

Introduction

Few would disagree that beer is one of the oldest known beverages in the world. Its history dates back to ancient Mesopotamia, although the beer consumed then was quite different from what we recognize today. It is uncertain whether early beer contained hops, and the specific raw materials used remain unknown. Consequently, the beer of ancient times likely had a vastly different form compared to modern varieties. Historical texts often refer to beer in a very general sense, applying the term to a variety of alcoholic beverages that varied based on the time of brewing and geographical location. Today, beer is primarily made from malt, water, hops, and brewer's yeast, with the final product created by mixing these ingredients in the correct order and at precise temperatures (Chládek, 2007).

Beer production, as a sector, is mainly associated with the beverage industry, particularly within the realm of microbreweries. These microbreweries have seen significant growth in recent years and represent a unique sector within the brewing industry. Unlike commercial breweries, microbreweries produce beer in smaller batches, ranging from tens to a few hundred liters. They can vary not only in size but also in terms of construction, automation levels, and other parameters that influence the entire brewing process and the quality of the resulting beer. According to current legislation, the term "microbrewery" explicitly refers to an operation that sells beer to customers. More precisely, these are entrepreneurial persons or companies in the field of brewing, with annual production limits distinguishing them from homebrewers and small- and medium-sized breweries. Due to their smaller production capacity, microbreweries often create unique beer varieties that attract customers. These microbreweries frequently experiment with diverse flavors, which helps them remain competitive in an increasingly crowded market. In contrast, industrial breweries focus on producing consistent, uniform beer types, as creating specialty flavors would not be financially viable for them, given their larger production volumes (Vrána, 2020).

Microbreweries are now viewed as a popular trend in the beer industry. This assertion is supported by the notable rise in the number of microbreweries and the growing interest in beer tourism, which tends to peak during the summer months. It's essential to highlight that these small breweries are increasingly valued not only as sources of a national drink but also as tourist destinations. This phenomenon is closely linked to beer tourism, which revolves around tasting local beers, understanding their production processes, and participating in beer-related events, all of which foster an appreciation for local traditions and offer memorable experiences. Like gastronomic tourism, beer tourism allows for a deeper exploration of a specific culture, capturing its essence and spirit. In particular, beer plays a central role in the development of

Czech national culture and history, so it can be stated that beer tourism in the Czech Republic has a unique background for its development.

According to Capossio et al. (2022), beer production in microbreweries occurs through the traditional artisanal method, which usually involves unpasteurized and unfiltered beers. The increased popularity of this type of brewery is reflected in its growing number, which has been steadily increasing over the past 10 years. The demand for their services is to some extent caused by the increased interest of people in the already mentioned beer tourism, the growing popularity of which is perceived worldwide, and the increase in their involvement in this direction, manifested in the expanded offer of services for tourists. This is precisely how breweries can contribute to the promotion and overall development of the region where they are located.

As a recent phenomenon, microbreweries are becoming increasingly popular as a tourist attraction that enriches the exciting places and services offered in small and large towns and across various countries. In the case of microbreweries, for example, we increasingly encounter the fact that they expand their portfolio of offered services to include guided tours, the opening of beer-brewing museums, and so forth, thanks to which, on the one hand, there is an expansion of the offer of social life within the municipality or city and, on the other, an increase in greater awareness of them within the region. It is, therefore, wholly logical that many towns and municipalities understand microbreweries as an opportunity to offer something that can influence regional tourism development. Thanks to the development of small breweries, there is also increased competition between industrial and small breweries. The fact that there are generally no known negative aspects associated with the existence of a microbrewery within the municipality where it operates is also considered a positive, which may indicate growth potential.

Although microbreweries are perceived as a beautiful tourist attraction thanks to their current services, the opinion is increasingly emerging that their potential for the tourism industry, which can increase the exciting offer for the further development of tourism in both small and large cities, is still not enough used (Vacl, 2014).

In order to get the correct terminology, it is necessary to define the difference between a craft brewery, a microbrewery, a nano-brewery, and a macrobrewery. A traditional brewery, or “macrobrewery” produces millions of barrels of beer a year, while a microbrewery can produce no more than 15,000 barrels of beer a year. Microbreweries make “specialty beers,” the majority of which are usually consumed at the site of production. A nano-brewery is a brewery that makes even less beer per year than a microbrewery, although there has not been a number of gallons/barrels defined yet in order to classify breweries as nano-breweries. Craft breweries fall somewhere between microbreweries and macrobreweries by the definition of having to produce less than 6 million gallons of beer a year. The regulations around craft breweries are also a little more strict than those of both macrobreweries and microbreweries, in that craft breweries must use traditional ingredients such as malts, barley, water, hops, and yeast. If a craft brewery wants to use other ingredients, it must be for the purpose of taste and not for the purpose of cost-cutting, whereas both micro- and macrobreweries can use additional ingredients to cut costs (Finnigan, 2019).

CHAPTER 1

Theoretical Basis of the Issue of Microbreweries

1.1 Characteristics

There is no doubt that the beer industry plays a significant role in the economies of many countries. Breweries operate worldwide, and beer is the most popular alcoholic beverage in many countries. The brewing industry generates annual sales of \$294.5 billion worldwide. Mexico is the world's largest beer exporter, accounting for 18% of global exports, followed by the Netherlands, Germany, and Belgium. China and the United States lead the world in beer production with more than 35% share of the total output, followed by Brazil, Russia, and Germany. Globally, the largest importers are the United States (with more than 34% share of total imports), Great Britain (5.82%), France (5.34%), Italy (5.13%), and Canada (4.74%). Between 2008 and 2017, Namibia had the best comparative advantages in the beer trade, followed by Jamaica, Mexico, Kenya, Serbia, Portugal, and the Netherlands. The biggest beer exporters (notably Mexico and the Netherlands) also had comparative advantages. In 2018, the Czech Republic, Austria, Germany, Romania, and Poland had the highest beer consumption per capita worldwide (Török et al., 2020).

Fastigi et al. (2015) noted that a significant exponential increase in craft beer production has been noted recently, with the authors even talking about the so-called craft beer revolution. According to them, this has strengthened the brewing sector and encouraged the establishment of many new craft workshops worldwide, the so-called microbreweries. The issue of microbreweries and the associated growth of the craft beer sector in recent years has already been discussed in extensive literature. At the same time, it has also gained attention due to the creation of several surveys and studies (Carroll and Swaminathan, 2000). The subjects of the surveys are very different. Some examine the potential of craft beer production for creating a competitive advantage in the independent food and beverage industry. In contrast, others analyze the organizational identity of microbreweries, their ability to strengthen relationships with customers and employees, build a new local identity, or improve their general performance (Wesson and Figueiredo, 2001). More recently, the literature has focused on the impacts of microbreweries on local economies and on the relationship between craft beer production and other economic sectors in rural areas, such as tourism, including elucidating which factors influence brand loyalty. The rise of microbreweries has also been analyzed concerning consumption patterns, the reuse of abandoned

buildings, the revitalization of urban neighborhoods, and their sustainability at local and global levels (Ness, 2018).

Microbreweries generally emerge from the literature as local expressions of cultural heritage. Their establishment is seen as an opportunity to restore beer to its rightful place as a local business and a product that says something about its hometown and region. Craft brewers return beer to its craft roots, as many local bakers bake bread and cheese makers make cheese (Kleban and Nickerson, 2012). The American Brewers Association defines a microbrewery as a small (annual production of fewer than six barrels), independent (less than 25% of the craft brewery is owned or controlled by a member of the alcohol industry who is not a craft brewer themselves), and traditional (a brewer that makes the majority of its total potable alcohol in beers whose flavor comes from traditional or innovative brewing ingredients and their fermentation) establishment where beer is produced (ABA, 2020). If we focus on the characteristics of craft breweries within Europe, we can come across several definitions, each of which relates to different national laws. As an example, the report, according to the Italian Law 154/2016, Article 35, says that a microbrewery is a small producer that is legally, economically, and physically independent from any other brewery that uses structures physically different from those of any other brewery that does not operate based on a license to use the rights to the intangible property of another manufacturer and whose annual production does not exceed 200,000 hL, including the amount of beer produced on behalf of third parties (Sforzi and Colombo, 2020).

Furthermore, a definition valid for the Czech Republic can be given, where microbreweries are brought together by an organization called the Czech-Moravian Association of Microbreweries, which divides its members into two groups:

- Home brewers with home beer production at an annual output of up to 2 hL (2000 L) in the Czech Republic,
- Small independent breweries (minibreweries) are governed by the law under Section 82 of Act No. 353/2003 Coll. on consumption taxes (Act No. 353/2003 Collection).

According to this law, a microbrewery is characterized as a small independent brewery whose annual beer production, including beer produced under license, does not exceed 200,000 hL and meets the following conditions:

- a) is not legally or financially dependent on another brewery,
- b) above-ground or underground operating and storage areas are not technologically or otherwise connected with the premises of another brewery.

In addition, the reduced excise duty for small independent breweries is not a single rate but is divided into several size groups: up to 10,000 hL, 50,000 hL, 100,000 hL, 150,000 hL, and 200,000 hL per year, with the rate gradually increasing in each band.

For this law, the main production operating set means the brewhouse, spike, and lager cellar, or cylindroconical tanks. This Act's annual beer production means all beer produced in a calendar year. A small independent brewery can have a beer under license only if the combined annual production of the breweries does not exceed 200,000 hL; the production of beer under permit does not exceed 49% of its annual production, and the beer produced under license is always taxed at the introductory tax rate (Act No. 353/2003 Collection).

In connection with the issue of microbreweries, Hasík (2013) mentioned the term "Homebrewer," which he used to denote a home brewer or a brewer who strives to produce beer in a home environment. For beer production, this brewer does not apply any demanding technology or use special tools, but simply put, he brews beer at home in pots in the kitchen. The brewed beer is then not used for trading but only for his use, while it is also limited by the annual production limit, namely 200 hL. These homebrewers are very important for brewing, as they often become microbreweries.

According to Deserti and Rizzo (2020), microbreweries can be considered as social innovations because local conditions strongly determine their development. For this reason, instead of scaling up, these start-ups should focus on adapting to the local context. Microbreweries are small-scale, high-margin businesses contributing to local communities through job opportunities and skilled employment. However, some critical issues such as longevity and stability of microbreweries, as well as their dependence on customer preferences for location, may exist. Wells (2016) stated that compared to large breweries, microbreweries can be more environmentally friendly in transport, at least in the case of beer produced from local ingredients and delivered to local markets. On the other hand, microbreweries can be less efficient in terms of production. Jantyk et al. (2021) mentioned that craft beer production has spread worldwide for various reasons. More and more conscious consumers are looking for unique tastes or solutions to ethical issues, including sustainability. And such phenomena could lead to the emergence of microbreweries that prioritize the long-term economic, ecological, and social benefits associated with sustainability.

Maier (2013) stated that, in addition to a small exhibition, the microbrewery is characterized by certain specifics, i.e.,

- is not the owner of its distribution network,
- does not export its products abroad,
- usually does not offer its products to regular stores,
- is usually owned by one person,
- employs a small number of workers,
- is not owned by any larger company, or a larger company does not have a decisive stake in it,
- vast majority of production is intended for bars, restaurants, or pubs, i.e., only a small part of the production is bottled.

1.2 History of brewing in the world

The very first evidence pointing to the existence of beer can be traced back to the Bronze Age (2300–800 BC) and up to the Middle Ages. Sprouted grain can be considered as such evidence, which could, except for the raw material for the production of a sweet drink or the production of sweet porridge, represent malt. Other evidence also includes the remains of malhouses or kilns intended for drying malt, which have survived large-scale factories from ancient times or the Middle Ages.

Because the whole process of brewing beer is very demanding, whether due to a sufficient amount of raw materials or various tools, such as bulky cooking vessels, a large amount of water, fuel, and grain, according to the literature, beer production is not assumed earlier than before the Neolithic (5500–4500 BC). One of the necessary technological steps in beer production is fermentation, which occurs spontaneously in a mixture of water and grain, using wild yeast from the air. For this reason, it is often possible to come across the statement that there is a high probability that the birth of beer is due to chance. However, some researchers came up with the opinion that the taste of beer was the real reason for the expansion of grain cultivation. The cultivation of hops, the beginning of which can be recorded in Western Europe from the 8th to 9th century AD and among the Slavs from the 11th century, did not start until the end of the Middle Ages. Until this time, other plants were considered to be the bearers of the taste of beer, namely the leaves of the marsh sedge, the leaves of the common gorse, the flowers of the elm, heather, and meadow sage, and also the rhizomes of the marigold, which stood out for its carnation smell (Hornsey, 2003).

More precise information about the existence of beer can be found in ancient times, especially in Mesopotamia and Egypt. The Epic of Gilgamesh even mentions that beer consumption was more valuable than the consumption of wine and that drinking beer together with bread signified a civilized way of life (Prosecký and Rychtařík, 2018).

According to Hornsey (2003), graphic icons that have survived from Mesopotamia are attractive, depicting the consumption of unfiltered beer from a 24-cm-tall silver vessel with the help of a 136-cm-long gold tube. It was through this way that beer was consumed in Armenia, and we can still find this way of drinking in some areas of Africa today. Also worth mentioning are the clay tablets found with the Uru script (approx. 3300 BC), which provide evidence of beer exchange.

DeSalle et al. (2022) stated that different beer types were produced in ancient times. Both strong and weak beers were brewed, unfiltered and filtered from barley, wheat, or a combination of them. It is also interesting that all classes across society had the right to drink beer, from workers to kings and pharaohs. However, this claim was assessed based on social status and work. An example is a worker who received 2–3 L of beer daily. Ladies of the court were also entitled to drink only wheat beer. *Kash* was the name for beer in Sumerian; in Akkadian, beer was called *shikaru*.

According to Hornsey (2003), the first mentions of beer in Egypt date from around 3000 BC. This fact is proven mainly by traces of beer found in containers, inscriptions

on papyri, and decoration of burial chambers and stone stelae. Beer production in Egypt took place through bread fermentation, as Egyptian icons depicting bread-making and beer production indicated. To increase the alcohol, honey or date juice was added to the beer. Beer was mainly used for ordinary drinking, medical practices, or festivities. According to professional literature, a total of eight types of beer were brewed in Egypt, and it was mainly filtered beer. As in Mesopotamia, the Egyptians used shallow cups or clay vessels with tubes for consumption.

According to DeSalle et al. (2022), beer was an essential trade item in ancient times, a significant source of profit for the royal treasury. Over the years, beer was even the beginning of a particular industry, which resulted in the state becoming a monopoly producer. At that time, beer played such an important role that its exact quantity was a valid volumetric measure and unit of reference. Barley bread, malt, and water were the typical raw materials for preparing this beer drink. And it was the barley bread roasted in hot ashes that was a substitute for hops, thanks to which the beer was given the required bitterness.

The beer drink was also brewed in Mediterranean Europe, but it should be noted that wine was one of the far more popular drinks here. Cereal grains roasted in the sun were used to produce beer in this locality, and not only hops but also wormwood, saffron, or turmeric were used to enhance the taste. The Greeks referred to this drink as barley wine and used a straw to drink it, just like the Egyptians. Strong and bitter beers were the domain of the Eastern Mediterranean. As for the Romans, they also preferred drinking wine rather than beer, which they called “cereal Vinum” (later *cerevisiae*). From the beginnings of beer consumption in Europe, icons have been preserved, which prove that the vessels for drinking it were made of organic materials. These included, for example, leather bellows, drinking horns, and clay imitations.

The first beer brewing and storage in wooden barrels are generally associated with Celtic culture. For beer production, the Celts mainly used barley and hops as ingredients; they also produced wheat beer, to which they added honey, cumin, or honey beans. Celtic culture viewed beer as the “rejuvenating drink of the gods.” Beer with honey (also called mead) was one of the popular drinks in Gaul. According to the Germans, Odin is responsible for the birth of beer, who used saliva to make it a leavening agent. Large bronze cauldrons were used for brewing beer, the volume of which was sometimes up to 500 L. For cooling purposes, containers with lids were sunk into the ground. Blueberries, mushrooms, myrtle, and ash leaves represented raw materials intended to flavor beer (Hornsey, 2003).

In the Middle Ages, specifically at the beginning of the 9th century, the church perceived beer as a pagan drink, so there was a threat that its production would be banned. However, this fact never happened, so the monasteries could continue producing beer. Also, at this time, barley and wheat were used to make beer, and occasionally a suitable type of oats. Various herbs and ingredients, such as sage, fennel, juniper, cloves, cherry blossoms or pine, oak, and birch bark, were used. The way of brewing beer and the production process, which was strictly monitored, differed in each monastery. Plans for constructing three breweries also date from the beginning

of the 9th century. In the case of the first brewery, it was about the production of oat beer called “Service,” which was intended for monks and pilgrims for daily consumption. This brewery also included cooling and storage areas, a granary, a woodshed, and a malt warehouse. The second brewery, which stood right next to the first, produced dark beer, which in turn was intended for beggars and families. This beer was referred to as “*Conventus*.” The last brewery of all breweries produced the best barley beer, which was very strong and was intended for dignitaries, guests, and abbots. This beer was called “*Celia*.”

Germany’s oldest still operating brewery is in the Weihenstephan monastery near Freising. In this brewery, hops began to be added to the beer regularly. Beer was important for monasteries, especially during fasting, with one monk consuming between 5 and 10 L of beer daily. The biggest boom in beer occurred in the High Middle Ages when some monasteries sold up to 3,000 hL per year. Over time, however, the sovereign’s support was more directed toward bourgeois brewing, which was more successful in mass production, and for this reason, monastic breweries gradually disappeared. The first regulation regarding beer production can be traced back to the 14th century, when this production was limited only to the owners of houses and forbidden to tenants (Hornsey, 2003).

1.3 History of microbreweries in general

According to Vrána (2020), determining the beginning of the first microbreweries’ history is challenging, as each specialist’s literature has a slightly different view of this issue. For this reason, it is not entirely possible to determine which brewery could be considered the very first microbrewery. For example, Chládek (2007) thought that the beginnings of microbreweries date back to the 18th century, specifically in the United States of America, the so-called home brewers, i.e., people involved in the production of beer, appeared in their own homes. It is undoubtedly fascinating to mention here that US presidents Benjamin Franklin and George Washington also found a liking for this hobby at the time. Later, in the second half of the 20th century, Fritz Maytag came along to restore this historical tradition, and he himself started brewing beer at home. This craft-brewing pioneer purchased the Anchor Brewing Company in 1965, where beer production began according to traditional methods. However, the year 1976 was far more important from a historical point of view, as a second small brewery called The New Albion Brewery was created then. The beer from this brewery was so tasty that, apart from consumers, it got attention from television and other media. And thanks to this, this phenomenon has spread awareness among other enthusiasts. In the 1980s, it was possible to find hundreds of restaurant-type breweries in the United States, and a growing trend could also be observed in Europe. Swinnen (2011) also stated that the establishment of microbreweries grew massively in the 1980s in many countries around the world. Paradoxically, the main reason for establishing microbreweries in the United States arose due to Prohibition (in the 1920s and 1930s), during which the production of

all alcohol, including beer, was suppressed. In 1933, after the end of Prohibition, rather large enterprises had a dominant position on the market, as most of the small breweries did not resume their operations. However, this fact later ceased to be satisfactory for many consumers, as the beer offered on the market became very similar and unified.

After World War II ended, the first breweries of this type gradually began to appear. However, the second half of the 1970s is considered the critical period in connection with microbreweries due to the vast advertising campaign that caused their success. The trend of microbreweries gradually spread to Western Europe, and in 1990, it also reached the Czech Republic (Chládek, 2007).

1.4 The development and presentation of microbreweries in the Czech Republic

Brewing beer has been practiced for thousands of years by many cultures and continues to be a widespread and financially significant practice (Koller and Perkins, 2022). In the case of the Czech Republic, the history of microbreweries dates back to the second half of the 1990s. However, a significant penetration of the market environment was recorded in the 20th and 21st centuries. One of the oldest breweries in the Czech Republic is the minibrewery near Fleků, which is still in operation today. This microbrewery can be considered unique in the world, given that it has been producing one beer without a break for more than 500 years, and that is their traditional dark particular. Specifically, this type of beer was brewed since 1499. However, the Fleků minibrewery is not the very first brewery in the Czech Republic. Specifically, the Moravian brewery in Černá Hora in Blanensko produced the first draft of beer in 1298. After 1990, we can see the creation of the first privately owned microbreweries. The first private microbrewery was established in the Králové Hradec Krai in Sviništany but later went bankrupt. Notably 5 years later, i.e., in 1995, we could count 14 microbreweries in the Czech Republic. However, according to Vrána (2020), the most significant expansion of microbreweries occurred in 2009, which continues to this day. The author further adds that the growth of microbreweries in South Moravia was only recorded after 2010. He cites the main reasons for cheaper bank loans, the business climate, technology prices, and consumer pressure.

Stratilík (2018) stated that several new microbreweries usually open their operations in the Czech Republic yearly. Although it might seem that, despite the growing number, unique microbreweries could compete with each other, this is not entirely the case. The reason is simple: each microbrewery is something specific, and the beer in them is always different.

Based on the most recent surveys, there were 480 microbreweries in the Czech Republic at the end of 2019. According to this data, it can be concluded that microbreweries have a clear advantage compared to the number of large breweries, and they make up about 90% of all breweries. They are becoming increasingly popular

among consumers who are no longer fond of the taste of large producers' so-called *Europivs*. However, as regards the share of total beer production, microbreweries only account for 2%.

Schnell and Reese (2003) stated that classic microbreweries, the majority of which belong to the so-called restaurant breweries, whose name is derived from the fact that the beer is produced directly on the premises of the restaurant or taproom and, for that reason, the largest market is there. Some microbreweries do not have their bar available and thus focus their attention only on selling beers in bottles or barrels in the immediate vicinity. Other microbreweries include those that do not have their own premises but use rented premises and competitor technology for operation. In that case, I'm talking about so-called flying breweries. Compared to the others, there are about 10 times fewer of them, but they are not even mentioned in many statistics (Schnell and Reese, 2003).

1.5 Microbreweries in Hungary

Regarding absolute alcohol consumption and the total amount consumed, beer is the most consumed alcoholic beverage in Hungary. The Hungarian beer industry is highly concentrated. Molnár and Tátrai (2017) mentioned that the beer revolution hit Hungary in 2010 when more and more breweries started brewing new types of beer (IPA, APA, stout, wild ale, session, gose). The same authors also stated that in 2017 there were 56 microbreweries in Hungary.

According to Hajdók et al. (2020), the market for small breweries in Hungary may seem saturated. However, newcomers still pose a slight threat to existing companies, which can be capital-intensive, newly founded innovative companies, subsidiaries of domestic companies, or even foreign expanding breweries. This threat to older breweries can be reduced if the brewery already has a sufficient market share and its brand is one of the more well-known ones. The results of several econometric analyses of the Hungarian market show that company size does not linearly affect microbreweries' survival chances. In contrast, other company-specific features, such as exports and company age, do not involve the probability of survival. Among the characteristics of the industry, the level of growth, concentration, and intensity of entry play a significant role in the chances of survival of small Hungarian breweries. Jantyik et al. (2021) conducted a study that examined the factors influencing the economic performance of the Hungarian beer industry, paying particular attention to microbreweries. The analysis used linear panel data models for 2009–2017. The financial performance of breweries was presented using company turnover, earnings before interest and tax (EBIT), and profit, along with explanatory variables—brewery age, social media activity, geographic location, direct sales, and the impact of tax cuts. The survey showed that breweries with direct sales channels achieved significantly higher sales, EBIT, and profit. Breweries located in or near the capital were the most profitable due to the higher demand for quality beer. In contrast, distance from the capital hurt the company's performance.

Activity on social networks—often used as the only promotional channel of a microbrewery—positively influenced the profitability of the brewery. However, the most significant positive effect on the industry was the tax reduction for small breweries, which was introduced in 2012.

1.6 Operation of microbreweries

As Chládek (2007) noted, microbreweries offer exciting and varied beers, supplementing the market of large breweries and thus satisfying the demand of many customers. At the same time, microbreweries can also be seen as contributors to tourism development in cities, small towns, and villages that attract tourists. In addition to their products, microbreweries also attract customers with another offer, which can be an excursion, beer spa, hospitality, or beer museum.

For this type of brewery to function, it is undoubtedly necessary to have a quality brewer and quality raw materials needed for beer production. Because beer production in a microbrewery is very similar to the classic brewing of beer in large microbreweries, beer production will be described in general terms in the following text (Figure 1).

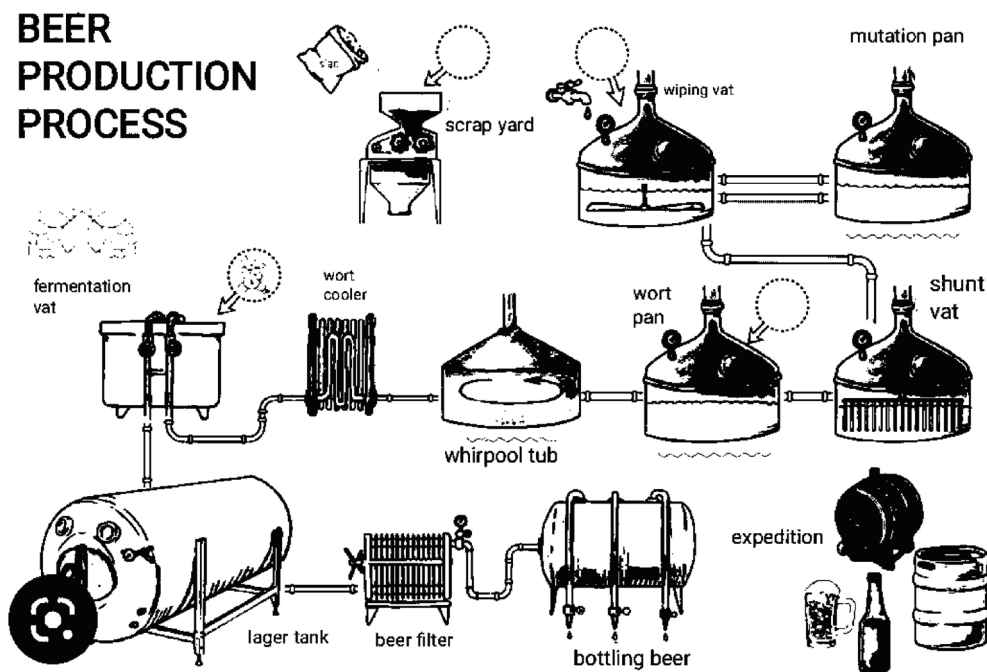


Figure 1: Beer production process.

Source: Chládek (2007)