CHAPTER 11

Traditional food, legal and regulatory issues in Switzerland

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Food, nutrition and health in Switzerland

Camille Aouinaït, Danilo Christen

Introduction

Switzerland is often associated with mountains, lakes, snowy landscapes, cheese and chocolate. This small country located in the center of Europe is characterized by a variety of local cultures, traditions and culinary habits. This chapter presents the traditional and typical food products produced and consumed in Switzerland. The southern region of the country is particularly reviewed through the use of labeled products.

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Historical overview

The structural change that affects the agricultural sector in Europe is visible in Switzerland. The number of farms decreased by 48% between 1990 and 2013 in the French-speaking Switzerland, along with an increase of the biggest farms (i.e., over 50 ha) (Blättler et al., 2016).

In 2017, in Valais 2956 farms were registered, employing 9583 people and 37,341 ha (3.5% of the Swiss Utilized Agricultural Land), of which 60% in mountain areas (Département de l'éducation, de la culture et du sport et al., 2012; Federal Statistical Office, 2018). The average value of agricultural production in western Switzerland in 2012–2014 (3 billion Swiss francs a year) contributed to 30% of the total agricultural production of the country (Blättler et al., 2016).

The Swiss agriculture is diversified with field crops, special crops and animal production. Intensive and extensive agriculture is practiced in the country; exploitation is often difficult because of the slope and fragmentation of the plots (Département de l'éducation, de la culture et du sport et al., 2012).

Crop production prevails in western Switzerland, with more than 60% of the value of total agricultural production of this region. Eggs, poultry, milk and cattle gained importance, whereas field crops and viticulture decreased their share in the value of agricultural production in the French-speaking Switzerland (Blättler et al., 2016).

In Valais, 23,000 ha in mountain areas and 68,000 ha of mountain pastures are managed by more than 4000 peasant families. Fifty varieties of vines are cultivated on 4900 ha, which corresponds to one third of the Swiss vines (e.g., Petite Arvine, Amigne, Cornalin and Humagne). 2500 ha of fruit and vegetable crops with more than 96% of Swiss apricots (Blättler et al., 2016; Valais Wallis Promotion, 2016). Field crops account for 2000 ha, especially rye. The rye bread is an ancestral food product (Blättler et al., 2016) with an annual production of approximately 600 tons (Valais Wallis Promotion, 2016). 13,500 cows, 57,000 sheep, 7000 goats and 200,000 chickens constitute the livestock in this region. Important symbols of the Swiss mountains are the cow of the race of Hérens, the Nez-Noir sheep and the Col-Noir goat (Chambre Valaisanne d'Agriculture, 2014). The cheese Raclette du Valais PDO is produced with 40 million kg of milk per year. It is a mountain cheese semi-hard, made from raw cow's milk.

Geography and the natural agricultural landscape

Switzerland is a small country with an area of 41,285 km², shaped by the Alps, hills, lakes and rivers. Six% of the freshwater supply in Europe comes from the Swiss Alps. The proximity with the Atlantic Ocean provides specificities to the Swiss climate; a temperate and humid air providing adequate rainfalls in the different regions of the country. The North and the South of Switzerland are distinguished in terms of climate thanks to the Alps that

act as a barrier. The South is affected by the Mediterranean Sea (Federal Office of Meteorology and Climatology MeteoSwiss, 2018).

Culture and traditions

Traditional celebrations and their food

Different festivals are celebrated in Switzerland. Many of them are related to seasonal agricultural events occurring in the year like the start of the vineyard works in spring, the Alpine ascent and descent during summer, the wine festivals, the Chästeilet cheese sharing, the Älplerchilbi or Sennenchilbi in central Switzerland, the onion market in Bern, the Bénichon or Chilbi in Fribourg (House of Switzerland, 2017; MySwitzerland.com, 2019a). Regarding the latter, the cuchaule is the typical specialty of Bénichon. This is a sweet bread with saffron, with Bénichon mustard. It is accompanied with stew, mutton stew with "botzi pears," smoked ham and leg of lamb. The dessert comprise meringues, donuts, bricelets, cooked wine pie and "cuquettes."

The carnival is celebrated in each canton to mark the end of the winter season. Battles of cows of the race of Hérens are organized in the canton of Valais between spring and autumn. The chestnut festival occurs in autumn, especially in the canton of Ticino. Chestnut is prepared in different forms like roasted chestnuts, jam, honey, pies or ice cream (MySwitzerland.com, 2019b; Swiss Confederation, 2017).

Culinary arts and habits

The consumption habits of the Swiss population are evolving towards an increase in highly processed foodstuffs and convenience food with a large part of the diet based on processed food (Agristat, 2017). Nevertheless, the awareness of the population of the role of diet in health is raising. Consequently, a growth of the consumption of chickpeas, nuts, lentils, fruits, rapeseed oil, heat-resistant oils has been noted, along with the decrease in the use of palm oil (Federal Food Safety and Veterinary Office, 2019) (Fig. 1).

The consumption of fruits and vegetables is stable between 2007 and 2016, while the use of alcoholic beverages and grains slightly decrease. Simultaneously, a moderate increase in the use of nuts, vegetable oils and pulses has begun since a few years (Federal Food Safety and Veterinary Office, 2019) (Fig. 2).

The use of milk and dairy products significantly decreased between 2007 and 2016, while the consumption of animal-based products is stable. The awareness of the need to reduce the part of the diet dedicated to products from animal origin has increased in the population (Federal Food Safety and Veterinary Office, 2019) (Fig. 3).

The decline of the use of drinking milk towards flavored beverages and alternatives milks (e.g., rice, almond and soya beverages) reflects the current food trends. The availability of processed products that contain milk components (e.g., ready-to-eat foods,

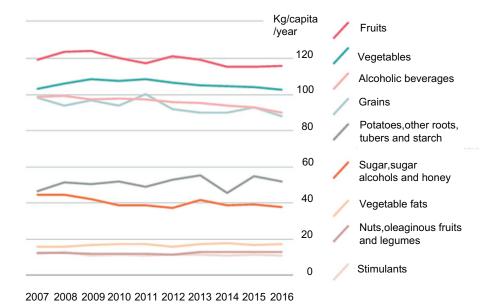


Fig. 1 Use per capita of foodstuffs of vegetable origin from 2007 to 2016 in kg per year (Federal Food Safety and Veterinary Office, 2019). The consumption of fruits and vegetables is stable, while the use of alcoholic beverages and grains slightly decrease. Simultaneously, a moderate increase in the use of nuts, vegetable oils and pulses has begun since a few years.

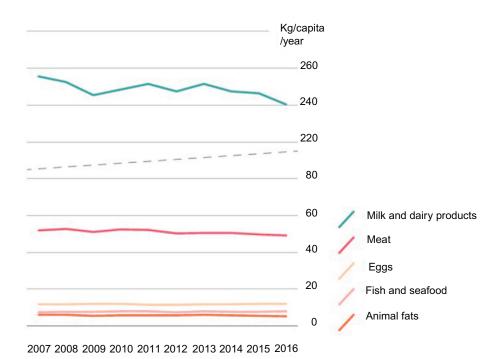


Fig. 2 Use per capita of foodstuffs of animal origin from 2007 to 2016 in kg per year; milk and dairy products in kg of whole milk equivalent per capita and per year (Federal Food Safety and Veterinary Office, 2019). The use of milk and dairy products significantly decreased between 2007 and 2016, while the consumption of animal-based products is stable. The awareness of the need to reduce the part of the diet dedicated to products from animal origin has increased in the population.

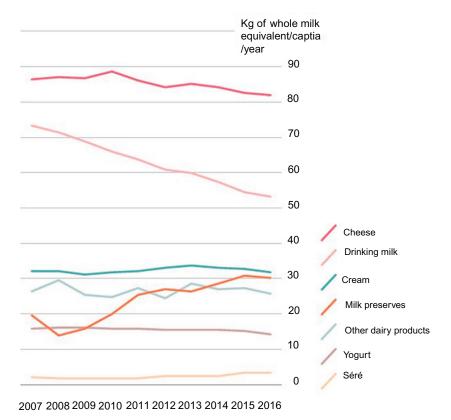


Fig. 3 Use per capita of milk and dairy products from 2007 to 2016 in kg per year; milk and dairy products in kg of whole milk equivalent per capita and per year (Federal Food Safety and Veterinary Office, 2019). The consumption of milk and dairy products is particularly sharp for drinking milk. It is partially replaced by flavored beverages and alternatives milks (e.g., rice, almond and soya beverages). The processed products containing milk components like milk powder or milk concentrate is a reason explaining this decrease.

chocolate, biscuits, ice cream, sauces) has been extended in the previous years (Federal Food Safety and Veterinary Office, 2019).

Regarding the consumption habits, the most frequently skipped meal is breakfast (5% of the surveyed population), especially by the younger, by men, and in the German-speaking region. Approximately 2% never having lunch and 1% never having dinner in a week (Bochud et al., 2017).

Among regular breakfast consumers, four types of meals have been identified: sand-wiches (i.e., white bread, butter and sweet spread); sweet cereals; sausages and cheese; and birchermüesli. These differences are highlighted between linguistic regions of the country. The French-speaking region favor the first type of breakfast. However, the German-speaking part favors the salted meals and birchermüesli. Regarding cooking habits,

cooking hot meals is more frequently done by women. Young people often cook a hot meal for dinner, more than older people. The time spent cooking hot meals is longer for women (43 min) than for men (32 min), with little differences across linguistic regions (Bochud et al., 2017).

Presentation of the PDO and PGI products in Valais

In this section, the focus is put on the southern region of the country: the canton of Valais. In this region, the production of foodstuffs is diversified, contributing to the development and preservation of varied landscapes. Along with population growth, high qualitative soil conservation is essential (Département de l'éducation, de la culture et du sport et al., 2012).

In the canton of Valais, the most emblematic traditional products are apricot, cheese (Raclette), dried meet and wine. Furthermore, several labeled products originate from the region. The Protected Designations of Origin (PDO) system certifies that the product has been completely developed in the region from which it comes, while the Protected Geographical Indications (PGI) allows raw materials to be sourced in Valais or elsewhere. For more information on the PDO-PGI regulations, see chapter on Traditional and Ethnic Food in Switzerland (Fig. 4).

The Raclette du Valais PDO is a typical Swiss dish, where the cheese is melting and scraped, served with potatoes and dried meat (Raclette du Valais AOP, 2018) (Fig. 5).

The Valais dried meat PGI is often served with Valais rye bread PDO as « entrées » in a plate from Valais (« Assiette Valaisanne »). Fresh local white wine can easily be combined with this dish (Fig. 6).



Fig. 4 Raclette du Valais PDO (Raclette du Valais AOP, 2018). The Raclette du Valais PDO is a typical Swiss dish, where the cheese is melting and scraped, served with potatoes and dried meat.



Fig. 5 Valais dried meat PGI accompanied with Valais rye bread PDO (Association Suisse des AOP-IGP, 2019). The Valais dried meat PGI is often served with Valais rye bread PDO as « entrées » in a plate from Valais (« Assiette Valaisanne »). Fresh local white wine can easily be combined with this dish.



Fig. 6 DPO and PGI products in Switzerland in 2015 (Association Suisse des AOP-IGP, 2019). In November 2015, more than two thirds of the Swiss PDO-PGI products come from the French-speaking Switzerland (Blättler et al., 2016): Raclette du Valais PDO, Valais rye bread (Walliser Roggenbrot) PDO, Valais dried meat PGI, Valais raw ham PGI, Valais bacon PGI, Valais Pear Eau de Vie PDO, Abricotine PDO et Mund Saffron PDO (Dayer, 2014; Valais Wallis Promotion, 2016).

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Abricotine PDO

Abricotine PDO is produced with 90% of the tasty Luizet variety. The introduction of this variety dates from 1838. The minimum alcohol content is 40% volume. The product is registered since 2003. Fruit production, storage, fermentation, distillation and bottling of Abricotine PDO are exclusively performed within the boundaries of the canton of Valais. Apricots must be located at a maximum altitude of 1100 m (Genolet, 2009). The highest qualitative apricots are selected to produce the beverage. Optimum maturity, healthy and clean aspects with a minimum size of 35 mm are important criteria to respect. Once sorted, the fruits are crushed to give a homogeneous puree allowing a complete fermentation of the sugars. The distillation is then done as quickly as possible. The traditional distillation of fruit alcohols is a tradition in Valais. Approximately 117,000 bottles of 70 cl of Abricotine PDO are annually produced, requiring one million kg of apricots (Association Suisse des AOP-IGP, 2019).

Valais Pear Eau de Vie PDO

The Valais Pear Eau de Vie PDO is only produced with Williams pears, abundant in the Valais orchards. This product is characterized by its intense taste of pear. The minimum alcohol content of Abricotine PDO is 40% and was registered in 2001 (Association Suisse des AOP-IGP, 2019).

Valais rye bread PDO

The rye bread must weight 0.25, 0.5 or 1 kg and at least contain 90% of rye and maximum 10% of wheat. It was registered in 2004 (Association Suisse des AOP-IGP, 2019). The dough is exclusively made with water, salt, flour, yeast and leaven. The ingredients are mixed and kneaded to obtain a homogeneous paste. This traditional product dates back from the 13th century. The adaptation of rye to the extreme weather conditions and high altitudes in remote valleys makes it an appropriate cereal.

Raclette du Valais PDO

Raclette du Valais PDO registered in 2007, is a fat, semi-hard cheese, made with raw cow's milk. The producers must comply with specific criteria related to the shape (29–31 cm diameter circle), weight (5 kg) and crust of the cheese. The cheese in Valais was used as a bargaining chip four centuries BCE. The term Raclette is used since 1874 (Association Suisse des AOP-IGP, 2019).

Mund Saffron PDO

The Mund Saffron PDO is grown on the territory of the municipality of Mund (Upper Valais). The spice comes from a plant named *Crocus sativus*. The saffron harvested from the three pistils in the heart of the flower are dried and reduced to powder. Three kilos of saffron are annually produced; 180 flowers are needed to produce 1 g of the spice.

Dried meat PGI

According to the Association of Dried Meat Producers, dried meat PGI is prepared with Swiss meat, essentially with the thigh of cattle. After salted and spicy, the meat is suspended and dried for five to sixteen weeks in the dry and sheltered from light (Association Suisse des AOP-IGP, 2019). The transforming process of drying was chosen thanks to the relatively dry climate in Valais.

Raclette, dried meat, Mund saffron and rye bread have existed in the region for a number of centuries, while the distillation of Abricotine PDO and Valais Pear Eau de Vie PDO products began in the middle of the 20th century (Genolet, 2009).

Typical foods and food products

The Swiss cuisine is influenced by German, French and northern Italian cuisine. National traditional food dishes include the cheese fondue, in which the small pieces of bread are dipped in the melted cheese; Raclette, where the cheese surface is scrapped with a knife and served on potatoes; rösti (potatoes pancakes); birchermüesli (oatmeal, lemon juice, condensed milk, grated apples, walnuts and almonds) and chocolate.

Furthermore, culinary specialties are found in diverse regions across the countries. Regarding the cheese, Each area of the country has its own types of cheese; such as the Vacherin cheese, the Appenzeller, the Sbrinz, the Emmentaler, the Gruyère and the Tête de Moine.

In Ticino, chestnuts are processed in diverse products are available at many feasts (e.g., bread, pasta, praline chocolates). Polenta is another specialty from this canton. This is a puree made from maize, mixed with cheese and served as an accompaniment or as a main dish.

In Appenzellerland, the gingerbread "Biberli" is famous, as much as the cheese tart, scalded sausages and the drink Alpenbitter.

Sausages are popular throughout the country, with more than 350 different varieties. In the French-speaking part of Switzerland, raw pork sausages or poached or cooked on vegetables (Papé Vaudois). In the German-speaking part, the OLMA bratwurst from St. Gallen is best eaten without mustard and with the hands. It can also be consumed fried with rösti in a pan to create the highly traditional bratwurst with onion sauce dish.

Fish dishes are well-known near the lakes of Geneva, Neuchâtel and Biel with trout and perch.

In the canton of Bern, the **Berner Platte** is famous. This is made with different varieties and part of the meats and sausages (e.g., beef tongue, smoked belly of pork, smoked pork chops, pork shoulder), cooked with juniper-spiced sauerkraut, pickled turnips, dried beans and boiled potatoes. The traditional **Zibelechueche** (onion tart) and the Bernese Haselnusslebkuchen are highly consumed in the canton. The latter is an aromatic dough produced with ground hazelnuts, egg and sugar. **Meringues are served with** whipped cream are served as a dessert.

The Basler flour soup traditionally served during the carnival is consumed with cheese, onion tart, suuri Lääberli (sour, liver strips) and Basler Leckerli, (gingerbread biscuits). Mässmogge are colorful sweets filled with a brown hazelnut mixture. It is a seasonal specialty especially cooked at the Basel Autumn Fair (Basler Herbstmesse) at the end of October.

The Zürcher Geschnetzelte is a veal dish served with a cream sauce and rösti. A sweet popular dish is the Hüppen, biscuit rolled into a tube shape filled with a chocolate mixture. The Zuger Kirschtorte is cake consisting of a biscuit center, soaked in kirsch and containing thin layers of butter cream.

Älplermagronen (macaroni, potatoes, cheese, cream and roasted onions) hail from Central Switzerland. The Luzerner Chügelipastete (vol-au-vent filled with sausage meatballs in a white sauce), stews like Hafenchabis (lamb or pork stew with cabbage) and Stunggis (pork and vegetable stew) are popular dishes. In the canton of Grisons, typical dishes consist of Pizzoccheri (stew made with buckwheat pasta, vegetables and cheese), Capuns (rolls made of chard or cos lettuce and filled with Spätzle dough), Maluns (grated potatoes mixed with flour and cooked slowly in butter), Churer meat tart, Birnbrot (a thin layer of bread dough filled with a mixture of fruit, nuts and dough), and the Bündnerfleisch (an air-dried raw salt meat made from beef leg), the Bündner Nusstorte (crust tart with nut filling) among others.

The Swiss wines are served with the typical regional dishes exposed above. A lot of indigenous varieties are produced in the country (MySwitzerland.com, 2019c).

The Valais region is characterized by a variety of typical food and food products. For the fruits, apricot is the most known product, with around 96% of the national production occurring in Valais. This fruit is highly consumed as fresh fruits. However, the brandy Abricotine PDO is produced with a traditional variety that has been mainly replaced by "new varieties" for their post-harvesting behavior (i.e., maturity post-harvesting, storage and transport behavior). Another liquor is Williamine that is produced with the William pear.

The Raclette cheese is usually consumed with white wine, like Fendant from Valais. Along with this plate, dried meet is an integral part of the Valais-origin plates. It can be accompanied with Valais rye bread PDO, and pickles through an "assiette valaisanne." This plate is composed with products from Valais like cheeses, raw ham, bacon and onions.

The pear and apricot brandy can be consumed after typical Valais plates. They are also used as ingredients in deserts (e.g., panna cotta with apricots and Abricotine PDO, chocolate and pear cake with Valais Pear Eau de Vie PDO).

A diet rich in fruits and vegetables is associated with a reduced risk of chronic diseases. In apricots, four phenolic compound groups are found: procyanidins, hydroxycinnamic acid derivatives, flavonols, and anthocyanins (Betul Akina et al., 2008). The major carotenoid present in apricot fruits is β -carotene, γ -carotene and β -cryptoxanthin, in various concentrations depending on the cultivar.

Potassium is the predominant nutrient found in apricot fruits and malic and citric acids are the most abundant organic acids found. Vitamin C is the major vitamin in fruits and sucrose for carbohydrate. The major phenolic compounds are chlorogenic acid, neochlorogenic acid, rutin, catechin, and epicatechin, with differences of concentrations among cultivars (Roussos et al., 2016).

Summary

In Switzerland, the diversity of products provided by local farmers and artisans like butchers, bakers, cheese makers and distillers is substantial. Traditional food production is preserved for different sectors. The Swiss culinary know-how has been influenced by international cultures, especially through the neighboring countries. Nonetheless, the Swiss identity of the food supply is wide and rich of local particularities (e.g., French-speaking versus German-speaking areas).

The use of labels to differentiate regional products should be extended to more traditional and local products that do not have the resources to support the involvement in a certification procedure. Consumers are increasingly demanding local products, produced by conventional or organic agricultural practices. This interest has been shaped by motivations on the environmental, health and economic levels.

Finally, consumers should be able to buy foods and food products that are locally produced with traditional practices that are affordable for the majority of the population. It provides support for smallholder farmers; diffuse the know-how and expertise of local producers and transformers along with entailing positive externalities for the environment (e.g., reduction of transport from production locations to consumption locations).

Legal and regulatory issues in Switzerland

Karola Krell Zbinden

Regulatory issues in Switzerland

Switzerland is not a Member State of the European Union. However, Switzerland is located in the heart of the EU and mostly exchanges the food products consumed and produced in the country with EU Member States. The Swiss legislator has harmonized and is constantly harmonizing the Swiss food law with the European food law.

This contribution covers some Swiss particularities saved for political cultural and traditional reasons. Traditional and ethnic values still play a major role in Switzerland, even though the country is composed of four linguistic and cultural regions, with a high standard of living and thus very mobile people and a large number of expatriates from all over the world. This articles gives reference to Swiss food law and corresponding laws aiming at the protection of traditional or ethnic food products.

Food law and other legislation related to traditional food

In Switzerland all food must be safe for human health and my not mislead the consumer. The safety of foodstuffs in the market is based on a two-tier system: on the one hand, the self-control of the food business operators who are responsible for the safety of the foodstuffs and the compliance with the law in accordance with article 26 of the Federal Act on Foodstuffs and Utility Articles (Foodstuffs Act, FSA, SR 817.0), and on the other hand, the risk-based control exercised by the cantonal food control authorities, which are supervised by the Swiss Federal Food Safety and Veterinary Office.^a

All Swiss food law, which is divided into several horizontal Regulations ordinated by the Federal Council and even more vertical Regulations ordinated by the Department of the Interior and here the FSVO, is based on the Foodstuffs Act. Apart from food law, further regulations with respect to the designation and naming of traditional foods emerge from other regulations on the labeling of agricultural quality products and their processed products, like the Regulation on the protection of the designations of origin and geographical indications for agricultural products, the so called "Swissness legislation" based in the Federal Act on the protection of trademarks, the Regulation on the mentioning "mountain" and "alp" for agricultural products.

Protection of origin

Designation of origin and geographical indications

Switzerland and the EU mutually recognize each other's designations of origin (PDO) and geographical indications (PGI).^b In addition to this, several bilateral agreements on geographical indications and indications of provenance protect certain names against misuse in trade have been concluded.^c Protected geographical indications and names of states and cantons may only be used in accordance with the law of the country of origin.

^a FSVO, https://www.blv.admin.ch/blv/en/home.html (Accessed 1 January 2019).

^b See the Agreement of 21 June 1999 between the Swiss Confederation and the European Community on trade in agricultural products; Annex 7 on wine products, Annex 8 on spirits and Annex 12 on the protection of designations of origin and geographical indications for agricultural products and foodstuffs (SR 0.916.026.81).

^c IGE, Bilateral agreements on the protection of geographical indications and indications of source, https://www.ige.ch/en/law-and-policy/international-ip-law/bilateral-agreements/agreements-on-geographical-indications.html (Accessed 1 January 2019).

The agreements contain lists of protected geographical indications by product groups, which comprise for example natural products such as wine, agricultural products, and industrial products such as watches, chocolate or textiles.

PDO and PGI are high-quality Swiss agricultural and culinary specialities with a strong link with the region from where they come, they are mostly produced by artisans such as cheese makers, butchers, bakers or distillers PDO and PGI are listed in the PDO/PGI Ordinance and certified by the Swiss PDO-PGI Association. Swiss wines are not included in this category (Art. 1 para. 4 PDO/PGI Ordinance), but enjoy their own protection system.

While PDO must guarantee that all the stages of production of the speciality concerned (the production, processing and refining), from the production of the raw material to the processing of the finished product, take place in the defined area of origin, only one production stage (production, processing or refining) must be carried out in the region of origin for PGI. The Swiss Register of PDO and PGI protects the names and traditional names for agricultural products in a defined geographical area with detailed specifications.

The product specification precisely defines the characteristics of the product, organoleptic properties and textures, its production area and its production methods. This last element will be the most controlled. The specifications also indicate the certification bodies which must certify that the product complies with the specification.

Swiss wine

Swiss wine mostly remains a national product and is rarely exported. Designations for wine are regulated in the Regulation on viticulture and importation of wine. Basically, the Swiss Wine Regulation distinguishes three classes of wine: Wines with a registered designation of origin, country wines, and table wines (in French: *appellation d'origine contrôlée, vin de pays, vin de table*), which constitute the product name.

"Swiss table wine" is a wine made from grapes harvested in Switzerland with a minimum natural sugar content of 13.6°Brix for white grapes and 14.4°Brix for red grapes. Wine with a registered designation of origin ("Wine KUB/AOC") is a wine designated by the name of a canton or geographical area of a canton. The cantons shall lay down the requirements applicable to Wine KUB/AOC, in particular a definition of the geographical area (cantonal, regional or local) for the production of the grapes, a list of authorized grape varieties, and a list of permitted cultivation methods or other viticultural and oenological elements. The Federal Office for Agriculture (FOAG) maintains and publishes a

d https://www.aop-igp.ch/en/about-pdo-pgi/definition-pdo-pgi/ (Accessed 1 January 2019).

^e Wine Regulation, SR 916.140.

f Article 24 para. 1 of the Wine Regulation.

^g Article 21 para. 1 of the Wine Regulation.

Swiss register of controlled designations of origins for wine. ^h "Country Wine" is Swiss wine designated by the name of the country or a part thereof whose area exceeds that of a canton. ⁱ Country wine with its own traditional designation may bear a traditional name defined by the legislation of the canton.

Wine descriptions, like "Sélection," "Château" and listed in annex 1 of the Wine Regulation,^j can be used for Swiss wines in conformity with additional requirements for grapes and/or wine production, which are laid down in the legislation of the canton where the grapes are produced. The use of these terms is protected, even if the term is accompanied by an expression such as "kind," "type," "manner," "imitation," or "method."

"Mountain" and "Alp" products

Two Swiss Regulations provide the conditions of use for the mentioning of "mountain" and "alp" for agricultural products or foodstuffs produced from them, FOAG, *Berg und Alp*. They apply to the description and names of food products, information in commercial documents and in advertising. In order to carry the designation "mountain product," the agricultural product must come from the mountain area and be processed in the mountain area, including the neighboring municipalities. If the products are processed outside the mountain area, only the origin of the agricultural product may be indicated ("yoghurt from mountain milk"). For "mountain cheese," both milk production and cheese fermentation must take place in the mountain area. Similar rules apply for "alp products." The definition of decisive alp and mountain regions in distinction to the plain region as well as the delimitation criteria between each of these areas are regulated by the FOAG.

Products in compliance with the legal conditions may also use the official signs for mountain and alp (see Figs. 7 and 8).

The "Mountain and Alp Regulations" do not cover the designation "alps" as a geographical region. A "Muesli from the Alps" does not have to fulfill the strict requirements.

"Swissness"

"Swiss made" sells. Several studies have shown that the bonus generated by the Swiss brand reaches up to 20% of the selling price compared to comparable goods from other origins,

^h FOAG, https://www.blw.admin.ch/blw/de/home/nachhaltige-produktion/pflanzliche-produktion/weine-und-spirituosen.html (Accessed 1 January 2019).

ⁱ Article 22 para. 1 of the Wine Regulation.

j https://www.admin.ch/opc/de/classified-compilation/20071607/index.html#app1ahref0 (Accessed 1 January 2019).

k https://www.blw.admin.ch/blw/de/home/instrumente/kennzeichnung/berg-und-alp.html (Accessed 1 January 2019).



Fig. 7 Official sign for Mountain products.



Fig. 8 Official sign for alp product.

Federal Council, Message relatif à la modification de la loi sur la protection des marques et à la loi fédérale sur la protection des armoiries de la Suisse et autres signes publics (Projet «Swissness») du 18 novembre 2009, 7712 et 7726, and cited studies EPFZ 2008, Université de St-Gall et al. 2008, 2010, 2013. The value of the Swiss label gives rise to numerous abuses, both at national and international level, which undermines its credibility. To preserve the benefit generated by the "Swiss" indication of provenance and the use of the Swiss cross, the criteria for its use have been clarified. The so called "Swissness legislation" with regard to the indication of source in articles 47 ss. of the Federal Act on the protection of Trade Marks and Indications of Source (TmPA, SR 232.11) came into force in 2017.

Swiss indications of source are "Made in Switzerland," "Swiss Recipe" or "Swiss quality" and figurative signs such as the Swiss cross, the for its form and height widely known mountain "Matterhorn" or the folk hero Wilhelm Tell. It is prohibited to use indications of source, which are inaccurate or may mislead on the origin of the product.

The origin of a natural product is determined in article 48a TmPA by the location of extraction, the place of harvest, the place of hunting or fishing, or the place where the animals are kept. The use of a Swiss indication of origin for foodstuffs requires firstly that at least 80% of the raw material available in Switzerland that compose the product must come from Switzerland and secondly that the step that gives the product its unique characteristics must take place in Switzerland (e.g., the processing of milk to cheese).

¹ Swiss Federal Institute of Intellectual Property, IGE, Swissness: Background and goals https://www.ige.ch/en/law-and-policy/national-ip-law/indications-of-source/swiss-indications-of-source/background-and-goals.html (Accessed 1 January 2019).

Products—particularly natural products—which are not grown in Switzerland (cocoa or coffee, for example) are excluded from the calculation. The calculation of availability depends on the so called "self-supply rate" for the respective agriculture product. These rates and thus an insufficient availability of a raw material is determined in a Regulation of the FOAG. Purely economic reasons (e.g., cheaper raw materials abroad) do not justify a status of "non-availability." A Swiss indication of origin for milk and milk products requires that these products are 100% Swiss.

These rules allow the sale of "Swiss coffee," if the coffee beans are roasted in Switzerland. "Swiss chocolate" must be produced in Switzerland. It is irrelevant whether a stage of cocoa mass processing took place abroad or whether fermented cocoa beans are used. Water is in principle excluded from the calculation, except where it constitutes an "essential component" like in "Swiss mineral waters" or "Swiss beer."

Novel food

The Swiss Regulation on Novel Foods (SR 817.022.2) and the definition of these food products are generally equivalent to the European Regulation with the particularity that the crucial territory for the question of "novel" includes Switzerland. An approval procedure for novel foods in Switzerland is in place. The FSVO is responsible for the evaluation of authorization dossiers.^m

An authorization is not required for all novel food products listed in annex 1 of the Novel Food Regulation. These include firstly all novel foods that have been authorized in the EU according to Regulation (EC) No 258/97 or Regulation (EU) 2015/2283. This means that novel foods on the EU Union list can be marketed in Switzerland. This does not apply to genetically modified novel foods that require an additional GMO authorization in Switzerland. Secondly, a few particular products are authorized:

Since 1 May 2017, three **insects** are authorized as foodstuffs in Switzerland. *Tenebrio molitor* at larval stage (mealworm), *Acheta domesticus*, adult form (cricket), *Locusta migratoria*, adult form (locust) *can* be sold whole, cut or ground to consumers, if they come from a controlled breeding farm and if they have been frozen for an appropriate period and have undergone heat treatment or other suitable process sufficient to destroy vegetative bacteriae. In the labeling insects as ingredients must be emphasized like any other allergenic ingredient.

Chia seeds (*Salvia hispanica*) are authorized as traditional novel foods in ingredients in all food products according to annex 2 of the Novel Food Regulation, if the daily portion of the food product does not contain more than 15 g of chia seeds and if a maximum content of 10% in food products or 3% in beverages is respected. They may be sold separately to the consumers with an indication that a daily dose of 15 g may not be exceeded.

^m https://www.blv.admin.ch/blv/fr/home/lebensmittel-und-ernaehrung/rechts-und-vollzugsgrundlagen/bewilligung-und-meldung/bewilligung.html (Accessed 1 January 2019).

Hemp (Cannabis sativa) is a plant of the family Cannabaceae (Cannabaceae) and consists of more than 80 cannabinoides, of which THC and cannabidiol (CBD). Hemp can be used in foodstuffs without authorization, if the maximum levels of delta-9-tetrahydrocannabinol (THC) are respected, Regulation on Maximum Contaminant Levels (SR 817.022.15). Hemp with a THC content of less than 1% is not considered as a narcotic drug. No authorization is required for a foodstuff, if the CBD content of Cannabis sativa used in that foodstuff does not exceed the natural content (conventional cultivation methods). CBD extracted from such hemp (or synthetically produced) is considered as novel food and requires an authorization as novel food. The same is required for a hemp variety that contains a higher amount of CBD because of a novel breeding method. The FSVO has issued 14 pages of explanation of the different forms to market hemp products with CBD in Switzerland.

Exceptions on safety regulations for certain Food Business Operators Small Food Business Operators

In analogy to EU hygiene law, the Swiss legislator has foreseen some flexibility to take into account the capacities of small Swiss farm structures. Primary production establishments, who supply consumers exclusively with primary products of their own production, in small quantities, either directly or through local retailers, are not subject to the obligation to apply HACCP procedures. Small Food Business Operators are exempt from extensive self-control and documentation as well, see articles 26, para. 3 and 78, para 3 Regulation on foodstuffs and utility articles (SR 817.02). A food business operator is considered to be "small," if it employs up to nine employees. The Swiss Regulation on Food Hygiene employs terms as "if necessary," "adapted" or "appropriate," or "suitable." The aim is to maintain flexibility under defined conditions, while ensuring food safety, for the benefit of small and very small enterprises to enable them to use traditional methods and products.

On farm slaughtering

As a general rule, animals must be slaughtered in authorized establishments. However, an exception is made for occasional on farm slaughtering of poultry or domestic rabbits limited to small quantities (a maximum of 10 animals per week and a maximum annual production of 1000 kg). In this case, the on-farm slaughter activity must be reported to the control authority. In all cases, the requirements concerning animal protection and animal health, in particular for the disposal of animal by-products, must be observed. The cutting and processing of meat from theses animals have to respect the general rules of good manufacturing and hygiene practice and self-control.

https://www.blv.admin.ch/blv/en/home/lebensmittel-und-ernaehrung/rechts-und-vollzugsgrundlagen/bewilligung-und-meldung/bewilligung/cannabis-cannabidiol.html (Accessed 1 August 2019).

Production of milk at pastures, in summering regions oralps

Dairy farming is the most important sector of Swiss agriculture, accounting for around 20% of the production of the entire agricultural sector. Most of the milk marketed in Switzerland is processed into cheese (43%), followed by butter (15%), drinking milk (11%) and cream (8%) and yoghurt (3%). Swiss law supports the milk production in Switzerland with several exceptions from the general rules. On summer farms, the areas used for milk processing must only be clearly distinct from the areas where cooking and eating take place. Traditional processing in a cauldron suspended above the fire is permitted. Containers, appliances, instruments, equipment and other objects coming into contact with milk or milk products may be made of wood if they are in perfect condition and cleaned thoroughly with water heated to at least 85 °C.

Religious slaughtering

Art. 178 of the Swiss Regulation for Animal Protection (SR 455.1) states that vertebrates and walking decapods must be stunned at the time of killing (mandatory stunning). If dizziness is not possible, all appropriate measures must be taken to minimize pain, suffering and anxiety. Thus, the production of kosher or halal meat according to traditional religious rituals, which assume not to stun the animal before bleeding, is prohibited in Switzerland. There is no exception based on traditional or ethnic character. The importation of kosher and halal meat to ensure an adequate supply of such meat to the Jewish and Muslim communities is reserved.

Special animal breeding and keeping rules

With the aim to protect animal health and to prevent animals against mistreatment, specific rules for livestock breeding and the keeping of animals exist in the Swiss Regulation for Animal Protection (SR 455.1) that do not have equivalent rules in the EU.

Article 66 RGA requires sufficient feeding and watering facilities for poultry and domestic pigeons. Domestic poultry must have a floor area throughout the light phase covered with appropriate litter of at least 20% of the area in which the animals can move. In addition, provision must be respected with regard to appropriate nests with soft bedding or covering such as artificial grass or rubber mats, easily accessible to the animals.

Article 65 RGA foresees minimum requirements for the dimensions of cages for domestic rabbits so that the rabbits can extend their entire length and sit at least part of it with a height allowing upright. Further requirements are a darkened area where rabbits can retreat, compartments where they can nest, the possibility to pad these compartments with straw or other suitable material and move away from the bunnies by gaining another compartment or an elevated surface.

Agricultural products produced using production methods banned in Switzerland can still be imported and marketed in Switzerland, but they must be labeled in an appropriate manner when they are delivered to the Swiss consumer. These specific labeling requirements are regulated in Regulation on agricultural declaration for products produced by production methods prohibited in Switzerland (Regulation on agricultural declaration, SR 916.51) and concern the following products:

- **a.** meat from equine, bovine, ovine, caprine and porcine animals (except wild boar), domestic rabbits, backyard poultry (except laying hens) and farmed wild game;
- **b.** meat preparations and meat products, provided that the meat content is at least 20% by mass;
- c. eggs of domestic hens (Gallus gallus domesticus);
- **d.** preparations based on eggs of domestic hens (Gallus gallus domesticus) (egg preparations).

The products must be labeled with a mentioning like "Originate from hens kept under conditions banned in Switzerland" or "May have been produced using hormonal performance-enhancing substances" or "May have been produced using non-hormonal performance-enhancing substances such as antibiotics."

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