HOP HARVEST REPORT NOVEMBER 2008

ANOTHER YEAR OF PANIC AND SHORTAGES?

Well, we certainly hope not and the signs so far are relatively good compared to this time last year. Higher yields in Germany and the USA, a lack of storms in Slovenia and a good crop across most of Europe has certainly led to a more relaxed atmosphere across the hop world.

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After the horror that was the 2007 crop, growers in many countries decided that it was time to plant up new hop yards and take advantage of some of the extremely good prices that were being offered for contracts. The biggest increase in acreage was in the USA where a reported 2,927 ha (7,234 acres) were planted. Just to put that into context, the U.K. crop was only just over 1,000 ha (2,500 acres) in total last year. The varieties chosen for planting were mainly high alpha CTZ's (Columbus, Tomahawk and Zeus), Summit (a new low trellis high alpha variety) and Cascade. In Washington State, the growing conditions are usually good enough to produce a full crop in the first year of production (the only place in the world where this is possible), however, this spring was unusually cold and the plants did not develop as expected, we are thus still largely relying on the 2007 acreage to fill this year's demand. This means that there is still a very tight supply situation with U.S. hops. Alpha can be replaced with other varieties from Europe and therefore the market for U.S. alpha is calming down, but the aroma hops will be difficult to come by and prices will remain high.

The early picked U.S. aroma hops are good in both quality and alpha. The later picked higher alpha hops started to show signs of powdery mildew around the second week of September and needed to be picked before the disease took hold. Unfortunately, the picking capacity can only cope with a certain tonnage per day and, so, hops were left to hang until the pickers could get to them. The cooler nights and dew in the morning encouraged mildew growth and this restricted and degraded the quality and quantity of these late picked high alpha hops. Worryingly, when these hops are harvested again next year, the new yards should be in full production and there will be even more hops to pick. As there will not be any extra picking machines, this may lead to hops being picked even later into October and more risk of disease; we hope it can be kept at bay.

In Germany, the crop has been excellent with just the right amounts of sunshine and rain and all at the right times! According to initial estimates, the harvest will exceed the 2007 crop by 7,000 metric tons (a 22 per cent increase) and with the alpha levels also extremely good, the increase in terms of brewing value will be even higher. The hop quality is also first class with no pest or disease problems showing. Due to the extremely high spot market price for alpha last year, some of the aroma acreage was replaced by high alpha hops and there is likely to be a tight market for some of the German aroma hops, but the situation is much better than last year, so there should be full supply. It is reported that an extra 1,000 ha (2,500 acres) have been planted this year, mainly in the high alpha variety Herkules. This variety has so far produced excellent yields with alpha between 15-17 per cent, and many are forecasting that it will replace Magnum as the main German high alpha hop.

The U.K. crop has been extremely variable and there have been quite a few problems. Before harvest, there were two farms which had hop yards fall over in the wind and storms. Three fires have been reported, two kiln fires and one storage fire, an estimated 6,000 kilogrammes lost. Heavy rains in the first two weeks of harvest caused extremely difficult picking conditions; wet hops take much longer to dry on the kiln and therefore use more drying fuel and delay picking. They also tend to dull or redden during drying and this can lead to samples

being much less attractive to the buyer. Particularly the early picked varieties like Goldings have suffered more than the later maturing varieties; after the rain stopped, the quality improved significantly. One positive piece of news is with the variety Bramling Cross which after a very poor year in 2007 seems to have enjoyed the colder winter and produced a good yield for 2008.

U.K. yields have been extremely variable. Some growers have had a good crop and have produced over and above their contracts, but more often than not there has been under production and shortages. Alpha yields have also not been good with a lack of sunshine during the summer and are being blamed for one of the lowest alpha years in the last decade. Overall, it seems that there could be shortages of some U.K. varieties.

In Slovenia, growing conditions have been very good with normal levels of production reported. Availability is good and prices seem to be settling down. Last year's hail storms which affected the crop so badly did not reappear in the hop growing areas even though, disturbingly, in August there were violent hail storms reported only 80 kilometres away. Tiles from the roofs of houses were shattered; such was the force of the storm. In Slovakia, there were also storms and some of the acreage was damaged; this has caused a very tight supply of the Saaz variety.

The reports from China are for a good crop and it is estimated that they have produced enough alpha to cover their domestic requirements although figures from China are always very difficult to obtain.

Worldwide the new plantings will start to produce partial yields next year and come into full production the year after, and with the new plantings of American hops coming on stream for 2009, there should be more than enough production. In fact, with many of the bigger breweries turning to down stream and pre-isomerised products in 2007 to cope with the shortages and with beer sales in some of the developed countries on the decline, there could be a massive over production of alpha just around the corner. If this is the case, let us hope that this time there is a more programmed reduction in acreage and that

contracts are made to cover requirements rather than reliance on the spot market. It is amazing how quickly the pendulum of supply and demand can swing and last year certainly proved that if sensible prices are to be achieved, then the security of contracts are the only way forward for both producers and their customers.

A SIGH OF RELIEF – HOP CROP 2008

After very challenging twelve months, the hop and brewing industry can at last breathe a sigh of relief. With crop 2007 being the third crop in a row with alpha production below demand and inventory levels at a historic low, it was uncertain if all breweries could cover their requirements for the brewing year 2008.

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Prices for available hops reached record levels, and the spring of 2008 witnessed an acreage increase in the USA that had not been seen for over thirty years. Most new acreage was planted with the 2nd generation of Super High Alpha varieties; in the USA this included Apollo, Bravo, Super Galena and Summit and Herkules in Germany.

It should be noted that during these difficult times, the hop and brewing industry was able to work together to find solutions to the supply crisis by finding alternative varieties and switching to more efficient hop products to meet each user's requirements

HOP ACREAGE 2005-2008

	Acreage in ha				±
	2005	2006	2007	2008	07/08
Hallertauer	1,492	1,516	1,594	1,557	-2.3%
Hersbrucker	1,041	865	741	735	-0.8%
Perle	2,789	2,931	3,034	3,061	0.9%
Tradition	2,116	2,235	2,358	2,401	1.8%
Magnum	3,660	3,549	3,431	3,428	-0.1%
Taurus	1,177	1,146	1,117	1,109	-0.7%
Herkules	0	0	775	1,699	119.2%
Rest	1,945	2,005	1,703	1,688	-0.9%
Hallertau	**14,220**	**14,247**	**14,753**	**15,678**	**6.3%**
Other German Regions	2,947	2,891	2,917	3,017	3.4%
Germany total	**17,167**	**17,138**	**17,670**	**18,695**	**5.8%**
Czech Rep.	5,672	5,460	5,389	5,345	-0.8%
England	1,071	1,056	1,060	1,100	3.8%
Poland	2,291	2,291	2,179	2,179	0.0%
Slovenia	1,511	1,522	1,568	1,706	8.8%
Ukraine	1,464	1,100	1,145	1,359	18.7%
Other European Countries	3,507	3,373	3,357	3,359	0.1%
Europe total	**32,683**	**31,940**	**32,368**	**33,743**	**4.2%**
Willamette	2,629	2,747	2,792	2,914	4.4%
Rest USA Aroma	1,702	1,484	1,594	2,226	39.6%
Galena	1,814	1,766	1,397	1,174	-16.0%
Nugget	1,004	1,066	1,120	2,023	80.6%
Rest USA Bitter	1,846	1,746	2,006	1,376	-31.4%
Super High Alpha	2,929	2,898	3,601	6,172	71.4%
USA total	**11,924**	**11,707**	**12,510**	**15,885**	**27.0%**
P. R. China	3,987	4,422	4,995	7,125	42.6%
Other Countries	1,835	1,620	1,676	1,726	3.0%
World total	**50,429**	**49,689**	**51,549**	**58,479**	**13.4%**

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CROP QUANTITIES 2005-2008

Many European countries had ideal growing conditions which produced yields and alpha acid concentrations above long term average. Although the harvest results in the USA were better than crop 2007, they did not reach the long term average. All new acreage performed not as good as expected due to a colder spring and a milder fall that increased the powdery mildew pressure, which is particularly a problem for the traditional Super High Alpha varieties.

Crop Quantities in mt	2005	2006	2007	2008*	± 07/08*
Hallertauer	2,368	2,086	1,709	2,700	58.0%
Hersbrucker	1,985	1,502	1,472	1,350	-8.3%
Perle	5,693	4,548	6,011	6,650	10.6%
Tradition	4,230	3,766	4,749	5,275	11.1%
Magnum	8,477	6,969	6,308	8,200	30.0%
Taurus	2,745	2,161	2,308	2,350	1.8%
Herkules	0	0	981	3,050	210.9%
Rest	4,049	3,193	3,663	3,655	-0.2%
Hallertau	**29,548**		**27,201**	**33,230**	**22.2%**
Other German Regions	4,826	4,214	4,938	5,051	2.3%
Germany total	**34,374**		**32,139**	**38,281**	**19.1%**
Czech Rep.	7,831	5,453	5,631	5,950	5.7%
England	1,594	1,410	1,410	1,410	0.0%
Poland	3,414	2,700	3,246	3,246	0.0%
Slovenia	2,539	1,819	1,987	2,098	5.6%
Ukraine	1,473	920	700	1,158	65.4%
Other European Countries	5,216	4,972	4,442	5,039	13.4%
Europe total	**56,441**		**49,555**	**57,182**	**15.4%**
Willamette	3,955	4,079	4,382	4,763	8.7%
Rest USA Aroma	2,955	2,373	2,738	3,402	24.2%
Galena	3,435	3,757	2,756	2,948	7.0%
Nugget	2,132	3,459	2,642	4,309	63.1%
Rest USA Bitter	3,741	2,886	4,216	2,858	-32.2%
Super High Alpha	7,786	9,612	10,596	16,329	54.1%
USA total	**24,002**		**27,330**	**34,609**	**26.6%**
P. R. China	9,100	10,300	11,350	15,050	32.6%
Other Countries	3,813	3,017	3,183	3,180	-0.1%
World total	**93,356**		**91,418**		**20.3%**

**Estimate*

AVERAGE YIELDS 2005-2008

Ø Yields in mt/ha	2005	2006	2007	2008*	± 07/0
Hallertauer	1.59	1.38	1.07	1.73	61.7%
Hersbrucker	1.91	1.74	1.99	1.84	-7.5%
Perle	2.04	1.55	1.98	2.17	9.6%
Tradition	2.00	1.68	2.01	2.20	9.5%
Magnum	2.32	1.96	1.84	2.39	29.9%
Taurus	2.33	1.89	2.07	2.12	2.4%
Herkules	0.00	0.00	1.27	1.80	41.7%
Rest	2.08	1.59	2.15	2.17	0.9%
Hallertau	**2.08**	**1.70**	**1.84**	**2.12**	**15.2%**
Other German Regions	1.64	1.46	1.69	1.67	-1.2%
Germany total	**2.01**	**1.66**	**1.82**	**2.05**	**12.6%**
Czech Rep.	1.38	1.01	1.04	1.11	6.7%
England	1.49	1.36	1.33	1.28	-3.8%
Poland	1.49	1.21	1.49	1.49	0.0%
Slovenia	1.68	1.20	1.27	1.23	-3.1%
Ukraine	1.01	0.84	0.61	0.85	39.3%
Other European Countries	1.49	1.47	1.32	1.50	13.6%
Europe total	**1.73**	**1.43**	**1.53**	**1.69**	**10.5%**
Willamette	1.50	1.45	1.57	1.63	3.8%
Rest USA Aroma	1.74	1.58	1.72	1.53	
Galena	1.89	2.15	1.97	2.51	27.4%
Nugget	2.12	3.24	2.36	2.13	-9.7%
Rest USA Bitter	2.03	1.65	2.10	2.08	-1.0%
Super High Alpha	2.66	3.21	2.94	2.65	-9.9%
USA total	2.01	2.24	2.18	2.18	0.0%
P. R. China	2.28	2.42	2.27	2.11	-7.0%
Other Countries	2.08	1.86	1.90	1.84	-3.2%
World total	**1.85**	**1.71**	**1.77**	**1.88**	**6.2%**

HOPSTEINER LABORATORY VALUES 2005-2008

Alpha Content in %	2005	2006	2007	2008
Aroma Varieties				
Hersbrucker	3.5%	2.2%	2.5%	2.9%
Perle	7.8%	6.2%	7.7%	8.5%
Tradition	6.3%	4.8%	6.0%	7.5%
Select	5.2%	4.3%	4.6%	5.4%
Tettnang	4.5%	2.2%	3.8%	4.2%
Spalt	4.3%	2.8%	4.0%	4.0%
Saaz	3.2%	2.1%	2.5%	3.7%
Styrian Aurora	9.4%	6.4%	7.0%	9.0%
Styrian Golding	4.0%	2.9%	3.0%	4.5%
Willamette	4.3%	4.5%	4.4%	4.7%
Bitter Varieties				
Herkules	–	14.1%	15.8%	17.3%
Magnum	13.8%	12.8%	12.5%	15.7%
Taurus	16.2%	15.1%	16.0%	17.9%
US Galena	12.5%	12.3%	12.3%	12.2%
US Nugget	13.3%	13.9%	13.0%	13.5%
CTZ	15.2%	15.5%	14.5%	15.0%
Pride of Ringwood	8.8%	8.8%	9.4%	8.0%

HOP MARKET REVIEW

Based upon an estimated world beer output of 1,977 million hectolitres in 2008, the supply of crop 2007 alpha acids was less than the world's demand.

The 2007 hop crops in Germany, the Czech Republic and other European hop growing countries were average in weight and alpha yields. In USA, a late outbreak of powdery mildew negatively affected the weight and alpha yields of powdery mildew-susceptible varieties. In Slovenia, a tornado devastated a large portion of the hop acreage just before harvest. After harvest, a large handler of Slovenian hops declared bankruptcy which led to additional problems in this market segment.

The undersupply of crop 2007 was much less extreme than the situation following crop 2006, when the supply was approximately 1,080 metric tons of alpha short of demand. Crop 2007 benefited from a larger worldwide acreage and improved growing conditions. Nevertheless, crop 2006 was a contributor to the overall decline hop inventories as brewers had to use their stocks to replace volumes not available on the market. Prior to crop 2007, brewer hop stocks were at a historically low level, which led to a short-lived spot market with extreme, ever-increasing price levels.

These developments led many brewers of all sizes to purchase long term contracts beginning with crop 2008 and extending five or more crop years. The quantity of hops sold ahead reached unprecedented levels. This demand could only be met by planting new acres, especially in the USA. By late spring 2008, approximately 7,000 hectares (17,300 acres) were newly planted to hops worldwide.

WORLD ALPHA ACID SUPPLY AND DEMAND 2001-2008

Production		Beer Production		Alpha Dosage	Alpha Usage	Annual Balance
	mg Alpha		Mil hl	gr Alpha/hl	mt Alpha	mt Alpha
2001	7,992	2002	1,451	5.3	7,690	302
2002	7,935	2003	1,497	5.0	7,485	450
2003	6,490	2004	1,552	4.8	7,450	-960
2004	7,653	2005	1,611	4.7	7,572	81
2005	7,626	2006	1,704	4.5	7,668	-42
2006	65701)	2007	1,779	4.3	7,650	-1,080
2007	6,983	2008*	1,799	4.2	7,556	-573
2008*	9,439	2009*	1,817	4.2	7,631	1,808

1) This figure takes into account the destruction of approx. 110 mt alpha acid in a warehouse in USA.

** Estimates*