

How does the knowledge of Swiss consumers on palm oil affects consumption patterns ?

**Bachelor Project submitted for the degree of
Bachelor of Science HES in International Business Management**

by

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Declaration

This Bachelor Project is submitted as part of the final examination requirements of the Haute école de gestion de Genève, for the Bachelor of Science HES-SO in International Business Management.

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Geneva, June 4, 2018

Estelle ABBONDIOLI

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Executive Summary

This research provides an analysis of the knowledge of Swiss consumers on palm oil and how it affects their consumption pattern regarding palm oil. The objective is to make recommendations on how to influence the knowledge on palm oil by Swiss consumers such that they make the right decision, according to the WWF and Greenpeace, of choosing certified sustainable palm oil (CSPO), in order to reduce the negative externalities linked to the production of palm oil.

The research methods include data collection through an online survey, answers' analysis with regressions analyses, contingency tables and comparisons between respondents with different levels of knowledge and with different demographic and perception characteristics. The results of those analyses are available in the appendices.

The results of the data analysed show that the consumers' level of knowledge has a low impact on consumers' consumption patterns regarding certified sustainable palm oil. Only one variable is decisive, the health benefits of palm oil. The more the consumers deem palm oil as being healthy the more they favour certified sustainable palm oil in their choices.

In order to control if knowledge is the only influence, the analysis was also conducted on the demographic characteristics of the respondents and the perception they have of palm oil. The results show that the more respondents give importance to the issues related to the production of palm oil, such as climate change, deforestation, indigenous rights violation and so on, the less they favour certified sustainable palm oil their choices.

The recommendations are to first promote the health benefits of consuming palm oil in small quantity so that consumers would feel comfortable consuming it. Second, to develop and promote the existing sustainable certification schemes for the production of palm oil. The goal is to increase the trust of customers towards this option so that they would understand that it is a viable option to tackle the issues related to the production of palm oil. These two actions should help consumers understand the benefits of certified sustainable palm oil and empower them to make better consumption decisions.

In order to fully understand consumers' behaviour, a broader study including all regions of Switzerland is necessary with a qualitative assessment. The health benefits and disadvantages of palm oil perceived by the consumers should be analysed so that the right values are associated with palm oil when promoted.

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1. Introduction

Palm oil is the most produced vegetable oil and accounts for 30% of the global vegetable oil production (*European Palm Oil Alliance, 2016*). Moreover, the production of palm trees is concentrated in Southeast Asia as Malaysia produces 32% of the global production and Indonesia 53%. This significant production generates negative externalities such as contributing to climate change, deforestation of the rainforests and biodiversity loss (*WWF, 2014*). However, this vegetable oil holds many advantages as well, such as having the highest agricultural yield, creating jobs and wealth for millions of people, and having unique exploitable characteristics (*European Palm Oil Alliance, 2016*). As a consequence, consuming palm oil may generate a moral conflict for consumers, because of its adverse effects and its unique characteristics.

Even though this vegetable oil comes with negative externalities, it is present in approximately 50% of all packaged goods purchased in supermarkets (*WWF, 2014*). Replacing this oil by another one would not be a sustainable solution either as there would be more land that is dedicated to cultivating this other crop and resulting in aggravated externalities in comparison to palm oil. Thus, the optimal solution to this global issue is palm oil that is sustainably sourced, as supported by non-governmental organizations (*WWF, 2014 and Greenpeace, 2016*).

There are many existing certificates of sustainability for palm oil production and not all are known, reliant or appearing on the final packaged goods (*Forest Peoples Programme, 2017*). It is then complicated for consumers to choose the products that avoid as much as possible negative externalities. That is why the WWF is supporting the Roundtable on Sustainable Palm Oil, the most advanced certification scheme according to the Forest Peoples Programme.

In Switzerland, palm oil is consumed as well in a wide range of products on an everyday basis. Since 2016, manufacturers of food products are obliged to mention which vegetable oil is used in their products. However, this does not apply to non-food products for which it is often difficult to identify the presence of palm oil (*Federation Romande des Consommateurs, 2018*).

Moreover, Swiss consumers are sensitive to sustainable certifications (*Blanc A. and al., 2014*) and have a consequent purchasing power (*World Bank, 2017*). Thus, they have the abilities and the means of doing the right choice. The interrogation is that there are no data on the consumers' level of knowledge on palm oil and how this information affects their decision making. Knowing which information is decisive in the choice of certified sustainable palm oil, would enable non-governmental organization to promote their solution in the most efficient manner possible.

1.1 Need for research

As there may be an important moral conflict for consumers in developed countries and that they only experience indirectly the negative externalities, it is important to know whether consumers are aware of these global issues. Their awareness should then determine their perception and the importance they give to the issues related to the production of palm oil. Then, all those thoughts may influence their purchasing decisions.

Therefore, understanding what influences consumers' purchasing decisions regarding palm oil is the first step to being able to fill in the gaps in their knowledge. It should then be possible to issue recommendations that would encourage the use of certified sustainable palm oil (CSPO) and empower consumers to make the right purchasing decisions.

Today, the level of knowledge that Swiss consumers have is unknown, especially regarding the advantages and disadvantages of using palm oil. However, they consume it every day in different forms and in many diverse products (*WWF, 2014*), sometimes without them knowing (*Federation Romande des Consommateurs, 2018*). It is therefore difficult to establish what influences their perception and purchasing decisions regarding products containing palm oil and the difference with certified sustainable palm oil.

This research has as objective to uncover the level of knowledge of a sample of the Swiss population and to analyse how this level of knowledge influences the consumption patterns regarding certified sustainable palm oil. Following the findings from the analysis, the goal is to make recommendations on how to influence the knowledge on palm oil of Swiss consumers such that they make the right decision, according to the WWF and Greenpeace, of choosing certified sustainable palm oil (CSPO).

1.2 Issue definition

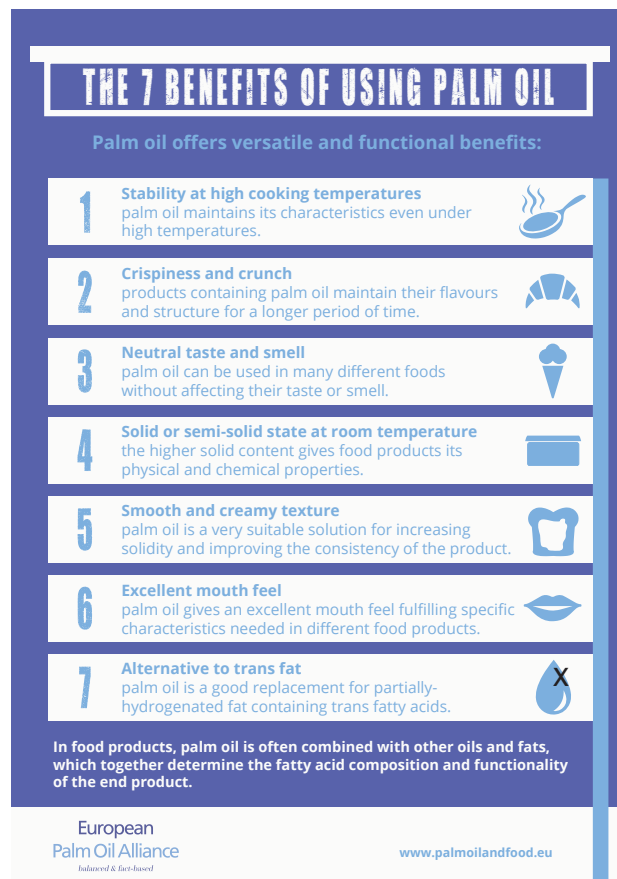
- *Palm Oil*

Palm oil is an edible vegetable oil that is extracted from the fruit of the African oil palm tree (*Say No to Palm Oil*). Oil palm trees flourish wherever the climate is convenient, meaning heat and frequent rainfalls. Nowadays, oil palm trees are grown in Africa, Asia, North America and South America. However, majority of the traded palm oil around the globe is cultivated in Indonesia (53% of the global production) and Malaysia (32% of the global production). As reported by the *European Palm Oil Alliance*, in 2015, 62.6 million tons of palm oil were produced; it is the vegetable oil with the highest production volume of all vegetable oils as it accounts for 30% of global production.

The growing demand for palm oil originates from the British Industrial Revolution in the late 18th and beginning of the 19th century. At that time, vegetable oil was primarily used for candles and lubricant for machinery. Oil palm trees originate from West Africa and were introduced in South-East Asia at the beginning of the 20th century. After WWII, transportation of large amount of vegetable oil became easier and palm oil started to be used in a variety of Western food products. Until 1970, Malaysia was the leading grower of palm oil trees. The Indonesian government then decided to invest in this industry as well and grew to become the largest producer of palm oil in 2007.

According to *Say No to Palm Oil*, an activist group, palm oil is found in 40 – 50% of household products. This vegetable oil and its derivative ingredients are commonly used in shampoos and lotions, soap, cosmetics, detergents, pizza dough, instant noodles, packaged bread, potato chips, ice cream, margarine, chocolate, cookies or biscuits as well as biodiesel and many more diverse goods. It is most appreciated for its following characteristics according to the *European Palm Oil Alliance*:

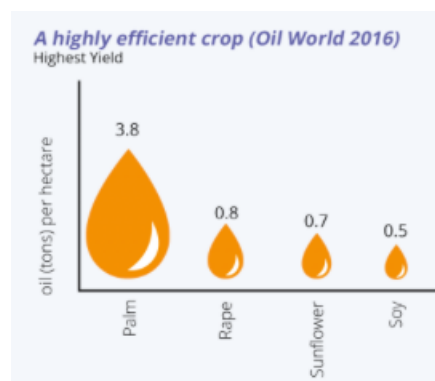
Figure 1: The benefits of using palm oil



Source: European Palm Oil Alliance, 2016

Palm oil holds the most performant agricultural yield of all the vegetable oils that are cultivated around the globe with a production of 3.8 oil tons of oil per hectare. As reported by Wilmar International, oil palm trees begin to be commercially exploitable 36 months after being planted. The peak of production of an oil palm tree is between its age seven and eighteen but it is exploited until its twenty-fifth year.

Figure 2: Comparison of the agricultural yield of crops of vegetable oils



Source: European Palm Oil Alliance, 2016

- **Ecological issues**

The ecological issues associated with palm oil production can be subdivided in 3 categories :

a. Biodiversity loss

As tropical forests are converted into palm oil plantations, our society experiences an important loss in biodiversity. As reported by the *Rainforest Conservation Fund*, the tropics is where the greatest biodiversity is, with the rainforest being the richest in species. Tropical forest cover 6% of our planet and it is estimated that it hosts $\frac{1}{2}$ to $\frac{3}{4}$ of the species of plants and animals. « In Borneo, 3'200 species of plants can be found in 100 hectares of rainforest. In fact, a land area of 0.5 km² in some tropical forests contains more tree species than does the entire land mass of Europe and North America combined » (*Rainforest Conservation Fund*). Majority of the organisms living in rainforest are unknown and new animals and plants species are uncovered in the tropical forests every year. Therefore, losing tropical forests means losing biodiversity and some still unknown to mankind.

b. Animal welfare

Tropical forests are home to endangered species such as tigers, elephants, orangutans, clouded leopards, rhinos, sun bears and many more. The reduction of their natural habitat has many perturbations to their development. According to the *WWF*, there is an increase in human-wildlife conflicts as animals have less territory to live and hunt. This proximity to wildlife has also increased the trade of endangered animals for food or pet trade. On palm oil plantations, poisons are used to eliminate rats, which also affect other animal species that attempt to recolonize the plantations.

c. Climate change

According to the *Global Forest Atlas*, tropical forests have a major role in climate change as trees store carbon through photosynthesis. It is estimated that tropical forests contain 25% of the world's carbon. Hence, their deforestation contributes to climate change with approximately 10-20% of global carbon emissions. Tropical forests also have an impact on local climate patterns, « trees transpire water, so deforestation can reduce rainfall and contribute to desertification » (*Global Forest Atlas*). These changes on local climate patterns have a negative impact on other food crop production. Moreover, as reported by the *WWF*, to clear vegetation in forest or in palm oil plantations, everything is burned. This process releases smoke and carbon dioxide in the atmosphere that is contributing to climate change as well as polluting the air.

- **Social issues**

The social issues associated with palm oil production can be subdivided in 2 categories :

a. Human rights abuses

As reported by *Amnesty International (2016)*, workers in the palm oil plantations are victims of labour rights violation and human rights abuses even in plantations certified sustainable by the RSPO. The violations reported are :

- Too high daily target, forcing employees to work long hours
- Women discrimination
- Child labour
- Use of toxic chemical (paraquat) without safety equipment
- No safety equipment from smoke of forest fire

b. Indigenous people right's violation

Indigenous People account between 60 and 120 million people in Indonesia and hold tenure to at least 60% of land, according to the *Schuster Institute*. In 2011, there were as much as 2'791 land disputes at the Indonesia's National Land Agency. The issue is that traditional land tenure is not recognize at the state level. The Government attributes these lands to producers of palm oil because of corporate pressure and interests.

« Legal loopholes, confusing legislation, and enthusiastic support for large-scale corporate plantation development for the government have allowed large palm corporations to take over local peoples' land for as little as \$1 a hectare, often without indigenous communities full understanding of the deal. » (*Schuster Institute, 2008*)

- **Health issues**

According to the *Harvard Women's Health Watch (2007)*, palm oil is composed of 50% of saturated fat. This type of fat is known to be linked to heart diseases as they boost LDL cholesterol and triglycerides, two risk factors for heart diseases. The Swiss Federal office for food safety and veterinary affairs is recommending not to consume more than 20 grams of saturated fat per day to avoid deregulating the cholesterol. One characteristic of saturated fat is that it has a solid state at room temperature, and palm oil is semi-solid at this temperature. Palm oil is less saturated than butter and, thus, could be considered as healthier. Nevertheless, other vegetable oils such as olive or canola oils, that are liquid at room temperature, are the healthiest option for fat intakes.

The fat source that is considered to be the unhealthiest are the trans-fat, which are fat created through a hydrogenation process. The use of trans-fat was restricted or banned in some countries. In Switzerland, since 2007, manufacturers are limited to using maximum 2% of trans-fat of the lipid content of the products as reported by the *RTS (2008)*. Therefore, food manufacturers looked for alternatives and considered palm oil as being the most adequate.

- **Economic issues**

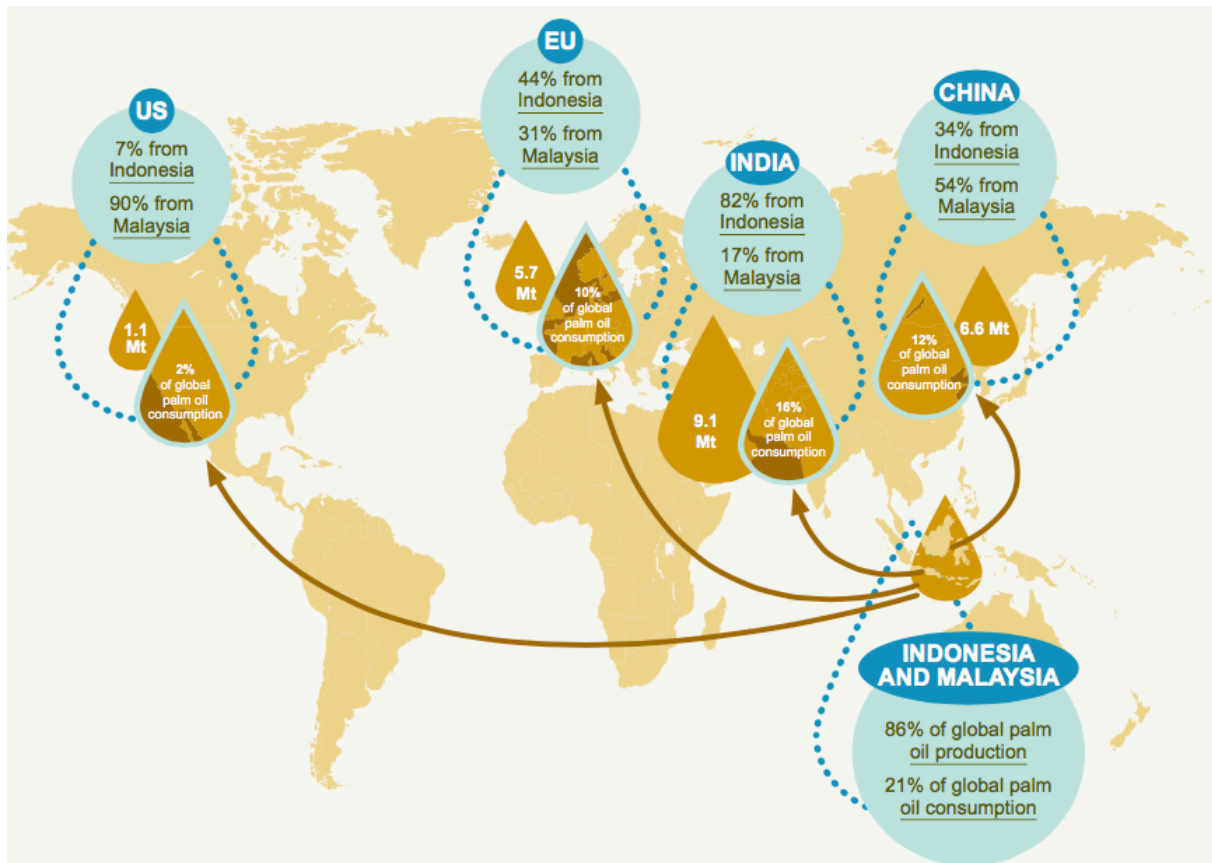
Palm oil is the cheapest vegetable oil on the market, thanks to its remarkable agricultural yield and little maintenance costs. It is also the most profitable crop to cultivate in the tropical region according to the *Sustainability Policy Transparent Toolkit (2016)*. As a result, palm oil production has a consequent impact on national economies, contributing to growth and alleviation of poverty.

As reported by the *European Parliamentary Research Service (2018)*, palm oil constitutes 10% of Indonesia's agricultural exports and 5% of Malaysia's agricultural exports. Thus, it is the main agricultural export of these countries, allowing in total 11 million people to live directly and indirectly from this revenue. There are 721'000 smallholders and labourers in Malaysia and 4 million in Indonesia. Furthermore, oil palm jobs are situated in remote rural areas where alternative employment possibilities are scarce.

According to the *Sustainability Policy Transparent Toolkit (2016)*, 9 million tons of palm oil were imported in the European Union in 2012. « These imports led to an indirect contribution to GDP of € 2.7 billion, an indirect contribution of € 1.2 billion in tax revenue and indirect contribution to employment of 67'000 jobs (indicating that more than seven workers are employed in the downstream supply chain for every thousand tons imported) » (*SPOTT, 2016*).

Therefore, the impact of palm oil use in importing countries is also consequent. As it is shown in the following graph established by the *WWF (2013)*, the countries importing the majority of palm oil are India (16%), China (12%) and in third place the European countries (10%) :

Figure 3: Global supply and demand for palm oil: Map of major trade flows



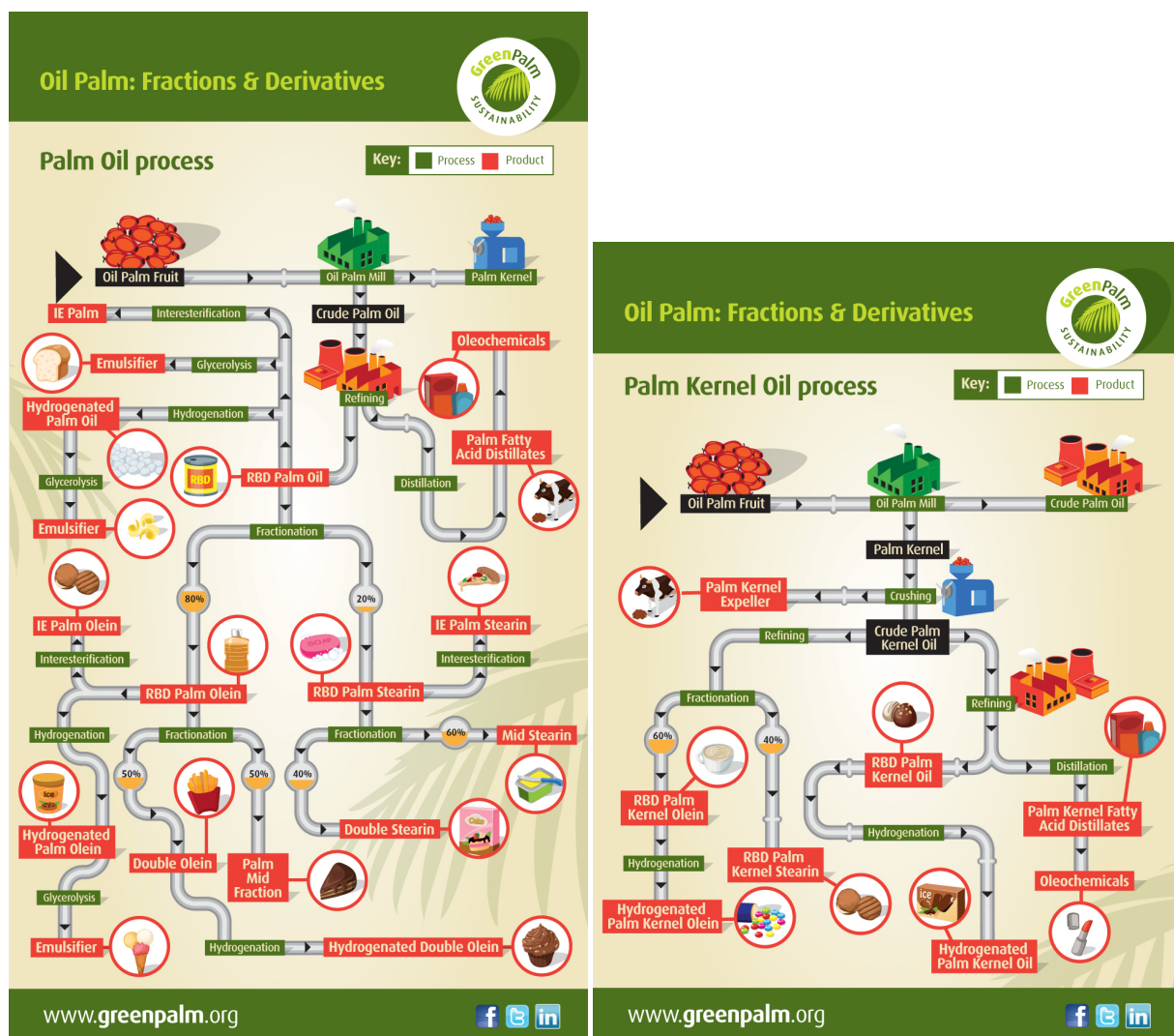
Source: *Palm Oil Buyers Scorecard 2013, WWF*

However, as palm oil is harming the environment by contributing to climate change and loss of biodiversity, it produces an important negative externality. The cheap price of palm oil does not reflect the price that society pays in terms of damages caused by extreme climatic events or the delocalization of climate migrants and other phenomena linked to climate change. As a consequence, global society experiences a welfare loss. The industry tried to reduce this loss by encouraging customers to favour certified sustainable palm oil in their consumption choices. Hence, reducing the negative externalities by sourcing palm oil in a sustainable manner and increasing the price to reflect the social cost.

- *Palm Oil Derivatives*

According to the *Sustainability Policy Transparency Toolkit (2016)*, 60% of the globally consumed palm oil is in the form of derivatives. Palm oil (from the fruit) and palm kernel oil (from the seed) are fractioned, refined, hydrogenated, distilled and undergo other processes so that they obtain the characteristics required by the manufacturers as depicted in *figure 4*. These derivative ingredients are found in as many products as pastry, cakes, ice cream, margarines, confectionary, cooking oils, emulsifiers, snack food, lotions, shampoos, soaps, cosmetics, cleaning products, candles and other diverse products. According to Chris Sayner, vice president of global account at the chemical company Croda, in an article from the Guardian (2015), « 70% of the world's cosmetics contain palm derivatives [and] 1'000 ingredients are palm derived. It is very complicated to explain to consumers where palm even features».

Figure 4: Explanation of fractions and derivatives processes for palm oil

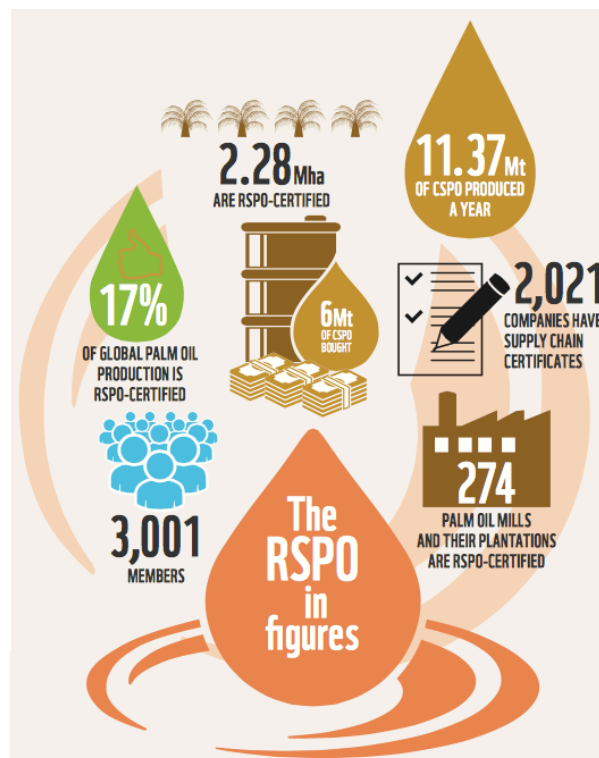


Source: GreenPalm, 2014

- *Certificates of sustainability*

Many certificates of sustainability exist for a sustainable palm oil production; a detailed table comparing all the major certification scheme is available in the appendix 5. According to a comparison done by the *Forest Peoples Programme* in 2017, the most robust certification scheme, over seven of them analysed, is the Roundtable on Sustainable Palm Oil (RSPO). However, the RSPO still has some important gaps in its certification requirements that needs to be addressed. These lead to situations in which certified RSPO producers still have women discrimination practices or child labour (*Amnesty International, 2016*). Therefore, added certifications that build up the RSPO were developed. As reported by the comparison of the *Forest Peoples Programme*, the certification RSPO NEXT is the most advanced certification scheme for palm oil production.

Figure 5: Figures related to certified sustainable palm oil by the RSPO



Source: Palm Oil Buyers Scorecard 2016, WWF

1.3 Literature review

Palm oil growing production started at the beginning of 20th century with the British Industrial Revolution (*Say No To Palm Oil, 2017*). The Swiss only started to be involved in this issue in 2004 when Migros, with other stakeholders, created the Roundtable on Sustainable Palm Oil (RSPO, 2017). Migros was using important quantities of palm oil in its products and realised, when the first issues with the overproduction of palm oil appeared, that they should be proactive in the protection of the environment and transparent towards their consumers (*Hamprecht J. and Corsten D., 2006*).

The efficiency of the RSPO is, however, highly questionable as it is based on a volunteering functioning and no sanctions are applied when there is a violation of the certification (*Etwareea R., 2017*). As a result, in 2013, the WWF along with other NGOs created the Palm Oil Innovation Group (POIG) in order to create higher standards for the RSPO and the producers willing to make an actual effort (*WWF, 2017*).

During this time, consumers' pressure to act on developing a more sustainable palm oil supply chain increased. One action led by Green Peace against Nestlé in 2010 was successful as, during the same year, the group decided to put into place a wide action plan to source palm oil in respect with the environment (*Green Peace Suisse, 2017*).

In 2016, producers were forced by law to mention the presence of palm oil in their products, instead of a vague inscription of « vegetable oil » (*ATS, 2013*), which was another victory for the Swiss consumers.

As of today, there are still many issues due to palm oil in Switzerland. First, a free trade agreement between Switzerland and Malaysia is about to be signed. This agreement includes the clause that Malaysian palm oil is exonerated from customs duties. This will decrease the price of palm oil for Swiss producers and foster its use. It will also create a more important competition to the Swiss colza oil, which share some characteristics with palm oil. Therefore, a petition including 20'000 signatures of Swiss consumers against this part of the agreement was presented to the Federal Counsel (*Uniterre, 2017*).

In June 2017, the Swiss farmers discovered that palm oil was used in the livestock feed. Hence, traces of palm oil could also be present in meat, milk and eggs (*Cornu Y.-A., 2017*).

In September 2017, another petition launched by two NGOs, Bread for All and the Swiss Catholic Lenten Found, asks Swiss retailers to reduce the number of products containing palm oil in their offering (*Etwareea R., 2017*).

In this context, there is no information about customer awareness and behaviour concerning products with palm oil in the Swiss market. Some researches in other countries have been conducted with surprising results. On average, consumers were not aware of all the issues with palm oil overproduction and all the negative externalities associated with it, as well as the certifications for sustainable palm oil (*TNS, 2016 & Faulkner Rogers J. & Ostfeld R., 2017*).

However, it is known that Swiss consumers are sensitive to sustainable certifications (*Blanc A. and al., 2014*) as well as the corporate social responsibility (CSR) of the brands they purchase (*Gueroui F., Bergadaa M. and Rajon B., 2015*). In this view, it is relevant to assess the opinion and behaviour of Swiss consumers relative to the over-use of palm oil, its available certifications and the CSR of involved brands.

1.4 Scope of the work

This research concerns Swiss consumers, their level of knowledge on palm oil and the resulting consumption patterns. In order to analyse the level of knowledge of Swiss consumer a data collection was done through an online survey. The answers of this survey were analysed to determine which kind of knowledge affects consumption patterns and how. The end goal is to make a recommendation on how to convince consumers that the best option to choose to reduce the negative externalities linked to the production of palm is certified sustainable palm oil.

1.5 Organization of thesis

After this introduction, this thesis contains an explanation of the research objectives and a description of the data collection process.

The analysis part is divided according to the three hypotheses. Each one of these hypotheses are analysed against, first the level of knowledge of the respondents, then other variables that belong to demographic and perception categories. The goal is to determine which of these variables are most influential on the consumption patterns. Then in each summary of results, a recommendation is done depending on the results of the analysis of the hypothesis.

The results of the attempt to conduct interviews with Swiss stakeholders of the palm oil supply chain follow the analysis.

The final section concludes with the final recommendations arising from the analysis in this work.

2. Method of analysis

2.1 Data collection

The questions in the survey were organized in the following sections:

- Consumption choices

The purpose of this section was to identify which respondents bought products containing palm oil and how many products bought in the previous 3 months. This information was used to determine if respondents with a high level of knowledge consume more or less products with palm oil as well as to determine which type of knowledge has the most influence on the consumption.

- Actual knowledge

In this section, the questions probe the knowledge of the respondents on the positive and negative externalities of the production of palm oil, the certificates of sustainability for palm oil, the derivative ingredients of palm oil, and the families of products that usually contain palm oil. This information was used to assess the level of knowledge of the respondents on issues related to palm oil and to cross-check if it has an influence on their consumption patterns.

- Perception and habits

This section interrogated respondents about their perception and their habits towards palm oil. It tackles issues such as the importance of the externalities, the availability of products without palm oil, their consciousness about their own consumption, their ingredients list reading habit, the value proposition of products without palm oil, the value proposition of products with certified sustainable palm oil, and the role of Swiss supermarkets. This information was used to analyse the perception of the respondents towards palm oil and if their habits have any influence on their consumption choices.

- Profile

In this section, the questions regard the personal information of the respondents in order to establish demographic variables for the analysis. The personal information asked were their level of education, their age and their gender. Based on these, a comparison can be done of different type of profile and how the answers change according to these demographic variables.

This survey was sent to as many respondents as possible during a period of 2 months in order to gather as much data as possible. After this period, 267 answers were collected, including 8

respondents that were not living in Switzerland and 2 answers that were identical to other ones from a bug of the software. In the end, 257 answers were exploitable for data analysis.

The data was then consolidated on an Excel sheet and adapted to suit the analysis on the software Stata. Using this software, the data was analysed by comparing the consumption patterns of respondents with different level and areas of knowledge.

2.2 Research questions & hypothesis

This research has for main objective to determine the level of knowledge of Swiss consumers on palm oil and to assess how it affects their consumption patterns. The end goal is to make recommendations on how to convince Swiss consumers to favour certified sustainable palm oil, following the recommendations done by the WWF and Greenpeace.

The first assumption is that consumers with a high level of knowledge already know all the adverse effects and the unique characteristics of palm oil. They are therefore able to make an informed choice. This leads us to three hypotheses :

1. Informed consumers consume palm oil

As informed consumers know that the option to favour is certified sustainable palm oil, they do consume products containing palm oil. Here, there is no distinction between normal palm oil and certified sustainable palm oil. Thus, the goal is to determine whether the level of knowledge has an influence on the consumption of products containing palm oil as well as the amount of consumption.

2. Informed consumers favour certified sustainable palm oil

Consumers with a high level of knowledge should know that the option to favour is certified sustainable palm oil. Hence, in their choices they should always favour this kind of palm oil compared to normal palm oil or products without palm oil. The goal of this hypothesis is to confirm that the level knowledge has an influence on the favoured option by the consumers.

3. Informed consumers are willing to pay a higher price for certified sustainable palm oil

As informed consumers understand the challenges linked to the production of certified sustainable palm oil and that they favour this type of palm oil in their choices, they should see a higher value in certified sustainable palm oil. As a consequence, these consumers should be willing to pay a higher price for products containing certified sustainable palm oil in

comparison with products without palm oil. The objective is to verify that consumers with a high level of knowledge declare to be willing to pay a higher price for certified sustainable palm oil.

The analysis of these three hypotheses will show whether the level of knowledge of Swiss consumers has an impact on their consumption patterns. The end goal of this analysis is to make recommendations on how to convince consumers that certified sustainable palm oil is the option to favour to reduce the negative externalities of the production of palm oil. These recommendations will be done based on which type of knowledge has the most impact on the decision-making process of the informed consumers.

It is expected that the knowledge areas that should most influence the choice of certified sustainable palm oil are the ones that are the advantages of palm oil and the existence of certified sustainable palm oil. There is first the fact that palm oil is the best in terms of agricultural yield and that replacing it by another vegetable oils means converting more land to its production. Then, the fact that palm oil allows local producers to live above the poverty line and that 11 million people benefit from the revenues of the production of palm oil. Finally, the knowledge that certified sustainable palm oil exist is expected to have a strong influence, as consumers know the benefits of such certification schemes.

Therefore, the assumption is that consumers with knowledge on the certificates of sustainability for palm oil and knowledge on the advantages of using palm oil are the ones that should favour certified sustainable palm oil. The following expected recommendations would be to promote the advantages of using this vegetable oil as well as the certification of sustainability for palm oil.

2.3 Research methodology

In order to answer to all the research objectives concerning the level of knowledge of the Swiss consumer and how it affects their consumption patterns, an online survey was conducted. The survey is available in the appendix 1. This survey was shared with as many Swiss consumers as possible without any biased selection. The profiles of the respondents is available in the appendix 2. Any respondents who was not living in Switzerland was ruled out of the answers to keep only relevant data.

The answers to the survey were analysed with the software Stata, in order to perform contingency tables and regression analyses. Those analyses¹ lead to the identification of the influence of each knowledge variables on the consumption patterns of the respondents. In order to determine if anything else other than the knowledge variables have an influence on the consumption patterns, the analysis was also done by controlling for demographic and perception variables. Comparing these results with the influence of the knowledge variable determines which has the most influence on the consumption patterns. After determining the most influential variables, the recommendations are established on the results in order to convince Swiss consumers that the option to favour is certified sustainable palm oil.

The model used to analyse the influence of the different variables on the hypotheses is the following one :

$$y = \alpha + \beta_1 \cdot k_1 + \beta_2 \cdot k_2 + \beta_3 \cdot k_3 + \beta_4 \cdot k_4 + \beta_5 \cdot k_5 + \beta_6 \cdot k_6 + \beta_7 \cdot k_7 + \gamma_1 \cdot i_1 + \gamma_2 \cdot i_2 + \gamma_3 \cdot i_3 + \gamma_4 \cdot i_4 + \gamma_5 \cdot i_5 + \delta_1 \cdot d_1 + \delta_2 \cdot d_2 + \delta_3 \cdot d_3 + \varepsilon_1 \cdot p_1 + \varepsilon_2 \cdot p_2 + \varepsilon_3 \cdot p_3 + \varepsilon_4 \cdot p_4 + \pi_t$$

In this model, y represents the consumption patterns of the respondents. The variable π_t represents the stochastic shock. The variables used are explained in the table following this explanation.

In order to test the influence of these variables, different modified versions of this model were used with some knowledge, identification, demographic or perception variables. Moreover, these models are performed on different categories of respondents with a high and a low level of knowledge on a variable. This is to identify if there is a difference of influence of the variables on knowledgeable and unknowledgeable respondents on palm oil. Only the models with significant results are displayed in the regression summary tables in appendix 4.

¹ In order to analyze relevant data, the respondents that answered « No opinion » to the variables were ruled out of the analysis.

Table 1: Model variables explanation

	Variable	Name	Question
Knowledge	k1	Climate change	Do the respondents agree with the statement that palm oil production contributes to climate change ?
	k2	Deforestation	Do the respondents agree with the statement that palm oil production contributes to the deforestation of the rainforest ?
	k3	Agricultural yield	Do the respondents agree with the statement that palm oil has the best agricultural yield of all vegetable oil crops ?
	k4	Indigenous rights violation	Do the respondents agree with the statement that producers of palm oil respects the rights of the indigenous people ?
	k5	Existence of certificates of sustainability for palm oil	Do the respondents agree with the statement that certificates of sustainability for palm oil exist ?
	k6	Healthiness	Do the respondents agree with the statement that palm oil consumed in small quantity is good for their health ?
	k7	Producers poverty	Do the respondents agree with the statement that palm oil production allows local producers to live above the poverty line ?
Identification	i1	Identification of certificates of sustainability	Are the respondents able to identify the certificates of sustainability for palm oil ?
	i2	Identification of derivatives	Are the respondents able to identify the derivative ingredients of palm oil ?
	i3	Identification of product families	Are the respondents able to identify the product families that commonly contain palm oil ?
	i4	Reading of ingredients list	At which frequency do the respondents read the ingredients lists of the products they buy ?
	i5	Consciousness of buying product containing palm oil	Are the respondents conscious when they buy products containing palm oil ?
Demographic	d1	Education	What is the education level of the respondents ?
	d2	Age	What is the age of the respondents ?
	d3	Gender	What is the gender of the respondents ? 1 = Women; 0 = Men
Perception	p1	Importance of issues related to palm oil	Do the respondents give importance to the issues related to the production of palm oil such as climate change, deforestation, indigenous rights violation, etc. ?
	p2	Groceries without palm oil in Switzerland	Do the respondents think that it is possible to do their groceries in Switzerland without buying any product containing palm oil ?
	p3	Supermarkets should sell only products with certified sustainable palm oil	Do the respondents agree with the statement that supermarkets should commit to sell products with 100% certified sustainable palm oil ?
	p4	Consumer choices impact Swiss manufacturers	Do the respondents think that their consumption choices impact the decision of the manufacturer of food products in Switzerland ?

3. Influence of knowledge

3.1 Informed consumers consume palm oil

In the hypothesis and as promoted by non-governmental organizations (*WWF, 2014 and Greenpeace, 2016*), the right thing to do for consumers is to favour the consumption of certified sustainable palm oil. It is supposed that informed consumers do consume palm oil. For now, the question of sustainability is not addressed as respondents were asked which categories of products they purchased in the last three months, being with certified sustainable palm oil or not.

There is a distinction between whether respondents consume palm oil or not and the amount of palm oil they consume. Therefore, two analyses were completed to determine the influence of knowledge on the consumption and on the amount of consumption.

3.1.1 Consumption of palm oil

In the *appendix 3: contingency tables' results*, it is shown in the contingency summary *table 6* a dependency between the consumption of palm oil and the frequency at which respondents read the ingredients list. This is confirmed in *appendix 4: regression results*, in *table 9* the regression analysis shows that the frequency at which respondents read the ingredients list does explain the consumption with a negative influence that apply to all respondents. As a consequence, the more frequently the respondents read the ingredients list of the products they buy, the less they consume products containing palm oil.

In comparison, to observe if demographic and perception variables have also an influence, the contingency summary *table 6* shows that the fact that respondents agree that it is possible to do their groceries in Switzerland without buying products with palm oil has an influence on the consumption. The regressions analyses in *table 10* support that and shows that this variable positively influence the consumption of palm oil. Hence, the more the respondents agree with the statement that it is possible to do their groceries in Switzerland without buying products with palm oil, the more they consume palm oil. Moreover, this influence exists for both informed and uninformed respondents.

As a result, consumption of palm oil is primarily influenced by the frequency at which respondents read the ingredients list and the fact that they think it is possible to do their groceries in Switzerland without buying products with palm oil. The level of knowledge of the respondents has a low influence on the consumption of palm oil in this case.

3.1.2 Amount of consumption of palm oil

According to the contingency summary *table 6*, there is no real impact of any knowledge variable on the amount of consumption of products containing palm oil. However, in the regression analyses in *table 11*, it is demonstrated that the variable healthiness does positively affects the amount of consumption of palm oil. The more the respondents think that palm oil in small quantity is healthy the more they consume a larger number of products containing palm oil. This influence affects both respondents with a high and low level of knowledge on palm oil.

In the regression analyses, it is also shown that the frequency at which respondents read the ingredients list negatively influences the amount of consumption of products containing palm oil for all respondents. Therefore, the more frequently the respondents read the ingredients list, the less quantity of products containing palm oil they consume.

In comparison with the demographic and perception variables, it is demonstrated first in the contingency summary *table 6* that the fact that respondents agree that it is possible to do their groceries in Switzerland without buying products with palm oil has an influence on the amount of consumption of products containing palm oil. Moreover, in the regressions analyses in *table 12* there is an influence on the amount of consumption of products containing palm oil by respondents by two variables :

- Importance of issues related to palm oil
- Groceries without palm oil in Switzerland

Unrelated to the level of knowledge of the respondents, the importance given to the issues related to palm oil negatively affects the amount of consumption of products containing palm oil. Hence, the more the respondents give importance to these issues, the less quantity of products containing palm oil they consume.

In opposition, there is a positive influence by the perception of doing groceries in Switzerland without buying product with palm oil that explains consumption for both informed and uninformed respondents. Thus, the more they think it is possible to do their groceries without buying products containing palm oil, the more quantity of products containing palm oil they consume.

As a result, the amount of consumption of products containing palm oil relies on the knowledge of the healthiness of palm oil and the frequency at which respondents read the ingredients list. However, the influence of the perceptions variables importance given to the issues related to palm oil and feasibility of doing its groceries without palm oil in Switzerland are also important.

3.1.3 Summary of results

Table 2: Summary of results for hypothesis consumption of palm oil

	Variable	Consumption of palm oil			Amount of consumption of palm oil		
		All	High	Low	All	High	Low
Knowledge	Climate change						
	Deforestation						
	Agricultural yield						
	Indigenous rights violation						
	Existence of certificates of sustainability for palm oil						
	Healthiness				+	+	+
	Producers poverty						
Identification	Identification of certificates of sustainability						
	Identification of derivatives						
	Identification of product families						
	Reading of ingredients list	-			-		
	Consciousness of buying product containing palm oil						
Demographic	Education						
	Age						
	Gender						
Perception	Importance of issues related to palm oil				-	-	-
	Groceries without palm oil in Switzerland	+	+	+	+	+	+
	Supermarkets should sell only products with CSPO						
	Consumer choices impact Swiss manufacturers						

The influence of knowledge on the consumption of palm oil is very small. Only the variable healthiness seems to have an influence on the consumption. Respondents that deem the consumption of palm oil in small quantity as healthy are consuming more products containing palm oil. Otherwise, respondents that are informed by reading the ingredients list tend to consume less palm oil and a lesser number of products containing palm oil. Therefore, the influence of knowledge is not supporting the hypothesis that informed respondents consume palm oil as well as a certain number of products containing palm oil. It is not supporting as well that the knowledge of the certificates of sustainability and the advantages of using palm oil have an impact of the consumption of palm oil.

There is also an influence from the perception of palm oil by the respondents. On one hand, the more respondents give importance to the issues induced by the production of palm oil the less quantity they consume. On the other hand, the more they think it is possible to do their groceries without buying products containing palm oil, the more they consume and in larger quantities. This latter influence could, however, be the result of the interest of each consumer to consume products with or without palm oil. Thus, perception could also be an important factor for the consumption of palm oil.

In order to persuade consumers to consume palm oil, information about its health benefit should be promoted. This is based on the fact that there is a higher consumption of palm oil by respondents who think that palm oil in small quantity is good for their health.

3.2 Informed consumers favour certified sustainable palm oil

It is supposed that informed consumers favour certified sustainable palm oil, as it is the option that is supported by the non-governmental organizations. In order to determine if the respondents do prefer certified sustainable palm oil two questions were asked.

First, respondents were asked if they would consider possible substitutes of products containing palm oil with products without palm oil as well as with products with certified sustainable palm oil. The difference between these answers is analysed to determine the preference of respondents.

Second, respondents had to choose which solution they would deem being the best between three possibilities :

- Products containing palm oil at a low price
- Products without palm oil with a premium
- Products with certified sustainable palm oil with a premium

The answer to these questions allow for a thorough analysis of whether or not consumers do favour certified sustainable palm oil as well as if the level of knowledge of respondents has an influence and which type of knowledge is the most influential.

3.2.1 Choice of substitutes

3.2.1.1 *Substitutes without palm oil*

In the contingency summary tables' results (*appendix 3*), it is demonstrated in *table 7* that two knowledge variables have an influence on the choice of these substitute products by the respondents :

- Deforestation
- Healthiness

These results are supported by the regression results in *table 13*. It is shown that the knowledge of the deforestation of the rainforest has a positive influence on the choice of this substitute option. Hence, the more the respondents are aware of the issue of deforestation the more they choose the substitute products without palm oil. This influence exists for all respondents, regardless of their level of knowledge.

Concerning the knowledge of the health benefits of palm oil, there is a negative influence explaining the preference of this option, meaning that the more the respondents deem palm oil as being healthy the less they choose the substitute products without palm oil. This influence is existing for both informed and uninformed respondents.

In comparison with the demographics and perception variables, in the contingency summary *table 7*, it is shown that the following variable has an influence on the choice of these substitute products :

- Importance of issues related to palm oil

The regressions analyses in *table 14* support that fact with a positive influence explaining this choice that affects both respondents with a high and a low level of knowledge. Thus, the more the respondents give importance to the issues related to the production of palm oil the more they choose the substitute products without palm oil.

Therefore, the choice of substituting products with palm oil with products without palm oil by the respondents is influenced by their knowledge of the deforestation of the rainforest and the health benefits of palm oil. There is also an important influence by the perception of the respondents on the importance given to the issues related to the production of palm oil, regardless of the level of knowledge of the respondents.

3.2.1.2 Substitutes with certified sustainable palm oil

In the contingency summary *table 7*, it is demonstrated that the following knowledge variables have an impact on the choice of the substitute products with certified sustainable palm oil :

- Healthiness
- Identification of certificates of sustainability
- Identification of derivatives

These results are supported by the regressions analyses in *table 15*. The variable healthiness positively influences the choice of this substitute option, meaning that the more the respondents think that consuming palm oil in small quantity is good for their health the more they choose the substitute products with certified sustainable palm oil. This influence affects both respondents with a high and low level of knowledge.

Moreover, the identification of certificates of sustainability positively affects the preference of this option, applying to all respondents. As a consequence, the more the respondents are able

to identify the certificates of sustainability for palm oil, the more they choose the substitute products with certified sustainable palm oil.

In comparison, with the demographic and perception variables, it is shown in the contingency summary *table 7* that the following variables have an influence on the choice of the substitute products with certified sustainable palm oil :

- Education
- Age
- Supermarkets should sell only products with certified sustainable palm oil
- Consumers' choices impact Swiss manufacturers

With the regression analysis in *table 16*, it is shown that there is a positive influence by the level of education that explains the choice of these substitute products applying to respondents with a high or a low level of knowledge. Therefore, the more the respondents have a higher degree's level the more they choose this option.

Then, the variable importance of issues related to palm oil negatively affects the preference for this option, meaning that respondents who think that the issues are important choose less these substitute products option. This influence affects both informed and uninformed respondents.

There is also a positive interaction with the variable supermarkets should sell only products with 100% certified sustainable palm oil, regardless of the level of knowledge of the respondents, that explains the preference for substitute products with certified sustainable palm oil. Hence, the more the respondents believe in this statement, the more they choose this substituting option.

Thus, the choice of the substitute products with certified sustainable palm oil is impacted by the knowledge of the health benefits of palm oil and the ability to identify the certificates of sustainability. However, there is also an influence by the perception variables education level of the respondents, importance they give to the issues related to palm oil and belief that supermarkets should commit to sell products containing 100% certified sustainable palm oil, regardless of the level of knowledge of the respondents.

3.2.1.3 Summary for substitute products options

With these analyses, it is demonstrated that one knowledge variable is key in the choice of the substitute products. The knowledge of the health benefit is influential for both substituting options. The respondents who deem palm oil as being healthy in small quantities favour the substitute products with certified sustainable palm oil. On the contrary, those who deem it as being unhealthy favour substitute products without palm oil. Therefore, to persuade consumers to prefer substitute products with certified sustainable palm oil, it is necessary to convince them of the health benefits of consuming palm oil in small quantities.

Another variable is key in the choice of the substitute products in the perception category, it is the importance given to the issues related to the production of palm oil. The more the respondents give importance to the issues, the more they choose substitute products without palm oil. However, the less they give it importance, the more they choose substitute products with certified sustainable palm oil. Hence, to convince consumers to favour substitute products with certified sustainable palm oil, it is necessary to persuade them that certified sustainable palm oil is also tackling the issues related to the production of palm oil.

3.2.2 Choice of solution

3.2.2.1 Solution palm oil at a low price

In the contingency summary *table 7*, it is shown that five knowledge variables have an impact on the choice of the solution palm oil at a low price :

- Healthiness
- Producers poverty
- Identification of product families
- Reading of ingredients list
- Consciousness of buying product containing palm oil

The regressions analyses for the knowledge variables in *table 17* support those results as the knowledge on producers' poverty positively affects the choice of this solution. Thus, the more the respondents agree with the fact that local producers can live above the poverty line with the production of palm oil, the more they choose the solution palm oil at a low price. This influence affects both informed and uninformed respondents.

Moreover, in the regressions analyses in *table 17*, the knowledge of agricultural yield positively affects the preference for the solution palm oil at a low price for all respondents. The more the respondents agree with the fact that palm oil has the best agricultural yield, the more they choose this solution.

In comparison, the influence of the demographic and perception variables is exposed in contingency summary *table 7* and the following variables have an influence :

- Importance of issues related to palm oil
- Supermarkets should sell only products with certified sustainable palm oil

The regression analyses in *table 18* concord with these results as the importance given to the issues related to palm oil production negatively influences the choice of this solution. Thus, the more the respondents agree with the latter statement, the less they choose the solution palm oil at a low price. This influence exists for respondents with a high and a low level of knowledge.

There is another negative influence by the variable supermarkets should commit to sell only products containing 100% certified sustainable palm oil that explain also the choice of this solution and influencing all respondents, regardless of their level of knowledge. The more the respondents agree with this statement, less they choose the solution palm oil at a low price.

Therefore, the choice of the solution palm oil at a low price is influenced by the knowledge of the producers being able to live above the poverty line because of palm oil production and the fact that palm oil is the best in terms of agricultural yield. Other perception variables influence the choice of this solution, regardless of the level of knowledge. The more the respondents give importance to the issues related to the production of palm oil or the more they agree with the statement that supermarkets should commit to sell only products containing 100% certified sustainable palm oil, the less they choose the solution palm oil at a low price.

3.2.2.2 Solution without palm oil with a premium

In the contingency summary *table 7*, it is appearing that the knowledge variables that influence the choice of this solution are the following ones :

- Climate change
- Deforestation of the rainforest
- Healthiness
- Reading of ingredients list
- Consciousness of buying product containing palm oil

These results corroborate with the regressions analyses in summary *table 19*. It is shown that the knowledge on climate change positively affects the choice of the solution without palm oil with a premium. Thus, the more respondents agree with the statement that palm oil production contributes to climate change, the more they choose this solution. This influence exists for both informed and uninformed respondents.

There is also a negative interaction with the knowledge on health benefits affecting all respondents, regardless of their level of knowledge, that explains the choice of this solution. The more the respondents think that consuming palm oil in small quantity is good for their health, the less they choose the solution without palm oil with a premium.

In order to compare with the demographic and perception variables, in contingency summary *table 7* there is an influence from the following variables :

- Gender
- Importance of issues related to palm oil
- Groceries without palm oil in Switzerland

The regressions analyses in summary *table 20* support the results of the contingency tables. The gender of the respondents positively affects the choice of this solution, meaning that women tend to prefer this solution, regardless of the level of knowledge on palm oil of the respondents.

In the demographics variables, there is also a negative interaction with the education level of the respondents affecting both informed and uninformed respondents that explains the preference for this solution. Thus, the more the respondents have a high education level, the less they choose the solution without palm oil with a premium.

Concerning the perception variables, the importance given to the issues related to the production of palm oil positively affects this choice. The more the respondents give importance to these issues, the more they choose the solution without palm oil with a premium. This influence affects both respondents with a high and a low level of knowledge.

There is also a positive interaction with the possibility to do groceries in Switzerland without buying products with palm oil, regardless of the level of knowledge on palm oil of the respondents, that explains the choice of this solution. Hence, the more the respondents think that it is indeed possible, the more they choose the solution without palm oil with a premium.

Therefore, the choice of the solution without palm oil with a premium is influenced by some knowledge areas of the respondents. In particular, the variables climate change and healthiness are key to influence the selection of this solution. Other demographic and perception variables also impact this choice, those are gender, the importance given to the issues related to palm oil and the feasibility of doing its groceries without palm oil in Switzerland. Those influence both respondents with a high and a low level of knowledge.

3.2.2.3 Solution with certified sustainable palm oil with a premium

In the contingency summary *table 7*, it is demonstrated that the following knowledge variables have an influence on the choice of the solution with certified sustainable palm oil with a premium :

- Climate change
- Deforestation of the rainforest
- Healthiness

The regressions analyses in *table 21* concord with these results as it is clearly shown that the knowledge of climate change negatively affects the choice of this solution and apply to all respondents. The more the respondents agree with the statement that palm oil production contributes to climate change, the less they choose this solution.

Then, the healthiness of palm oil positively affects this choice. Thus, the more the respondents agree that palm oil in small quantity is good for their health, the more they choose the solution with certified sustainable palm oil with a premium. This influence exists for both informed and uninformed respondents.

Concerning the demographic and perception variables, the contingency summary *table 7* shows that the following variables have an influence :

- Education
- Gender
- Groceries without palm oil in Switzerland

In the regression analyses *table 22*, there is an influence from the demographic variables. There is a positive interaction with the education level and the age of the respondents applying to all respondents and explaining the preference for the solution with certified sustainable palm oil with a premium. Therefore, the more the respondents have a high education level or the more the respondents are old, the more they choose this solution.

Then, the gender of the respondents negatively affects this choice as well, meaning that women do not favour the solution with certified sustainable palm oil with a premium. This influence exists for both respondents with a high and low level of knowledge.

Regarding the perception variables, the variables importance given to the issues related to palm oil and feasibility of doing its groceries without palm oil in Switzerland negatively affect

the preference for this solution. As a consequence, the more the respondents agree with these statements, the less they choose this solution, regardless of their level of knowledge.

However, the variable supermarkets should only sell products with certified sustainable palm oil positively influences the choice of this solution and applying to all respondents. The more the respondents agree with this statement, the more they choose the solution with certified sustainable palm oil with a premium.

Consequently, the choice of the solution with certified sustainable palm oil with a premium is mostly impacted by the knowledge variables climate change and healthiness. Other demographic and perception variable also have an influence on the choice of this solution such as education level, gender, importance given to the issues related to palm oil, feasibility of doing its groceries without palm oil in Switzerland and supermarkets should only sell products with 100% certified sustainable palm oil. Therefore, many variables enter in the decision making of consumers that choose this solution.

3.2.2.4 Summary for solution options

There is one knowledge variable that is key in the influence of the choice of the solution, it is the healthiness of palm oil. Respondents who do not think that palm oil in small quantity is beneficial for their health choose the solution without palm oil with a premium. The other respondents chose the two other solutions. Other knowledge variables do not influence the three solutions, but some do influence the choice between two of them such as climate change or deforestation. In order to persuade consumers to consume certified sustainable palm oil, the health benefits of palm oil should be promoted.

Another variable is key in the influence of the choice of the solution in the perception category, the importance given to the issues related to palm oil is influencing each solution. The respondents who give the most importance to the issues related to the production of palm oil choose the solution without palm oil with a premium. The respondents who give less importance to these issues chose the two other solutions. Other perception and demographic variables have an influence but not on the three solutions proposed. Hence, to encourage the consumption of certified sustainable palm oil, it is necessary to persuade consumers that certified sustainable palm oil is also tackling the issues related to the production of palm oil.

3.2.3 Summary of results

Table 3: Summary of results for hypothesis preference of CSPO

	Variable	Substitute products without palm oil			Substitute products with CSPO			Solution with palm oil at a low price			Solution without palm oil with a premium			Solution with CSPO with a premium		
		All	High	Low	All	High	Low	All	High	Low	All	High	Low	All	High	Low
Knowledge	Climate change										+	+	+	-	-	-
	Deforestation	+	+	+												
	Agricultural yield								+	+						
	Indigenous rights violation															
	Existence of certificates of sustainability for palm oil															
	Healthiness		-	-	+	+	+		+		-	-	-	+	+	+
	Producers poverty								+	+						
Identification	Identification of certificates of sustainability				+											
	Identification of derivatives															
	Identification of product families															
	Reading of ingredients list															
	Consciousness of buying product containing palm oil							+			-					
Demographic	Education				+	+	+		-	-				+	+	+
	Age													+	+	+
	Gender							+		+				-	-	-
Perception	Importance of issues related to palm oil	+	+	+	-	-	-	-	-	-	+	+	+	-	-	-
	Groceries without palm oil in Switzerland											+	+		-	-
	Supermarkets should sell only products with CSPO				+	+	+		-	-				+	+	+
	Consumer choices impact Swiss manufacturers					+	+									

These results show that the level of knowledge does not have an important influence on the choice between no palm oil and certified sustainable palm oil. There is only one variable that is key in all situations, the health characteristics of palm oil. The respondents who deem that palm oil in small quantity is indeed beneficial for their health generally favour certified sustainable palm oil. On the contrary, respondents that do not consider palm oil in small quantity to be healthy favour options without palm oil. Hence, the health characteristic of this oil is a decisive variable for consumers.

The demographic variables have low influence on the choice between no palm oil and certified sustainable palm oil. In some cases, education level and gender are making a small difference, but it is not as influential as the health benefits of palm oil.

However, one perception variable also has a strong influence on the choice between no palm oil and certified sustainable palm oil. The importance given to the issues related to palm oil is also a decisive variable. The respondents who give more importance to these issues favour the options without palm oil whereas the respondents who give them less importance favour the options with certified sustainable palm oil. Hence, the importance given to the issues related to the production of palm oil is a key variable in the decision between no palm oil and certified sustainable palm oil.

In order to persuade consumers that the option certified sustainable palm oil is the most efficient, it is possible to act on two variables. The first one being the health benefits of palm oil. If consumers deem that consuming palm oil in small quantities is healthy, they would be more willing to choose options where palm oil is included, as it will not harm their personal health. The second variable is the importance given to the issues related to the production of palm oil. Consumers who care about these issues consider that the most appropriate solution is the option without palm oil. Hence, they do not trust that certified sustainable palm oil is an efficient solution. A better communication and image on the benefits of sustainable palm oil and on the certification schemes for sustainable palm oil would comfort consumers that it is a viable option. The goal is to persuade consumers that it is indeed the solution to favour and that it tackles the issues in a most efficient way than the option no palm oil. Thanks to these two actions, it would be possible to convince consumers that the best option is to favour certified sustainable palm oil.

These results disprove the hypothesis that consumers with a high level of knowledge on palm oil favour certified sustainable palm oil. It does not support as well the assumption that the knowledge on the advantages of using palm oil is influential. On the contrary, it shows that consumers care mostly about the health benefits of palm oil.

3.3 Informed consumers are willing to pay more for certified sustainable palm oil

The hypothesis is that consumers with a high level of knowledge are more willing to pay a higher price for substitute products with certified sustainable palm oil than for substitute products without palm oil. They should see a higher value in substitute products with certified sustainable palm oil as they support the option promoted by the non-governmental organizations. Hence, in comparison with the substitute products without palm oil, informed consumer should be more willing to pay a higher price for substitute products with certified sustainable palm oil.

Concerning the amount that respondents are willing to pay as a premium, the answers cannot be analysed taking into account only one knowledge, demographic or perception variable. In this case, many more variables are important such as income, household expenditures, and so on. As we can observe in the contingency summary *table 8*, there are no clear variable that has an influence on the amount of the premium that respondents would be willing to pay. Therefore, only the willingness to pay for a higher price is relevant when comparing to unique knowledge, demographic or perception variables.

3.3.1 Premium for substitutes without palm oil

In the contingency summary *table 8*, it is appearing that the knowledge variables that influence the willingness to pay a higher price for substitute products without palm oil are the following ones:

- Climate change
- Healthiness
- Indigenous rights violation
- Reading of ingredients list

These results are supported by the regressions analysis in *table 23*. In particular, the healthiness variable negatively affects the willingness to pay a premium for substitute products without palm oil. Hence, the more the respondents deem palm oil as being healthy, the less they are willing to pay a higher price for these substitute products. This influence exists for analyses on respondents with a high level of knowledge and respondents with a low level of knowledge. As a consequence, the healthiness variable is key in the willingness to pay a higher price for these substitute products.

Concerning the climate change variable, it positively influences this willingness. Thus, the more the respondents agree with the statement that palm oil production contributes to climate

change, the more they are willing to pay a higher price for substitute products without palm oil. This influence exists for both informed and uninformed respondents but is significant only for informed respondents.

The knowledge variable reading of ingredients list positively affects the willingness to pay a premium for these substitute products for all the respondents. The more the respondents read the ingredients list when doing their groceries, the more they are willing to pay a higher price for substitute products without palm oil.

In comparison, we observe for the demographic and perception variables in the contingency summary *table 8* that the following variables have an influence :

- Gender
- Importance of issues related to palm oil
- Supermarkets should sell only products with certified sustainable palm oil

The regressions analyses in *table 24* support those result as the importance given to the issues related to the production of palm oil positively affects the willingness to pay a premium. Thus, the more the respondents agree with this statement, the more they are willing to pay for substitute products without palm oil. This influence affects all respondents unrelated to their level of knowledge.

Concerning the gender variable, it is positively influencing the willingness to pay a higher price for this option. Therefore, women are more willing to pay a higher price for substitute products without palm oil than men are. This holds on the overall respondents and as well on respondents that are knowledgeable and unknowledgeable about palm oil, except in the unique case in which respondents are able to identify certificates of sustainability. For this situation, there is a negative influence meaning that women that are able to identify certificates of sustainability are less willing to pay a higher price for substitute products without palm oil.

Thus, the willingness to pay a higher price for substitute products without palm oil is influenced primarily and negatively by the healthiness variable in the knowledge category. Then, the climate change and the frequency at which respondents read the ingredients list also have an influence that is positive. However, the demographic and perception variables also influence this willingness. Gender is a positive influence as well as the importance given to the issues related to palm oil.

3.3.2 Premium for substitutes with certified sustainable palm oil

In the contingency summary *table 8*, it is appearing that the following knowledge variables have an influence on the willingness to pay a higher price for substitute products with certified sustainable palm oil :

- Healthiness
- Consciousness of buying products containing palm oil

The regressions analyses in *table 25* concord with these results as the healthiness variable positively affects the willingness to pay a premium for these substitute products. Hence, the more the respondents deem palm oil as being healthy, the more they are willing to pay a higher price for substitute products with certified sustainable palm oil. This variable has an influence on both respondents with a high and a low level of knowledge as the influence exists in the two categories.

The variable consciousness of buying products containing palm oil is influential on all the respondents with a positive influence. The more the respondents are aware that they buy products containing palm oil, the more they are willing to pay a higher price for substitute products with certified sustainable palm oil.

Moreover, in the regressions analyses in *table 25* there is also a negative interaction with the indigenous rights variable explaining this willingness. Thus, the more the respondents agree with the statement that palm oil producers do not respect the rights of the indigenous people, the less they are willing to pay a higher price for these substitute products. This influence exists for respondents with a high and low level of knowledge.

Comparing with the demographic and perception variables, the ones with influence, as depicted in the contingency summary *table 8*, are the following :

- Education
- Age
- Supermarkets should sell only products with certified sustainable palm oil

These results are supported by the regressions analyses in *table 26*, as there the education level variable positively affects the willingness to pay a premium. The more the respondents have a high level of education, the more they are willing to pay a higher price for substitute products with certified sustainable palm oil. Moreover, this influence affects both respondents with a high and low level of knowledge.

Concerning the age variable, in the regressions analyses there is a positive influence affecting the willingness to pay a higher price meaning that the older the respondents are the more willing they are to pay a higher price for these substitute products. This influence concerns both knowledgeable and unknowledgeable respondents.

The variable supermarkets should sell only products with certified sustainable palm oil is highly significant in the willingness to pay a higher price for substitute products with certified sustainable palm oil. The positive influence means that the more the respondents agree with the former statement, the more they are willing to pay a higher price for these substitute products. The influence exists for both informed and uninformed respondents.

Therefore, the willingness to pay a higher price for substitute products with certified sustainable palm oil is influenced by the knowledge variables healthiness, indigenous rights violation and consciousness of buying products containing palm oil. The variable healthiness is the most significant one of them. However, the demographic and perception variables also have an influence. The variables education level, age and supermarkets should sell only products with certified sustainable palm oil are influential with the latter being the most significant.

3.3.3 Summary of results

Table 4: Summary of results for hypothesis willingness to pay more for CSPO

	Variable	Premium for substitute products without palm oil			Premium for substitute products with CSPO		
		All	High	Low	All	High	Low
Knowledge	Climate change		+	+			
	Deforestation						
	Agricultural yield						
	Indigenous rights violation		-		-	-	-
	Existence of certificates of sustainability for palm oil						
	Healthiness	-	-	-	+	+	+
	Producers poverty						
Identification	Identification of certificates of sustainability						
	Identification of derivatives						
	Identification of product families						
	Reading of ingredients list	+					
	Consciousness of buying product containing palm oil				+		
Demographic	Education				+	+	+
	Age					+	+
	Gender	+	+	+			
Perception	Importance of issues related to palm oil	+	+	+			
	Groceries without palm oil in Switzerland						
	Supermarkets should sell only products with CSPO				+	+	+
	Consumer choices impact Swiss manufacturers						

These results show that some variables of the knowledge category have an influence on the willingness to pay a higher price for substitute products to products containing normal palm oil. In particular, there is one variable that is decisive: healthiness. This variable has a significant influence on the respondents, as the more they deem palm oil as being healthy the more they are willing to pay a higher price for substitute products with certified sustainable palm oil. On the contrary, the more the respondents deem palm oil as being unhealthy, the more they are willing to pay a higher price for substitute product without palm oil. Therefore, to persuade consumers that there is a higher value in substitute products with certified sustainable palm oil, they should first consider palm oil as being healthy when consumed in small quantities.

The demographic variables have a slight influence on the value perceived by the respondents in the substitute products options, but none are decisive for both. The respondents that do see a higher value in substitute products with certified sustainable palm oil are the ones that have a higher level of education or those that are older.

Concerning the perception variables, they also have an influence on the willingness to pay a higher price for substitute products. In particular two variables are significant; the importance given to the issues related to palm oil and the supermarkets commitment to sell only products with certified sustainable palm oil. The more the respondents give importance to the issues related to palm oil, the more value they see in substitute products without palm oil. However, the more the respondents agree with the statement supermarkets should sell only products with certified sustainable palm oil, the more value they see in substitute products with certified sustainable palm oil. Hence, in order to convince consumers that there is a higher value in products with certified sustainable palm oil, consumers should be persuaded that certifying palm oil production according to criteria of sustainability is the best option to tackle the issues related to the production of palm oil. Moreover, supermarkets have a role to make and should promote the use of certified sustainable palm oil in their products to increase the confidence of consumers in this option.

These results disprove the hypothesis that consumers with a high level of knowledge on palm oil are more willing to pay a higher price for substitute product with certified sustainable palm oil. It does not support the assumption as well, that the knowledge of the advantages of using palm oil is influential. Instead, it shows that consumers care mostly about the health benefits of palm oil and the issues related to the production of palm oil.

3.4 Summary of findings

The results of the survey generally disprove the initial hypotheses. The level of knowledge of the respondents on the characteristics of palm oil do not have a significant influence on the consumption patterns. Instead, only some key variables have an influence on the consumption, in both the knowledge and perception categories.

Concerning the first hypothesis that informed consumers consume palm oil because they understand that replacing it by another vegetable oil is not the best option, it is not verified by the results. On the contrary, there are two variables that influence the consumption of palm oil. In the knowledge category the frequency at which respondents read the ingredients lists during their groceries negatively influence the consumption of palm oil. The healthiness of palm oil is positively influential regarding the amount of consumption only. The second variable that influence the consumption of palm is the perception that it is possible to do groceries without buying product containing palm oil in Switzerland. This perception positively influences the consumption of palm oil. Moreover, there is no clear difference of consumption between respondents with a high and a low level of knowledge on palm oil. Additionally, there is no influence from the variables that represent the advantages of using palm oil.

The second hypothesis concerned the assumption that informed consumers favour certified sustainable palm oil. This supposition was tested with two alternative questions. One concerning substitute products of products containing normal palm oil with either products without palm oil or products with certified sustainable palm oil. The other testing questions was the choice of a solution between three options; solution with palm oil at a low price, solution without palm oil with a premium, and solution with certified sustainable palm oil with a premium. Across the answers of both these questions the results are disproving the hypothesis. Indeed, only two variables appear to be significantly influential for all the options. The first one being the health benefits of palm oil. The more the consumers deem palm oil as being healthy the more they favour certified sustainable palm oil as an option. On the contrary, the more they deem it as being unhealthy, the more the option without palm oil is favoured. As a consequence, health is a key variable for consumers in their decision making for purchasing goods with palm oil. The second variable that is influential is the importance given to the issues related to the production of palm oil. The more the respondent give importance to those, the more they favour option without palm oil. However, the less they give it importance, the more they favour the option with certified sustainable palm oil. Hence, consumers do not see certified sustainable palm oil as being a good enough option to resolve the issues related to the production of palm oil. Thus, there is no clear difference of consumption depending on the

knowledge of the consumers and no influence from the knowledge of the advantages of using palm oil or of the certificates of sustainability for the production of palm oil.

The last hypothesis concerned the willingness to pay a higher price for products containing certified sustainable palm oil by informed consumers. The willingness to pay a higher price for products containing certified sustainable palm oil was compared between two options: substitute products without palm oil and substitute products with certified sustainable palm oil. The results of the analysis do not support the hypothesis as there are only three variables that influence this willingness. One variable is from the knowledge category and is again the health benefits of palm oil. There is the same pattern that consumers who deem palm oil as being healthy are more willing to pay a higher price for products with certified sustainable palm oil and those who do not consider it as being healthy are more willing to pay a higher price for products without palm oil. Hence, in the knowledge category, health is again a decisive variable for consumers. The other two variables that influence the willingness to pay a higher price are the importance given to the issues related to palm oil and the commitment of supermarkets to sell only products containing certified sustainable palm oil. On one hand, the more the consumers give importance to the issues related to the production of palm oil, the more they are willing to pay a higher price for products without palm oil. On the other hand, the more the consumers agree with the statement that supermarkets should commit to sell only products containing certified sustainable palm oil, the more they are willing to pay a higher price for products with certified sustainable palm oil. Therefore, consumers who give importance to the issues related to palm oil do not see value in certified sustainable palm oil and again do not trust this solution as being efficient to resolve the issues. On the contrary, the consumers who already believe in certified sustainable palm oil do see a higher value and are waiting for retailers to act. Once again, there is no difference between informed and uninformed consumers. The level of knowledge on the advantages of using palm oil and the existence of certificates of sustainability for palm oil are not influential on the decision process of consumers.

Therefore, promoting the use of certified sustainable palm oil by communicating its advantages such as the agricultural yield or the financial benefits for local producers are not efficient. In order to persuade consumers that the best option they can choose is certified sustainable palm oil, communication should be done about the health benefits of palm oil and the efficiency of certification of sustainability for palm oil growers to reduce environmental issues. These two variables should convince consumers that consuming palm oil in small quantities is not harming their health and that sustainable certifications are efficient to reduce the negative externalities on the environment. Then, consumers should see a higher value in certified sustainable palm oil and may favour it in their purchasing decisions.

4. Industry actors' interviews

In order to understand the position of each actors in the palm oil industry in Switzerland, some of them were contacted to present these results and collect their reactions. However, only one retailer accepted to share some information about their palm oil policies. Others did not agree to answers to questions about their policies and the use of palm oil in their products as they consider it as being confidential.

The Swiss retailer Coop accepted to share some information about their policies on palm oil but refused to answer to specific questions. The entire answer is available in appendix 6. Here are some interesting facts shared by Coop :

- The reason why Coop is using palm oil is to replace trans-fat. Hydrogenated fats, which produce trans-fat, is now limited to 2% of fats in a product by the Swiss legislator because of sanitary risks. Therefore, Coop decided to completely stop using those hydrogenated fat and replace it by palm oil as it has the same characteristics.
- Coop uses palm oil in more than a thousand products of its own brand and is always specifying its use in the ingredients list.
- Coop participated in the elaboration of the RSPO and uses certified RSPO palm oil in its products.
- Coop does not ask other manufacturers of the products they sell to use only certified sustainable palm oil.
- Bio products Coop Naturaplan with palm oil have stricter criteria. Bio palm oil production should be certified by the Bourgeon certification.
- Coop's 2020 objective for their use of palm oil derivative ingredients in cosmetics products is to use derivatives that come from the RSPO Mass Balance scheme.

Moreover, in their RSPO annual communication of progress 2016, Coop specifies that it does not plan to use the RSPO trademark on its products. It would rather promote the use of certified sustainable palm oil through their newspaper and webpage.

Unfortunately, Coop did not react regarding the consumption patterns of Swiss consumers, the influence of their level of knowledge and the recommendation on promoting the consumption of certified sustainable palm oil.

5. Recommendations

Based on the results of this research, if non-governmental organizations want to promote certified sustainable palm oil as being the most efficient option to reduce the negative externalities of the production of palm oil, they have to persuade consumers that palm oil consumption in small quantity is beneficial for their health and that certification of sustainability for the production of palm oil is efficiently reducing the impact on the environment of palm oil production.

Moreover, they should collaborate with retailers and manufacturers to increase transparency in the complex supply chain of palm oil and give more visibility for certification schemes. Indeed, few retailers display the logo of the certificates of sustainability that their palm oil suppliers respect. Hence, consumers are not aware of the quality of the product they buy and may see more value in substitute products without palm oil. Moreover, non-governmental organizations should promote the benefits of certified sustainable palm oil as well as increase accountability in case of violation of criteria from certified growers. The objective is to build trust from consumers so that they feel that they are doing the right choice when selecting products with certified sustainable palm oil and not that they are victims of greenwashing.

In order to further understand the purchasing decision of Swiss consumers in regard to palm oil, further research on consumer behaviour is necessary. A further analysis would be necessary across all regions of the country to observe if any differences of consumption patterns arise. The intent is then to understand to what values consumers do associate palm oil with on a qualitative level. Moreover, it would then be possible to understand which health benefits they see in palm oil and which health disadvantages are the most problematic for them. This should be useful for understanding the right way to promote certified sustainable palm oil and to which values it should be associated to be attractive for consumers.

As palm oil is used all around the world, this research can be undertaken in each country to understand the differences of knowledge and perceptions and how it affects behaviour and consumption. The objective is palm oil sourced 100% sustainably for all products, derivative ingredients and for all regions of the world.

6. Conclusion

Palm oil is a commodity that is globally used in as much as 50% of the packaged goods sold in supermarkets (WWF, 2014) and is also the most produced vegetable oil (European Palm Oil Alliance, 2016). However, its production generates negative externalities that have major stake for future generations (WWF, 2014). Therefore, it is crucial to act on these issues and find a solution that will answer to today's generation needs as well as those of future generations.

Palm oil holds many advantages, one of which is having the best agricultural yield of all vegetable oil crops (European Palm Oil Alliance, 2016). As a result, replacing palm oil by another vegetable oil would mean converting more land to the production of another vegetable oil that do not holds the same characteristics. That is the main reason why the WWF and Greenpeace are supporting palm oil that is sustainably sourced, in respect of the environment, the rainforests, the biodiversity, the indigenous people and the workers.

It is not known if Swiss consumers are aware of all the challenges that palm oil poses and how they take the information they have into account in their purchasing decision. That is why understanding which information holds the most impact is important to promote the use of certified sustainable palm oil. Then, it should be possible to make recommendations on how to promote most efficiently certified sustainable palm oil.

The hypotheses are subsequently related to the consumers that are aware of the advantages of using palm oil and the benefits of certified sustainable palm oil. Those consumers should continue to consume products containing palm oil, favour certified sustainable palm oil in their choices and be willing to pay a higher price for products containing certified sustainable palm oil, as they understand that it is the best option to favour.

However, the results do not verify these hypotheses. On the contrary, the knowledge on the advantages of using palm oil and the existence of certificates of sustainability do not have any influence on the consumption patterns in the French-speaking region of Switzerland.

What the results show is that the health factor is the most influential in the decision making of the consumers. Hence, if consumers deem palm oil as being healthy they would indeed prefer certified sustainable palm oil, but if consumers consider palm oil as being unhealthy, they would prefer to not have palm oil at all in the products they purchase. As a consequence, the healthiness of palm oil should be key in promoting certified sustainable palm oil.

In addition, another variable is influencing the decisions of consumers, the importance they attribute to the negative externalities generated by the production of palm oil. The more the consumers care about these issues, the less they favour certified sustainable palm oil. Therefore, they do not consider certified sustainable palm oil as being a good enough option to resolve the negative externalities linked with the production of palm oil. The trust that consumers hold in certificates of sustainability to resolve the issues is not strong enough to convince them that this is the right option to choose.

As a result, the recommendation for non-governmental organization that want to promote certified sustainable palm oil, is to focus on two subjects. The first one being to promote palm oil as being not harmful for our health and persuading consumers that consuming a small quantity of palm oil can be beneficial. The second subject is to reinforce the certification schemes for palm oil. The more the certifications of sustainability for palm oil are strong, transparent and the less violations there is from producers, the more the consumers should see value in it. Thus, accountability of producers should be increased as well as transparency in order to build trust with the consumers.

Moreover, manufacturers and retailers have their role to play as they can promote certified sustainable palm oil as well to consumers. They should give more visibility to the logo of the certificates of sustainability so that consumers can recognize them and see a higher value in those products. Then, they can be more transparent towards their consumers when they are contacted about their use of palm oil in the products that their customers consume.

In order to further understand the relation that Swiss consumers have with products containing palm oil, a qualitative analysis should be undertaken. The results should make it easier to understand how palm oil and the certification schemes are perceived by the consumers. Then, certified sustainable palm oil can be associated with the values that Swiss consumers appreciate most so that they see a higher value in this option.

Finally, palm oil is a global issue and is consumed in all parts of the world. Therefore, it is not enough to act only in Switzerland. A global research should be undertaken so that certified sustainable palm oil is favoured all around the globe in the objective of producing only certified sustainable palm oil in the future and reducing the negative externalities to the minimum.

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Appendix 1: Survey questions

Research objectives :

- Determine awareness of externalities caused by overproduction of palm oil
- Evaluate if these issues are of importance to the consumers
- For which reasons & How it impacts their decision-making
- Assess awareness of derivative products of palm oil hidden behind other names
- Identify interest in certificate of sustainability on packaging
- Higher value/price
- Assess value in products without palm oil
- Higher price
- Assess value difference between “no palm oil” & “certificate of sustainability”
- Determine perception of influence over producers through consumption choices

Section 1 : Consumption choices

The aim of this section is to determine the actual consumption of the respondents without them knowing about the theme of the survey.

Question 1 : WHICH OF THE FOLLOWING PRODUCTS DID YOU BUY DURING THE PAST 3 MONTHS?

Possible answers :



Section 2 : Actual knowledge

The aim of this section is to assess the current knowledge of the consumers on multiple facts about palm oil.

Question 2 : DO YOU AGREE WITH THE FOLLOWING STATEMENTS REGARDING PALM OIL ?

Possible answers for each statement :

☐ Strongly agree ☐ Agree ☐ Somewhat agree ☐ Disagree ☐ Strongly disagree ☐ No opinion

1. Palm oil's production contributes to climate change
2. Palm oil is one cause of the deforestation of the rainforest
3. Palm oil is the best oil in terms of agricultural yield
4. Palm oil producers respect the indigenous' rights
5. Certified sustainable palm oil exists
6. Consuming a small amount of Palm oil is good for your health
7. Palm oil production allows local farmers to live above the poverty line

The aim of this question is to assess general knowledge on different issues related to palm oil. The particular issues are : climate change, deforestation of the rainforest, agricultural performance, indigenous' rights infringement, existence of certificate of sustainability for palm oil production, health benefits and economic benefits for local farmers.

Question 3 : WHICH OF THE FOLLOWING CERTIFICATES OF SUSTAINABILITY DO YOU KNOW OR HAVE ALREADY SEEN ?

Possible answers for each certificate : ☐ Yes ☐ No



True



True



False



False



True

The aim of this question is to assess the awareness of the currently used certificates of sustainability for palm oil.

Question 4 : WHICH OF THE FOLLOWING INGREDIENTS REFER TO PALM OIL DERIVATIVES ?

Tick the appropriate answers :

- | | |
|---|--|
| <input type="checkbox"/> Thiamine mononitrate (False) | <input type="checkbox"/> Glyceryl cocoate (True) |
| <input type="checkbox"/> Cetyl palmitate (True) | <input type="checkbox"/> I cannot tell |

The aim of this question is to evaluate whether or not consumers are able to identify the presence of palm oil in the products they purchase.

Question 5 : IN WHICH OF THE FOLLOWING PRODUCT FAMILIES IS PALM OIL COMMONLY USED AS AN INGREDIENT?

Tick the appropriate answers :

- | | |
|---|--|
| <input type="checkbox"/> Baked goods (True) | <input type="checkbox"/> Pasta (False) |
| <input type="checkbox"/> Fresh bread (False) | <input type="checkbox"/> Washing detergents (True) |
| <input type="checkbox"/> Shampoo (True) | <input type="checkbox"/> Toothpaste (True) |
| <input type="checkbox"/> Cleaning agents (True) | <input type="checkbox"/> I cannot tell |

The aim of this question is to assess whether or not respondents are aware of which products usually contain palm oil as an ingredient.

Section 3 : Perception & Habits

The aim of this section is to assess consumers' perception and habits regarding products containing palm oil.

Question 6 : DO YOU THINK THAT THE ISSUES RELATED TO PALM OIL I.E. RAINFOREST DEFORESTATION, CLIMATE CHANGE, INDIGENOUS RIGHTS INFRINGEMENT, ETC. ARE IMPORTANT TO BE TACKLED IN TODAY'S SOCIETY?

Possible answers :

- ☐ Strongly agree ☐ Agree ☐ Somewhat agree ☐ Disagree ☐ Strongly disagree ☐ No opinion

The aim of this question is to assess the opinion and importance accorded to the issues related to palm oil by the consumers.

Question 7 : IF YES, BY WHOM DO YOU THINK THESE ISSUES SHOULD BE RESOLVED ?

Possible answers :

- | | |
|--|--|
| <input type="checkbox"/> Swiss Government | <input type="checkbox"/> Customers |
| <input type="checkbox"/> Government of the producers of PO | <input type="checkbox"/> NGOs |
| <input type="checkbox"/> Swiss producers of goods | <input type="checkbox"/> Other : _____ |
| <input type="checkbox"/> Producers of palm oil | |

The aim of this question is to determine who the respondents think that should resolve the problems related to palm oil.

Question 8 : WHEN YOU ARE DOING YOUR GROCERIES, DO YOU READ THE INGREDIENTS LIST?

Possible answers : ☐ Very often ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

The aim of this question is to assess whether or not consumers have the habit of reading the ingredients list in the supermarkets.

Question 9 : DO YOU THINK THAT IT IS POSSIBLE TO SHOP WITHOUT BUYING PRODUCTS WITH PALM OIL IN SWISS SUPERMARKETS?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to determine the opinion of the consumers over the choices of product with and without palm oil in the Swiss supermarkets.

Question 10 : DO YOU KNOWINGLY BUY PRODUCT(S) CONTAINING PALM OIL?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to assess whether or not consumers buy product containing palm oil and know about it.

Question 11 : IF THERE WERE SUBSTITUTES OF PRODUCTS WITH PALM OIL WITH PRODUCTS WITHOUT PALM OIL, WOULD YOU PREFER BUYING THESE ONES?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to assess whether or not consumers would be interested in buying substitutes without palm oil of products with palm oil.

Question 12 : WOULD YOU BE WILLING TO PAY A PREMIUM FOR A PRODUCT WITHOUT PALM OIL?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to assess whether or not consumers would buy products without palm oil at a higher price than product with palm oil.

Question 13 : IF YES, HOW MUCH MORE WOULD YOU BE WILLING TO PAY ?

Possible answers : ☐ Less than 5% ☐ 5% to 9% ☐ 10% to 19% ☐ 20% to 29% ☐ 30% to 50% ☐ More than 50%

The aim of this question is to identify how much monetary value respondents would be willing to pay as a premium for a product without palm oil.

Question 14 : IF THERE WERE SUBSTITUTES OF PRODUCTS WITH PALM OIL WITH PRODUCTS CONTAINING CERTIFIED SUSTAINABLE PALM OIL, WOULD YOU PREFER BUYING THESE ONES?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to assess whether or not consumers would be interested in buying substitutes containing certified sustainable palm oil of products with palm oil.

Question 15 : WOULD YOU BE WILLING TO PAY A PREMIUM FOR A PRODUCT CONTAINING CERTIFIED SUSTAINABLE PALM OIL ?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to assess whether or not consumers would buy products with certified sustainable palm oil at a higher price than product with normal palm oil.

Question 16 : IF YES, HOW MUCH MORE WOULD YOU BE WILLING TO PAY ?

Possible answers : ☐ Less than 5% ☐ 5% to 9% ☐ 10% to 19% ☐ 20% to 29% ☐ 30% to 50% ☐ More than 50%

The aim of this question is to identify how much monetary value respondents would be willing to pay as a premium for a product with certified sustainable palm oil.

Question 17 : WHICH OF THE FOLLOWING SOLUTION TO REDUCE THE IMPACT OF PALM OIL ON CLIMATE CHANGE WOULD BE THE BEST IN YOUR OPINION?

Possible answers :

- ☐ Products with palm oil at a lower price
- ☐ Products without palm oil with a premium
- ☐ Products with certified sustainable palm oil with a premium

The aim of this question is to identify which of the 3 possible solutions would respondents prefer buying.

Question 18 : DO YOU THINK THAT SWISS SUPERMARKETS SHOULD AIM TO SELL PRODUCTS CONTAINING 100% CERTIFIED SUSTAINABLE PALM OIL?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to determine if the consumers think that Swiss supermarkets should sell only certified sustainable palm oil or not.

Question 19 : DO YOU THINK THAT THE CONSUMPTION CHOICES THAT YOU MAKE IMPACTS THE PRODUCERS IN SWITZERLAND?

Possible answers : ☐ Yes ☐ No ☐ No opinion

The aim of this question is to identify if the consumers think that they have power over producers with their consumption choices.

Section 4 : Profile

These following questions will be used to compare the difference of knowledge / perception / habits according to the different characteristics.

Question 20 : IN WHICH SHOP(S) DO YOU USUALLY GO FOR YOUR GROCERIES ?

Possible answers :

- | | | |
|---------------------------------|---------------------------------|--|
| <input type="checkbox"/> Migros | <input type="checkbox"/> Globus | <input type="checkbox"/> Lidl |
| <input type="checkbox"/> Coop | <input type="checkbox"/> Aldi | <input type="checkbox"/> Local shops |
| <input type="checkbox"/> Manor | <input type="checkbox"/> Denner | <input type="checkbox"/> Other : _____ |

Question 21 : WHAT IS YOUR HIGHEST LEVEL OF EDUCATION ?

Possible answers :

- | | | |
|---|---|--|
| <input type="checkbox"/> Obligatory school | <input type="checkbox"/> Superior school / ES | <input type="checkbox"/> Doctoral degree |
| <input type="checkbox"/> Apprenticeship | <input type="checkbox"/> Bachelor degree | <input type="checkbox"/> Other : _____ |
| <input type="checkbox"/> Maturité / Collège | <input type="checkbox"/> Master degree | |

Question 22 : WHAT IS YOUR AGE ?

Possible answers :

- | | | |
|--|--|--|
| <input type="checkbox"/> - 20 years old | <input type="checkbox"/> 31 – 40 years old | <input type="checkbox"/> 51 – 60 years old |
| <input type="checkbox"/> 21 – 30 years old | <input type="checkbox"/> 41 – 50 years old | <input type="checkbox"/> + 60 years old |

Question 23 : WHAT IS YOUR GENDER ?

Possible answers : ☐ Male ☐ Female

Question 24 : IN WHICH CANTON DO YOU LIVE ?

Possible answers :

- | | | |
|----------------------------------|---|------------------------------------|
| <input type="checkbox"/> Zurich | <input type="checkbox"/> Fribourg | <input type="checkbox"/> Grisons |
| <input type="checkbox"/> Berne | <input type="checkbox"/> Soleure | <input type="checkbox"/> Argovie |
| <input type="checkbox"/> Lucerne | <input type="checkbox"/> Bâle-Ville | <input type="checkbox"/> Thurgovie |
| <input type="checkbox"/> Uri | <input type="checkbox"/> Bâle-Campagne | <input type="checkbox"/> Tessin |
| <input type="checkbox"/> Schwytz | <input type="checkbox"/> Schaffhouse | <input type="checkbox"/> Vaud |
| <input type="checkbox"/> Obwald | <input type="checkbox"/> Appenzell Rhodes-Extérieures | <input type="checkbox"/> Valais |
| <input type="checkbox"/> Nidwald | <input type="checkbox"/> Appenzell Rhodes-Intérieures | <input type="checkbox"/> Neuchâtel |
| <input type="checkbox"/> Glaris | | <input type="checkbox"/> Genève |
| <input type="checkbox"/> Zoug | <input type="checkbox"/> Saint Gall | <input type="checkbox"/> Jura |

Appendix 2: Respondents' profile

Table 5: Profile of survey's respondents

Profile type	Categories	Number of respondents	% of respondents
Shops	Migros	223	34%
	Coop	201	31%
	Manor	29	4%
	Globus	2	0%
	Aldi	33	5%
	Denner	62	9%
	Lidl	38	6%
	Local shops	52	8%
	Markets	5	1%
	France	14	2%
	Other	2	0%
Education level	Obligatory education	124	48%
	Higher education	133	52%
Age	Less than 20 yo	21	8%
	21-30 yo	140	55%
	31-40 yo	21	8%
	41-50 yo	18	7%
	51-60 yo	43	17%
	More than 60 yo	14	5%
Gender	Women	178	69%
	Men	79	31%
Canton of living	Geneva	179	70%
	Other cantons	78	30%

Appendix 3: Contingency tables results

Table 6: Contingency summary table for palm oil consumption

	Knowledge												Demographics			Perceptions			
	Climate	Deforestation	Agricultural yield	Indigenous rights	Certificates of sustainability existence	Healthiness	Producers poverty	Identification of certificates of sustainability	Identification of derivatives	Identification of product families	Reading of ingredients list	Consciously buying	Education	Age	Gender	Importance of issues related to palm oil	Groceries without palm oil in Switzerland	Supermarkets sell only certified sustainable palm oil	Consumer choices impact Swiss manufacturers
Consumption of palm oil	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	Yes	No	No
Amount of consumed palm oil	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No

Table 7: Contingency summary table for solution choice

	Knowledge												Demographics			Perceptions			
	Climate	Deforestation	Agricultural yield	Indigenous rights	Certificates of sustainability existence	Healthiness	Producers poverty	Identification of certificates of sustainability	Identification of derivatives	Identification of product families	Reading of ingredients list	Consciously buying	Education	Age	Gender	Importance of issues related to palm oil	Groceries without palm oil in Switzerland	Supermarkets sell only certified sustainable palm oil	Consumer choices impact Swiss manufacturers
Substitutes without palm oil	No	Yes	No	No	No	Yes	No	No	No	No	No	No	No	No	No	Yes	No	No	No
Substitutes with certified sustainable palm oil	No	No	No	No	No	Yes	No	Yes	Yes	No	No	No	Yes	Yes	No	No	No	Yes	Yes
Solution palm oil at a low price	No	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	Yes	No	Yes	No
Solution without palm oil at a higher price	Yes	Yes	No	No	No	Yes	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No
Solution certified sustainable palm oil at a higher price	Yes	Yes	No	No	No	Yes	No	No	No	No	No	No	Yes	No	Yes	No	Yes	No	No

Table 8: Contingency summary table for premium

	Knowledge												Demographics			Perceptions			
	Climate	Deforestation	Agricultural yield	Indigenous rights violation	Certificates of sustainability existence	Healthiness	Producers poverty	Identification of certificates of sustainability	Identification of derivatives	Identification of product families	Reading of ingredients list	Consciously buying	Education	Age	Gender	Importance of issues related to palm oil	Groceries without palm oil in Switzerland	Supermarkets sell only certified sustainable palm oil	Consumer choices impact Swiss manufacturers
Higher price for substitutes without palm oil	Yes	No	No	Yes	No	Yes	No	No	No	No	Yes	No	No	No	Yes	Yes	No	Yes	No
Amount higher for substitutes without palm oil	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No
Higher price for substitutes with certified sustainable palm oil	No	No	No	No	No	Yes	No	No	No	No	No	Yes	Yes	Yes	No	No	No	Yes	No
Amount higher for substitutes with certified sustainable palm oil	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No

Appendix 4: Regression results

Table 9: Regressions for consumption of palm oil

Consumption of palm oil	Knowledge																							R-squared of model	
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certified sustainable palm oil existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list		Consciously buying		
Model identification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01557	*	0.00454	-	-0.00331	-	-0.04565	***	0.03176	-	0.0414
Model knowledge if no knowledge of deforestation	-0.18589	-	-0.1934	-	-0.224	-	0.28252	*	0.17625	-	-0.01427	-	-0.00234	-	-	-	-	-	-	-	-	-	-	-	0.6477
Model knowledge if knowledge of healthiness	-0.24206	*	0.09583	-	-0.07424	-	0.0979	-	0.23842	**	-0.23189	-	-0.1317	-	-	-	-	-	-	-	-	-	-	-	0.4466
Model knowledge if identification of certificates of sustainability	-0.01689	-	0.00595	-	-0.08163	**	0.03953	-	0.02319	-	0.059	-	0.04432	-	-	-	-	-	-	-	-	-	-	-	0.3607
Model knowledge if identification of derivatives	0.09321	-	-0.02544	-	0.00903	-	-0.01905	-	-0.09138	**	0.16372	**	0.04959	-	-	-	-	-	-	-	-	-	-	-	0.2916
Model knowledge if no reading of ingredients lists	-0.09349	-	0.09915	-	-0.00901	-	0.03334	-	0.07195	*	-0.07195	-	-0.04188	-	-	-	-	-	-	-	-	-	-	-	0.1205
Model knowledge if consciously buying	0.07216	-	-0.0315	-	0.03642	-	0.01745	-	0.02143	-	0.06689	-	-0.15097	*	-	-	-	-	-	-	-	-	-	-	0.129

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

= Regressions on resp. with a high level of knowledge

= Regressions on resp. with a low level of knowledge

Table 10: Regressions for consumption of palm oil

Consumption of palm oil	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model perceptions	-	-	-	-	-	-	-0.05923	-	0.14062	**	0.08057	-	-0.08203	-	0.0315
Model demographics & perceptions if knowledge of climate	-0.02094	-	-0.00977	-	0.01282	-	-0.06746	-	0.1705	**	0.178	*	-0.15435	-	0.0655
Model demographics & perceptions if knowledge of deforestation	-0.01939	-	-0.00671	-	0.09013	-	-0.10155	-	0.12645	**	0.07299	-	-0.06854	-	0.0404
Model demographics & perceptions if no knowledge of deforestation	-0.36318	***	0.02113	-	0.88701	***	0.05937	-	1.0076	***	0.07302	-	-0.16131	-	0.9569
Model demographics & perceptions if knowledge of indigenous rights	-0.04265	-	-0.03917	-	0.2232	-	-0.16131	-	0.21643	-	0.2239	-	-0.34065	**	0.2912
Model demographics & perceptions if no knowledge of indigenous rights	-0.03628	-	-0.01065	-	0.0782	-	-0.05217	-	0.13301	*	0.0735	-	0.02466	-	0.041
Model demographics & perceptions if knowledge of certificates of sustainability	-0.03999	-	0.0099	-	-0.01054	-	-0.00601	-	0.21792	**	0.18434	-	-0.19657	-	0.0908
Model demographics & perceptions if no knowledge of certificates of sustainability	-0.01394	-	-0.05772	*	0.24177	**	-0.10906	-	0.04603	-	0.01148	-	0.00035	-	0.1257
Model demographics & perceptions if knowledge of healthiness	-0.0597	-	-0.06365	-	0.3041	**	-0.1881	**	0.11984	-	0.17739	-	-0.15565	-	0.24
Model demographics & perceptions if no knowledge of healthiness	-0.01814	-	-0.00093	-	0.01967	-	-0.03718	-	0.15966	*	0.08284	-	-0.11972	-	0.038
Model demographics & perceptions if knowledge of producers poverty	-0.07221	*	-0.06465	*	-0.0809	-	-0.03041	-	-0.12261	-	0.1293	-	-0.21226	-	0.1628
Model demographics & perceptions if no knowledge of producers poverty	-0.0054	-	0.01389	-	0.19003	**	-0.16697	*	0.22406	***	0.17775	-	-0.00552	-	0.1163
Model demographics & perceptions if no identification of certificates of sustainability	-0.03641	-	-0.02101	-	0.11497	-	-0.0811	-	0.17586	**	0.12879	-	-0.09968	-	0.0729
Model demographics & perceptions if no identification of derivatives	-0.02166	-	-0.04152	-	0.10585	-	-0.08598	-	0.14132	*	0.13258	-	-0.13839	-	0.0793
Model demographics & perceptions if identification of product families	-0.05737	-	-0.0607	-	0.40037	**	-0.40979	**	0.21307	-	0.09027	-	-0.22242	-	0.2946
Model demographics & perceptions if reading of ingredients lists	-0.03504	-	0.03152	-	0.01717	-	-0.0031	-	0.24698	**	0.08091	-	-0.12494	-	0.0617
Model demographics & perceptions if no reading of ingredients lists	-0.01813	-	-0.0586	*	0.10384	-	-0.04632	-	0.10372	-	0.10669	-	-0.06719	-	0.1245
Model demographics & perceptions if consciously buying	-0.06094	-	-0.06807	*	0.03259	-	-0.09182	-	0.30435	***	0.14193	-	-0.04237	-	0.1897

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

= Regressions on resp. with a high level of knowledge

= Regressions on resp. with a low level of knowledge

Table 11: Regressions for amount of consumption of palm oil

Amount of consumption of palm oil	Knowledge																							R-squared of model	
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list		Consciously buying		
Model identification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00129	-	0.00207	-	0.011	-	-0.20314	***	0.37301	-	0.0358
Model knowledge	0.19548	-	-0.24667	-	0.14008	-	-0.01366	-	-0.11413	-	0.34613	*	-0.15553	-	-	-	-	-	-	-	-	-	-	-	0.0462
Model knowledge if no knowledge of deforestation	0.71175	-	-1.93665	-	-0.91816	-	1.11739	-	0.35755	-	1.35419	*	-0.05053	-	-	-	-	-	-	-	-	-	-	-	0.4981
Model knowledge if no knowledge of agricultural yield	0.52438	*	-0.49522	*	0.04058	-	0.1262	-	-0.18867	-	0.39167	*	-0.25733	-	-	-	-	-	-	-	-	-	-	-	0.1066
Model knowledge if knowledge of certificates of sustainability	-0.0681	-	0.3188	-	0.5303	**	-0.62984	*	0.25265	-	0.49732	-	0.2302	-	-	-	-	-	-	-	-	-	-	-	0.1939
Model knowledge if knowledge of certificates of sustainability	0.33449	-	-0.34346	-	-0.12905	-	0.28582	-	0.06242	-	0.45	*	-0.49134	-	-	-	-	-	-	-	-	-	-	-	0.0928
Model knowledge if knowledge of healthiness	-1.00725	-	0.2728	-	-0.52578	-	1.15722	**	0.18693	-	1.97477	-	-0.54748	-	-	-	-	-	-	-	-	-	-	-	0.3683
Model knowledge if identification of derivatives	0.42383	-	-0.19685	-	0.23442	-	-0.35306	-	-0.24447	-	0.6238	**	0.32511	-	-	-	-	-	-	-	-	-	-	-	0.239
Model knowledge if identification of product families	0.28492	-	-0.7017	-	-0.1023	-	-0.49107	-	0.10923	-	0.73764	*	0.32719	-	-	-	-	-	-	-	-	-	-	-	0.2172
Model knowledge if reading of ingredients lists	0.20451	-	-0.54078	*	0.15002	-	-0.1897	-	-0.13846	-	0.33866	-	0.20572	-	-	-	-	-	-	-	-	-	-	-	0.1533

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge

Table 12: Regressions for amount of consumption of palm oil

Amount of consumption of palm oil	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model perceptions	-	-	-	-	-	-	-0.42135	*	0.546937	*	0.176125	-	-0.34482	-	0.0338
Model demographics & perceptions if knowledge of climate	0.078022	-	-0.00709	-	0.1034	-	-0.63997	*	0.568246	-	0.290817	-	-0.71443	*	0.055
Model demographics & perceptions if no knowledge of climate	-0.27539	-	0.207053	-	1.668078	**	-0.38096	-	0.602778	-	-0.05897	-	1.105949	-	0.355
Model demographics & perceptions if no knowledge of deforestation	-1.2901	***	0.177741	-	3.270886	***	-0.68388	-	4.688057	***	-0.09514	-	0.514649	-	0.9641
Model demographics & perceptions if no knowledge of agricultural yield	0.119051	-	0.06178	-	0.383661	-	-1.10503	**	0.416982	-	0.233735	-	-0.50065	-	0.1211
Model demographics & perceptions if no knowledge of indigenous rights	-0.00581	-	0.034749	-	0.350996	-	-0.6543	*	0.561147	*	0.009294	-	-0.0687	-	0.0433
Model demographics & perceptions if knowledge of healthiness	0.017637	-	-0.15934	-	1.590645	**	-0.65363	-	0.697846	-	0.21275	-	1.275579	*	0.2066
Model demographics & perceptions if knowledge of producers poverty	-0.31579	*	-0.3272	**	0.405305	-	-0.41196	-	0.236536	-	1.163133	*	-1.13542	*	0.1864
Model demographics & perceptions if no knowledge of producers poverty	0.17435	-	0.166508	-	0.425667	-	-0.71859	*	0.668075	*	0.072259	-	-0.18609	-	0.0859
Model demographics & perceptions if no identification of certificates of sustainability	0.041953	-	-0.01759	-	0.562848	-	-0.59256	*	0.461046	-	0.319212	-	-0.38172	-	0.058
Model demographics & perceptions if identification of derivatives	-0.18415	-	0.140638	-	0.905255	-	-0.22365	-	1.048239	*	-0.89821	-	-0.22581	-	0.1418
Model demographics & perceptions if no identification of derivatives	0.005035	-	-0.02533	-	0.36656	-	-0.71057	*	0.469339	-	0.64974	-	-0.31473	-	0.0551
Model demographics & perceptions if identification of product families	-0.15851	-	-0.12663	-	0.917152	-	-2.17459	**	1.468415	**	0.65438	-	-1.06976	-	0.3124
Model demographics & perceptions if consciously buying	-0.07934	-	-0.11337	-	0.611183	-	-0.61671	-	1.14068	**	0.208536	-	-0.43345	-	0.1163

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge

Table 13: Regressions for substitute without palm oil

Substitute without palm oil	Knowledge																						R-squared of model	
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list			Consciously buying
Model knowledge	-0.01051	-	0.10586	***	-0.01344	-	0.02223	-	0.01719	-	-0.02318	-	-0.01694	-	-	-	-	-	-	-	-	-	-	0.1988
Model knowledge if knowledge of climate	-0.0345	-	0.09332	***	-0.00639	-	0.00486	-	0.01465	-	0.0005	-	-0.00485	-	-	-	-	-	-	-	-	-	-	0.1722
Model knowledge if knowledge of deforestation	-0.00776	-	-0.01441	-	-0.00992	-	0.00528	-	0.01979	**	-0.00801	-	-0.00752	-	-	-	-	-	-	-	-	-	-	0.0659
Model knowledge if knowledge of agricultural yield	-0.02155	-	-0.0335	-	0.02427	-	0.00059	-	0.07363	**	0.00219	-	-0.03963	-	-	-	-	-	-	-	-	-	-	0.2116
Model knowledge if no knowledge of agricultural yield	-0.01959	-	0.12575	***	4.8E-05	-	0.02047	-	-0.00262	-	-0.02484	-	-0.02373	-	-	-	-	-	-	-	-	-	-	0.2644
Model knowledge if no knowledge of indigenous rights	-0.01149	-	0.10791	***	-0.01298	-	0.014	-	0.01729	-	-0.02306	-	-0.02036	-	-	-	-	-	-	-	-	-	-	0.2045
Model knowledge if no knowledge of certificates of sustainability	-0.03918	-	0.13764	***	-0.02417	-	0.03056	-	0.01304	-	-0.03565	-	-0.03265	-	-	-	-	-	-	-	-	-	-	0.2351
Model knowledge if no knowledge of healthiness	-0.01149	-	0.10346	***	-0.00901	-	0.0039	-	0.01311	-	-0.006	-	0.00151	-	-	-	-	-	-	-	-	-	-	0.1744
Model knowledge if knowledge of producers poverty	0.06583	-	0.18741	*	-0.03148	-	0.08235	-	-0.0265	-	-0.03672	-	0.01127	-	-	-	-	-	-	-	-	-	-	0.5793
Model knowledge if no knowledge of producers poverty	-0.02462	-	0.09944	***	-0.01013	-	-0.00168	-	0.01339	-	-0.01564	-	-0.0093	-	-	-	-	-	-	-	-	-	-	0.1675
Model knowledge if identification of certificates of sustainability	-0.04093	-	-0.00423	-	-0.04886	-	0.02479	-	0.05414	*	-0.02025	-	-0.01587	-	-	-	-	-	-	-	-	-	-	0.233
Model knowledge if no identification of certificates of sustainability	0.02635	-	0.15228	***	0.00016	-	0.03792	*	0.00537	-	-0.04562	*	-0.00073	-	-	-	-	-	-	-	-	-	-	0.4075
Model knowledge if no identification of derivatives	-0.00156	-	0.15763	***	-0.0252	-	0.04409	-	0.03427	-	-0.0647	-	0.00152	-	-	-	-	-	-	-	-	-	-	0.3227
Model knowledge if identification of product families	0.05613	-	0.10915	*	-0.00255	-	-0.00978	-	0.00618	-	-0.055	-	0.03657	-	-	-	-	-	-	-	-	-	-	0.3971
Model knowledge if no identification of product families	-0.02681	-	0.11479	***	-0.01667	-	0.02746	-	0.02312	-	0.00058	-	-0.03622	-	-	-	-	-	-	-	-	-	-	0.207
Model knowledge if reading of ingredients lists	-0.02483	-	0.11203	***	-0.00065	-	0.01154	-	-0.01808	-	0.0029	-	-0.00199	-	-	-	-	-	-	-	-	-	-	0.2656
Model knowledge if no reading of ingredients lists	-0.04257	-	0.16604	**	-0.03548	-	0.04787	-	0.10616	***	-0.09132	*	-0.02612	-	-	-	-	-	-	-	-	-	-	0.374
Model knowledge if consciously buying	0.00555	-	-0.00538	-	-0.03683	-	0.08266	**	0.06925	**	-0.07273	*	-0.05764	-	-	-	-	-	-	-	-	-	-	0.2832
Model knowledge if not consciously buying	0.00815	-	0.13892	***	0.00945	-	-0.00023	-	-0.00298	-	-0.0287	-	0.02082	-	-	-	-	-	-	-	-	-	-	0.3541

* = p < 0.1

** = p < 0.05

*** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge

Table 14: Regressions for substitute without palm oil

Substitute without palm oil	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model perceptions	-	-	-	-	-	-	0.14423	***	-0.00268	-	0.04507	-	-0.0151	-	0.1282
Model demographics & perceptions if knowledge of climate	0.00562	-	0.01207	-	-0.02659	-	0.08762	***	0.03366	-	0.02952	-	-0.03936	-	0.0828
Model demographics & perceptions if no knowledge of climate	-0.04822	-	-0.01647	-	0.01053	-	0.24852	**	-0.13212	-	0.15059	-	0.11337	-	0.5727
Model demographics & perceptions if knowledge of deforestation	0.00561	-	0.00875	-	-0.01737	-	0.0902	***	0.03668	-	0.04381	-	-0.03732	-	0.1171
Model demographics & perceptions if no knowledge of agricultural yield	-0.0227	-	-0.00824	-	-0.05189	-	0.23669	***	-0.03276	-	0.12378	-	-0.02791	-	0.2645
Model demographics & perceptions if no knowledge of indigenous rights	-0.00699	-	-0.00787	-	-0.01003	-	0.16536	***	-0.0113	-	0.03774	-	0.00443	-	0.1488
Model demographics & perceptions if no knowledge of certificates of sustainability	-0.01566	-	-0.01223	-	0.04298	-	0.21256	***	0.00962	-	0.15014	*	-0.0607	-	0.2722
Model demographics & perceptions if knowledge of healthiness	-0.00775	-	-0.02809	-	-0.05897	-	0.35068	***	0.04114	-	0.13106	-	-0.05359	-	0.6403
Model demographics & perceptions if knowledge of producers poverty	-0.01666	-	-0.02024	*	0.04343	-	0.04488	-	-0.05005	-	-0.04873	-	0.11835	**	0.276
Model demographics & perceptions if no knowledge of producers poverty	0.00397	-	0.00671	-	-0.02937	-	0.18421	***	-0.00146	-	0.05503	-	-0.06661	-	0.1874
Model demographics & perceptions if identification of certificates of sustainability	0.02849	-	-0.00059	-	-0.22673	-	0.20569	***	0.1135	*	0.17606	*	-0.13719	-	0.4876
Model demographics & perceptions if no identification of certificates of sustainability	-0.02332	**	-0.01972	*	-0.014	-	0.0892	**	-0.0535	-	0.01932	-	0.01202	-	0.1196
Model demographics & perceptions if identification of derivatives	0.00929	-	0.02393	-	-0.06429	-	0.12885	**	0.04108	-	0.08132	-	-0.07919	-	0.2045
Model demographics & perceptions if no identification of derivatives	-0.01133	-	-0.01948	*	-0.0057	-	0.15044	***	-0.02085	-	0.01617	-	-0.00671	-	0.1561
Model demographics & perceptions if identification of product families	-0.01596	-	0.00331	-	-0.08465	-	0.25655	***	-0.02689	-	0.11281	-	-0.09963	-	0.3383
Model demographics & perceptions if no identification of product families	0.00034	-	-0.00073	-	0.00666	-	0.11485	***	0.01251	-	0.02107	-	0.00198	-	0.099
Model demographics & perceptions if reading of ingredients lists	-0.01037	-	0.00022	-	-0.05304	-	0.13858	***	-0.02775	-	0.04107	-	-0.02576	-	0.1271
Model demographics & perceptions if no reading of ingredients lists	0.00265	-	-0.01034	-	0.02262	-	0.15016	***	0.04049	-	0.03708	-	-0.00934	-	0.1949
Model demographics & perceptions if consciously buying	0.02301	-	-0.01753	-	0.05352	-	0.23274	***	0.05644	-	0.02181	-	0.05364	-	0.3437
Model demographics & perceptions if not consciously buying	-0.01424	-	-0.00297	-	-0.06134	*	0.10882	***	-0.39824	-	0.07792	-	-0.0358	-	0.1264

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

= Regressions on resp. with a high level of knowledge

= Regressions on resp. with a low level of knowledge

Table 15: Regressions for substitute with CSPO

Substitute with certified sustainable palm oil	Knowledge																									
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list		Consciously buying		R-squared of model	
Model identification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03687	***	-0.01605	-	-0.00716	-	-	-0.04009	*	0.10036		-
Model knowledge	-0.10795	*	0.07004	-	0.00956	-	-0.08258	*	0.00827	-	0.1579	***	-0.14595	-	-	-	-	-	-	-	-	-	-	-	-	0.1524
Model knowledge if knowledge of climate	-0.0655	-	0.06905	-	-0.00234	-	-0.77207	-	0.00089	-	0.18662	***	-0.20132	-	-	-	-	-	-	-	-	-	-	-	-	0.1501
Model knowledge if no knowledge of climate	-0.22658	-	-0.10173	-	0.01078	-	-0.23525	*	0.21347	-	-0.26821	-	0.24755	-	-	-	-	-	-	-	-	-	-	-	-	0.4109
Model knowledge if knowledge of deforestation	-0.10424	-	0.09937	-	0.01899	-	-0.07706	-	0.00267	-	0.16721	***	-0.02642	-	-	-	-	-	-	-	-	-	-	-	-	0.1425
Model knowledge if no knowledge of deforestation	-0.75775	*	-1.29521	-	-0.07677	-	0.16565	-	0.74912	**	0.0951	-	1.24703	**	-	-	-	-	-	-	-	-	-	-	-	0.8806
Model knowledge if knowledge of agricultural yield	-0.13536	*	0.31868	**	-0.31313	**	-0.03314	-	-0.0915	-	0.17965	**	-0.04496	-	-	-	-	-	-	-	-	-	-	-	-	0.4399
Model knowledge if no knowledge of agricultural yield	-0.04117	-	-0.0033	-	-0.05194	-	-0.07387	-	0.06275	-	0.16312	***	0.0292	-	-	-	-	-	-	-	-	-	-	-	-	0.1799
Model knowledge if no knowledge of indigenous rights	-0.12317	**	0.04891	-	0.00725	-	-0.10949	-	0.02117	-	0.15817	***	0.00434	-	-	-	-	-	-	-	-	-	-	-	-	0.1861
Model knowledge if knowledge of certificates of sustainability	-0.1077	-	0.1023	-	-0.03354	-	-0.07388	-	0.04695	-	0.14619	*	-0.02703	-	-	-	-	-	-	-	-	-	-	-	-	0.1355
Model knowledge if no knowledge of certificates of sustainability	-0.08539	-	0.04785	-	0.52638	-	-0.07383	-	0.00057	-	0.15859	**	0.01088	-	-	-	-	-	-	-	-	-	-	-	-	0.1981
Model knowledge if knowledge of healthness	-0.01414	-	0.10545	-	0.03181	-	-0.07474	-	-0.29783	*	0.32963	-	0.1294	-	-	-	-	-	-	-	-	-	-	-	-	0.4433
Model knowledge if no knowledge of healthness	-0.11931	*	0.07374	-	0.00746	-	-0.05056	-	0.02376	-	0.19068	***	-0.01676	-	-	-	-	-	-	-	-	-	-	-	-	0.1582
Model knowledge if no knowledge of producers poverty	-0.1318	**	0.79421	-	0.01952	-	-0.0664	-	0.02363	-	0.16891	***	-0.04912	-	-	-	-	-	-	-	-	-	-	-	-	0.1905
Model knowledge if no identification of certificates of sustainability	-0.10731	-	0.06087	-	0.34827	-	-0.11275	**	-0.02901	-	0.23396	***	-0.06429	-	-	-	-	-	-	-	-	-	-	-	-	0.2266
Model knowledge if identification of derivatives	-0.21846	**	0.17851	*	0.03061	-	-0.07362	-	-0.02084	-	0.23984	***	-0.05473	-	-	-	-	-	-	-	-	-	-	-	-	0.3868
Model knowledge if no identification of derivatives	-0.04952	-	0.0498	-	-0.01231	-	-0.11249	*	0.06481	-	0.12196	*	0.02187	-	-	-	-	-	-	-	-	-	-	-	-	0.1124
Model knowledge if identification of product families	-0.24972	*	0.14367	-	0.0038	-	-0.08072	-	0.08353	-	0.1326	-	-0.01573	-	-	-	-	-	-	-	-	-	-	-	-	0.3131
Model knowledge if no identification of product families	-0.06705	-	0.04634	-	0.0071	-	-0.07147	-	-0.00659	-	0.15836	***	1.1E-05	-	-	-	-	-	-	-	-	-	-	-	-	0.1243
Model knowledge if reading of ingredients list	-0.16446	**	0.00553	-	0.00977	-	-0.17701	**	0.0069	-	0.19384	***	0.02524	-	-	-	-	-	-	-	-	-	-	-	-	0.2525
Model knowledge if no reading of ingredients list	-0.10143	-	0.28056	***	0.02073	-	-0.06066	-	0.04324	-	0.01824	-	0.0532	-	-	-	-	-	-	-	-	-	-	-	-	0.248
Model knowledge if consciously buying	0.05375	-	-0.06074	-	0.0259	-	-0.01897	-	0.08326	*	0.27033	***	-0.0998	-	-	-	-	-	-	-	-	-	-	-	-	0.492
Model knowledge if not consciously buying	-0.13713	-	0.08887	-	0.02929	-	-0.11422	*	0.00551	-	0.10536	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	0.1248

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

■ = Regressions on resp. with a high level of knowledge

■ = Regressions on resp. with a low level of knowledge

Table 16: Regressions for substitute with CSPO

Substitute with certified sustainable palm oil	Demographics						Perceptions							R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers	
Model demographic	0.0772	***	0.02561	-	0.03917	-	-	-	-	-	-	-	-	0.0497
Model perceptions	-	-	-	-	-	-	-0.15915	**	0.11002	-	0.4939	***	0.1192	0.1957
Model demographics & perceptions if knowledge of climate	0.04276	-	0.0066	-	0.0399	-	-0.06078	-	0.08867	-	0.53359	***	0.04115	0.2036
Model demographics & perceptions if no knowledge of climate	0.09788	-	0.11047	*	0.47789	**	-0.37272	**	-0.14177	-	0.55436	**	0.38212	* 0.6332
Model demographics & perceptions if knowledge of deforestation	0.04546	*	0.02262	-	0.13149	-	-0.19571	**	0.05646	-	0.49172	***	0.09647	0.1894
Model demographics & perceptions if no knowledge of deforestation	-0.00662	-	0.08644	-	0.08166	-	-0.0205	-	0.77038	**	0.30443	-	0.34424	0.9367
Model demographics & perceptions if knowledge of agricultural yield	0.07437	*	0.04437	-	0.11197	-	-0.19524	*	0.08853	-	0.42483	***	0.07357	0.2318
Model demographics & perceptions if no knowledge of deforestation	-0.0026	-	-0.00751	-	0.10574	-	-0.20965	*	0.16739	-	0.6271	***	0.13616	0.2618
Model demographics & perceptions if no knowledge of indigenous rights	0.46316	-	0.0215	-	0.09334	-	-0.16199	*	0.13995	*	0.54333	***	0.10148	0.2573
Model demographics & perceptions if knowledge of certificates of sustainability	0.05219	-	0.04556	-	0.06239	-	-0.10648	-	0.11026	-	0.38948	***	0.23555	0.2217
Model demographics & perceptions if no knowledge of certificates of sustainability	0.27213	-	-0.01538	-	0.20747	*	-0.22994	**	0.11762	-	0.66097	***	0.03553	0.2671
Model demographics & perceptions if knowledge of healthiness	0.14645	***	0.04282	-	0.12565	-	-0.17779	-	0.21988	-	0.26136	-	0.07096	0.4441
Model demographics & perceptions if no knowledge of healthiness	-0.00465	-	-3.4E-05	-	0.127	-	-0.13717	-	0.03909	-	0.5748	***	0.23241	** 0.2352
Model demographics & perceptions if knowledge of producers poverty	0.07009	-	0.0359	-	-0.12087	-	-0.13546	-	-0.11049	-	0.36471	*	0.19694	0.3025
Model demographics & perceptions if no knowledge of producers poverty	0.03552	-	0.01055	-	0.22269	**	-0.20335	**	0.15539	*	0.5692	***	0.0898	0.2395
Model demographics & perceptions if identification of certificates of sustainability	0.0874	*	-0.04952	-	-0.05413	-	0.05013	-	0.08827	-	0.11793	-	0.3366	0.2638
Model demographics & perceptions if no identification of certificates of sustainability	0.04109	-	0.04476	-	0.19348	**	-0.23656	**	0.95406	-	0.58205	***	0.09816	0.2602
Model demographics & perceptions if identification of derivatives	-0.04613	-	0.03247	-	0.07073	-	-0.12063	-	0.25083	-	0.31757	*	-0.14376	0.1327
Model demographics & perceptions if no identification of derivatives	0.06186	**	0.02322	-	0.12295	-	-0.1464	-	0.08206	-	0.5713	***	0.20849	** 0.3427
Model demographics & perceptions if identification of product families	0.04428	-	-0.14564	-	0.22593	-	-0.47121	*	0.02444	-	0.38707	-	-0.22734	0.1748
Model demographics & perceptions if no identification of product families	0.04168	-	0.03021	-	0.1132	-	-0.08998	-	0.08428	-	0.58367	***	0.22556	** 0.3306
Model demographics & perceptions if reading of ingredients list	0.01752	-	0.00664	-	0.1911	*	-0.18285	-	0.02614	-	0.4188	***	0.18829	0.1703
Model demographics & perceptions if no reading of ingredients list	0.0728	**	0.05357	-	0.05193	-	-0.13078	-	0.14879	-	0.56704	***	0.10249	0.3586
Model demographics & perceptions if consciously buying	-0.01858	-	0.0836	**	0.07767	-	-0.25801	**	0.13036	-	0.60797	***	0.47102	*** 0.389
Model demographics & perceptions if not consciously buying	0.07146	*	-0.00062	-	0.13532	-	-0.11406	-	0.07528	-	0.51454	***	0.12484	0.2323

* = p < 0.1

** = p < 0.05

*** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge


Table 17: Regressions for solution palm oil at a low price

Solution palm oil at a low price	Knowledge																								R-squared of model
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list		Consciously buying		
Model identification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.00264	-	0.00761	-	-0.00657	-	-0.00535	-	0.05178	*	0.0302
Model knowledge if knowledge of climate	0.03672	-	-0.02348	-	0.03536	*	-0.42361	-	0.01617	-	0.03409	-	0.00797	-	-	-	-	-	-	-	-	-	-	-	0.0719
Model knowledge if no knowledge of climate	-0.20619	-	-0.07609	-	-0.09589	-	-0.10483	-	0.11293	-	-0.11104	-	0.36236	**	-	-	-	-	-	-	-	-	-	-	0.3342
Model knowledge if no knowledge of deforestation	-0.37568	*	-0.71699	*	0.26635	-	0.20646	-	0.2182	-	-0.09084	-	0.50599	**	-	-	-	-	-	-	-	-	-	-	0.5644
Model knowledge if knowledge of agricultural yield	0.02455	-	-0.14124	-	0.14017	-	-0.0797	-	-0.0036	-	-0.06151	-	0.13543	*	-	-	-	-	-	-	-	-	-	-	0.154
Model knowledge if knowledge of healthiness	-0.19186	-	0.0977	-	-0.07863	-	-0.01755	-	0.05588	-	0.4027	*	0.17241	-	-	-	-	-	-	-	-	-	-	-	0.458
Model knowledge if no knowledge of healthiness	-0.00107	-	-0.08914	-	0.04392	*	-0.01485	-	-0.00237	-	-0.02518	-	0.02665	-	-	-	-	-	-	-	-	-	-	-	0.0671
Model knowledge if knowledge of producers poverty	-0.10144	-	-0.16674	-	-0.0228	-	-0.02338	-	0.05525	-	0.00789	-	0.41803	**	-	-	-	-	-	-	-	-	-	-	0.5172
Model knowledge if identification of derivatives	-0.00882	-	-0.00117	-	0.02803	-	-0.04354	-	0.02419	-	0.04938	-	0.09647	*	-	-	-	-	-	-	-	-	-	-	0.2263
Model knowledge if no identification of product families	0.0056	-	-0.04729	-	0.05133	**	-0.0115	-	0.00456	-	-0.03653	-	0.03777	-	-	-	-	-	-	-	-	-	-	-	0.0944
Model knowledge if reading of ingredients list	0.02057	-	-0.05905	-	0.05514	*	-0.06292	-	0.01254	-	-0.03788	-	0.06594	*	-	-	-	-	-	-	-	-	-	-	0.1153
Model knowledge if consciously buying	0.08363	-	-0.08396	-	0.11366	***	0.00121	-	-0.01012	-	-0.06904	-	-0.0364	-	-	-	-	-	-	-	-	-	-	-	0.3072
Model knowledge if not consciously buying	-0.06392	*	-0.01195	-	-0.00233	-	-0.00264	-	-0.02675	-	0.01226	-	0.04124	-	-	-	-	-	-	-	-	-	-	-	0.158

* = p < 0.1

** = p < 0.05

*** = p < 0.001

 = Regressions on resp. with a high level of knowledge


 = Regressions on resp. with a low level of knowledge

Table 18: Regressions for solution palm oil at a low price

Solution palm oil at a low price	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model perceptions	-	-	-	-	-	-	-0.06899	**	0.00833	-	-0.07823	-	0.02287	-	0.0414
Model demographics & perceptions if no knowledge of climate	-0.02074	-	-0.05495	*	-0.0031	-	-0.16779	**	-0.07487	-	-0.15539	-	0.11485	-	0.4744
Model demographics & perceptions if knowledge of deforestation	-0.0073	-	-0.01845	-	0.06862	-	-0.09489	**	-0.00309	-	-0.10341	*	0.01429	-	0.0796
Model demographics & perceptions if knowledge of agricultural yield	-0.00371	-	-0.01739	-	0.10491	*	-0.11459	**	0.03364	-	-0.08746	-	0.02519	-	0.1209
Model demographics & perceptions if knowledge of indigenous rights	-0.00363	-	-0.0353	-	0.16437	*	-0.24596	***	-0.19481	-	-0.16768	-	0.19464	**	0.6473
Model demographics & perceptions if knowledge of certificates of sustainability	-0.00092	-	-0.0136	-	0.07611	-	-0.11964	*	0.0421	-	-0.09534	-	-0.05431	-	0.0896
Model demographics & perceptions if no knowledge of certificates of sustainability	-0.02651	-	-0.02553	-	0.05174	-	-0.08067	*	-0.03092	-	0.00347	-	0.08573	-	0.1012
Model demographics & perceptions if knowledge of healthiness	-0.00374	-	-0.016	-	0.06588	-	-0.12926	*	0.11412	-	-0.05782	-	-0.12507	-	0.1952
Model demographics & perceptions if no knowledge of healthiness	-0.02134	-	-0.02407	-	0.09195	**	-0.02466	-	-0.0532	-	-0.07642	-	0.11403	*	0.0846
Model demographics & perceptions if knowledge of producers poverty	-0.02978	-	-0.01577	-	0.11031	-	-0.15017	***	-0.02191	-	0.00966	-	-0.026	-	0.1493
Model demographics & perceptions if no knowledge of producers poverty	-0.00415	-	-0.02535	-	0.0311	-	-0.02626	-	0.00882	-	-0.14277	**	0.00932	-	0.061
Model demographics & perceptions if no identification of certificates of sustainability	-0.00103	-	-0.01872	-	0.04381	-	-0.1082	***	-0.00031	-	-0.10291	*	0.00177	-	0.1046
Model demographics & perceptions if no identification of derivatives	-0.00911	-	-0.02272	-	0.08276	**	-0.04805	-	-0.02248	-	-0.02048	-	0.04776	-	0.0701
Model demographics & perceptions if identification of product families	-0.04113	-	-0.06112	*	0.05928	-	-0.09452	-	0.00481	-	-0.01119	-	-0.2889	**	0.1916
Model demographics & perceptions if no identification of product families	-0.00723	-	-0.00795	-	0.06984	-	-0.09085	**	-0.00379	-	-0.08901	-	0.08672	-	0.1023
Model demographics & perceptions if reading of ingredients list	-0.01239	-	-0.03822	**	0.10097	*	0.02153	-	-0.06832	-	-0.04046	-	0.0306	-	0.0885
Model demographics & perceptions if no reading of ingredients list	-0.00293	-	0.01242	-	0.0504	-	-0.13135	***	0.05056	-	-0.10687	-	0.05263	-	0.1545
Model demographics & perceptions if not consciously buying	-0.00541	-	-0.01938	*	0.03859	-	0.11137	***	-0.02575	-	-0.05407	-	0.04648	-	0.1706

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge

Table 19: Regressions for solution without palm oil with a premium

Solution without palm oil with a premium	Knowledge																								
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list		Consciously buying		R-squared of model
Model identification	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.00696	-	-0.02001	-	0.0123	-	0.01598	-	-0.09537	*	0.0433	
Model knowledge	0.13383	**	0.05113	-	-0.01254	-	0.02354	-	0.0125	-	-0.09971	**	0.0242	-	-	-	-	-	-	-	-	-	-	-	0.1667
Model knowledge if knowledge of deforestation	0.08556	-	0.08365	-	-0.01356	-	0.01262	-	0.02063	-	-0.08307	*	0.02897	-	-	-	-	-	-	-	-	-	-	-	0.0779
Model knowledge if no knowledge of deforestation	0.53269	**	-0.15564	-	-0.0676	-	0.18252	-	-0.20795	-	-0.00296	-	-0.15202	-	-	-	-	-	-	-	-	-	-	-	0.7032
Model knowledge if no knowledge of agricultural yield	0.18245	**	0.00894	-	0.026	-	-0.00201	-	0.02634	-	-0.12577	**	0.05691	-	-	-	-	-	-	-	-	-	-	-	0.2571
Model knowledge if knowledge of indigenous rights	0.35555	*	-0.06817	-	-0.03092	-	0.33095	-	-0.05572	-	-0.12747	-	0.24646	-	-	-	-	-	-	-	-	-	-	-	0.3902
Model knowledge if no knowledge of indigenous rights	0.10399	*	0.05458	-	-0.01215	-	-0.00321	-	0.01307	-	-0.10538	**	0.00465	-	-	-	-	-	-	-	-	-	-	-	0.1855
Model knowledge if no knowledge of certificates of sustainability	0.16199	**	0.00335	-	0.04714	-	0.03537	-	-0.05402	-	-0.13661	**	0.0684	-	-	-	-	-	-	-	-	-	-	-	0.2258
Model knowledge if knowledge of producers poverty	0.27701	**	0.21619	-	-0.02678	-	0.05984	-	-0.05613	-	-0.02597	-	-0.15737	-	-	-	-	-	-	-	-	-	-	-	0.5845
Model knowledge if no knowledge of producers poverty	0.0993	-	0.02287	-	-0.01017	-	-0.00775	-	0.0142	-	-0.10824	**	0.0081	-	-	-	-	-	-	-	-	-	-	-	0.1407
Model knowledge if no identification of certificates of sustainability	0.13003	**	0.05877	-	-0.0208	-	0.05758	-	0.05437	-	-0.11852	**	0.0014	-	-	-	-	-	-	-	-	-	-	-	0.1896
Model knowledge if no identification of derivatives	0.16019	**	0.06379	-	-0.01575	-	-0.00138	-	0.01228	-	-0.10833	*	0.10309	-	-	-	-	-	-	-	-	-	-	-	0.1933
Model knowledge if identification of product families	0.2237	*	-0.04334	-	0.07649	-	0.04792	-	0.01885	-	-0.17088	*	0.01277	-	-	-	-	-	-	-	-	-	-	-	0.3558
Model knowledge if reading of ingredients list	0.12531	**	0.07639	-	-0.03295	-	0.03802	-	0.0281	-	-0.06031	-	-0.01352	-	-	-	-	-	-	-	-	-	-	-	0.2029
Model knowledge if no reading of ingredients list	0.19585	-	0.0387	-	0.00064	-	0.01326	-	-0.01978	-	-0.1493	*	0.11331	-	-	-	-	-	-	-	-	-	-	-	0.1703
Model knowledge if not consciously buying	0.17225	**	0.01477	-	0.02298	-	-0.0094	-	0.05996	-	-0.12369	**	0.079	-	-	-	-	-	-	-	-	-	-	-	0.1918

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge

Table 20: Regressions for solution without palm oil with a premium

Solution without palm oil with a premium	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model demographics	-0.01997	-	-0.02255	-	0.0962	*	-	-	-	-	-	-	-	-	0.0209
Model perceptions	-	-	-	-	-	-	0.18899	***	0.05719	-	-0.08028	-	0.0175	-	0.0672
Model demographics & perceptions if no knowledge of climate	-0.11249	*	-0.07842	-	0.24143	-	0.13779	-	0.20749	-	0.14317	-	-0.47023	**	0.521
Model demographics & perceptions if knowledge of deforestation	-0.028	-	-0.01186	-	0.07195	-	0.15288	**	0.10222	-	-0.04975	-	0.02507	-	0.0832
Model demographics & perceptions if knowledge of agricultural yield	-0.03363	-	-0.01932	-	0.03824	-	0.16671	**	-0.08363	-	-0.02577	-	-0.08743	-	0.1102
Model demographics & perceptions if no knowledge of agricultural yield	-0.06168	*	-0.03901	-	0.15805	-	0.13127	-	0.22753	**	-0.07341	-	0.09036	-	0.1744
Model demographics & perceptions if knowledge of indigenous rights	-0.02031	-	-0.00476	-	0.02787	-	0.29355	***	0.03358	-	-0.04897	-	-0.19874	-	0.3951
Model demographics & perceptions if no knowledge of indigenous rights	-0.04784	*	-0.02789	-	0.06561	-	0.07259	-	0.09212	-	-0.09312	-	0.09992	-	0.0694
Model demographics & perceptions if knowledge of healthiness	-0.1222	**	-0.05441	-	0.02666	-	0.2011	**	-0.03587	-	-0.04076	-	-0.03803	-	0.3208
Model demographics & perceptions if no knowledge of healthiness	-0.00777	-	-0.00099	-	0.08042	-	0.07033	-	0.13083	*	-0.05451	-	-0.0191	-	0.0508
Model demographics & perceptions if knowledge of producers poverty	0.0026	-	-0.04079	-	0.03237	-	0.23609	***	-0.97428	-	-0.11611	-	0.03616	-	0.2104
Model demographics & perceptions if no knowledge of producers poverty	-0.05696	*	-0.01404	-	0.07847	-	0.10459	-	0.11585	-	-0.01064	-	0.06007	-	0.0762
Model demographics & perceptions if no identification of certificate of sustainability	-0.03219	-	-0.01647	-	0.14636	**	0.20101	***	0.04558	-	-0.03024	-	0.03607	-	0.1504
Model demographics & perceptions if identification of derivatives	-0.07547	-	-0.02096	-	0.20109	-	0.15747	*	0.10759	-	-0.0969	-	0.15191	-	0.1534
Model demographics & perceptions if no identification of derivatives	-0.02313	-	-0.01959	-	0.03863	-	0.16802	**	0.06768	-	-0.08076	-	-0.01374	-	0.073
Model demographics & perceptions if identification of product families	0.01918	-	0.00319	-	0.14822	-	0.56296	***	0.2804	**	-0.34299	*	0.37664	**	0.4542
Model demographics & perceptions if no identification of product families	-0.04257	*	-0.01905	-	0.0171	-	0.12235	**	0.03554	-	-0.04195	-	-0.04731	-	0.0676
Model demographics & perceptions reading of ingredients list	-0.02953	-	0.00667	-	-0.08432	-	0.22737	**	0.19628	**	-0.05082	-	-0.03526	-	0.1028
Model demographics & perceptions if no reading of ingredients list	-0.03555	-	-0.03491	-	0.20333	**	0.13259	*	-0.03528	-	-0.0735	-	0.00472	-	0.1648
Model demographics & perceptions if not consciously buying	-0.0411	-	-0.00399	-	0.01864	-	0.19841	***	0.12415	-	-0.04979	-	-0.06369	-	0.1477

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

= Regressions on resp. with a high level of knowledge

= Regressions on resp. with a low level of knowledge


Table 21: Regressions for solution with CSPO with a premium

Solution with certified sustainable palm oil with a premium	Knowledge																							R-squared of model
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list		Consciously buying	
Model knowledge	-0.12361	**	-0.01609	-	-0.01651	-	0.00662	-	-0.01958	-	0.09709	**	-0.07205	*	-	-	-	-	-	-	-	-	-	0.1643
Model knowledge if knowledge of climate	-0.15462	*	0.05039	-	-0.01737	-	0.02779	-	-0.02277	-	0.03868	-	-0.05939	-	-	-	-	-	-	-	-	-	-	0.0691
Model knowledge if no knowledge of climate	0.03224	-	-0.09051	-	0.02625	-	-0.05285	-	0.04025	-	0.21176	*	-0.0848	-	-	-	-	-	-	-	-	-	-	0.3335
Model knowledge if knowledge of deforestation	-0.09085	*	0.01814	-	-0.01702	-	0.02381	-	-0.02347	-	0.06973	*	-0.06213	-	-	-	-	-	-	-	-	-	-	0.0752
Model knowledge if no knowledge of agricultural yield	-0.14621	**	0.00306	-	-0.01849	-	0.00098	-	-0.0309	-	0.11173	**	-0.07964	-	-	-	-	-	-	-	-	-	-	0.2061
Model knowledge if knowledge of indigenous rights	-0.28653	-	0.15763	-	-0.03993	-	-0.24279	-	0.18694	-	0.05733	-	-0.30051	*	-	-	-	-	-	-	-	-	-	0.4548
Model knowledge if no knowledge of indigenous rights	-0.11294	**	-0.03244	-	-0.01946	-	-0.02006	-	-0.02816	-	0.10303	**	-0.03954	-	-	-	-	-	-	-	-	-	-	0.1875
Model knowledge if no knowledge of certificate of sustainability	-0.16289	**	0.02823	-	-0.08621	*	-0.03024	-	0.03291	-	0.16544	***	-0.10038	*	-	-	-	-	-	-	-	-	-	0.2898
Model knowledge if no knowledge of producers poverty	-0.10707	*	-0.00886	-	-0.01903	-	0.03019	-	-0.01485	-	0.10872	**	-0.05028	-	-	-	-	-	-	-	-	-	-	0.1686
Model knowledge if no identification of certificates of sustainability	-0.11478	**	-0.02543	-	-0.01403	-	-0.02779	-	-0.07525	**	0.11659	***	-0.05406	-	-	-	-	-	-	-	-	-	-	0.204
Model knowledge if no identification of derivatives	-0.14375	**	-0.01284	-	-0.02085	-	0.0176	-	-0.00461	-	0.12732	**	-0.10959	**	-	-	-	-	-	-	-	-	-	0.2017
Model knowledge if identification of product families	-0.2201	*	0.10165	-	-0.03019	-	0.01071	-	-0.02262	-	0.10369	-	-0.08748	-	-	-	-	-	-	-	-	-	-	0.2616
Model knowledge if reading of ingredients list	-0.14588	***	-0.01734	-	-0.0222	-	0.0249	-	-0.04064	-	0.09819	**	-0.05242	-	-	-	-	-	-	-	-	-	-	0.3117
Model knowledge if consciously buying	-0.21734	**	-0.03288	-	-0.04331	-	0.0355	-	0.0628	-	0.06613	-	0.01697	-	-	-	-	-	-	-	-	-	-	0.3873
Model knowledge if not consciously buying	-0.10833	-	-0.00282	-	-0.02065	-	0.01204	-	-0.03321	-	0.13594	**	-0.12024	*	-	-	-	-	-	-	-	-	-	0.1416

* = p < 0.1

** = p < 0.05

*** = p < 0.001

 = Regressions on resp. with a high level of knowledge


 = Regressions on resp. with a low level of knowledge

Table 22: Regressions for solution with CSPO with a premium

Solution with certified sustainable palm oil with a premium	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model demographics	0.0312	*	0.03717	**	-0.08629	*	-	-	-	-	-	-	-	-	0.0447
Model perceptions	-	-	-	-	-	-	-0.12	**	-0.06552	-	0.1585	**	-0.04037	-	0.0592
Model demographics & perceptions if knowledge of climate	0.02547	-	0.00586	-	-0.08314	-	-0.05877	-	-0.06862	-	0.1314	*	-0.10441	-	0.0802
Model demographics & perceptions if no knowledge of climate	0.13322	**	0.13337	***	-0.23833	-	0.03	-	-0.13262	-	0.01222	-	0.35537	*	0.5388
Model demographics & perceptions if knowledge of deforestation	0.0353	*	0.03031	*	-0.14057	***	-0.05799	-	-0.09912	*	0.15316	**	-0.03936	-	0.137
Model demographics & perceptions if knowledge of agricultural yield	0.03733	-	0.03571	*	-0.14215	**	-0.05212	-	0.04998	-	0.11323	-	0.06224	-	0.1534
Model demographics & perceptions if no knowledge of agricultural yield	0.07904	**	0.05568	*	-0.14672	-	-0.1274	-	-0.19772	**	0.13529	-	-0.08106	-	0.2268
Model demographics & perceptions if no knowledge of indigenous rights	0.05079	**	0.04712	**	-0.10334	*	-0.09715	-	-0.10065	*	0.13975	*	-0.05804	-	0.151
Model demographics & perceptions if knowledge of certificates of sustainability	0.02795	-	0.03529	**	-0.09682	*	-0.07328	-	0.02543	-	0.08233	-	0.05152	-	0.1393
Model demographics & perceptions if no knowledge of certificates of sustainability	0.08036	**	0.05493	*	-0.18904	*	-0.04429	-	-0.15752	-	0.11255	-	-0.08395	-	0.1849
Model demographics & perceptions if knowledge of healthiness	0.12595	***	0.07041	*	-0.09254	-	-0.07185	-	-0.07825	-	0.09858	-	0.1631	-	0.2947
Model demographics & perceptions if no knowledge of healthiness	0.02912	-	0.02506	-	-0.17235	***	-0.04568	-	-0.07763	-	0.12192	-	-0.09493	-	0.1328
Model demographics & perceptions if knowledge of producers poverty	0.02718	-	0.05656	**	-0.14268	*	-0.08592	-	0.11934	-	0.10644	-	-0.01016	-	0.2435
Model demographics & perceptions if no knowledge of producers poverty	0.06111	**	0.03939	*	-0.10957	-	-0.07833	-	-0.12467	*	0.15341	-	-0.06939	-	0.1406
Model demographics & perceptions if identification of certificate of sustainability	0.08334	**	0.06047	-	0.05076	-	0.0063	-	-0.1707	-	0.03716	-	0.10967	-	0.23
Model demographics & perceptions if no identification of certificate of sustainability	0.03321	-	0.0353	*	-0.19017	***	-0.09281	*	-0.04527	-	0.13316	*	-0.03785	-	0.1634
Model demographics & perceptions if identification of derivatives	0.10746	**	0.03051	-	-0.15943	-	-0.07817	-	-0.21986	*	0.2807	**	-0.03613	-	0.2279
Model demographics & perceptions if no identification of derivatives	0.03224	-	0.04231	**	-0.1214	**	-0.11997	*	-0.0452	-	0.10123	-	-0.03402	-	0.1349
Model demographics & perceptions if identification of product families	0.02195	-	0.05793	*	-0.2075	*	-0.46844	***	-0.28521	***	0.35418	**	-0.08774	-	0.5247
Model demographics & perceptions if no identification of product families	0.0498	**	0.027	-	-0.08694	-	-0.0316	-	-0.03175	-	0.13095	*	-0.03941	-	0.0957
Model demographics & perceptions if reading of ingredients list	0.04192	-	0.03155	-	-0.01666	-	-0.24889	***	-0.12796	*	0.09129	-	0.00467	-	0.1781
Model demographics & perceptions if no reading of ingredients list	0.03848	-	0.0225	-	-0.25373	***	-0.00124	-	-0.01528	-	0.18037	*	-0.05735	-	0.2058
Model demographics & perceptions if consciously buying	0.03398	-	0.05597	-	-0.25108	***	-0.12112	-	-0.02785	-	0.1476	-	-0.22984	-	0.3011
Model demographics & perceptions if not consciously buying	0.0465	*	0.02337	-	-0.05723	-	-0.08704	-	-0.0984	-	0.10396	-	0.01721	-	0.0905

* = p < 0.1 ** = p < 0.05 *** = p < 0.001



 = Regressions on resp. with a high level of knowledge = Regressions on resp. with a low level of knowledge

Table 23: Regressions for higher price for substitute without palm oil

Higher price for substitute products without palm oil	Knowledge																						R-squared of model		
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list			Consciously buying	
Model identification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.00145	-	-0.00955	-	0.01451	**	0.07001	***	-0.02398	-	0.1436
Model knowledge	0.04105	-	-0.00705	-	6.5E-06	-	0.00169	-	0.00209	-	-0.06345	**	0.01841	-	-	-	-	-	-	-	-	-	-	-	0.0674
Model knowledge if knowledge of climate	0.02375	-	-0.00141	-	0.00295	-	-0.02153	-	0.001	-	-0.06081	*	0.04928	-	-	-	-	-	-	-	-	-	-	-	0.0747
Model knowledge if knowledge of deforestation	0.04013	-	0.04629	-	0.00523	-	-0.02202	-	-0.00542	-	-0.06856	**	0.05662	-	-	-	-	-	-	-	-	-	-	-	0.0923
Model knowledge if no knowledge of agricultural yield	0.06651	-	-0.01831	-	-0.03555	-	0.04375	-	-0.00893	-	-0.06813	*	0.03085	-	-	-	-	-	-	-	-	-	-	-	0.1232
Model knowledge if knowledge of indigenous rights	0.0274	-	-0.15978	-	0.11336	-	-0.51013	**	0.39604	**	-0.0017	-	-0.55324	***	-	-	-	-	-	-	-	-	-	-	0.7888
Model knowledge if no knowledge of indigenous rights	0.03712	-	-0.01004	-	0.00541	-	0.00522	-	-0.00951	-	-0.07649	**	0.03522	-	-	-	-	-	-	-	-	-	-	-	0.0952
Model knowledge if knowledge of certificates of sustainability	0.11641	**	-0.09517	-	0.02531	-	0.03376	-	0.06535	-	-0.09092	**	0.02469	-	-	-	-	-	-	-	-	-	-	-	0.2986
Model knowledge if knowledge of healthiness	0.03666	-	-0.10643	-	0.02986	-	0.11442	-	0.22446	-	-0.18459	-	-0.25629	*	-	-	-	-	-	-	-	-	-	-	0.4027
Model knowledge if no knowledge of healthiness	0.02223	-	0.00096	-	0.00289	-	-0.05855	-	-0.00844	-	-0.0708	*	0.06218	*	-	-	-	-	-	-	-	-	-	-	0.1107
Model knowledge if no knowledge of producers poverty	0.03184	-	-0.01856	-	0.00624	-	-0.0007	-	-0.01959	-	-0.06732	**	0.04541	-	-	-	-	-	-	-	-	-	-	-	0.0872
Model knowledge if no identification of certificates of sustainability	0.08632	*	-0.00548	-	0.00692	-	0.01523	-	0.00929	-	-0.08359	**	0.01764	-	-	-	-	-	-	-	-	-	-	-	0.1178
Model knowledge if identification of derivatives	0.11198	*	-0.12501	*	0.02292	-	-0.01044	-	-0.0085	-	-0.08261	*	0.01058	-	-	-	-	-	-	-	-	-	-	-	0.223
Model knowledge if no identification of derivatives	0.00137	-	0.04995	-	-0.024	-	0.01859	-	0.01236	-	-0.07561	*	0.03537	-	-	-	-	-	-	-	-	-	-	-	0.0761
Model knowledge if no identification of product families	0.07722	*	-0.01493	-	0.00163	-	0.03496	-	-0.0072	-	-0.07411	**	0.00812	-	-	-	-	-	-	-	-	-	-	-	0.1081
Model knowledge if no reading of ingredients list	0.05249	-	0.08689	-	-0.02514	-	0.01963	-	0.04793	-	-0.16297	**	0.02324	-	-	-	-	-	-	-	-	-	-	-	0.02134

* = p < 0.1

** = p < 0.05

*** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge

Table 24: Regressions for higher price for substitute without palm oil

Higher price for substitute products without palm oil	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model demographics	0.00928	-	0.01614	-	0.15889	***	-	-	-	-	-	-	-	-	0.0491
Model perceptions	-	-	-	-	-	-	0.15748	***	0.01215	-	0.03224	-	-0.00579	-	0.0769
Model demographics & perceptions if knowledge of deforestation	0.00691	-	0.02545	-	0.03396	-	0.14746	***	0.03927	-	0.09624	-	-0.01907	-	0.1031
Model demographics & perceptions if no knowledge of deforestation	-0.17824	**	-0.03292	-	0.4031	**	0.04432	-	0.11863	-	-0.11517	-	0.24706	*	0.9333
Model demographics & perceptions if knowledge of agricultural yield	0.04169	-	0.03472	-	-0.01451	-	0.1958	***	-0.03715	-	0.00047	-	-0.07728	-	0.1614
Model demographics & perceptions if no knowledge of agricultural yield	-0.04718	**	-0.00879	-	0.17348	**	0.00585	-	0.12959	*	0.15288	-	0.08291	-	0.1794
Model demographics & perceptions if knowledge of indigenous rights	0.03204	-	0.12527	*	0.34317	-	0.05708	-	0.27644	-	-0.30639	*	-0.57349	-	0.4719
Model demographics & perceptions if no knowledge of indigenous rights	-0.00706	-	0.01088	-	0.02982	-	0.10298	*	0.03612	-	-0.01603	-	0.06604	-	0.0448
Model demographics & perceptions if knowledge of certificates of sustainability	0.00487	-	0.02438	-	0.00699	-	0.22777	**	-0.00382	-	0.06652	-	0.07734	-	0.1007
Model demographics & perceptions if no knowledge of certificates of sustainability	0.00786	-	0.00429	-	0.09394	-	0.13653	**	0.04565	-	-0.05808	-	-0.06489	-	0.1448
Model demographics & perceptions if no knowledge of healthiness	0.01488	-	0.03714	*	-0.00929	-	0.12928	*	0.09712	*	0.03073	-	-0.06208	-	0.0902
Model demographics & perceptions if knowledge of producers poverty	0.04855	-	0.0112	-	-0.03302	-	0.26332	***	0.11092	-	0.02883	-	0.03548	-	0.1949
Model demographics & perceptions if identification of certificates of sustainability	0.02795	-	0.03888	-	-0.18488	*	0.13641	-	-0.12916	-	-0.10149	-	-0.00018	-	0.1613
Model demographics & perceptions if no identification of certificates of sustainability	-0.00494	-	0.01257	-	0.16146	***	0.12844	**	0.04312	-	0.10653	-	0.00882	-	0.1593
Model demographics & perceptions if identification of derivatives	0.02697	-	0.03517	-	0.0148	-	0.12362	*	-0.07169	-	0.01664	-	0.01616	-	0.1467
Model demographics & perceptions if no identification of derivatives	-0.00273	-	0.01339	-	0.0389	-	0.15176	**	0.0452	-	0.06442	-	0.0091	-	0.076
Model demographics & perceptions if identification of product families	0.0117	-	0.00614	-	0.02831	**	-0.12045	-	-0.21028	**	0.30801	**	-0.02036	-	0.3273
Model demographics & perceptions if no identification of product families	-0.01363	-	0.02152	-	0.00205	-	0.16795	***	0.06743	-	-0.00956	-	0.01991	-	0.1126
Model demographics & perceptions if no reading of ingredients list	0.0025	-	0.00838	-	0.13505	-	0.15743	**	0.03203	-	0.0233	-	-0.05086	-	0.1182
Model demographics & perceptions if consciously buying	0.00706	-	0.0036	-	0.02539	-	0.1973	**	-0.02095	-	-0.09104	-	0.05768	-	0.1037
Model demographics & perceptions if not consciously buying	0.01136	-	0.03152	-	0.02992	-	0.11379	**	0.10598	*	0.14469	*	-0.10724	-	0.1404

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

= Regressions on resp. with a high level of knowledge

= Regressions on resp. with a low level of knowledge

Table 25: Regressions for higher price for substitute with CSPO

Higher price for substitute products with certified sustainable palm oil	Knowledge																						R-squared of model		
	Climate		Deforestation		Agricultural yield		Indigenous rights violation		Certificates of sustainability existence		Healthiness		Producers poverty		Identification of certificates of sustainability		Identification of derivatives		Identification of product families		Reading of ingredients list			Consciously buying	
Model identification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02328	*	-0.03809	-	0.0015	-	-0.00099	-	0.13745	*	0.0415
Model knowledge	-0.05975	-	0.07056	-	-0.24746	-	-0.14158	**	0.00936	-	0.15267	***	0.03756	-	-	-	-	-	-	-	-	-	-	-	0.119
Model knowledge if knowledge of climate	-0.03209	-	0.04983	-	-0.03275	-	-0.1491	**	0.00862	-	0.19	***	0.03286	-	-	-	-	-	-	-	-	-	-	-	0.1443
Model knowledge if no knowledge of deforestation	-0.0694	-	0.151	-	-0.02002	-	-0.13719	**	0.00441	-	0.17648	***	0.03537	-	-	-	-	-	-	-	-	-	-	-	0.1292
Model knowledge if knowledge of agricultural yield	-0.08409	-	0.31905	*	-0.19826	-	-0.0868	-	-0.09524	-	0.23952	**	-0.00947	-	-	-	-	-	-	-	-	-	-	-	0.2711
Model knowledge if no knowledge of agricultural yield	-0.04726	-	0.01787	-	-0.04781	-	-0.18058	**	0.05666	-	0.12141	*	0.07174	-	-	-	-	-	-	-	-	-	-	-	0.1409
Model knowledge if no knowledge of indigenous rights	-0.08849	-	0.05692	-	-0.03946	-	-0.18636	**	0.01809	-	0.15424	***	0.06425	-	-	-	-	-	-	-	-	-	-	-	0.1543
Model knowledge if no knowledge of certificates of sustainability	-0.01893	-	0.0506	-	0.00522	-	-0.10839	-	-0.03934	-	0.19613	***	0.0217	-	-	-	-	-	-	-	-	-	-	-	0.1467
Model knowledge if no knowledge of certificates of healthiness	-0.09285	-	0.09418	-	-0.05646	-	-0.13196	*	0.02167	-	0.23124	***	0.05543	-	-	-	-	-	-	-	-	-	-	-	0.1877
Model knowledge if no knowledge of certificates of producers poverty	-0.0927	-	0.06299	-	-0.0274	-	-0.15241	**	0.01841	-	0.15766	**	0.02708	-	-	-	-	-	-	-	-	-	-	-	0.1361
Model knowledge if no identification of certificates of sustainability	-0.03341	-	0.09483	-	0.01379	-	-0.14641	**	-0.02816	-	0.19967	***	0.00687	-	-	-	-	-	-	-	-	-	-	-	0.154
Model knowledge if identification of derivatives	-0.03643	-	0.01087	-	0.00584	-	-0.21783	*	0.02543	-	0.20349	**	0.0024	-	-	-	-	-	-	-	-	-	-	-	0.2119
Model knowledge if no identification of derivatives	-0.11263	-	0.15307	*	-0.04001	-	-0.13376	*	0.01583	-	0.1107	-	0.09639	-	-	-	-	-	-	-	-	-	-	-	0.1325
Model knowledge if no identification of product families	-0.00797	-	0.03049	-	-0.01976	-	-0.16367	**	0.0026	-	0.19117	***	0.06298	-	-	-	-	-	-	-	-	-	-	-	0.1615
Model knowledge if reading of ingredients list	-0.09202	-	0.00957	-	-0.05124	-	-0.20139	**	0.03988	-	0.18915	***	0.05189	-	-	-	-	-	-	-	-	-	-	-	0.1864
Model knowledge if no reading of ingredients list	-0.03381	-	0.23667	*	0.02067	-	-0.13594	*	0.00022	-	0.05181	-	0.11289	-	-	-	-	-	-	-	-	-	-	-	0.1821
Model knowledge if consciously buying	-0.12715	-	0.13643	-	-0.05564	-	-0.01645	-	0.06835	-	0.3169	***	-0.02068	-	-	-	-	-	-	-	-	-	-	-	0.5338
Model knowledge if not consciously buying	-0.04907	-	0.08729	-	-0.0251	-	-0.21263	***	0.04352	-	0.10565	-	0.08546	-	-	-	-	-	-	-	-	-	-	-	0.1685

* = p < 0.1

** = p < 0.05

*** = p < 0.001

 = Regressions on resp. with a high level of knowledge

 = Regressions on resp. with a low level of knowledge

Table 26: Regressions for higher price for substitute with CSPO

Higher price for substitute products with certified sustainable palm oil	Demographics						Perceptions								R-squared of model
	Education		Age		Gender		Importance of issues related to palm oil		Groceries without palm oil in Switzerland		Supermarkets sell only certified sustainable palm oil		Consumer choices impact Swiss manufacturers		
Model demographics	0.07726	***	0.02933	-	-0.0024	-	-	-	-	-	-	-	-	-	0.0422
Model perceptions	-	-	-	-	-	-	0.03036	-	0.03451	-	0.57065	***	0.03322	-	0.1884
Model demographics & perceptions if knowledge of climate	0.06403	**	0.02577	-	-0.05622	-	0.01751	-	0.05347	-	0.56671	***	-0.03727	-	0.1951
Model demographics & perceptions if knowledge of deforestation	0.06152	**	0.03293	-	-0.04157	-	0.03769	-	-0.00457	-	0.55118	***	-0.00329	-	0.1847
Model demographics & perceptions if no knowledge of deforestation	0.11235	-	0.00444	-	-0.17879	-	0.19619	-	0.23983	-	0.5906	**	0.15775	-	0.942
Model demographics & perceptions if knowledge of agricultural yield	0.10617	***	0.06454	*	-0.0846	-	0.0361	-	0.04533	-	0.46856	***	-0.01175	-	0.2362
Model demographics & perceptions if no knowledge of agricultural yield	0.01086	-	-0.01056	-	-0.06639	-	0.04021	-	0.08475	-	0.66679	***	-0.00721	-	0.2544
Model demographics & perceptions if no knowledge of indigenous rights	0.05586	*	0.02721	-	-0.05882	-	0.039	-	0.04447	-	0.57829	***	-0.04215	-	0.2006
Model demographics & perceptions if knowledge of certificates of sustainability	0.06536	*	0.06545	**	0.02046	-	0.04467	-	0.02505	-	0.64776	-	0.02185	-	0.2877
Model demographics & perceptions if no knowledge of certificates of sustainability	0.06125	-	-0.01661	-	-0.21555	-	0.11354	-	0.0399	-	0.34628	***	-0.0476	-	0.1836
Model demographics & perceptions if knowledge of healthiness	0.13401	**	0.04039	-	-0.1118	-	0.0579	-	-0.02907	-	0.54217	**	0.07803	-	0.4045
Model demographics & perceptions if no knowledge of healthiness	0.03697	-	0.02002	-	-0.06259	-	0.08222	-	0.01693	-	0.55081	***	0.01519	-	0.1721
Model demographics & perceptions if knowledge of producers poverty	0.09011	**	0.06205	-	-0.30073	**	0.10491	-	-0.05308	-	0.5713	***	0.03265	-	0.3932
Model demographics & perceptions if no knowledge of producers poverty	0.04952	-	0.00128	-	0.08624	-	0.06634	-	0.01841	-	0.51035	***	-0.00284	-	0.1796
Model demographics & perceptions if identification of certificates of sustainability	0.09878	*	-0.00897	-	-0.26092	*	0.09959	-	-0.18468	-	0.74715	***	-0.16497	-	0.371
Model demographics & perceptions if no identification of certificates of sustainability	0.06117	*	0.05069	-	-0.00963	-	0.06059	-	0.09816	-	0.53021	***	-0.00473	-	0.2068
Model demographics & perceptions if identification of derivatives	0.07566	-	-0.03485	-	-0.04247	-	0.04923	-	0.10062	-	0.43511	**	-0.13738	-	0.1855
Model demographics & perceptions if no identification of derivatives	0.05725	*	0.06042	*	-0.07119	-	0.04401	-	0.00943	-	0.63749	***	0.08307	-	0.2715
Model demographics & perceptions if identification of product families	0.06057	-	-0.00499	-	0.08129	-	-0.01231	-	-0.15501	-	0.69492	***	-0.26399	-	0.2773
Model demographics & perceptions if no identification of product families	0.05772	*	0.04597	-	-0.06923	-	0.05292	-	0.07145	-	0.53683	***	0.06014	-	0.2236
Model demographics & perceptions if reading of ingredients list	0.06005	-	0.00503	-	0.04258	-	0.13102	-	-0.10621	-	0.66269	***	-0.06954	-	0.2302
Model demographics & perceptions if no reading of ingredients list	0.07312	*	0.05876	-	-0.15533	-	0.04021	-	0.14325	-	0.47304	***	0.17647	-	0.2775
Model demographics & perceptions if consciously buying	0.00246	-	0.06217	-	-0.03737	-	-0.10097	-	0.00833	-	0.65708	***	0.02011	-	0.2861
Model demographics & perceptions if not consciously buying	0.09383	**	0.01778	-	-0.14581	-	0.14745	-	0.07978	-	0.55572	***	-0.09421	-	0.2519

* = p < 0.1 ** = p < 0.05 *** = p < 0.001

= Regressions on resp. with a high level of knowledge

= Regressions on resp. with a low level of knowledge

Appendix 5: Certificates of sustainability

Table 27: Comparison of certificates of sustainability

	Name	Description	Date of creation	Mission			Members	Forest Peoples Programme Score	Source
RSPO	Roundtable on Sustainable Palm Oil	The RSPO has developed a set of environmental and social criteria which companies must comply with in order to produce Certified Sustainable Palm Oil (CSPO). When they are properly applied, these criteria can help to minimize the negative impact of palm oil cultivation on the environment and communities in palm oil-producing regions.	2004	<ul style="list-style-type: none">- Advance the production, procurement, finance and use of sustainable palm oil products- Develop, implement, verify, assure and periodically review credible global standards for the entire supply chain of sustainable palm oil- Monitor and evaluate the economic, environmental and social impacts of the uptake of sustainable palm oil in the market- Engage and commit all stakeholders throughout the supply chain, including governments and consumers.			More than 3'000 : oil palm producers, processors or traders, consumer goods manufacturers, retailers, banks/investors, and environmental and social non-governmental organisations (NGOs)	102/120	https://www.rspo.org/about
NEXT		RSPO NEXT is a voluntary effort that engages with RSPO member companies that have met the current requirements and guidance of the RSPO Principles and Criteria and in addition, through their voluntary policies and actions have exceeded them. RSPO Next has been designed to allow credible third party verification of those actions. Going beyond policy statements RSPO NEXT provides assurance that only independent, third party and accredited on the ground verification, done in a standardized way, can bring.	2015	<ul style="list-style-type: none">- No Deforestation- No Fire- No Planting on Peat- Reduction of GHGs- Respect for Human Rights and Transparency- Applicable at an organization wide level, including investments, joint ventures and in the organization's wider supply base.			Members of RSPO that comply to the additional criteria. First adhesion in April 2017.	20/36	https://rspo.org/certification/rspo-next
POIG	Palm Oil Innovation Group	Multi-stakeholder initiative that strives to achieve the adoption of responsible palm oil production practices by key players in the supply chain through developing and sharing a credible and verifiable benchmark that builds upon the Roundtable on Sustainable Palm Oil (RSPO), and creating and promoting innovations.	2013	<p>Achieve the adoption of responsible palm oil production practices by key players in the supply chain through developing and sharing a credible and verifiable benchmark, and creating and promoting innovations.</p> <ul style="list-style-type: none">- The Palm Oil Innovation Group (POIG) aims to support the RSPO through building on RSPO standards and commitments and by both demonstrating innovation to implement RSPO existing standards as well as with additional critical issues- POIG focuses on the three thematic areas of environmental responsibility, partnerships with communities including workers' rights, and corporate and product integrity- POIG focuses on creating innovations in the palm oil industry and the promotion of these innovations			Agropalma, Barry Callebaut, Daabon group, Danone, Ferrero, Forest Peoples Programme, Greenpeace, ILRF, Musim Mas, L'Oréal, Orangutan Land Trust, Rainforest Action Network, Sumatran Orangutan Society, Stephenson personal care, Vêrité Fair Labor, Wetlands international, WWF	14/36	http://poig.org
Green Palm		GreenPalm operates the RSPO Book and Claim supply chain option. The supply chain option is one of four provided by the RSPO to either support or use certified palm oil and palm kernel oil.	2008	GreenPalm is a certificate trading programme that allows manufacturers and retailers to purchase GreenPalm certificates from an RSPO certified palm oil grower to offset each tonne of palm oil, palm kernel oil they use. RSPO certified palm oil growers can convert their certified tonnage into certificates, each tonne converts to one GreenPalm certificate. Palm oil, palm kernel oil and palm kernel expeller certificates are available. This means that there is no guarantee that the end product contains certified sustainable palm oil, but this option directly supports RSPO certified growers and farmers. It also allows organisations to support sustainable palm oil instantly despite complicated supply chains or the use of complex palm and palm kernel fractions and derivatives.			Over 1100 members: product manufacturers, ingredient suppliers, retailers and certified sustainable palm oil growers.	NA	http://www.greenpalm.org/about-greenpalm/what-is-green-palm
				IDENTITY PRESERVED : Certified sustainable palm oil is physically separated from other certified and non-certified palm oil throughout the supply chain, i.e. from the RSPO certified mill through to the end user. The end user is able to trace the certified sustainable palm oil back to a specific single mill and its supply base (plantations). This level of traceability is costly, and is mainly used for high-end organic products.	SEGREGATED : Like the identity preserved option, certified sustainable palm oil is physically separated from non-certified palm oil throughout the supply chain. However, the end user is only able to trace the certified sustainable palm oil back to a group of possible mills and their supply bases (plantations). This option guarantees that the end product contains certified sustainable palm oil, but it can be expensive to keep certified and non-certified palm oil separate throughout the supply chain, particularly through various complex fractionation and blending processes.	MASS BALANCE : Certified sustainable palm oil and non-certified palm oil is mixed to avoid the costs of keeping the two separate. The refinery is only allowed to sell the same amount of Mass Balance palm oil as the amount of certified sustainable palm oil purchased. This means that there is no guarantee that the end product contains certified sustainable palm oil. However, this option supports certified sustainable palm oil through mixing, and the oil is consumed somewhere by someone.			
ISCC	International Sustainability & Carbon Certification	ISCC is a globally leading certification system that offers solutions to address sustainability requirements for all feedstocks and markets	2012	<p>Contributing to the implementation of environmentally, socially and economically sustainable production and use of all kinds of biomass in global supply chains.</p> <ul style="list-style-type: none">- Implementing social and ecological sustainability criteria- Monitoring deforestation-free supply chains- Avoiding conversion of biodiverse grassland- Calculating and reducing GHG emissions- Establishing traceability in global supply chains				68/120	https://www.iscc-system.org/about/objectives/

SAN	Sustainable Agriculture Network	SAN is an NGOs network focused on helping farmers, workers and rural communities to thrive, and donors and companies to move forward with their sustainability agenda in a practical and efficient way.	1997	With experience in over 40 countries and with more than 100 crops, SAN provides innovative, practical and credible agricultural solutions to some of the most pressing environmental and social problems of our time. We believe in the power of farmers, business, government and non-profits working together to effect the profound change our world needs. We believe farming can be climate smart, deforestation free and pollinator friendly. We believe in protecting water, air, forests and biodiversity. We believe in the inalienable rights of all human beings to be treated fairly. We believe we can transform agriculture for the greater good of all.	NGOs : CEFECA, FIIT, Fundación Natura Colombia, ICAD, Inaifera, Nature Kenya, NEPCON, Pro Natura sur, Rainforest Alliance, RSPB, Salva Natura	79/120	https://www.sustainableagriculture.eco/our-vision/
RSB	Roundtable on Sustainable Biofuels	The RSB offers trusted, credible tools and solutions for sustainability and biomaterials certification that mitigate business risk, fuels the bioeconomy and contributes to the UN Sustainable Development Goals that enables the protection of ecosystems and the promotion of food security.	2007	The RSB Principles & Criteria describe how to produce biomass, biofuels and biomaterials in an environmentally, socially and economically responsible way. Because of the RSB's unique decision-making structure based on consensus among all relevant stakeholders, the RSB Principles & Criteria are recognised as best-in-class in addressing key sustainability issues in a comprehensive way. The RSB Principles & Criteria are based on a management and risk-oriented approach. Together with the RSB's online tools and related guidance documents, the RSB Principles & Criteria help operators to identify and manage sustainability issues in a specific context and therefore reduce risks for operators, brand owners and investors.	RSB members are part of a worldwide movement of businesses, NGO's, academics, governments and UN organisations that demonstrate their commitment to best practice for sustainable biomaterial, biofuels and biomass production.	91/120	https://rsb.org/about/what-we-do/the-rsb-principles/
SPOM	Sustainable Palm Oil Manifesto	A commitment of several stakeholders in the palm oil industry to ensure sustainability in its chain of operations, from cultivation right up to consumption. A key component in the Manifesto is a study jointly spearheaded by the signatories, which defines what constitutes High Carbon Stock (HCS) forests, and to establish HCS thresholds that take into account environmental, socio-economic and political factors, as well as other practical considerations in developing and emerging economies where oil palm is cultivated.		The Manifesto aims to build upon the signatories' existing sustainability commitments to the Roundtable on Sustainable Palm Oil (RSPO)'s principles and criteria with three specific objectives: Build traceable and transparent supply chains; Accelerate the journey to no deforestation through the conservation of high carbon stock (HCS) forests and the protection of peat areas regardless of depth; and Increase the focus on driving beneficial economic change and to ensure a positive social impact on people and communities.	Five palm oil producers, which together produce around nine percent (9%) of the world's palm oil: Sime Darby, Kuala Lumpur Kepong Berhad, IOI Corporation Berhad, Musim Mas and Asian Agri	NA	http://www.ioigroup.com/Content/S/S_PalmOil
HCS	the High Carbon Stock Approach	The HCS Approach is a practical methodology for distinguishing forest areas that should be protected from degraded lands that may be developed. It is a sequence of processes and assessments undertaken within two overarching modules: a social requirements module, which focuses on respecting communities' rights to their lands; and an integration module, which includes the FPIC and HCV processes.	2015	The amount of carbon and biodiversity stored within an area of land varies according to the type of vegetative cover. The HCS Approach stratifies the vegetation in an area of land into six different classes using analyses of satellite data and ground survey measurements. These six classes are: High Density Forest, Medium Density Forest, Low Density Forest, Young Regenerating Forest, Scrub, and Cleared/ Open Land. The first four classes are considered potential High Carbon Stock forests.	Plantation Companies : APP, Asian Agri, GAR, GVL, IOI Group, Oetra Meekers, Simon Lord, Wilmar Commodity users : BASF, Procter & Gamble, Unilever NGOs : Conservation International, Forest Peoples Programme, Greenpeace, Mighty, National Wildlife Federation, Rainforest Action Network, WWF Technical support organisations : Daemeter, EcoNusantara, Forest Carbon, MPH, Proforest, Rainforest Alliance, TFT	66/120	http://highcarbonsolutions.org/the-high-carbon-stock-approach/
MSPO	Malaysian Sustainable Palm Oil	The Malaysian Sustainable Palm Oil (MSPO) Certification Scheme is the national scheme in Malaysia for oil palm plantations, independent and organised smallholdings, and palm oil processing facilities to be certified against the requirements of the MSPO Standards.	2013	The MSPO Scheme allows for oil palm management certification and supply chain certification and provides for: - Development of certification standards - Accreditation requirements and notification of certification bodies - Application by potential clients for certification audits - Supply chain traceability requirements - Guidelines for auditing - Peer reviewing of audit reports - Issuance of logo usage licenses - Procedures for handling of complaints	Mandatory for 2019 for all palm oil producers in Malaysia	62/120	https://www.mpoc.org.my/mspo-certification-scheme
ISPO	Indonesian Sustainable Palm Oil	The Indonesian Sustainable Palm Oil (ISPO) system is a policy adopted by the Ministry of Agriculture on behalf of the Government of Indonesia with the aim to improve the competitiveness of the Indonesian palm oil on the global market and contribute to the objective set by the President of the Republic of Indonesia to reduce greenhouse gases emissions and draw attention to environmental issues.	2009	Implementation of ISPO will be done by upholding the principle of guidance and advocacy and guidance to the oil palm plantation which is the task of government. Therefore the first stage of ISPO certification implementation is classification. This classification is in accordance with the Regulation of the Minister of Agriculture 07 Year 2009 on the Guidelines on the Assessment of Plantation Enterprises while the certification is an international trade demands implemented in accordance with international provisions which, among others, meet the International Standard Organization (ISO). The Ministry of Agriculture will conduct assessments for ISPO certification in a transparent and independent manner.	625 palm oil producers	34/120	http://www.ispo.org.or.id/index.php?lang=en

Appendix 6: Coop Answer

Madame,

Votre mail nous est bien parvenu et nous vous en remercions.

Nous recevons, tant de la part d'écoliers que d'étudiants, de nombreuses questions relatives au développement durable et au gaspillage alimentaire, et ne sommes malheureusement pas en mesure de répondre à toutes les demandes.

Dans la mesure où notre "Rapport sur le développement durable" et notre site Internet www.coop.ch/des-paroles-aux-actes répondent à la plupart des questions qui nous sont posées, nous avons adopté les principes suivants: jusqu' au niveau Bachelor, nous invitons les étudiants à consulter le site "Des paroles aux actes". A partir du niveau Master, nous répondons à certaines des questions posées, mais seulement si l'étudiant a d'abord consulté notre rapport sur le développement durable et le site www.coop.ch/développement-durable.

On peut dire, que l'huile de palme, qui possède des propriétés technologiques remarquables (voir ci-après) et se prête à de multiples usages, est la préférée des industries agroalimentaire et cosmétique. Il est une raison supplémentaire pour laquelle Coop l'utilise dans certains de ses produits: le législateur suisse a limité à 2% la teneur maximale en acides gras trans des denrées alimentaires car ceux-ci sont susceptibles de présenter des risques sanitaires. Coop a par conséquent décidé de supprimer totalement de ses produits de marque propre les matières grasses hydrogénées et semi-hydrogénées, car ce sont elles qui génèrent précisément ces acides gras trans. Leur suppression réduit la teneur en acides gras trans à un minimum. L'huile et la graisse de palme, qui présentent les mêmes caractéristiques que les graisses végétales hydrogénées, constituent une alternative intéressante, ce qui explique la demande croissante.

Par rapport à d'autres huiles et graisses végétales, l'huile de palme contient beaucoup d'acides gras saturés et relativement peu d'acides gras insaturés. L'huile et la graisse de palme et les acides gras saturés ont leur place dans une alimentation équilibrée, à condition de ne pas excéder un tiers des apports en matière grasse. L'huile de palme, riche en acides gras saturés (moins sensibles aux températures élevées et s'oxydant moins vite que les acides gras insaturés) est particulièrement adaptée aux produits de boulangerie de longue conservation.

Il n'existe à l'heure actuelle aucune solution satisfaisante pour remplacer l'huile de palme (matière grasse non animale très résistante à la chaleur et à l'oxydation, solide à température ambiante, présentant de bonnes propriétés de fonte). Il en résulte un conflit d'objectifs.

Cela fait des années que Coop se préoccupe de la destruction des forêts tropicales, lieu de vie naturel de nombreuses espèces végétales et animales. La Direction Retail de Coop a par conséquent adopté une directive permettant de garantir un approvisionnement respectueux de critères écologiques, sociaux et éthiques. Celle-ci spécifie que l'approvisionnement doit également satisfaire à des exigences écologiques. Ainsi, les matières premières végétales doivent, dans la mesure du possible, être issues d'une production respectueuse de l'environnement. Les matières premières qui proviennent du pillage des forêts tropicales ou de cultures nuisant à la biodiversité sont proscrites.

L'huile de palme entre dans la composition d'un bon millier de produits de marque propre Coop et est systématiquement indiquée dans la liste des ingrédients, ce qui n'est pas le cas pour tous les articles de marque. En collaboration avec le WWF, Coop a été un des acteurs majeurs de l'élaboration d'une norme issue de la Table ronde sur la production durable d'huile de palme (RSPO). Depuis, l'intégralité de l'huile de palme utilisée dans les produits de marque propre Coop répond aux critères de cette norme. Mais les produits de marques connues n'entrent pas dans le champ de responsabilité de Coop. Nous partons du principe que les producteurs de marques, comme p. ex. Nestlé, Mars ou Unilever, vont eux-mêmes s'emparer du thème de l'huile de palme durable, et nous les y invitons d'ailleurs régulièrement.

Certains produits bio Coop Naturaplan contiennent de l'huile de palme, essentiellement quand cela est nécessaire pour des raisons techniques de fabrication. Dans ce cas, l'huile de palme bio répond aux critères stricts des directives du Bourgeon: elle ne peut par exemple pas être produite à partir de forêts tropicales menacées. Les produits bio Naturaplan contenant actuellement de la graisse de palme sont les suivants:

- Pâtes à gâteau et à pizza Betty Bossi
- Pains aux poires et bâtons aux noisettes
- Ramequins au fromage et croissants au jambon
- Différentes sortes de biscuits, barres aux céréales et petits cœurs apéritifs

Pour répondre aux souhaits des consommateurs, nous nous efforçons d'utiliser le moins possible d'huile de palme dans les produits Naturaplan. Mais les alternatives telles que les graisses animales (p. ex. le beurre) ou les huiles végétales produites en Europe ne sont ni meilleures ni pires du point de vue du bilan écologique, notamment parce que le rendement à l'hectare des cultures de palmiers à huile est élevé. https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF-Studie_Auf_der_OEIspur.pdf

Il faudrait d'abord faire cesser la pratique insensée de l'ajout d'huile de palme dans les carburants utilisés dans l'Union européenne, dont des études ont prouvé qu'elle ne présentait aucun avantage environnemental. La position de Coop est de n'utiliser de l'huile de palme que quand cela est nécessaire et alors, de préférence une huile issue d'une production durable (RSPO ou bio).

Nous avons pour l'instant évoqué uniquement l'huile de palme contenue dans les denrées alimentaires. En voici la raison: la majeure partie de la production mondiale d'huile de palme est utilisée pour ces dernières, seuls quelques pour cents sont utilisés pour les produits non alimentaires comme p. ex. les produits d'entretien et les cosmétiques. Les fabricants de ces produits achètent rarement de l'huile de palme brute, mais plutôt des composants déjà transformés (dits produits oléochimiques intermédiaires) qui en contiennent. Alors que les fabricants de produits agroalimentaires (p. ex. de margarine), acheteurs d'importantes quantités, peuvent exiger de leurs fournisseurs le respect de règles précises, y compris en matière de développement durable, les fabricants de produits non alimentaires, eux, ont beaucoup plus de mal à le faire, vu les faibles quantités en jeu et le degré élevé de transformation.

Compte tenu de ces éléments, Coop a d'abord concentré tous ses efforts en matière d'huile de palme durable sur son assortiment alimentaire. Elle ne néglige pas pour autant l'assortiment non alimentaire. En 2013 par exemple, notre filiale Steinfels Swiss a été la première, dans le commerce de détail, à utiliser une huile de palme répondant aux critères RSPO "Balance de masse" comme matière première dans ses lessives. D'ici à 2020, notre objectif est d'utiliser exclusivement de l'huile de palme certifiée au moins RSPO "Balance de masse" comme matière première pour nos produits de marque propre non alimentaires.

Nous vous adressons nos meilleurs vœux pour la suite et vous prions d'agréer, Madame, nos meilleures salutations.

Coop

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