The "Alpha Clause" for European aroma hops

RISK MANAGEMENT | The "Alpha Clause", drafted in 2003 by German breweries and hop suppliers, went into effect for the first time since its inception for the 2006 hop harvest. The mean alpha acid content of almost all aroma varieties from the 2006 harvest was more than 15 % below the ten-year average. This article discusses the function of this clause on the basis of the experience gained from the last hop harvest.

THE HOP HARVEST OF 2003 threatened the livelihood of many in the industry. As a result, in the spring of 2004, the German hop industry introduced the so-called Alpha Clause, developed in close cooperation with the German and Bavarian brewers' associations (Deutscher and Bayerischer Brauerbund). The Alpha Clause is a provision which allows for the adjustment of forward contracts for aroma varieties based on alpha acid content. The disastrous harvest of 2003 made it very clear to all parties involved that the agreement in existence up to that point did not adequately provide for the fair treatment of the contract parties in the event of extremely low crop yields or crop failure. The hop industry was unable to fulfill its contractual obligations, because no legal documentation or system was present at the time to ensure the equitable distribution of the available hop stores to the buyers in the brewing industry. The seemingly endless one-on-one discussions were very difficult but finally led to individual contracts being adjusted so that an acceptable settlement could be agreed upon by all parties involved.

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The spirit and purpose of the Alpha Clause

The 2003 harvest made the necessity for the adjustment of these contracts very clear. The goal of this type of provision would be to guarantee equal treatment for all parties on the basis of objectively determined parameters specific to the harvest.

The spirit and purpose of the Alpha Clause is, therefore, to establish a legal precedent for the adjustment of forward contracts in the event that hop yields and alpha content are below the expected and reasonable risk levels of the supplier. This first comes into play in years when the yield and alpha content of an aroma variety are a minimum of 15 % below the ten-year average for that variety (see Alpha Clause, section 3.1). This condition underscores the exceptional nature of this clause: It is only valid and can be invoked in years of either very low yields or crop failure.

The Alpha Clause and its application during the hop harvest of 2006

The extremely poor hop harvest of 2006 required the application of the Alpha Clause for the first time in association with the following aroma varieties: Spalter Select, Hersbrucker, Hallertauer Tradition, Saaz, Styrian Goldings, Aurora, Tettnang Tettnanger, Tettnang Hallertauer and Perle (for contracts signed in October 2005 and later).

The following example serves to illustrate the manner in which the Alpha Clause functions.

Example

A forward contract exists between a brewery and a hop supplier stating that 100 kg of alpha acids of the hop variety Hallertauer Tradition in the form of type 45 pellets are to be delivered at a price of 85 EUR per kg . The seller assumes a mean alpha content of 6.1 percent at the time of harvest (this corresponded to the ten-year average after the harvest of 2004 and can be found in contracts dating from December 2004) and also assumes that an absolute alpha acid loss of 0.5 percent will take place because of the degradation occurring between processing and utilization.

Furthermore, the seller calculates a yield of 95 % during processing. Therefore, the required amount of raw hops is 1879.7 kg (= 100 kg /((6.1%-0.5%)*95%)).

At the time of the 2006 harvest , however, the actual mean alpha acid content of the variety Hallertauer Tradition was only 4.8 percent (also see *Brauwelt* no. 43, 2006, p. 1264), which results in a yield 21.3 percent lower than previously expected.

It is now possible for the seller to employ the Alpha Clause in one of two ways, in order to adjust the contract in light of these extenuating circumstances:

Option 1

Delivery of the full amount (100 kg) through adjusting the price according to section 4.1. The adjusted purchase price is calculated as follows:

Lp = 85.00*6.1%/4.8% EUR/kg = 108.02 EUR/kg

In order to fulfill the 100 kg stated in the contract, the seller is now required to deliver 2478 kg of raw hops (=100 kg /((4.8%-0.5%)*95%) instead of the original amount calculated at 1879.7 kg.

Option 2
In this case, the amount of alpha is adjusted but the price remains the same as described in section 4.2. The amount to be delivered is then calculated as follows:

Lm = 100*4.8%/6.1% kg = 78.7 kg

Market strategies in the event of hop shortages

The two strategies used in the options above, either adjusting the price or the amount of alpha to be delivered, formed the basis of conducting business in years of hop shortages. However, neither of the options found in sections 4.1 and 4.2 of the clause have been strictly interpreted as a means of settling these issues. Instead, customers have often been consulted on an individual basis, resulting in solutions which contain elements of both strategies. In some cases, parts of a delivery have been postponed to a later year or variety substitutions have been made.

Modern-day contracts offer greater flexibility as compared to those of the past. This allows a fungible solution to be reached more easily by the contract parties in years of hop shortages. From the beginning, this has been the primary goal for the introduction and implementation of the Alpha Clause.

The interests of the customer are addressed in section 3.3 of the Alpha Clause, which is intended to provide a counterbalance to the contract adjustment offered to the supplier. This section allows the brewery, as the customer, to withdraw from the contract altogether in the case of just such an adjustment request. In this way, the buyer has the option to choose the best possible solution for himself, for instance, in the case of sufficient inventory. However, for the harvest of 2006, only a few cases like this are known to have occurred. Crucial to the final assessment of this new contract provision, is that in years of shortage due to very low yields, when the Alpha Clause is applicable, buyers who sign a forward contract for purchasing hops will fare much better than those who attempt to purchase their hops on the open market. In the example above, if the brewery as a buyer had not signed a forward contract, but rather had chosen to purchase their hops on the open market, they would have paid approximately 250 EUR per kg for the variety Tradition, provided the amount they required would even be available. The same would apply for all other aroma varieties. The small amounts available for acquisition on the open market would also extremely limit this type of sale. In light of this, it has been shown yet again that for securing a sufficient supply of aroma hops for which there is no substitute, or for which it is difficult to find an adequate substitute, the Alpha Clause notwithstanding, there is truly no alternative to signing a forward contract.

Equitable treatment

For each of the parties representing the different interests, that is for both the brewer and the hop supplier, the Alpha Clause discussed here is intended to provide both parties fair treatment in the event of low yields (low yields of raw hops as well as low alpha content). This represents a milestone in contract development. All of the industry associations recently impacted by the poor harvest of 2006 should venture one step further, and if the occasion warrants it, consider expanding this contract clause to also include specific bitter varieties, for example, Northern Brewer. It should be noted, that not all bitter varieties of hops are considered to be hardy with regard to climate changes. Some bitter varieties will be negatively

affected resulting in lower yields. An expansion of the clause to include bitter varieties could represent a natural progression in steps taken to ensure a reliable supply of hops for the brewing industry.

Purchasing policies and hop prices

Aside from the Alpha Clause, the best strategy for ensuring adequate hop supplies for the brewing industry is a purchasing policy which encompasses production costs as well as a reasonable profit margin. Despite higher prices for forward contracts signed for the harvest of 2007, the prices being paid for certain individual hop varieties are not even high enough to cover production costs.

This may be the reason that, despite evidence of a recovery in the hop industry, many hop growers recoil at the thought of even a moderate expansion of their acreage or additional investment in their production facilities, which is essential for continuing their operations. Increasingly, they are turning to new and more lucrative income opportunities, for example, renewable energy (biogas production, etc.). Therefore, for good reason, the growing "structural" hop deficit is currently of concern for the industry.

Summary

From the perspective of both the hop suppliers and brewers, with its first application during the harvest of 2006, the Alpha Clause has proven to be a practical tool for the hop trade during years of low hop yields. The concept of a forward contract for hop purchases has therefore increased in importance for breweries, as a means to ensure the procurement of sufficient hop supplies, while simultaneously offsetting the effects of strong price fluctuations on the open market. At the same time, the harvest of 2006 made it clear that hop prices, both in the long and short term, must reflect actual production costs in order to be able to guarantee a reliable supply of hops. *Prof. Dr. Narziß* (Weihenstephan) summed it up simply yet elegantly with the statement: "Securing one's raw materials means securing one's future." ■

Store in a cool, dry place

LAGERING TECHNOLOGY | For almost one and a half years, the new lager cellar at Auerbräu AG, Rosenheim has been in operation. The "Tank-in-a-Box" construction design represents a milestone in lager technology, establishing Auerbräu as an innovator in this area. A description of its unique design and construction appeared in the 15/2005 edition of Brauwelt (p. 472). Their experiences with this new technology are described below.

THE INNOVATIVE SYSTEM of lager technology known as the "Tank-in-a-Box" has been subjected to on-site testing for some time now. This system aids in significantly reducing capital outlay as well as operating costs. Tank insulation and refrigerant lines are no longer necessary. This results in a savings of 500 000 EUR alone. Maintenance costs are also eliminated. Easily accessible components, sensors and field devices simplify maintenance and operation. The double anti-corrosion coating below the insulation is also no longer necessary. Expenses associated with fire protection are minimal, since few flammable materials are present.

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Practical experience

Since its commissioning in October 2004, the system has performed to the complete satisfaction of everyone in the brewery. Depending upon the time of year, the temperature in the tank cellar remains between +5 and +8 °C. The heat conductivity of the dried air is negligible. Therefore, the amount of heat exchanged between the air and the tanks, in which beer is both maturing (circa 10 °C) and lagering (0 °C), is also negligible. The absolute moisture content remains between 2 and 2.5 g/kg, which is characteristic of the hysteresis of this type of dehumidifier. Even on weekends, from Friday evening to Sunday evening, when

Adsorption Drying

The term "adsorption drying" refers to a thermodynamic process characterized by the binding of water molecules to a sorbent material (adsorption) with a simultaneous release of heat energy. Through a subsequent heating process, the water molecules are again liberated (desorption or reactivation) from the sorbent material. The sorbent material is silica gel, which binds water molecules due to its hygroscopic properties.