermarket. If possible buy multi-use packing.

Do not forget: as a consumer, you do have some power when choosing what you buy. Retailers and the other businesses in the supply chain, as well as policy makers, have to take responsibility for the framework of production conditions. Get active and remind them of these responsibilities!

WHAT YOU CAN DO AS A RETAILER

As a retailer, you can take some actions regarding your orange juice store-brands, such as: Undertake participatory and transparent human assessments of social and environmental impacts of operations and sourcing adapted to local issues and social realities. Establish time-bound remedial action plans with suppliers.

- Implement a credible monitoring procedure through direct engagement with trade unions, local employees and others stakeholders. These organizations need to be equally represented at all decision-making levels up to the most senior. A functional complaints system and a system for independent verification need to be in place.
- Work with trade unions, local employees and others stakeholders to define a decent wage for orange workers in the Brazilian State of Sao Paulo.
- Disclose the full list of suppliers in Brazil.
- Ensure that trade unions freedom is respected.
- End gender-specific mistreatment of and discrimination against woman and girls in the supply chain (discriminatory hiring practices, wage inequalities, discrimination in access to further training and promotion etc.).
- Give employees in supplier companies the right to a steady job that enables them to secure their livelihoods.

WHAT WE DEMAND FROM THE EUROPEAN SUPERMARKETS:

In order to meet their responsibility to respect human rights and to improve working conditions along the whole of their supply chain implement:

- I. United Nations Guiding Principles on Business and Human Rights (2011),
- II. Organisation for Economic Co-operation and Development Guidelines for Multinational Enterprises (revised in 2011), and
- III. International Labour Organization Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (2006).

As first steps towards the implementation of these standards, supermarkets should implement effective human rights due diligence to identify, prevent, mitigate and account for human rights violations. They should adopt a complete Code of Conduct which covers the whole supply chain and lists all relevant ILO-conventions, and ensures payment of a living wage (that covers the basic needs of workers and their families). Many retailers already have in place a Code of Conduct, outlining their position on, and approach towards, corporate social responsibility. However, it is very difficult to assess the responsibility of the buying practices of the supermarkets from these typically very general sets of rules. Retailers should also implement a credible monitoring procedure through direct engagement with trades unions, labour rights groups and environmental NGOs. These organizations need to be equally represented at all decision-making levels up to the

most senior. A functional complaints system and a system for independent verification need to be in place. A transparent and credible Multi-Stakeholder Initiative (MSI) is one way towards trustworthy monitoring.

Take proactive and continuous efforts to decrease environmental damage along their supply chains:

I. Measure and disclose the environmental impact of products following transparent and international accepted methods, e.g. ISO 14040 series or the EU Product and Organisational Environmental Footprinting standards.

II. Make proactive and continuous efforts to decrease the environmental impact of all store brand products at all stages of a product's life cycle, through the implementation of Environmental Management Schemas according to recognised standards like the European Eco-Management and Auditing Scheme (EMAS).

III. Adopt sustainable product portfolio management. If the same kind of products can be bought from different sources, the options with the lowest environmental and social impacts should always be chosen. Environmentally reasonable shorter supply chains should be preferred. Sustainability targets for whole product groups (e.g. fish, meat, fruits) should be set - for example targets for percent of locally and regionally sourced supplies or overall carbon footprint, and a trajectory to improve these over the years.

IV. Develop and implement a long-term strategy to reduce the overall environmental footprint of the organization based on quantitative assessments of impacts, and stakeholder inputs including CSOs and NGOs. Set clear and measurable goals within the strategy and document and communicate achievements towards or deviations from these goals.

Adopt and work to improve social and sustainability certification schemes!

There are a number of certification schemes that can improve social and environmental conditions along the supply chains. As a first step, supermarkets need to adopt these schemes for their private label products immediately. However, none of these certification schemes is free of shortcomings. Therefore supermarkets need to work together with other stakeholders to ensure that the certification criteria are, as a bare minimum, brought in line with international human rights standards, and to improve the quality of audits.

Set retail prices in a responsible manner!

Refrain from selling products below the sustainable cost of production. Eliminate manipulative pricing practices (negative margins, price manipulation, etc). Also, companies need to refrain from advertising that creates consumer expectations of unsustainably low prices. There must be an end to the 'distorted shopping basket'.

Make production conditions transparent to the consumer!

Supermarket should improve consumer accessibility to information on the social and environmental performance of individual products by publishing transparent information on the overall cost breakdown. For social criteria this includes, for example, the average farm-gate price

and a public confirmation that living wages have been calculated and paid in the countries of production. For ecological criteria the EU voluntary Guidelines for Environmental Labelling needs to serve as a base standard. Environmental claims should be transparent (including information on the assessment procedure used, source, criteria), relevant, reliable, complete, comparable and clear.

WHAT WE DEMAND FROM THE EUROPEAN UNION:

Renew the European competition policy framework.

The EU should address structural issues such as the accumulation of excessive buyer power and increased market concentration in the retail sector through a revised approach to merger control. Also, the EU should address behavioural issues such as anticompetitive agreements and abusive unilateral behaviour in the retail sector, which have an adverse impact on small suppliers.

Pass the necessary legislative measures to end Unfair Trading Practices (see box below).

With accumulating market concentration, the dependency of producers on retailers is equally growing. As a result, retailers can impose trading practices upon suppliers that threaten their existence. Common practices include unilateral price cutting by retailers, ending trade relationships abruptly and on unfair grounds, modification of orders on short notice etc. These practices need to be identified and sanctioned on a legislative level.

WHAT WE DEMAND FROM THE NATIONAL GOVERNMENTS IN THE

EUROPEAN UNION:

Put into place legal frameworks, including provisions for monitoring and sanctions, that hold retailers accountable for workers' rights violations and environmental destruction throughout supply chains, and give workers the legal right of redress and assured access to effective remedy. These legal mechanisms should exist both in countries where the respective products are sold and in the country where the retailer is headquartered. Governments also need to demand that the WTO promotes fair and sustainable trade policies.

UNFAIR TRADE PRACTICES (UTPS)

UTPs can broadly be defined as practices that grossly deviate from good commercial conduct, are contrary to good faith and fair dealing and are unilaterally imposed by one trading partner on another.

The categories of UTPs identified in the European Commission Green Paper and confirmed by a number of stakeholders can be described as follows:

Ambiguous Contract Terms that make it possible to impose additional obligations on weaker contracting parties.

Lack of Written Contracts. UTPs are more easily imposed where contracts are not set out in written form as the parties have no lasting proof of the terms agreed upon.

Retroactive Contract Changes. Retroactive changes, such as deductions from the invoiced amount to cover promotion fees, unilateral discounts based on quantities sold, listing fees, etc. could at first sight seem legitimate but they could be unfair if they have not previously been agreed upon in a sufficiently precise manner.

Unfair Transfer of Commercial Risk, e.g.

- placing the responsibility for stolen goods entirely on the supplier (shrinkage fees), whereas the retailer is typically best placed to control theft or disappearance of goods at its premises (this could cause moral hazard on the side of the retailer);
- financing proprietary business activities of the other party (such as demanding investment in new outlets);
- obligations to compensate for losses incurred by the trading partner, or long payment delays.
- 'Reverse margin' practices, which the Green Paper acknowledges to be fair in most circumstances, but excessive and unfair in others.

Unfair Use of Information:

- cases in which one of the parties requests information to the other, and then uses them to develop a competing product: the European Commission has published a study on the economic and legal aspects linked to the use, misappropriation and litigation on confidential business information and trade secrets²⁴.
- refusals to sign a confidentiality agreement or failure to respect confidentiality.

Unfair Termination of a Commercial Relationship. Sudden and unjustified termination of a commercial relationship or termination without a reasonable period of notice may also be a major type of UTP. While ending a relationship is part of business life, it should not be used as a means to bully a contracting party by refusing to justify this decision or by not complying with a reasonable notice period.

Territorial Supply Constraints imposed by some multinational suppliers may impede retailers from sourcing identical goods cross-border in a central location and distributing them to other Member States.

Source: http://ec.europa.eu/internal_market/retail/docs/140715-communication_en.pdf

ⁱ **Annex 1:** TETRA PAK. 2010-2013. Worldwide Center for Research and Development and Business. Intelligence. Modena, Italy. Internal database.

FCOJ Equivalent Consumption Volumes Do Not Include Orange Juice Used For CSD Syrups For Entire Industry

ORANGE JUICE CONSUMPTION TOP 40 COUNTRIES SUMMARY		2010		2011		2012		2013		2014		2004 to 2014 Variance
		Thousand Tons FCOJ 66°B Equiv.	Annual Growth Rate	Thousand Tons FCOJ 66°B Equiv.	Annual Growth Rate	Thousand Tons FCOJ 66°B Equiv.	Annual Growth Rate	Thousand Tons FCOJ 66°B Equiv.	Annual Growth Rate	Thousand Tons FCOJ 66°B Equiv.	Annual Growth Rate	
RANK	SELECTED COUNTRIES	2.255	-0,8%	2.228	-1,2%	2.123	-4,7%	2.108	-0,7%	2.042	-3,2%	-15,3%
1	UNITED STATES	807	-5%	791	-2%	704	-11%	729	4%	688	-6%	-33%
2	GERMANY	185	0%	181	-2%	167	-8%	159	-5%	153	-4%	-33%
3	FRANCE	165	-1%	159	-4%	158	-1%	149	-5%	147	-2%	0%
4	CHINA	118	25%	126	7%	124	-1%	136	10%	141	4%	189%
5	UNITED KINGDOM	135	-1%	133	-1%	127	-5%	123	-3%	115	-7%	-17%
6	CANADA	109	1%	111	2%	109	-2%	112	2%	113	1%	-5%
7	JAPAN	76	0%	64	-17%	65	2%	53	-18%	49	-8%	-49%
8	RUSSIA	64	-11%	65	0%	68	4%	62	-8%	60	-4%	2%
9	BRAZIL	45	10%	48	8%	55	14%	53	-4%	58	8%	55%
10	AUSTRALIA	57	1%	57	-1%	58	1%	50	-12%	47	-7%	-15%
11	SPAIN	48	2%	46	-5%	39	-15%	38	-2%	37	-3%	-18%
12	SOUTH KOREA	38	-2%	37	-3%	37	1%	25	-32%	24	-4%	-44%
13	POLAND	36	4%	33	-9%	30	-9%	32	9%	34	4%	1%
14	SOUTH AFRICA	24	5%	25	6%	25	2%	30	19%	30	0%	47%
15	MEXICO	30	-4%	30	-1%	32	5%	30	-5%	27	-11%	-8%
16	NETHERLANDS	32	-1%	32	0%	30	-5%	29	-6%	28	-2%	-24%
17	SAUDI ARABIA	26	17%	27	4%	29	5%	33	16%	34	3%	119%
18	ARGENTINA	17	31%	19	8%	23	25%	25	8%	24	-4%	419%
19	ITALY	29	0%	29	0%	28	-4%	26	-8%	25	-4%	-25%
20	BELGIUM	23	-2%	23	1%	22	-3%	21	-5%	20	-1%	-8%

21	SWEDEN	23	-2%	22	-4%	20	-12%	19	-6%	17	-7%	-28%
22	NORWAY	17	-2%	17	1%	17	1%	17	-1%	16	-5%	22%
23	AUSTRIA	17	0%	18	6%	17	-3%	15	-11%	15	-6%	-18%
24	CHILE	11	7%	14	20%	15	13%	16	3%	15	-4%	144%
25	SWITZERLAND	14	1%	14	0%	14	0%	14	0%	14	0%	-2%
26	TURKEY	7	10%	7	0%	11	51%	10	-3%	11	6%	204%
27	UKRAINE	12	-2%	12	-7%	10	-9%	10	0%	9	-13%	-7%
28	INDONESIA	8	22%	8	10%	9	6%	10	12%	11	11%	281%
29	FINLAND	11	-3%	11	0%	10	-6%	10	-4%	9	-10%	-34%
30	DENMARK	10	-3%	10	-5%	9	-4%	10	4%	10	-1%	-20%
31	IRELAND	11	-10%	10	-8%	10	-8%	9	-7%	8	-9%	-40%
32	GREECE	10	-6%	10	0%	9	-16%	9	8%	9	-7%	-23%
33	INDIA	5	24%	7	28%	7	2%	7	-3%	7	9%	620%
34	MOROCCO	6	33%	7	13%	6	-3%	7	15%	8	9%	956%
35	NEW ZEALAND	6	-4%	7	0%	6	-7%	6	-2%	6	-2%	-7%
36	COLOMBIA	3	-4%	3	-10%	4	38%	4	12%	4	1%	27%
37	TAIWAN	5	-7%	4	-24%	4	7%	4	-6%	4	2%	-31%
38	ISRAEL	4	1%	4	4%	5	4%	4	-4%	4	2%	-15%
39	PHILIPPINES	4	2%	4	2%	4	14%	5	30%	6	5%	84%
40	ROMANIA	5	-10%	4	-1%	4	-18%	3	-6%	3	0%	5%

ORANGE JUICE CONSUMPTION TOP 40 COUNTRIES SUMMARY		2010		2011		2012		2013		2014		2004 to 2014 Variance
		Thousand Tons FCOJ 66°B Equiv.	Annual Growth Rate									
RANK	SELECTED COUNTRIES - REGIONS	2.255	-0,8%	2.228	-1,2%	2.123	-4,7%	2.108	-0,7%	2.042	-3,2%	-15,3%
1	NORTH AMERICA	916	-4%	902	-1%	813	-10%	841	3%	801	-5%	-25%
2	EUROPE	855	-1,5%	837	-2%	800	-4%	767	-4%	740	-3%	-15%
3	ASIA	253	11%	249	-2%	251	1%	240	-4%	242	1%	23%

4	LATIN AMERICA	107	7%	114	7%	130	14%	129	-1%	128	0%	44%
5	OCEANIA	64	0%	64	0%	64	0%	56	-11%	53	-6%	-5%
6	AFRICA	29	9%	32	7%	32	1%	38	19%	39	3%	85%
7	MIDDLE EAST	31	14%	32	4%	33	5%	37	13%	38	2%	88%
ORANGE JUICE CONSUMPTION TOP 40 COUNTRIES SUMMARY		2010		2011		2012		2013		2014		2004 to 2014 Variance
		Thousand Tons FCOJ 66°B Equiv.	Annual Growth Rate									
SELECTED COUNTRIES - REGIONS		2.255	-0,8%	2.228	-1,2%	2.123	-4,7%	2.108	-0,7%	2.042	-3,2%	-15,3%
REST OF WORLD		1.993	-2%	1.952	-2%	1.837	-6%	1.820	-1%	1.749	-4%	-18%
BRICs + MEXICO		262	8%	276	5%	286	4%	289	1%	293	2%	66%

ii **Annex 2:** In the state of São Paulo, around 200 million orange trees provide the raw materials for about half of global juice production. Other important orange growing areas in Brazil are in the north-west of the state of Paraná, the Triângulo Mineiro in the state of Minas Gerais and the north of the state of Bahia. Source: transfair: Unterrichtseinheit Orangensaft, 2010

iii **Annex 3:** Importers of Brazilian orange juice 2014. Source: Secretaria de Comércio Exterior/ Ministério do Desenvolvimento, Indústria e Comércio Exterior (Secex – MDIC) e CitrusBR. Elaboração: IOS (2013).

Frozen / Unfermented Orange Juice Exports (MT and US\$ 1,000 FOB)						
	July13-June14		July13-Oct13		July14-Oct14	
Country	Quantity	Value	Quantity	Value	Quantity	Value
Belgium	145,609	266,483	49,966	93,768	61,784	111,007
United States	151,038	252,041	52,649	89,427	40,178	68,730
Japan	50,917	91,106	4,748	9,502	20,308	37,036
China	39,906	81,255	11,145	22,822	8,572	17,548
Netherlands	34,399	58,924	13,859	24,054	29,124	47,276
Switzerland	30,918	56,820	12,246	22,539	3,338	5,826
Australia	14,537	27,663	2,285	4,658	4,540	8,748
Israel	11,914	22,611	5,015	9,301	1,183	2,204
Puerto Rico	7,916	14,349	2,012	3,722	2,017	3,631
Chile	6,210	12,414	1,779	3,570	2,083	4,075
Others	32,828	63,826	9,137	17,808	10,050	19,570
Total	526,193	947,491	164,840	301,173	183,176	325,651
Source : Brazilian Department of Foreign Trade (SECEX), NCM 2009.11.00						

Brazilian Orange Juice Exports, Not Frozen and Brix Under 20 (MT and US\$ 1,000 FOB)						
	July13-June14		July13-Oct13		July14-Oct14	
Country	Quantity	Value	Quantity	Value	Quantity	Value
Belgium	528,579	209,368	158,619	64,744	166,524	66,169
Netherlands	305,267	118,452	90,854	36,785	96,458	37,284
United States	192,213	66,025	84,756	30,218	124,891	42,355
Switzerland	6,020	2,269	2,020	779	0	0
Chile	131	114	24	20	58	53
Japan	25	28	12	13	33	24
United Kingdom	8	8	0	0	0	0
Germany	5	5	0	0	0	0
Others	4	3	2	2	2	2
Total	1,032,252	396,272	336,287	132,560	387,966	145,887

Source : Brazilian Department of Foreign Trade (SECEX), NCM 2009.12.00

Brazilian Orange Juice Exports, Others (MT and US\$ 1,000 FOB)						
	July13-June14		July13-Oct13		July14-Oct14	
Country	Quantity	Value	Quantity	Value	Quantity	Value
Netherlands	202,154	345,027	70,232	117,779	67,342	120,554
Belgium	111,700	213,066	47,350	92,329	54,135	99,467
United Kingdom	30,729	52,485	20,840	35,428	3,000	5,475
United States	27,324	51,232	0	0	13,536	24,365
Switzerland	3,998	6,797	1,990	3,382	709	1,205
Turkey	327	553	0	0	243	413
Italy	261	451	81	96	102	199
Denmark	212	361	118	200	0	0
Ireland	258	340	102	135	390	542
Norway	109	191	0	0	0	0
Others	98	179	28	44	71	91
Total	377,170	670,682	140,739	249,394	139,527	252,311

Source : Brazilian Department of Foreign Trade (SECEX), NCM 2009.19.00

^{iv} **Annex 4:** Retailers global ranking. TETRA PACK 2010-2013. Worldwide Center of Research and Development and Business. Intelligence. Modena, Italy. Internal database

RANK	RETAILER	REGION		2010	Growth Rate	2011	Growth Rate	2012	Growth Rate	2013	Growth Rate	2014	Growth Rate	
1	Walmart	Worldwide	Total Turnover	Dollars Mn	\$446,506	4%	\$482,429	8%	\$504,465	5%	\$514,033	2%	\$524,974	2%
			Grocery Sales	Dollars Mn	\$200,459	6%	\$275,869	38%	\$290,420	5%	\$297,372	2%	\$305,258	3%
			Outlets	Amount	8,960	6%	10,151	13%	10,747	6%	11,334	5%	11,378	0,4%
2	Carrefour	Worldwide	Total Turnover	Dollars Mn	\$148,771	-1%	\$150,769	1%	\$133,190	-12%	\$134,472	1%	\$134,871	0%
			Grocery Sales	Dollars Mn	\$102,678	-1%	\$112,218	9%	\$97,809	-13%	\$99,116	1%	\$99,760	1%
			Outlets	Amount	15,978	2%	9,789	-39%	10,156	4%	10,404	2%	11,475	10%
3	Costco	North & Central Americas,	Total Turnover	Dollars Mn	\$79,260	6%	\$93,539	18%	\$104,292	11%	\$110,615	6%	\$119,095	8%
			Grocery Sales	Dollars Mn	\$41,915	5%	\$54,300	30%	\$60,470	11%	\$64,106	6%	\$68,985	8%
			Outlets	Amount	573	3%	592	3%	608	3%	634	4%	663	4,6%
4	Tesco	Europe, Asia	Total Turnover	Dollars Mn	\$104,351	7%	\$116,274	11%	\$116,377	0%	\$113,347	-3%	\$114,724	1%
			Grocery Sales	Dollars Mn	\$67,578	7%	\$84,636	25%	\$84,955	0%	\$82,680	-3%	\$83,761	1%
			Outlets	Amount	5,381	11%	6,351	18%	6,989	10%	7,486	7%	7,818	4%
5	Schwarz Group - Lidl Kaufland	Europe, Asia	Total Turnover	Dollars Mn	\$85,262	4%	\$97,703	15%	\$96,337	-1%	\$108,515	13%	\$114,384	5%
			Grocery Sales	Dollars Mn	\$67,353	4%	\$82,353	22%	\$81,289	-1%	\$91,820	13%	\$96,839	5%
			Outlets	Amount	10,439	6%	10,865	4%	10,997	1%	11,040	0%	11,270	2,1%
6	Seven & I	America	Total Turnover	Dollars Mn	\$93,089	10%	\$115,201	24%	\$121,030	5%	\$110,461	-9%	\$112,439	2%
			Grocery Sales	Dollars Mn	\$51,690	10%	\$69,845	35%	\$73,921	6%	\$69,147	-6%	\$69,524	1%
			Outlets	Amount	25,031	4%	26,903	7%	29,122	8%	30,993	6%	36,289	17%
7	Kroger	United States	Total Turnover	Dollars Mn	\$86,151	4%	\$93,706	9%	\$100,329	7%	\$103,491	3%	\$112,331	9%
			Grocery Sales	Dollars Mn	\$64,061	4%	\$78,565	23%	\$84,127	7%	\$86,769	3%	\$93,691	8%
			Outlets	Amount	3,614	0%	3,574	-1%	3,566	0%	3,526	-1%	3,747	6%
8	Metro Group	Europe, Russia	Total Turnover	Dollars Mn	\$102,100	-2%	\$106,348	4%	\$98,711	-7%	\$100,434	2%	\$96,179	-4%
			Grocery Sales	Dollars Mn	\$40,859	-3%	\$46,234	13%	\$43,083	-7%	\$43,430	1%	\$40,740	-6%
			Outlets	Amount	2,215	4%	2,249	2%	2,305	2%	2,282	-1%	2,261	-1%
9	AEON	Asia	Total Turnover	Dollars Mn	\$95,734	5%	\$106,010	11%	\$113,938	7%	\$99,366	-13%	\$99,455	0,1%
			Grocery Sales	Dollars Mn	\$57,161	8%	\$71,442	25%	\$77,891	9%	\$68,430	-12%	\$68,074	-1%
			Outlets	Amount	14,485	-7%	15,094	4%	16,251	8%	17,102	5%	18,326	7%
10	Aldi	Europe, United States	Total Turnover	Dollars Mn	\$72,615	0%	\$80,516	11%	\$79,904	-1%	\$88,621	11%	\$95,604	8%
			Grocery Sales	Dollars Mn	\$61,850	0%	\$72,680	18%	\$72,193	-1%	\$80,081	11%	\$86,450	8%
			Outlets	Amount	9,617	2%	9,821	2%	10,016	2%	10,199	2%	10,343	1%
11	Auchan	Europe, Asia, Africa	Total Turnover	Dollars Mn	\$78,987	7%	\$80,589	2%	\$80,609	0%	\$87,707	9%	\$90,018	3%
			Grocery Sales	Dollars Mn	\$48,145	8%	\$53,343	11%	\$53,200	0%	\$58,042	9%	\$59,636	3%
			Outlets	Amount	3,049	3%	3,168	4%	3,326	5%	3,571	7%	3,899	9,2%

**Annex V: Toxicity of registered substances in
Brazilian Orange Cultivation**

Substances listed are registered for use in Brazilian Orange Cultivation. (Source CitrusBR)	Comments on toxicity
Abamectin	Highly toxic for birds, fish, aquatic organisms, toxic for reproduction (EU Cat.2)
Beta-cyfluthrin	neurotoxic; WHO highly hazardous pesticide (1B)
Chlorpyrifos	Highly toxic for birds, fish, bees, aquatic organisms, neurotoxic, toxic for reproduction
Cypermethrin	Highly toxic for aquatic organisms
Dimethoate	toxic for reproduction
Spinetoram	toxic for reproduction
Spirodiclofen	Suspected of being carcinogenic; toxic for reproduction; neurotoxic
Etofenprox	toxic for reproduction
Fenpyroximate	toxic for reproduction
Flufenoxuron	Not permitted in the EU ; toxic for lactation: May cause harm to breast-fed children
Phosmet	Toxic for reproduction; neurotoxic; highly toxic for bees and birds
Hexythiazox	suspected of being carcinogenic
Imidacloprid	Toxic for reproduction; highly toxic for bees and birds
Malathion	neurotoxic
Imazalil*	toxic for reproduction

Tebuconazole	toxic for reproduction
Thiamethoxam	highly toxic for bees
Trifloxystrobin	toxic for reproduction
Diquat dibromide	Inhalation may be dangerous to life, extremely persistent in the soil, toxic for birds, fish, bees, earthworms
Paraquat dichloride	Not permitted in the EU ; Inhalation may be dangerous to life, suspected of being carcinogenic; toxic for reproduction
Diuron	EU carcinogenic level 2; suspected of being toxic for reproduction
Glyphosate	Carcinogenic according to WHO
Glufosinate-ammonium	EU toxic for reproduction level 2; neurotoxic
Gibberellic acid	Suspected of being mutagenic (BPDB)
Fipronil	Highly toxic for bees, birds, aquatic organisms, neurotoxic, suspected of being carcinogenic and toxic for reproduction (Use in EU is restricted)
Bifenthrin	Probably carcinogenic, highly toxic for aquatic organisms; not permitted in Austria, Germany and Switzerland