

HUNGARIAN SPIRITS PÁLINKA AS A “HUNGARICUM” I.

Literature review and practical approaches

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Abstract: The history of alcoholic distillation dates back over thousands of years. Spirits arrived in Hungary by the mediation of foreign countries, and were used as medicine in the royal court already in the XIV. Century. The first written presence of the pálinka as a word originated in Debrecen (1572). The quality and alcohol degree of these drinks were increased continuously, and rose to 'Hungaricum' rank due to several factors such as the quality of the fruit stock grown in our country, the technical development of distillers and several century-old professional experience. Mitterpacher, who distinguished the main parts of the equipment, reviewed the determination methods of alcohol content, and made a proposal for coating the inner surface of the cauldron with tin in favour of the preparation of the high-quality product, played an important role in the establishment of the literature of pálinka distillation.

Subcontract distillation, considered as an individual peculiarity in the European Union, developed during a long time in Hungary. It was facilitated by the regulation of distillery plants allowing the operation also for private persons from 1983. The fame of Hungarian national drink increased greatly when the meaning of pálinka was defined punctually: those drinks could be called 'pálinka', which had 100% fruit content containing no additives, prepared in Hungary and their alcohol content was at least 37.5%.

According to conservative evaluation, more than 50% of the Hungarian adult population consumes pálinka occasionally. The majority of the adult population believes that a small amount of pálinka is good for health; many people use it for the alleviation of toothache, sore throat and stomachache. Pálinka has a mood-enhancing impact at social parties and pleasant family events, if consumed in moderation.

This paper is an overview of the history of Hungarian pálinka. This is the first part of the article. In the second part we analyze cost-benefit circumstances, and we also deal with the main problematic issue, namely the effect of tax-free production in Hungary and in the European Union.

Keywords: pálinka, hungaricum, historical overview, pálinka production regulations, spirits, technological change, consumption patterns of pálinka

Introduction

What is pálinka?

The production of Hungarian pálinka is regulated by Hungarian local law LXXIII of 2008, often referred to as “pálinka law”, which is based on the regulation of generic fruit spirits of the European Union. An alcoholic beverage may be called pálinka if:

1. it is fermented exclusively from fruit (excluding concentrates and dried fruits) grown in Hungary, and free of additional ingredients
2. is grown, distilled and bottled in Hungary,
3. is not rectified higher than 86% and is bottled with at least 37.5% ABV.

While pálinka is traditionally made from a mash of ripe fruit, the law does not control the addition of non-concentrated fruit juice, and explicitly allows the use of fruit pulp. Dried fruits are excluded from the mash only, and may be used in the aging process. In 2004 the European Union accepted pálinka as a Hungarian speciality, and hence its production is limited to Hungary (and four provinces of Austria for pálinka made from apricots).

What is “Hungaricum”?

Hungaricum: a blanket term indicating a value worthy of distinction and highlighting within a unified system of qualification, classification, and registry and which represents the high performance of the Hungarian people thanks to its typically Hungarian attribute, uniqueness, speciality and quality,

- which are considered the work and outstanding value of the Hungarian people both within Hungary and abroad, or
- which are natural values under protection, or
- which are national products of a superior standard, or
- which are classified as hungaricums by the Committee for Hungaricums as a result of the individual assessment conducted in accordance with the provisions set forth in the legislation issued for the enforcement of this law, or which are considered as hungaricums by virtue of this law. (I4)

Literature review, beginning of distillation

The production of spirits and spirit drinks accompanies the history of mankind. In the beginning, experiments and technological limitations resulted in the production of low-alcohol content beverages, such as beer and wine prepared by simple fermentation. “Those high alcohol content drinks of which alcoholic strength can be increased up to 95.57 owe their origin not only to the biological process of fermentation, but to a physical process as well. This physical process is known as distillation by natural sciences and we, Hungarians call it “lepárlás” (rectification) (Osztróvszky 1943). Some say that distillation was already used back in ancient times. Kai–Szetei (2011), who regard the tradition of distillation about 3 thousand years old, also share this opinion; however, they mention that at that time technology did not make the distillation of alcohol possible, but it was suitable for the separation of substances of higher boiling points.

In the light of Kautilja’s work, Marton (2002) claims distillation was discovered in India before Christ. He traces the appearance of distillation in China to the 3. Century B.C., when the drink was cooked from rice after fermentation. He considers the existence of distillation in ancient Europe impossible, whereas others share the rather accepted view that the science of distillation emerged at about the 8. Century. At that time the Arabs distilled wine for scientific purposes rather than enjoyment, as they originally attempted to produce gold. As they were migrating and travelling in foreign countries, they passed on their knowledge and this is how it arrived in Europe. In his book written in the early 1800s Mitterpacher mentioned that the science of distillation, i.e. “destillatio” had been known for “several centuries”. (Mitterpacher, 1815)

Quoting contemporary research, Osztróvszky (1943) denies the ancient origin of aqua vitae; furthermore, he rejects that the extraction of spirits is the merit of Arabs. He claims that present day Italy was the location where the first activities of distillation took place; however, he is uncertain about the identity of the first distillers: they could be alchemists or monks.

Similarly, he could not find attested proofs for the period, thus he can merely allege that people experimented with distillation already in the XI. Century.

Torbágyi-Novák (1948) states that Hungarians learned the preparation of grain spirit from German and Polish settlers in

the XIV. Century. He and Osztróvszky (1943) claim that the distillation apparatus used by Taddeus Florientinus was the first to comply with the basic conditions of pálinka preparation. The pot was made of copper and equipped with a cooling coil, where water was continuously renewed and re-distillation was used in its modern meaning.

Békési–Csarnai (2010) co-authors say that distillation was discovered in the XI. Century, so conditions for wholesale pálinka preparation were given in the XIV. Century.

Range of the pálinka in Hungary

The first pálinka-related memory that lends itself to verification originated in 1332, in the court of King Charles Robert. Queen Elizabeth suffered from arthritis, which was treated with aqua vitae, the water of life, made not out of fruits at that time, but of distilled wine with rosemary in it. Therefore, first distillate was prepared from mostly wine, conserving it in this way.

As time went by, other materials were looked for and found for preparing pálinka: potato, fruits and grains.

In the XIV. Century pálinka was still of low alcohol content and it was used as an antidote to plague. The onset of grain based distilling industry may also be dated to this period since it represented a more economical alternative compared to wine. Copper-pots were already manufactured at that time and as human inventiveness perfected the equipment, the era saw the emergence of refrigerators and dephlegmators. Not much later, due to Paracelsus, liqueurs started to gain more and more popularity.

In Bártfa in 1438 a person called “Miklós” prepared pálinka, i.e. he “burnt” wine and distilled beer as well. Distillates appeared soon and their mixtures with herbs were used as medicaments (in modern interpretation, they were liqueurs). “Druggists recommended spirits almost for everything and people were ready to drink them. After a time, there could be no stopping.” Whereas Balázs (1998) dates the terms “cognac, hard liquor to”1570, Marton (2002) traces it back to 1524. Data about pálinka export have been available since 1542. Ferdinand I. In Hungary, the first written occurrence of the word “pálinka” can be dated to the 16. Century: as for research by Balázs (1998), it could be found as “balinca” in 1572 *in Debrecen* town. It also occurred in the forms of aqua vitae, crematum, vinum sublimatum and brannt wein referring to its preparation from wine. Torbágyi-Novák (1948) claim that grain-spirit production was so extensive that it often brought about famine, therefore it had to be regulated by law, already under King Mathias. When one of these prohibitions was imposed, the first census had to be taken of distilleries in 1677. “In Thököly’s estates 4000 “ice” (about 3400l) pálinka was prepared. In 1721 in Transylvania 3.774 distilleries could be found. Long distillation tubes leaning towards the pot and a wide cap were used to reduce the number of re-distillations. In England in the 1750s the word “aqua mortis” i.e. the water of death appeared. This adjective was used to mock gin due to its

extensive consumption and health consequences. Potato-spirit production was initiated and achieved success in Transylvania in 1769.

Mitterpacher (1815) takes stock of examination methods: the quality of pálinka could be judged in various ways. Pálinka was poured until it reached two-thirds of the bottle and then it was shaken. Its quality was assessed on the basis of the strength and duration of foaming. As for another method, if pálinka was spilt on gunpowder and went up in flames after lighting, it indicated appropriate quality. At that time spirit was mostly distilled only once, rarely twice. The author mentions the steps of preparing pomace and leesh for distillation. Marton (2002) also mentions the method of mixing pálinka with gunpowder and lighting it as the key method to measure its alcoholic strength in early times. The emergence of alcohol meters constituted a change at the end of the XVIII. Century, as they were suitable for the exact measurement of alcoholic strength. The use of yeast speeding up the process of fermentation came into general use at about this time. As time went by, distilleries were gradually improved and perfected. Back in the 1830s alcoholic strength of 96% could already be achieved due to the work of Aeneas Coffey. He was the person who constructed the first continuous distillatory, which is called a columnar or towered pot.

From 1836 peasants were allowed to distil pálinka with the exception of grain spirit preparation, which was only possible after the payment of tax levied on the use of pots for the landlord.

The tax was imposed on distillation equipment in 1849 and then the Board of Customs and Excise was established. The volume and alcoholic strength of spirits formed the basis of the introduction of tax first on the mash and then tax in kind. Those whose amount were below 1 hectolitre and used their own materials, were exempted from payment.

In the mid-1800s the nobility interceded to ban pálinka preparation for peasants and Jews. This regulation induced highly intensive trading activities and the resulting high quantity was exported to foreign countries. While for some time only well-to-do citizens could afford to consume pálinka, later it was written: "No matter what pálinka it may be, it is peasants' common drink, especially in the morning when they set to work."

Pálinka has not always been an accepted beverage. Once it has become available for and favoured by the general public, it produced a lot of "side effects". The distillate and its consumers were both condemned in these times. Széchenyi (1845) regarded pálinka "a crude drink favoured by villainous people". He thought that its culture originated in Poland and Silesia and that deteriorating morals, increasing crime rate and human body deformations were the outcomes of growing pálinka consumption. He passed judgement on the high fuel need of pálinka preparation and the shortage of trees in the wake of it. He also pointed out its effect to impede digestion, although nowadays we have opposite information: pálinka was recommended both as an aperitif or a digestive drink (rather the latter one). Compared to other drinks, he found its advantages in its higher alcoholic strength, long storage life

and the fact that its consumption did not require special occasions. He thought that contemporary regulations to contain the spreading of excessive pálinka consumption were insufficient, so he came up with some precautionary measures. He wanted to ban pálinka sales and wanted to have its preparation subjected to permission and taxation. He wanted to limit the maximum alcoholic strength to 4 degrees. He claimed that this restriction would considerably raise the price of fruit-spirits set against grain-spirits and would cut back their consumption. In a way he predicted that people would use all kinds of fruits for pálinka distillation.

The mid-XIXs saw that manufacturing was replaced by industrial production in distilleries and liqueur factories. At that time "most distilleries could be found in Szabolcs." MARTON (2002) said that "Hungarian distilleries were the best developed in the world" in the 1870s. Hungarian distilling industry became renowned and famous in this period.

Influence of the World War I. to the preparation of pálinka

Free pálinka preparation came to an end in World War I., when distilling equipment had to be surrendered. Central distilleries were established and farmers who were left without pots could use them. Demand for pálinka existed despite the restriction, so inventiveness played a key role: everyone prepared it as they could. In the spirit of economicalness, village people assembled their simple distilling devices from their everyday instruments. They filled a big pot with mash up to two-thirds or 50%. They put a little stool in the middle and placed a basin on the top (pálinka was dripping into it). Another basin was put on top of the whole equipment, which functioned as a dephlegmator and helped the precipitation of the distillate. Once the mash collected around the house was distilled little by little, the raw drink received in this way was poured into the pot again and the process was repeated. The outcome was pálinka of highly questionable quality; moreover, it was sometimes poisonous.

Balázs (1998) listed three further methods of illegal home pálinka distilling (zugfőzés):



Figure 1. Primitive pálinka distillery unit

Source: <http://www.vasiszemle.t-online.hu/2008/06/balazs.htm>

pressure-cooker: the distillate was prepared by using traditional household instruments with minimal transformation for individual purposes.

- Transdanubian type: it was also assembled from personal belongings but on a large scale, e.g. people transformed jam pots and fitted them with separate vapour tubes; wooden barrels were used for cooling, so a large amount of mash could be distilled in one go.
- Alföld type: mash was prepared from sugar and yeast; smaller versions of industrial pots were used to generate profit through pálinka sales.

The practice of illegal distillation was encouraged by the traditional rule among peasants that said: windfalls should not go to waste and what you can produce at a lower price, economically, you should not purchase unnecessarily. This economical view was typical of citizens in the country and in towns as well.

The price of pálinka was continuously rising, so people oftentimes complained about wholesale prices.

In 1916 Popovits Radován published his book “Szerencsés korcsmáros”, which he wrote, by his own admission, to teach people how to prepare drinks more cost-effectively. At that time fruits, grapes and grains were also used for distillation. “Pálinka is distilled in fire, as it evaporates from plants, whereas water remains in the furnace. This process gets repeated twice or three times and the outcome is called burnt spirits.” He also differentiates concentrated drinks as alcoholic drinks, liqueurs and “rozsólis”. He claims: “tasteful pálinka improves natural processes and *natural* has a favourable impact on *tasteful*.”

As an example, he prepared calculations how to sell drinks prepared by his method at a guaranteed profit, including the price of materials and the book itself. His examples mention pálinka with 32 degrees of alcoholic strength, indicating that it was generally accepted at that time. (Popovits 1916)

The industry saw an especially fast development between the two world wars. Machines for measuring alcohol strength were used from 1924, first to measure low alcohol (alszesz) and then small-scale factories were subjected to production taxes and large-scale ones to consumption taxes in 1938. The Spirits Monopoly Law of 1938 set up two categories for distilleries. Torbágyi-Novák (1948) found that large “wine and fruit-spirit” distilleries were significant because they provided alcoholic beverages by processing inedible products. He called small distilleries those ones, which offered distilling facilities for local inhabitants to prepare pálinka for their own consumption or for sale. In 1936 the number of registered fruit-spirit distilleries was 1500, but only 800 operated. Pots were mostly heated directly, including merely one gas-heated and some steam-heated ones.

Antal Osztróvszky played a considerable role in drafting the assessment of spirits, which was the predecessor of the present day pálinka test. He used the present tulip-shaped glass that he described as pear-shaped for the sensory analysis of pálinka already 70 years ago. He included among the criteria of tasks to be performed individually the skills to identify taste, scent, colour and alcoholic strength (22. p.). In those

days alcoholic content was measured at 15 °C, whereas it is at 20 °C today.

Water in which “soap does not lather well and legumes do not get cooked soft” is not suitable to achieve the required alcohol level. He finds mains water suitable and distilled water the best. He recommends double-walled steam heating to prevent scorching and to produce a distillate of better quality. The head of the distilling plant was obliged to preserve the certificates for three years and he had to report the hectolitre/degree data for the Board of Customs and Excise. Maximum 1 degree was the allowed deviation between the alcoholic strength indicated on the bottle and the actual one. Above a certain price category, a luxury tax was imposed on distillates, which had to be indicated on the invoice separately, if the drink was prepared exclusively from the displayed fruits and included no extraneous alcoholic matters whatsoever”. It means that high quality distillates were listed in another category already at that time. He calls attention to continuous learning, gaining experience in foreign countries and the significance of individual initiatives and experiments. (Osztróvszky 1943)

Following World War II. renovations were fast, distillation plants and liqueur factories were nationalized until 1951. In the coming decades distilling plants went through organizational changes and large state companies gained dominant roles in the industry. In addition to them, small-scale, local distilleries run by councils or agricultural plants were also in operation.

Share-distillation was introduced in 1952, which meant that distillers received 50% of the pálinka, which was subject to distillation and fuel fees. Subcontract distillation subjected to tax on spirits was authorized from 1970 and *from 1983 private individuals were also entitled to operate distilling plants*. (Balázs, 1998) From the turn of the 80s and 90s distilling industrial plants operated under good management conditions. Adaptation to quickly changing market conditions was expedited by transformations and ownership changes in state companies. In the wake of these processes internationally renowned companies started their operations in the Hungarian distilling industry.

For a long time, the name “pálinka” was used for three types of drinks. One of them was a drink produced by the addition of aroma to rectified alcohol, branded as plum-vodka these days; the second was a mixture of rectified alcohol, aroma and real fruit-pálinka (so-called “cut” items) and the third included distillates made exclusively of fruits. In that chaotic situation the “pálinka law” and the EU regulation clarified the legal positions. In compliance with category 9. of Appendix II. of 110/2008/EC Decree, pálinka shall be a fruit distillate prepared from fruits grown in Hungary, including fruit pulp, which is mashed, distilled, matured and bottled in Hungary. The spirit made from concentrates and dry fruits cannot bear the name “pálinka”. Therefore pálinka has become a prioritized spirit category, stated precisely by Act LXXIII of 2008 (Pálinka Law). Under this law pálinka i.e. pálinka made of pomace shall exclusively include:

- pálinka prepared from fruits or recrements of grapes grown in Hungary
- their fruit content is 100%, i.e. they contain no additional alcohols, colouring and flavouring agents or sweeteners.
- their minimum alcoholic strength is 37.5%.

Besides Hungary, the name "pálinka" can only be used by four Austrian provinces (Burgerland, Lower Austria, Styria and Vienna), but exclusively for a special distillate prepared from apricot.

Since 27 September 2010 distillation has become tax-free up to 50 l of fruit spirit (the alcohol strength of fruit spirit is of 86 V/V %). In 2009 the revenue of the state budget was 5.7 and in 2009 "8 billion HUF from home-made pálinka; however, in 2010 the legalization of home distillation lead to a significant drop in state revenue. As for NAV data, this amount was merely 2.8. billion in this year, and most of this sum was collected in the first part of the year, before the legalization of home distillation." (11) Mention must be made that the end product of home distillation is to be called "distillate" as requirements stipulated by the pálinka law are impossible to be supervised.

In the past decades alcohol as a raw material and an ingredient gained higher significance and now it is used by several industrial sectors (pharmaceutical industry, pesticide production, domestic-chemical industry etc.); moreover, it is an alternative motor fuel in several countries.

Modern technology development

Mash prepared from fruits by a special sequence of operations is the raw material for distillation. Balázs (1998) claims that "Fruits are smashed and the resulting mash is usually fermented for 5-10 days." Fermentation is rarely this fast and it is only true of some fruits requiring particular processing. The recommended fermentation period is 2-3 weeks, which is dominantly influenced by outdoor temperature, e.g. for late maturing apples it might extend to 6-8 weeks. Current standards ban the preparation of mash without the careful selection and washing of fruits, although the author does not mention these processes.

For the preparation of pleasurable, excellent quality end-product the following sequence is to be observed. First, only ripe, juicy, healthy and selected fruits should be used. These have to be washed and stoned (it is especially significant for plum and peach). Then fruits are smashed to induce fermentation; furthermore, pure-bred yeast and pectinolytic enzymes are added. Suitable temperature is important, the mash has to be stirred from time to time. Its alcoholic strength is to be measured and once the fermentation has completed, distillation must follow immediately. If it is impossible, the storage tank has to be closed hermetically to prevent alcohol from escaping.

In the beginning so-called spontaneous fermentation was used where no enzymes or yeasts were added to the mash and alcohol extraction was induced by indigenous yeasts of low colony count on the surface of fruits. As they occurred

in small amounts and their reproductive phase was long, they could not ensure proper alcohol extraction and quantity. Later the process was controlled by yeast available in convenience stores. However, it could be stated in the end product, prompting pálinka lovers to look for new solutions. The current technology is the use of pre-packed dry, pure yeast, available in farmers' shops. It provides smooth fermentation without side effects. Aroma-rich basic material is produced by providing suitable temperature, adding pure yeast and yeast nutrient salts. Its use has become widespread in large-scale industrial production.

Torbágyi-Novák (1948) claims that the main factors to be considered for the selection of raw materials should not be the available spirit quantity, but the aroma-rich end product that is typical of the given fruit. He points out that fruits are necessarily crushed, as this is the way yeasts can decompose intracellular sugar. Washing is also necessary for raw materials to eliminate the effects of harmful soil bacteria. As mash is exposed to various actions and has to be heated for rectification, "the aroma of the distillate can only be similar to the original fruit aroma, but never the same". Instead of spontaneous fermentation, he recommends controlled fermentation by adding nutritional salts providing the generation of high quality alcohols and more pleasurable pálinka.

When Balázs (1998) collected his research data in the 1980s, plastic barrels were not used widely, whereas today they have almost completely replaced wooden ones in households. He adds that in distilling plants waste was used instead of firewood. Distilling plants operated from St Michael's day to St George's day, i.e. in the period of 29 September–24 April. It was followed by a stoppage for repair and maintenance. Today the plants cannot afford to start their operation this late as for early fruits, e.g. cherry and sour cherry have to be processed already in August to produce high quality pálinka. He rather underestimates the firewood demand of the above, talking about 3-4 sacks i.e. 1 quintals of wood.

Speaking from the ground of personal, practical experience 2-2.5 quintals of wood are needed for the rectification of about 400 l mash. 1.5 countries might be enough if the mash is rectified for the umpteenth time on the very day.

He reveals further exciting information regarding the establishment of alcoholic strength. Such is for example the "egg probe" where an egg is submerged into pálinka of 50 degrees to assess the depth it reaches and it serves as a standard to set high or low alcoholic strength. As for another interesting practice, as long as the mash foams when dripped on walnut leaves, it has to be cooked. Distilling plants had to switch over from the measurement of low alcohol to that of refined alcohol until 1 December 1991. Covering the field of work with tiles was a requirement even at that time; moreover, Osztróvszky (1943) mentioned proper lighting, spacious areas, easily cleanable surfaces etc. In spite of all these, there are subcontract distilleries with oil-painted walls and concrete floors in our days.

Balázs (1998) identified the reasons of pálinka preparations correctly: "Peasants prepared pálinka for salvage work, value production, value generation and also for its position and

need in peasants' working arrangements". He uses the words value creation and value generation as synonyms. Salvaging includes the use of fallen, damaged fruit, and grapes recreation, wine-lees as by-products. This is usually performed for individual purposes, but it still represents a value and makes farmers proud of their work, opening up possibilities to offer the spirit to neighbours and friends. Its real value and preciousness mostly declare themselves when pálinka is given to somebody as a present or return-service. Pálinka is usually given in return to small repair activities or other favours. Pálinka constituted an indispensable element of obligatory present exchanges, relatives living in the country generally took pálinka for their family members in the city. Hence pálinka is a value, if we want to buy it, we have to pay its price and if we sell it, we can receive money for it. It means that pálinka is a kind of money replacement. Fieldwork lasts from spring to autumn for rural populations, therefore they have no time or energy for pálinka preparation. Friends, family members can help with collecting and processing fruits in summer and autumn, when fruits ripen and it is followed by mashing grapes and grape pomace when summer activities come to an end, i.e. after harvest.

Once the mash has matured, it is to be rectified. For some fruits, e.g. strawberry, this is urgent, while mashes prepared from the majority of fruits can be stored for shorter-longer time without considerable deterioration in quality. The season of pálinka preparation usually comes when busy work is finished or there is a holiday, a period when no work needs to be done or in a gap between other activities. At times when bans on pálinka preparation were in force, or in crises, access to pálinka was impossible or extremely difficult. However, people needed their favourite drink and they were motivated to produce it. The cost of preparation was also an incentive, as pálinka made from their own fruits was cost effective compared to other alcoholic beverages in shops.

Today home-made pálinka is typical and comes to the fore increasingly as distilling plants are not able to meet all demands in time and in the required quantity. Home preparation is especially characteristic of small-scale, rare products such as strawberry, cornel and elderberry. Pálinka preparation can be an excellent hobby as a relaxation after work. Abandoned paternal homes in the country and weekend gardens purchased by city dwellers offer good opportunities for distillation. Fresh fruits are sometimes difficult to collect in time, and windfalls can merely be used for pálinka.

In earlier times various "ágyas" (bedded) pálinka types or honey spirits were highly preferred. Under legal restrictions, although these beverages have the required alcoholic strength and comply with pálinka rules, due to the presence of additives the name "pálinka" cannot be used. In the course of time this preference vanished and Péter Apor expressed his sorrow about it in this way: "... in the old times... cinnamon water was boiled in Brasov and the morning drink was called aquavita or pure burnt wine.... Or people put some honey into the burnt wine after pouring it into the bowl and added some figs or raisins to it, burnt the liquid and stirred it with a spoon... then the fire was put out, they drank the spirit and consumed the

fruits..." (Balázs, 1998). Today the consumption of pálinka-based liqueurs is increasing again, producers bring back old recipes and introduce new specialities which might attract customers. Such kind of Jonatán apple pálinka-based spirit is for example Zsindelyes keserű (bitter drink, earlier Bazilita bitter) matured in oak barrels, enriched with the extract of 33 herbs.

Home distilling is most typical of the preparation of simple pálinka varieties. However, our experience suggests that walnut pálinka traditions have been successfully revived in the Kisvárda area. According to the recipe, green walnuts are to be picked until St Ivan's day at the latest, as it is important for the shell to remain soft. The fruits are washed, chopped and then placed into the pálinka which is flavoured by various other fruits (e.g. lemon and orange) and the bitterness of walnut is smoothed by the addition of sugar. With subcontract distillation pálinka it sometimes occurs that fruits are placed above the steaming liquid which runs through it and gets even more pleasurable. Freshly cut fruits are sometimes put into the still pot, e.g. Acacia blossom. Some tailor the alcoholic strength of their pálinka to their own taste by the addition of their own water, Tonic, Sprite and Ginger. Some place strawberry or oak tree pieces into the storage tanks.

Hungarian distilleries have two different methods of distillation: traditional "kisüsti" (small pot, cauldron) or the modern "column" equipment. Requirements for the "kisüsti" include that the first distillation produces raw alcohol of 16–28% alcoholic strength and the second distillate is fully aromatic. Mitterpacher (1815) lists the following parts of early distilling equipment: pot still, cap, the "nose" of the cap and a long, straight or curved pipe. He points out that the copper elements get gradually worn out and he mentions the harmful effects of dissolved copper. He recommends that each and every part should be tinned to prevent the above health risks. He speaks about a pot, which is not deep but rather wide, its bottom is "a bit convex inside" and he enhances the significance of the rising steam and controlled heating. He claims that pálinka flows very slowly out of the bowl.

The early version of today's distillery "tower" appeared back in the early 1900s, which could manufacture a distillate of 50–70%. At that time it was generally thought that rectification, a more up-to-date method, would never be used in the fruit-spirit industry. It has turned out that this was a misconception, as the majority of new distilling plants use this technology.

In modern days subcontract distillation generates the highest turnover. It means that experts rectify distillates out of mash prepared by individuals in the course of one or two distillations, using copper or acid-resistant distillery equipment. Under this subcontract the volume of authorized pálinka is 43 HlF (V/V %) per household and the products shall not be marketed and sold.

In the European Union this right is unknown, hence it is uniquely Hungarian. Special manufacturers in various sizes and forms produce pots. Copper pots lend a special, pleasant flavour for pálinka. Original "kisüsti" is a product from two separate distillations in a copper pot through a heat-techno-

logical process in which the pre-distillate is heated to generate steam, which is cooled to gain liquid. The resulting milk-white liquid is the product of the first phase of distillation, and this low alcohol is unsuitable for human consumption. The above mentioned procedure is repeated in a separate pot to refine the alcoholic liquid. The so-called Pistorious plates in the cap sitting on the top of the pot provide excellent quality, fully aromatic distillates.

The second distillation has three phases: the middle-distillate is disjoined from the pre and the post-distillate. All these three phases (besides ethylalcohol) leave behind unpleasant tastes, odours, and chemical substances in smaller-bigger amounts. Middle-distillates are the most important for us; only this is allowed to run through the alcoholic meter. Pre- and post- distillates are destroyed due to their toxic content. The noble nectar continues its route as experts set the pálinka degree at the required level by adding distilled water to it. Most subcontract distillers prefer pálinka of 50 V/V% .

A modern, single stage or traditional "tower" type distillation has come into general use. Instead of using a separate pot for refining, an aroma column is placed on the top of the pot still. It does not only cut back distilling time, but also produces more aroma-rich, fruity spirits. The alcoholic strength is usually lower, it is at about 40–45%.

In large-scale distillation fruit mesh is produced and rectified by individuals in their own right, the pálinka gained in this way can be sold (in their own right or in another tax warehouse) with a tax stamp on it, after the full payment of 3333.85 Ft/V/V% excise duty.

The right of free pálinka distillation caused difficulties not for subcontract distillers, but for large-scale ones. High fruit yields in 2013 motivated people to prepare more pálinka, so turnover surged in already busy subcontract distilling plants.

As a consequence, approximately 9-10 million hectolitre pálinka was distilled in plants. In addition to this amount, the volume of homemade distillation can only be assessed, it might be approximately 5 million v/v %. In the meanwhile, tradover dropped harshly in industrial distilling plants. While earlier they produced an annual amount of 1.5–1.2 V/V%, i.e. 50% of subcontract production, it decreased to 660 thousand V/V%. In the background of his recession we can find the black market sale of subcontract distillates and a massive setback in the trend of pálinka consumption. (12)

There is much to do for distillers to make pálinka, our unique spirit widely known and consumed by other nations. Stakeholders in the pálinka industry have set this priority for long decades.

"Our fruit spirit industry, just like all sectors of agriculture, is confronted with the shortage of working capital.... The only obstacle to impede our export potentials is our higher price as compared to world market price, due to high raw material related production costs. For export purposes, Hungarian fruit-spirit production must produce standard excellent quality pálinka....Just like French cognac, Scottish whisky, English gin acquired world fame during history and could create their own markets, Hungarian fruit distillates have to

find their rightful place in world markets". (Torbágyi-Novák, 1948)

The excellent quality of pálinka is unquestionable, as distillers do their best to achieve the best final product. However, standard quality may become problematic, as different years yield different fruits influencing the quality of distillates. It is impossible for the same distiller to produce two identical distillates even if he uses the same equipment and fruits in two subsequent years.

Summary

The history of spirit distillation is thousand years of the history. Foreign mediation to Hungary reached the spirits, and XIV. Century has been used as a medicine in the royal court. The first written occurrence of the word for pálinka comes from the city of Debrecen (1572). The quality of these beverages and spirits degree has steadily increased, the fruit grown in Hungary raw material quality, technical development and the combined effect of several centuries of experience thanks to the distillation apparatus rose to the rank of "Hungaricum".

Mitterpacher played important role in performance of the literature of distillation of pálinka who has distinguished the main parts of the plant, described the test methods to determine the alcohol content, and made recommendations as to the quality of the final product to coat the inner surface of the pan with phenylglycine.

Hungary emerged in the "subcontract distillation" during the long time, which is considered on an individual peculiarity in the European Union. Played a major role in the fact that from 1983 authorized the operation of distillery plants also for individuals. Rise of the national drink it got a boost when precisely defined meaning of the term pálinka that this designation only in Hungary, with at least 37.5% of the non-alcoholic beverages, 100% fruit content, additives may be given the name brandy.

The pálinka can made in three ways; in commercial distillery, in subcontract distillation unit and from September 2010 may also be made at home without paying excise tax amounts up to 50 liters of fruit spirits. Traditional pot still is in production technology or modern-column distillation apparatus. However, the products made at home wearing only the name; distillate, pálinka designation may only be the fruit spirits produced in the plants, and approved by the Commission Hungaricum.

According to conservative valuation more than 50% of the Hungarian adult population consumed pálinka occasionally. The majority of the adult population believes that small amount of pálinka is good for the health; many people use it for alleviation of toothache, sore throat and stomachache. The pálinka has mood-enhancing impact in social parties and pleasant family events, if we do not forget about the moderation.

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