Abstract

‘Glühwein’ is a very popular hot beverage and often mixed out of different red wines. It is sold especially in the cold season of the year and the traditional German way of getting drunk during Christmas time. As a mulled aromatized wine product it is added with spices like anise, cinnamon, cardamom and nutmeg.

2,500 Christmas markets were celebrated in 2001 in over 1,500 municipalities with more than 10,000 inhabitants. These markets last from a day on weekends up to 4-week events. Mulled wine in Christmas markets is a really secret business, but it is not only the small scale traders who prefer to keep quiet about their profits. Larger companies that sell their products at Christmas markets also keep their profits secret. With 40 Million litters per year ‘Glühwein’ is a big business in Germany and an import channel of the industrial consumption of wine. Despite the importance of this business information regarding the ‘Glühwein’ is scarce. Thus, the aim of the present work was to collect and study all the information available concerning the mulled wine market around Germany in order to provide a reliable ‘snapshot’ of this sector.

Preliminary version for discussion
- Please do not cite -
1. Introduction

With 40 Million litters per year ‘Glühwein’ is a big business in Germany and an import channel of the industrial consumption of wine. A lighthouse in the mass market for mulled wine is the so-called “Nuernberger Gluehwein” with its positive image. Overall, in the German-speaking countries, there are an increasing number of operators of Christmas market stalls (http://www.weihnachtsmarkt-deutschland.de) who offer mulled wine. It is important that the product is "ready for consumption" and is already in large containers to the customer. Ready for consumption means that customers already received a finished mulled wine and they only have to heat it.

However, despite or because of its commercial success and there are only limited information available. Thus, the aim of the present work was to collect and study all the information available concerning the mulled wine market around Germany. As nowadays there is not yet an official database in which the mulled wine is described, we tried to make a precise resume of what the mulled wine represents for the German economy to understand in a better way how this market is behaving, how the consumer perceives the product, which are the main problems concerning this product and how it is regulated in Germany.

On one hand we first tried to make an overview of what the mulled wine is as a beverage, showing also in which other countries apart of Germany is this product consumed, in the other hand through a Political, Economic, Social and Technical (PEST) analysis and a market analysis, the mulled wine market was studied in depth, showing the Political repercussion that this product has as an alcoholic beverage which is mainly consumed in the Christmas markets in the street, during the Christmas period as well as to see the quality legislation which concerns the mulled wine and the main problems which exist nowadays with it. In the Economic analysis an overview of the amount of money that mulled wine represents in the German economy is shown, as well as the concentration of this economy along the year and the repercussion that this economy has for other products or for other business related with the Christmas markets, an important point in this part of the analysis was showing the profit that this business generates not only in Germany in average but also in more detail for all those involved in it. In the Social analysis it has been studied the social importance of mulled wine and how the perception of the German society for this product as well as their behaviour in the Christmas markets as the main place where mulled wine is sold. In the Technical analysis some of the different products related with the mulled wine have been studied giving an overall idea of the variety which exist and the different regulations concerning each product. To finish with the market analysis, an external analysis was performed to see the peculiarities of this market as well as the main players and the trends, to evaluate the different possibilities in penetrating this market as well as to try to know what the consumer is asking for and to determine the consumer profile of the mulled wine.

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1 The EU has recognized the outstanding quality position more than 20 years ago and in (ECC)-Regulation 1601/91 they protected the term "Nuernberger Gluehwein". It is only allowed to be produced within the city limits of Nuernberg. However, Nuernberg has not many wineries, the protection only refers to the place of manufacture, but not to the point of bottling. (Erik Schweickert and Peter Scheib, 2013).
2. Christmas and Mulled wine

Wine was first recorded as spiced and heated in 1st century in Rome. The Romans travelled all across Europe, conquering much of it and trading with the rest. The legions brought wine and viticulture with them up to the Rhine and Danube rivers, and to the Scottish border bringing their recipes with them (Wikipedia, 2014), but it wasn't until the 14th century that the mix of wine, fruit, and spices gained its name, from an Old English word meaning "muddled", while the word “muddle” is most commonly used today to denote a generally confused state, in its original meaning, that confused state was brought about with alcohol. It is thought that the process of mulling wine was first employed as a way to save wine that was about to spoil (grape.com, 2011).

Mulled wines have a long history. In medieval times these wines were called Ypocrates or Hipocris, named after the physician Hippocrates. They were thought to be very healthy, and indeed, with wine at the time being far more sanitary than water, these heated drinks probably did keep people healthy through the cold winters (Wineintro).

The oldest Glühwein tankard is documented in the high noble German and first Riesling grower of the world, Count John IV of Katzenelnbogen around 1420. This gold-plated lockable silver tankard imitating the traditional wine woven wooden can is called ‘Welcome’ (Gavinhubble-Wineblogs).

Charles Dickens gets the credit for elevating mulled wine into a traditional holiday drink. While mulled wine appeared in several of the beloved novelist's books, it was its appearance in his popular short story, A Christmas Carol, which sealed its place in Christmas culinary history.

Mulled wine was also featured in the Christmas movie classic, it's a Wonderful Life. When Clarence the Angel visits a modern bar, he considers ordering a “flaming rum punch,” decides “no, it’s not cold enough for that,” then orders: “Mulled wine, heavy on the cinnamon and light on the cloves. Off with you, me lad, and be lively!” (Grape.com)

3. PEST analysis mulled wine

3.1. Political analysis

3.1.1. Alcohol legislation

The German laws regulating alcohol use and sale are some of the least restrictive ones in the world. The foremost function of restraints, as far as they exist, is youth protection. In contrast to many other countries, the legislation is not designed to keep young people away from alcohol completely, but rather to teach them an appropriate way of alcohol consumption (Österberg et al, 1998).

There is no licence needed for production, wholesale or retail sale of alcoholic beverages. There are, however, laws which are not alcohol-specific, but which also affect the production, wholesale and retail sale of alcoholic beverages, like the Health Act or the Food Act. In addition to the contents of food and the purity of ingredients, these laws also regulate the course, supervision, and quality of the production (Österberg et al, 1998).
All beverages which contain more than 1.2 per cent alcohol by volume have to be labelled according to the food-labelling provisions which went into effect on September 6, 1984. According to the law for the protection of youth in public from February 2, 1985, three kinds of alcoholic beverages are differentiated:

- Beverages containing distilled spirits, defined as every product made by the distillation of fermented alcoholic liquid. Mixed drinks such as cocktails also belong to this category, if they contain distilled spirits.
- Food that contains more than a small amount of distilled spirits.
- All beverages that contain alcohol without containing distilled spirits, like beer and wine, but also other beverages whose alcohol is produced by fermentation or wine pressing, and that are not distilled.

Also the age limits on the purchase and consumption of alcoholic beverages are regulated by the law for the protection of youth in public. The first version of this law came into force on December 4, 1951, and was revised on July 27, 1957. The currently valid version is from February 25, 1985. In the current version, children and youth under 18 years are generally not allowed to purchase or consume distilled spirits, beverages containing distilled spirits, or food containing more than a small amount of distilled spirits. Other alcoholic beverages may be purchased or consumed by youth aged 16 years or older (Österberg et al., 1998).

Germany has barely any restrictions on alcohol consumption in public. Exceptions are sometimes made in the context of highly controversial football matches, where police executives may ban the sale of alcoholic drinks inside stadiums and deny entrance to drunk fans. In 2009, the private railway company Metronom, which operates in parts of Northern Germany, introduced a much-discussed complete ban on alcohol in its trains (Ban on alcohol, 2011).

Until recently, it was acceptable for employees in many fields of work (especially construction workers, gardeners, and the like) to consume medium quantities of alcohol during work hours. However, occupational safety legislation has since tightened down and has induced a significant decrease of alcohol consumption during work hours.

Governments of the states are urged by law to set up a closing time for public houses. This closing time can be changed for individual establishments. If alcoholic beverages are sold, non-alcoholic beverages also have to be sold. A revision of the law in 1994 required that at least one non-alcoholic beverage has to be sold at the same price as the cheapest alcoholic beverage (Österberg et al., 1998).

### 3.1.2. Alcohol and driving

Taking into account that the car is an important transport for people visiting Christmas markets the alcohol and driving legislation should be taken into account with Zero alcohol in blood alcohol content for beginners (less than 2 years’ experience and drivers under the age of 21) as well as for professional drivers, bus drivers, truck drivers and drivers making commercial transportation of passengers; 0.03% in blood alcohol content in conjunction with any other traffic offense or accident; 0.05% without evidence of alcoholic impact (€500 fine and 1 month license suspension); penalty for 0.11% is a €500 fine and the drivers licence is withdrawn for at least six months, but usually about one year (penalty is set by the Court); for 0.16% or higher regranting of
the licence requires a successful Medical Psychological Assessment. If someone is caught with more than 0.11% or higher within 10 Years of the last DUI incident, he carries a minimum €1,000 fine and a license suspension of at least one year. He has to take and pass a successful MPU and is required to prove to the Court that he has been sober for the last 12 months before he can get his license back. Note that the fine is doubled for second offenders and so on, regardless of how much the driver was over the limit. Also, usually German Courts will hand out an extra €-fine to drivers for DUI offences, regardless of the already set penalty. If over 0.11%, the German Courts usually also require the DUI offender to do unpaid community service. Riding a bicycle in Germany, the limit is set to 0.16%, as long as the rider is not involved in an accident. If a cyclist is caught with more than 0.16%, he is facing the same penalties as if he would have been driving a car with more than 0.16% of alcohol (www.mz-web.de).

3.1.3. Mulled wine quality regulation


(12) In conformity with the TFEU Treaty, in applying a quality policy and in order to allow a high level of quality of aromatised wine products with a geographical indication, Member States should be able to adopt stricter rules than those laid down in this Regulation on the production, description, presentation and labelling of aromatised wine products with a geographical indication, produced in their own territory.


(18) The implementing powers relating to the production processes for aromatised wines, the methods of analysis for determining the composition of aromatised wine products, the decisions on protection of geographical indication, the procedures in connection with geographical indications, measures to be implemented by Member States in order to prevent the unlawful use of geographical indications, measures related to transborder applications, the information to be provided in the product specification and rules on checks and verifications to be carried out by Member States

(20) 1a. Regulation (EU) No 1169/2011 on the provision of food information to consumers shall apply to the presentation and labelling of aromatised wine products, save as otherwise provided for in this Regulation

- "Aromatised wine-based drink" shall be a drink:

Article 2 (a) obtained from one or more of the wine products defined in points 1, 2 and 4 to 9 of Part II of Annex XII to Regulation (EC) No 1234/2007, except for wines produced with the addition of alcohol and for 'Retsina' wine;

- To which alcohol may have been added;
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- To which colours may have been added;
- To which grape must, partially fermented grape must or both may have been added;
- Which may have been sweetened;
- Which has an actual alcoholic strength of not less than 4.5 % vol. and less than 14.5 % vol. and which has an actual alcoholic strength of not less than 7 % vol. if alcohol has been added.

- "Aromatised wine shall be a drink:
Same but which has an actual alcoholic strength of not less than 14.5 % vol. and less than 22 % vol. and total alcoholic strength of not less than 17.5 % vol.

- "Aromatised wine-product cocktail shall be a drink:
Same but which has an actual alcoholic strength of not less than 1.2 % vol. and less than 10 % vol.

Article 3. The Commission shall, where necessary, adopt, by means of implementing acts, methods of analysis for determining the composition of the aromatised wine products

Article 5, classification concerning their sugar content:

a) "Extra-dry": in the case of products with a sugar content of less than 30 grams per litre and, for the category of aromatised wines, a minimum total alcoholic strength by volume of 15 % vol.
b) "Dry": in the case of products with a sugar content of less than 50 grams per litre and, for the category of aromatised wines, a minimum total alcoholic strength by volume of 16 % vol.
c) The particulars "semi-sweet" and "sweet" may be accompanied by an indication of the sugar content, expressed in grams of invert sugar per litre.

- **Wine additives**

(1) Flavouring

The following products are authorised for the flavouring of aromatised wines:

- Natural flavouring substances and/or flavouring preparations as defined in Article 3(2) (c) and (d) of Regulation (EC) No 1334/2008;
- Aromatic herbs and/or spices and/or flavouring foodstuffs,

(2) Addition of alcohol

One or more of the following products may be used in the preparation of some aromatised wines and, some aromatised wine-based drinks:

(a) Ethyl alcohol of agricultural origin, as defined in Annex I point 1 of Regulation (EC) No 110/2008 of the European Parliament and of the Council of 15 January 2008 on the definition, description, presentation, labelling and the protection of geographical indications of spirit drinks, including viticultural origin,
(b) Distillate of agricultural origin, as defined in Annex I point 2 of Regulation (EC) No 110/2008,

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(c) Wine spirit, as defined in Annex II point 4 of Regulation (EC) No 110/2008,
(d) Grape-marc spirit, as defined in Annex II point 6 of Regulation (EC) No 110/2008,
(e) Spirit drinks distilled from fermented dried grapes

(3) Addition of water

For the preparation of aromatised wine products, the addition of water shall be authorised provided that it is used in the dose strictly necessary:
- To prepare flavouring essence,
- To dissolve colorants and sweeteners,
- To adjust the final composition of the product.

- **Glühwein:**

Aromatised wine-based drink
- Which is obtained exclusively from red or white wine,
- Which is flavoured mainly with cinnamon and/or cloves,
- To which no alcohol has been added
- Which has an actual alcoholic strength by volume of not less than 7 % vol.

Without prejudice to the quantities of water resulting from recourse to Annex I (3), the addition of water is forbidden.

Where it has been prepared from white wine, the sales denomination «Glühwein» must be supplemented by the words «white wine»;

**3.1.4. Advertising regulations**

A law for the advertising of alcoholic beverages has not been enacted, but there are voluntary rules of conduct of the German Advertising Standards Authority. These rules have been drawn up by the Advertising Federation in collaboration with several organisations and federations of the alcohol industry. (Österberg *et al*, 1998).

**3.2. Economic analysis**

Christmas markets economy represent a high income not only for the markets but also for many other business like the local retail, but also the local gastronomy and Hotels, transport companies and other tourist line provider (cinema, theatre, Museums, other recreational facilities)

The total sales of the Christmas market, showmen, stationary retail, Catering, hotel industry, providers of transport services and other tourism providers represent an estimate amount of revenues of 4.84 billion € (IMOHA GmbH).

In average, each visitor expends € 31.14 in his visit to Christmas market.
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- Proportions of visitors spending from this € 31.14: entertainment 0.99 €, night 1.85 €, transport / parking 2.36 €, gastronomy 2.52€, local retailer 9.91€, amusement rides 0.55€, Shopping at the Christmas market 6.04 €, food / drink 5.07€, other expenses 1.85€

Graph 1. Percentage of the average expended money per visitor in each category (imoha – Befragung).

Gifts and Christmas typical Article have a share of (58%). Beverage and food stalls have a combined share of 22%.

- Offer composition: textiles 8%, confectionery 6%, Gifts 37%, Typical Christmas items 20%, amusements 3%, snacks 22%, other 4%.

Christmas Market seems as a very important source of income for the year. This markets represent as shown in Individual statements up to a quarter of the Annual revenue generated and even more for the food and mulled wine stands.

The average turnover on a 4-week due to the Data base was € 25,400.

Average turnover in €: food/beverage 53000€, Christmas items 29000€, Gifts 10000€, confectionery 1000€, textiles 19000€, other 21000€ (IMOHA GmbH).

For the revenues we have to take into account the costs, particularly in the area of state fees and Rent and personnel against. Also there are, of course, additional costs, such as Goods sold, advertising cost, allocations, Water and personal livelihood to take into account.

Competition for space is stiff. At the larger markets, there are as many as two applicants for each available stand. Between 70 and 80 percent apply to open Glühwein stands, the business that Arens says is the most profitable at Christmas markets. In 2002, BSM estimated that the average mulled wine stand has sales of around €50,000 in a single season. Other stallkeepers, on average, have half that turnover. But strict rules prevent a glut of supply: Only one Glühwein stand per 5 or 10 different stands is permitted in each market. "The public would probably like more, but there has to be a mixture of stands," Arens explains (Der Spiegel, 2009).
To make the economic environment more accommodating for other vendors, including artisans whose profit margins are a lot smaller, *Glühwein* sellers are typically charged higher rents. In Nuremberg, for example, which is home to the world's most-famous Christmas market, sausage and mulled wine sellers must pay €522 in rent per season. But sellers of Christmas tree decorations only have to pay €83. Most sellers prefer not to discuss how much is left over in profits. "With small scale businesses, no one likes to discuss how much they earn, even amongst each other," Arens says (Der Spiegel, 2009).

### 3.3. Social analysis

Most of the visitors have not been only once at the Christmas market, for example for the 4-week events the average times visited its of 4.5 and 71% of respondents have visited average 3 different Christmas markets, which for the Meaning of Christmas markets and the Christmas market tourism speaks.

- The most frequently transport used to go to the Christmas markets was 34% by car, 29% used public Transport, 20% came on foot or by bike to the Christmas market, the train share was 12% and around 5% for coaches.

![Graph 2. Most frequently transport used to go to the Christmas markets (imoHA – Befragung).](image)

This analysis of transports has a big repercussion as the people who is coming driving by car are not potential mulled wine consumers due to the alcohol policy in Germany.

About 33% of the Christmas market visitors were under professional group, the proportion of pupils, students and Trainees was 30%. The third largest group of visitors were Pensioners (11%) (IMOHA GmbH).

About 84% of visitors came accompanied for the Christmas market. Especially on Weekdays professionals use the lunch as an opportunity to spend time with work colleagues at the Christmas market. The Mulled wine after work is also looked up Popularity (IMOHA GmbH).

Origin of visitors: Radius > 50 km 27.8%, Radius <50 km 20.8%, resident 49.4%, Abroad 2.0%
Christmas Markets, as an annually recurring events, make a significant contribution to enhancing the downtown appeal and increase quality of life of the population. Therefore, they have an important position in Urban and regional marketing too.

3.4. Technical analysis

Two main official quality levels of mulled wine can be differentiated in the Christmas markets, the Winzerglühwein translated as winemaker mulled wine and the normal Glühwein, to be classified as Winzerglühwein the production rules are more strict as well as the origin of the grapes and the levelling rules, all that is regulated by the Landesuntersuchungsamt Rheinland-Pfalz from January 2014.

One can never quite be sure just how much alcohol is in the beloved Glühwein, or mulled wine, sold at German Christmas markets, and consumers should beware, a quality-control organization recently warned (Der Spiegel).

Contrary to the popular belief that heating mulled wine diminishes the alcohol content, prompting many to drink it with an added shot of amaretto or rum, this happens only once it reaches a temperature of 78 degrees Celsius (172 degrees Fahrenheit). Vendors usually heat Glühwein to only about 70 degrees Celsius, though, the organization said (Der Spiegel, 2013).

But perhaps the belief that Glühwein has less alcohol because it's hot has come about for a different reason. Test samples taken last year by officials at different Berlin Christmas markets showed that some 11.5 percent were of questionable quality, daily Der Tagesspiegel reported. The biggest problems? Too little alcohol and an overcooked flavour (Der Spiegel, 2013).

"At times I am happy to be able to spit it out like chemicals at the dentist," Peter Scheib, wine regulator for a number of Berlin districts, told the paper. Customers should check the colour of their Glühwein to make sure it remains a pleasant dark-red hue, Scheib recommended. If it takes on a brownish tint, the wine has likely oxidized after cooking for too long, he told the paper.

Furthermore, Scheib said, customers should ask vendors whether they are selling ready-made Glühwein or a homemade mixture, and seek out the latter. Forking out for Glühwein -- which has an average price of some €3.50 ($4.80) a mug -- is only justifiable for the homemade version, especially since an entire litter of ready-made mulled wine can be purchased for €1 at the supermarket, he added. Homemade mulled wine may be hard to come by, however, because some 90 percent of what's on sale comes from the wholesale market, he said (Der Spiegel, 2013).

These quality discrepancies may defy European Commission regulations for Glühwein, which it defines as an "aromatized drink obtained exclusively from red or white wine, flavoured mainly with cinnamon and/or cloves," plus other spicing such as cardamom or orange peels. The alcohol content must be between 7 and 14.5 percent. Diluting the beverage with water is strictly forbidden, and failure to maintain these standards comes at risk of fines up to €1,000 (Der Spiegel, 2013).
The quality spectrum is very wide. In winegrowing regions, it is possible to get a so-called Winzerglühwein ‘Winemaker-mulled wine’ made of quality single variety like pinot noir or Dornfelder. However, especially in the big wine consuming regions of Germany there is a quality problem. I.E. the ‘Glühwein’ at the 50 Berlin Christmas markets is worse. Wine inspectors of the State Laboratory Berlin rejected about every tenth mulled wine in recent years. In 2011, there were 35 samples; the rate of complaints was 8.6 percent. In 2012 52 mulled wine samples were tested, 11.5 percent faulted. These values are well above the average of wine controls in Berlin. Normally only 3 to 5 percent of the annual 1,000 samples from wine specialty stores, discounters, companies and gas stations are rejected. (Erik Schweickert and Peter Scheib, 2013)

4. Market analysis of the mulled wine

In the wine business in Germany the fastest growth continued to be demonstrated by other non-grape wine, which grew by around 5% in volume and 4% in current value terms. However, at a sales value of €57 million, other non-grape wine remained a small niche in actual terms. Growth was supported by the novelty value of other non-grape wine, as German consumers were curious to try unusual types such as wine made from honey (Euromonitor) this data can reflect a demand by the German consumer of new product different than the normal wine such as mulled wine.

German consumer’s preference for quality wines was also reflected in the wine quality classification split. For example, over 68% of still red wine volume sales were quality wine (QbA) in 2013, while sales of still red table wine accounted for only 21% of volume (Euromonitor) same to this the demand by the German consumer of his/her quality mulled wine is perceived during the Christmas events starting to have a quality perception for this product.

2,500 Christmas markets were celebrated in 2001 in over 1,500 municipalities with more than 10,000 inhabitants. These markets last from a day on weekends up to 4-week events.

![Graph 3. Number of Christmas markets organised per commune (imoha – Befragung)](image)
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Only 7% of the communes in Germany don't organize any Christmas market and 32% of them organize two or three which gives an enormous amount of Christmas markets in Germany with the mulled wine as one of the main beverages of them.

![Graph 4. Why people visit Christmas markets](image)

*Graph 4. Why people visit Christmas markets

*Share in% (multiple answers possible) (imoha – Befragung)

Around 57% of the people who visited the Christmas markets was for the food or beverages in which mulled wine is included this number represents an enormous market an huge possibilities for the product and gives an overview of the number of consumers who ask for the product.

Mulled wine in Christmas markets is a really secret business, but it is not only the small scale traders who prefer to keep quiet about their profits. Larger companies that sell their products at Christmas markets also keep their profits secret. Nuremberg’s Gerstarker is the market leader in producing mulled wine in Germany. The company claims that 80 percent of the cups of Glühwein served up in Germany come from its factory. Few of the stalls make their own wine, and the price of wine depends on the quantities purchased and a trader's bargaining skills (Der Spiegel, 2009).

Nuremberg and Dresden each spend as much as €250,000 a year advertising their Christmas markets. Other cities with more recent Christmas market traditions use superlatives in their efforts to draw visitors. Dortmund, for example, claims to be home to the world's largest Christmas tree. Mainz touts the world's biggest Glühwein mug. And Kassel has the world's biggest decorative Christmas pyramid (Der Spiegel, 2009).

Summarizing all the above information we can conclude that Christmas markets annually attract numerous visitors from home and Abroad and they have a high economic impact such as:

- They achieved sales of millions.
- There induce additional income and tax revenue.
- They create jobs - at least temporarily.
- Christmas markets have a positive effect on other sectors.

Christmas markets contribute to increase the quality of life of the population

Christmas markets have significant potential to attract tourism, and they are an important part tourism in the context of urban tourism in Germany (IMOHA GmbH).

Mulled wine market is directly related with Christmas markets and can be also considered as very seasonal and extremely short, with almost no sales outside the Christmas period and with a very high demand during it, which forces companies to develop a strong distribution network capable of covering all the important retailers on time. It is also very dependent on the weather because with lower temperatures and increase of the demand is perceived and the opposite if the temperatures are warmer.

Mulled wine is also a market in which almost no one has developed a quality strong brand so the average consumer just ask for a mulled wine sometimes making the difference between the Winzerglühwein and the normal mulled wine and hardly ever they ask for a specific brand or product profile.

5. Summary

With 40 Million liters per year ‘Glühwein’ is a big business in Germany and an import channel of the industrial consumption of wine. The quality spectrum is very wide. In winegrowing regions, it is possible to get a so-called 'Winemaker-Glühwein' made of quality pinot noir or Dornfelder. However, especially in the big wine consuming regions of Germany there is a quality problem. But these quality problems are normally not noticed by the consumers. Due to the added spices they have an impaired perception error to sensorial off flavors. And also the loss of the basic benefits of alcoholic beverages is not noticed, even if the alcohol content of the product is almost not measurable. The minimum alcohol content is legally set at 7 percent by volume, but can be up to 14.5 percent. Mulled wine rises quickly to mind. Because of the hot beverage, the vessels in the gastrointestinal tract are with more blood and so ‘Glühwein’ exerts its effect faster than conventional wine. The sugar promotes alcohol intake in addition.
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