

A NORDIC APPROACH TO BEERS

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As mentioned in the editorial and the previous article in this issue, our technical editor has found a 'soul mate' in the quest for the development of the new Nordic beer concept, the Danish pioneer in 'dogma-brewing', Per Kølster. We are very happy to present to you Per's own introduction to the concept:

To me, the crucial discussion about Nordic beers concerns the taste. Is there a Nordic taste? Could there be a new kind of taste comparable to the cooking style created by The New Nordic Kitchen? Or is there a historical Nordic beer taste, which may be reintroduced? To discuss this, I will comment on the different components of how this Nordic taste could be developed. This falls into the well-known constituents of a beer recipe and the beer brewing process itself. My personal background is on personal experiences with cropping, malting, hops, herbs and brewing during the last 13 years in my own farm and brewery including a small malt house.

CEREALS AND MALT

In the Nordic countries we have a great variation in the species of cereals we grow, and they are highly related to regions defined by their growing conditions. The barley, especially the two-rowed spring barley, is excellent for malting when grown in the southern parts of Scandinavia on the clayey soils. We should be much more proud of being one of the world's leading malting barley producers. Up north, barley may be of the six-rowed type, which is earlier and better suited for humid conditions. Such barleys, when malted, may be used to make beers that are slightly more bitter and dry like the French 'biere de garde'. This kind of barley may even be grown in Iceland. In certain areas with less favourable soils, rye is widespread and used also for traditional brewing of 'sahti' in Finland. Oats are grown all over the Nordic countries for feed and food and could easily be included in brewing as in the UK. Wheat is widespread and could easily be used – even without malting – to produce wheat beers and beers of a high drinkability. Wheat for brewing should probably have a low protein content and be different from baking types.

CROPPING AND CULTIVARS

Historically, commercial growing of malting barley has developed into a specialized technique in order to achieve the highest quality for malting. Chemically intensive cultivation in the conventional farming systems is the most common production system. However, from a 'New Nordic' perspective, it is reasonable to emphasize the nature friendly organic or ecological farming methods and hereby stress the image of the Nordic countries as a clean and environmentally friendly region of the world. Accepting this indicates that breeding as well as cultivation of barley for malting face new challenges. Plant breeders must to an even higher degree develop cultivars that are healthy and adapted to lower levels of fertilization. And the farmers must find their ways to produce malting barley under the organic conditions without sacrificing the necessary quality characteristics. The question has been raised if different cultivars give different aroma, flavour and taste to the finished beer if malted and brewed identically, and there has been some interest in looking into the potentials of cultivars of historical origin. This is probably due to the fact that in wheat for baking, old cultivars like the 'Ølandshvede' has been introduced successfully in 'craft baking' due to a significantly better taste. At several occasions, I have had the opportunity to malt and brew under relatively controlled conditions with approximately 50 different barley cultivars. Tastings have demonstrated a great variation in taste related to the cultivar. However, it is very difficult to reproduce such differences and identify cultivars of an outstanding quality for malting and brewing in terms of a pronounced better taste. In my own brewing, I have been working with a progeny of an old barley cultivar called 'Pallas' from the late 1950s. Undoubtedly, this adds a dimension to my beers, which would be different if I was growing and malting a modern cultivar. Anyway, brewers

may find it very interesting to brew with malt from a local or named, specific cultivar. Our best and comparable example is the Maris Otter from the UK, which was and still is famous for its malting and brewing characteristics. We should come up with a similar cultivar, and my Pallas could be an interesting choice.

MALTING

Malting is a process of an indefinite character. Numerous types may be produced. But a relatively limited number of different malt types are actually produced and used, compared to the range possible. This is probably due 1) to practical considerations, and 2) that brewers will mix the malts in a recipe hoping to achieve the same result in the beer that could have been created by the maltster.

Undoubtedly, variation and new malt types would appear if malting could be an activity comparable to the micro brewing business. The more maltsters the higher the probability that new ideas and possibilities will appear. We need more malt houses on small and experimental scale. Looking into the history of malting in the Nordic countries may show us some examples that could be explored further.

As an example, malt may be dried solely by air as in the traditional malting in Western Norway and in Denmark, where lofts were used to dry. Such malts were naturally cheap and of a questionable quality. But used in a combination with other historical techniques it could have a potential.

Further, the traditional drying was carried out in wood fired kilns. A few of those are actually still in use in specific Nordic regions (Stjørdal and Gotland). Today, the brewing traditions based on this malting technique have been reclaimed and are an integral part of the local communities. In other words, so far, this trend is not commercial but more folkloristic. Smoked

malt is a very interesting category where the kind of wood used, the smoking technique and the stage in the malting process where the smoking is carried out all may contribute with very significant and pleasant tastes. It is interesting that these two approaches both are climate friendly and CO₂ neutral, and correspond well to the ecological trend.

Finally, it is obvious that the establishment of small-scale malting may strengthen the identity, transparency and local origin of malt, and hence contribute significantly to the concept of Nordic beer. To make my statement even more clear; to me, it does not make any sense at all to talk about a Nordic concept if the malt is anonymous or imported.

HOPS

Hops are growing wild and its seeds spread plants all over the Nordic countries, even as far north as Tromsø which is north of the polar circle. They produce cones on cliffs in Norway, in the forest areas of Finland, in Blekinge in southern Sweden and in the gardens of Funen in Denmark. However, we are very far from being able to produce competitive commercial hop crops for many reasons. Today, hops are cultivated in a small number of regions world wide. These regions are all characterized either by an extreme degree of technological specialization (e.g. the US) or by a relatively high degree of manual work (e.g. Slovenia). As hops have not been grown in our region for decades or even centuries, we do not have the needed technology and skills, and we do not have modern and competitive cultivars suited for our areas. Furthermore, our indigenous hops suffer from a wide range of diseases, pests and climatic variation, which means that yield is highly variable and often very low. In other words, hop cultivation is a high-risk activity, which is only possible as an activity based on volunteers →



doing the work. In Norway as well as in Sweden, Denmark and Finland, a number of projects have been carried out in order to collect local clones, investigate the taste, the bitterness and their cultivation. Furthermore, these activities are part of a Nordic cooperation under the Nordic Council of Ministers with the purpose of preserving our living cultural heritage. Hence, clone collections are found in gene banks in all the Nordic countries. If the practical difficulties can be solved, there is a promising niche for their use among microbreweries. It is a paradox that we are claiming to be 'Nordic' and still we reject our own heritage. But as I have been cultivating hops for many years, I shall be the first to admit that this is a true challenge.

HERBS

The word for 'wort' in Danish is 'urt', which has a double meaning as 'urt' in Danish means not only 'wort' but also 'herb'. I am convinced that ancient brewing was an art including the understanding of using what the local nature had to offer. Probably, early brewing techniques went directly from the mashing to fermentation and even later the drinking. This is how brewing was in ancient Egypt and among the Sumerians, and it is still used in local brewing in e.g. Ethiopia. My point is that in the early brewing, the crushed malt constituents were mixed with a wide range of herbs, which gave taste, bitterness, strength, and at the same time controlling the nature of the fermentation through their content of antiseptic compounds, etc. In other words, herbs could be a much more significant part of brewing than the modern hop dominated story tells. The potential in the use of herbs is enormous, and our nature in the Nordic countries is extremely rich in species (plants, berries, leaves, trees, etc.), which may contribute significantly to new beer flavours and even styles. A number of herbs are well known such as gale (*Myricum gale*) and elderflower (*Sambuca nigra*). Apart from toxic species, there are no limits except one: The conservatism of our taste buds. It has taken Nordic beer drinkers more than a decade to understand to drink a traditional wheat beer. And still a majority does not drink anything else than a usual lager. However, our goal is not to please mediocrity, but to cross borders. It may be recommended to consult the old literature. A thorough treatment of the subject may be found in the work of Hofsten (see reference below). But remember to control that a constituent is not toxic and/or illegal to use!

FERMENTATION

This is a whole new discipline with a significant potential to contribute to new beer flavours and styles. Some brewers have selected their own cultures from yeast collections and are able

to manage their maintenance. However, this is difficult for most small-scale breweries. It could be even more challenging to explore spontaneous fermentation based on naturally occurring wild yeasts. Spontaneous fermentation is closely linked to the addition of berries, fruits, honey and herbs in order to inoculate the wort as well as to create specific conditions for the fermentation. A lower pH than is normal for a wort is one means of controlling the wild yeasts. Another is to add bitterness and herbs that are active in their antiseptic capacities. Furthermore, a cold and slow fermentation as is an acknowledged principle of traditional cider making, which enhances the regulation of yeasts versus unwanted bacteria, etc. High alcohol content is also a means of controlling the nature of the secondary fermentation and bacterial growth. Again, as with the universe of herbs, the challenge is to convince our taste buds. It is very interesting to observe that the most advanced and prizewinning restaurants feel passionate about serving spontaneously fermented beers due to their characteristic flavours, freshness, acidity and bitterness.

ALCOHOL

With the rise of the micro-brewing segment in the beer industry, the trend has been stronger beers. However, with the increasing focus on the side effects of alcohol, it becomes more interesting to produce beers with a lower alcohol content without sacrificing the intensity of flavour. This should be possible given that the raw materials used will leave more than just water and alcohol in the beer. This category should be explored much more, and we should create a trend where we do not accept less intensity in the taste when lowering the alcohol content. Recently, I tasted one of my own test brews, a 3.6% ABV ale made 1½ years before, brewed with only one malt-type and relatively low hopping. It was excellent and had a better drinking quality than normal lagers. The malt was made from the abovementioned old cultivar Pallas. This malt has probably a lot to offer concerning the taste, which means that a lower alcohol content does not mean a reduced intensity of the taste.

WATER

Now, we are coming to the main constituent of a beer and the least emphasized. All large-scale brewers treat the raw water to produce the desired quality of brewing liquor, whereas many small breweries depend on the local water source or even a well. If we look at a worldwide perspective, we as Nordic countries are extremely privileged concerning our fresh water supply. We have plenty of water, it is healthy (although in some areas seriously threatened by agri-chemical pollution), its chemical composition is highly variable depending on the region and the origin of the water, including the geology of the underground for ground water.

Some areas have soft water, others hard, etc. And the most extreme example is a former brewery in Greenland where they collected water from floating icebergs. Another example is a wonderful small-scale brewery in Norway, close to Jotunheimen, where they produce an excellent lager from the soft mountain water. Very different beers could be made using the same recipe but brewed in different areas with the difference stemming from the nature of the water. This is a quality, and our water is our fortune – if brewers should not fight for clean water, I do not know who should.

IN CONCLUSION : THE TASTE

And here, the ring is closed. The prerequisite for clean water and a rich, productive environment with a high biodiversity is a farming system and a nature that is not polluted with chemicals. Our Nordic identity is closely linked to 'purity' and 'natural'. We are not nations of heavy industries or huge metropolises. We are bicycling, we are skiing, we are breathing sea or mountain air, we are sailing on our fiords and lakes, we are strolling in fertile landscapes with cereal fields or in our breathtaking, wild nature. This should also be the nature of our beers, reflecting this quintessence of a Nordic spirit. We should be proud of presenting beers worldwide telling such stories of purity, variability and richness. The taste should be pushed beyond existing limits teaching our consumers that there is more to it than we have ever believed. We have to challenge the taste buds, or we can forget about a Nordic dogma. Our beer culture is somehow still asleep and dominated by the wish to buy the cheapest booze available across the border. If all this is a promise of mountain climbing or whether an emergence of a true Nordic beer revolution is pretty close and just waiting for a breakthrough is difficult to say. But we as brewers must believe in it and experiment. Our food culture and taste have changed completely since we left our agricultural past about 40-50 years ago. We eat food from all over the world. The beer is waiting to be explored, this is our Nordic opportunity. ☺

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