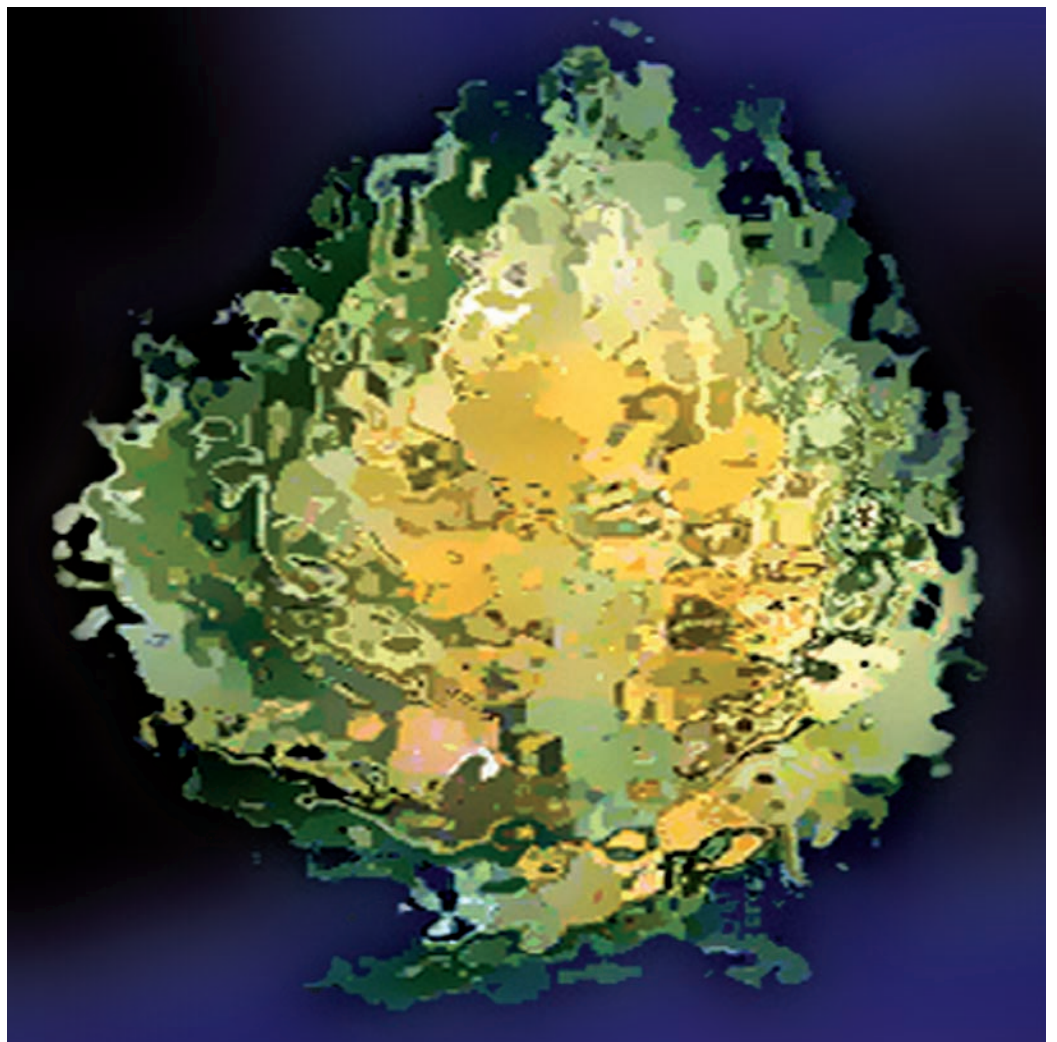
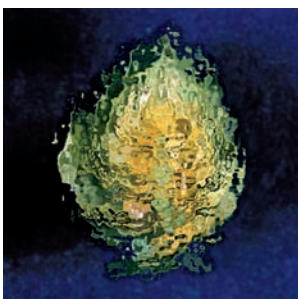
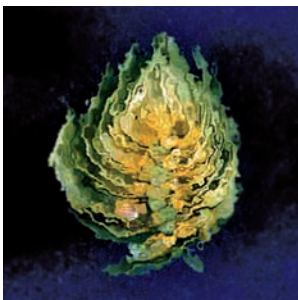
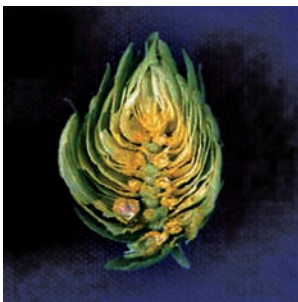




THE BARTH REPORT



HOPS 2006/2007

BARTH-HAAS GROUP



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ABOUT THE FRONT PAGE

Change signifies a kind of transformation which does not restrict itself to the outward appearance but also encompasses the substance or the essence.

Artist Dieter Rose Schoebel from Nuremberg has attempted to develop this theme digitally using modern media and to establish a link to the „earth-bound“ ac-

tivity of hop growing. The transformation of the hop into a variety of final products, ranging from solid to liquid states, for example, and the change in shape of the hop cone into an abstract, associative pattern of forms are given expression here.

**Source material from all over the world was required to produce this report.
We would like to thank all those who provided us with information.**



Stephan J. Barth

Managing Partner, Joh. Barth & Sohn GmbH & Co. KG

The (Hop) World in the Process of Change

The hop industry, like many others, is undergoing far-reaching change.

Change from food production to the production of renewable materials

The current discussion regarding the increasing scarcity of fossil fuels casts an attractive new light upon plants as a source of energy. Moreover, when they burn, renewable materials only release as much carbon dioxide into the atmosphere as they previously absorbed from it. Not only is the production of renewable materials for uses outside the food sector growing year by year, but the range of uses for renewable materials is also expanding increasingly. For many farmers, growing plants for fuel and for industrial uses has become more attractive than growing foodstuffs. The energy sector and the food industry will become increasingly strong competitors for farmland and for exactly the same agricultural produce. The malt sector already felt these effects acutely in 2006. The hop growers, too, now have more alternatives.

Changes in hop production and in the brewers' purchasing policies

Looking back, crop year 2003 marked the end of the period of overproduction in the hop sector. However, despite clear warnings from the hop industry, this paradigm shift went unnoticed by most of the brewers. The quantities purchased by forward contract continued to decrease. Declaring that the stocks held by the breweries were sufficient, the brewers focused on the spot market. This resulted in hop yards being cleared as prices fell below production costs. At the same time, world beer output grew by nearly 15 % from 2003 to 2006. Due to the reduction in acreage worldwide, the disappointing production volume of hops and alpha in Europe in 2006 and the resulting high prices, a reassessment has begun out of necessity.

The number of hop growers, too, is falling constantly. In the future, the hop industry will find itself having to compete with several other crops not only for acreage, but also for young farmers who are willing to continue to grow hops at all.

Changes in the use of hops

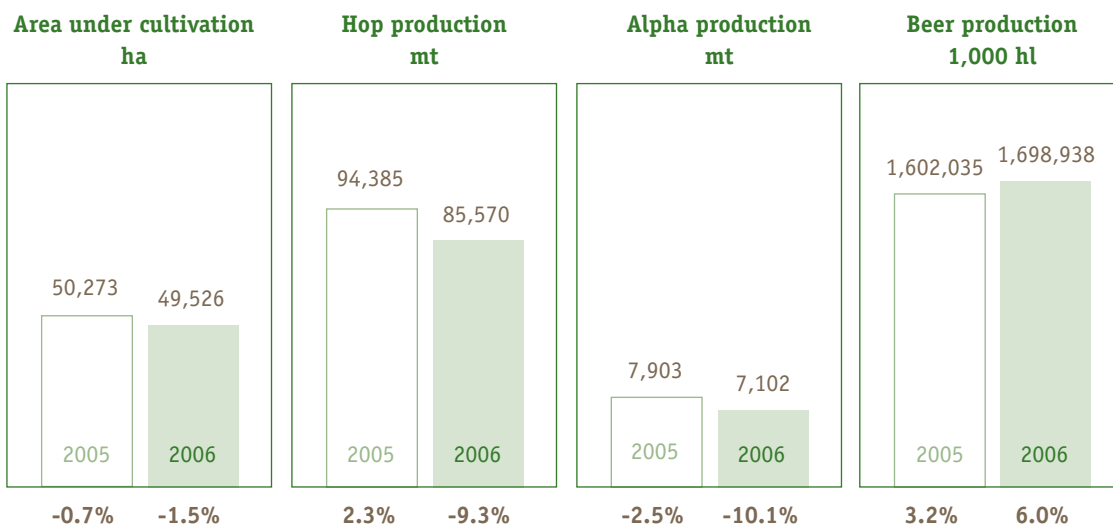
Hops are still used almost exclusively in the production of beer. Nevertheless, the use of hops outside the brewing industry is growing in importance. The increasing successes confirm that it was right to begin new developments in this area. A wide range of possibilities is opening up. This market is as yet insignificant. Only 150 metric tons of alpha acids are likely to be required at present, i.e. about 2 % of total demand for alpha. However, this segment is registering double-digit growth rates.

Changes in the lay-out

In order to provide our readers with more clearly structured figures and texts, the Barth Report has been given a new lay-out. Regardless of the new design, one thing has not changed. The Barth Report is and shall remain an important source of information containing reliable data.

The design of the front page contains an artist's interpretation of the theme of Change.

This report can also be found on our website and can be downloaded as a pdf file.



POLITICAL SITUATION

As in the years before, the explosive situation in the Middle East and in Iraq was at the centre of international political events.

In June/July 2006 the situation in the Middle East escalated. In response to the abduction of an Israeli soldier by Palestinians, **Israel** occupied parts of the Gaza Strip. Following the subsequent abduction of two Israeli soldiers by the Lebanese Hezbollah, Israeli troops once again advanced into neighbouring **Lebanon**, for the first time since their withdrawal in the year 2000. The efforts of the Israeli army to drive the Lebanese Hezbollah out of the Lebanon caused severe damage, but failed to lead to a genuine military success. The situation in the Lebanon was further destabilised by the assassination of the Maronite Christian industry minister Pierre Gemayel junior on 21 November 2006. In December 2006, a bloody power struggle began in the **Palestinian territories** between the rival organisations Fatah and Hamas. Although a government of national unity comprising the radical Islamic Hamas movement of Prime Minister Ismail Haniya and Fatah led by Palestinian President Mahmoud Abbas was formed in March 2007, the bloody fraternal strife continued.

In the third year since the end of the second Iraq war, the violence in **Iraq** still goes on. Bombings, murders, high numbers of deaths and injuries on all sides continue to be everyday occurrences. Despite the growing American military presence, the country is further from stability than ever.

In the **USA**, as a result of the growing unpopularity of the country's involvement in Iraq, the Republicans lost their majority in the House of Representatives and in the Senate in November 2006.

An special tribunal convened by the Iraqi authorities sentenced the former dictator Saddam Hussein to death for crimes against humanity. The sentence was

carried out on 30 December 2006.

In view of the unstable situation in Iraq, the actions of **Iran** are a major cause of concern for the international community. In spite of UN sanctions and international isolation, Iran is pressing ahead with its atomic programme. The country's president, Mahmoud Ahmadinejad, declared Iran an atomic power in April 2007.

In Africa, the increasing confusion in **Zimbabwe**, the conflict in **Darfur/Sudan** and the chaotic situation in **Somalia** are causing concern.

In **Thailand** the army seized power in a coup on 19 September 2006, ousting Prime Minister Thaksin Shinawatra. A new parliament was convened in October to revise the constitution prior to new elections.

The office of Secretary-General of the **United Nations** has a new incumbent. In October 2006 the general assembly of the United Nations elected South Korean Ban Ki-Moon as Kofi Annan's successor.

The following elections produced changes in government:

In July 2006, the Conservative candidate Felipe Calderón won the presidential elections in **Mexico**. In **Austria**, the Austrian Social Democratic Party (SPÖ), led by Alfred Gusenbauer, took the place of Wolfgang Schüssel's ruling Austrian People's Party (ÖVP) as the largest party in parliament. In January in **Nicaragua**, Daniel Ortega (FSLN) was again sworn in as President of Nicaragua 16 years after being deposed. In May 2007 the Conservative candidate Nicolas Sarkozy became the new President of **France**. He succeeded Jacques Chirac, who had held office since 1995. Also in May, Tony Blair (Labour Party) announced that he would resign from the office of Prime Minister of the **United Kingdom** on 27 June 2007. He will be succeeded without any elections by the Chancellor of the Exchequer Gordon Brown (Labour Party).



EU Enlargement

With the accession of **Romania** and **Bulgaria** on 1 January 2007, both of them to a limited extent hop-producing countries, the EU now comprises 27 member states and has a total population of nearly half a billion people.

The accession negotiations with **Turkey** are not proving to be easy. Parts of the negotiations were suspended in December 2006.

EU Constitution

Two years after the initial failure to agree upon an EU constitution, Europe is making a second attempt to implement a treaty. At a special EU summit meeting in Berlin on 25 March 2007, the heads of the European Union declared their support for placing the united Europe on a renewed common basis by 2009. The Berlin Declaration, which also acknowledged the 50th anniversary of the foundation of the EU, was signed by German Chancellor Angela Merkel (CDU) as EU Council President, Jose Manuel Barroso, President of the EU Commission, and Hans-Gert Pöttering (CDU), President of the European Parliament. In this declaration, the heads of the EU undertake to create a new common basis for the European Union in the form of a treaty before the elections to the European Parliament in 2009.

EU Currency Union

The Euro became legal tender in **Slovenia** on 1 January 2007. This increased the number of countries belonging to the currency union to 13. The other members are: **Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal** and **Spain**.

Latvia, Malta and **Cyprus** hope to have the common currency as of 2008. **Lithuania** and **Slovakia** would like to introduce the Euro by 2009.

Common Agricultural Policy Reforms – The Common Market Organisation for Hops

The new Council Regulation (EC) No. 1952/2005 regarding the common organisation of the hop market

came into force on 1 January 2006. Two further regulations concerning the hop sector were adopted in 2006. Commission Regulation (EC) No. 1557/2006 of 18 October 2006 lays down the way in which contracts are to be registered and the form in which the member states are to communicate data to the Commission regarding hop acreage, production volume and contract fulfilment. This regulation replaces Commission Regulation (EC) No. 776/1973 regarding registration of contracts and communication of data in the hop sector.

Council Regulation (EEC) No. 1784/1977 regarding the certification of hops and Commission Regulation (EEC) No. 890/1978 regarding the details of hop certification were both rescinded. They are replaced by Commission Regulation (EC) No. 1850/2006 which lays down detailed rules for the certification of hops and hop products. The latter was adopted on 14 December 2006 and came into effect on 1 April 2007. The two old regulations were combined in one single regulation for reasons of clarity. In addition, the rules for certification were modernised and brought into line with the realities of hop marketing today.

On 18 December 2006 the Commission submitted a proposal to set up a common organisation (CMO) for the market in all agricultural produce and thus replace the 21 existing CMOs. The establishment of one single CMO is intended to streamline agricultural regulations and make them more transparent and make policy more easily accessible. It is stressed that this is simply an act of technical simplification and does not constitute an attempt to introduce reforms through the back door. The single CMO proposed here should make it possible to rescind more than 40 Acts of the Commission and to replace more than 600 articles contained in the existing regulations with fewer than 200.

The German Council Presidency set itself the target of reaching an agreement with the other member states by mid-June 2007, so that the final version of the new CMO could be completed in the autumn. Following a corresponding vote in the Council, the common organisation for the agricultural markets is to become effective as of 1 January 2008.

ECONOMIC SITUATION



The global economy showed itself to be in robust health for the fourth year in succession. **Gross domestic product (GDP)** grew by 3.8 % compared with 3.2 % the year before. This growth was more evenly spread across all regions and continents than in the recent past. The importance of the USA as the driving force for growth in the world economy declined slightly, whereas economic growth accelerated in the main industrial nations of the EU, especially in Germany.

GDP in the euro zone improved noticeably year on year to stand at 2.7 %. After years of below-average growth

rates, Germany exactly equalled the average again in 2006. The country's return to economic health is increasingly being supported by domestic consumption. Further steps are being taken, albeit tentatively, to reform the taxation and labour market systems in order to ensure that the economic upturn is sustainable.

As a preventive measure against the dangers of inflation resulting from this growth, the European Central Bank (**ECB**) continued to raise the discount rate in moderate steps. This most important interest rate for

ECONOMIC SITUATION

supplying the financial sector in the euro zone with money from the central bank was last raised to 4 %, its highest level since August 2001, on 6 June 2007. During the period under review, June 2006 to June 2007, the discount rate was raised in six small steps, each of 0.25 %.

The US central bank, the **Fed**, last raised its prime rate in July 2006. Since then it has remained unchanged at 5.25 %. Taking the USA's weakening economic performance into account, the Fed has refrained from raising rates further.

The persistent failure of the USA to reduce the deficits in its budget, its balance of trade and its balance of payments continues to constitute a latent threat to the world economy.

At the end of April 2007, the euro reached its highest value relative to the dollar in its short history. On 30 April 2007, the common European currency was quoted at 1.3673 dollars, putting it above its previous record level of December 2004. The lowest exchange rate during the period under review was 1.2464 dollars on 20 July 2006.

The good state of the world economy was reflected on nearly all the stock markets with substantial stock price gains. The **Dow Jones** recorded a new all-time high on 1 June 2007. For the first time in its his-

tory, the Dow closed at 13,692. Its lowest level during the period under review was 10,683, recorded on 18 July 2006.

The **Dax** share index in Germany passed the 8,000 mark on 4 June 2007 for the first time since 2000.

It is becoming increasingly important to observe the stock exchanges in **China**, particularly Shanghai. In late February 2007, stock markets around the world were shaken by a 9-percent fall in share prices on the Shanghai Composite Index.

China, now the world's third-biggest economy, once again achieved above-average growth, with a rate of 10.7 %, and remains the economic powerhouse of Asia. In an attempt to prevent the economy from overheating and inflation from rising, the Chinese central bank raised its prime lending rate three times within a period of eleven months to 6.39 % (as of March 2007).

On 8 August 2006, the price for a barrel of crude oil (Brent crude) rose to more than 78 dollars, its highest level ever. The lowest price of the year was slightly above 50 dollars, recorded in January 2007. The continuing bullishness of energy prices is strengthening the economic and political influence of the supplier countries.

KEY DATA USA, JAPAN, GERMANY AND CHINA

The figures for 2004 and 2005 have been revised according to the latest statistics

*) Interest rate for 10-year bonds. China: interest for long-term credits.

		GDP growth (real) in %		Balance of Payments in USD bn		Balance of Trade in USD bn		Inflation Rate Ø in %		Interest Rate Ø in %*)		Unemployment (as of 31.12.) in %	
USA	2004	3.9%		-665.3		-665.4		2.7%		4.27%		5.5%	
	2005	3.2%		-791.5		-782.7		3.4%		4.29%		5.1%	
	2006	3.3%		-859.6		-835.3		3.2%		4.79%		4.6%	
Japan	2004	2.7%		172.6		128.6		0.0%		1.49%		4.7%	
	2005	1.9%		166.2		93.2		-0.3%		1.38%		4.4%	
	2006	2.2%		171.3		80.8		0.2%		1.74%		4.1%	
Germany	2004	1.2%		101.3		192.4		1.7%		4.06%		10.6%	
	2005	0.9%		113.4		196.0		2.0%		3.38%		11.7%	
	2006	2.7%		127.1		203.2		1.7%		3.75%		10.8%	
China	2004	10.1%		68.7		32.1		3.9%		5.85%		4.5%	
	2005	10.2%		160.8		101.9		1.8%		6.12%		4.4%	
	2006	10.7%		250.0		177.5		1.5%		6.51%		4.5%	

WORLD BEER PRODUCTION 2005/2006



Europe

Country	2005	2006
Germany	107,678	107,174
Russia (CIS)	89,200	99,900
Great Britain	56,021	54,133
Spain	32,569 *	33,600
Poland	30,300	32,500
Ukraine (CIS)	23,700	26,730
Netherlands	24,560	26,479
Czech Republic	19,069	19,800
Belgium	17,274	18,383
Romania	15,295	17,487
France	16,394	16,030
Italy	12,269	12,055
Ireland	8,969	9,377
Turkey	8,936	9,140
Austria	8,785	8,818
Portugal	7,440	8,359
Denmark	8,704	8,175
Hungary	6,810	6,930
Serbia ^o	---	5,878
Bulgaria	4,225	5,228
Finland	4,587	4,548
Greece	3,888	3,850
Slovakia	3,963	3,795
Sweden	3,781	3,730
Croatia	3,619	3,515
Switzerland	3,417	3,494
Belarus (CIS)	2,715	3,320
Latvia	2,990	2,960
Norway	2,399	2,497
Slovenia	1,989	1,905
Lithuania	1,390	1,510
Estonia	1,250	1,270
Bosnia-Herzegovina	1,145	1,004
Moldavia	740	840
Georgia (CIS)	900	700
Albania	550	700
Macedonia	695	670
Montenegro ^o	---	573
Armenia	400	400
Cyprus	393	380
Luxembourg	374	333
Other CIS-countries	320	300 *
Iceland	156	174
Malta	76	75
Serbia/Montenegro ^o	6,730	---
TOTAL	546,596	568,719

Australia/Oceania

Country	2005	2006
Australia	17,090	17,200
New Zealand	3,036	3,100 *
Papua-New Guinea	364	385
Tahiti	180	185
Fiji Islands	160	157
New Caledonia	130	132
Samoa	72	75
Solomon Islands	41	46
Tonga	8	8
Vanuatu	7	7
TOTAL	21,088	21,295

America

Country	2005	2006
USA	230,991	231,822
Brazil	91,072	93,600 *
Mexico	72,558	78,162
Venezuela	22,000 *	24,000 *
Canada	23,156	23,636
Columbia	16,500 *	18,400 *
Argentina	13,700 *	14,000 *
Peru	7,100 *	9,300 *
Chile	4,800 *	5,484
Ecuador	3,000 *	3,500 *
Dominican Republic	3,000 *	2,800 *
Cuba	2,629	2,800 *
Panama	1,800 *	1,800 *
Bolivia	1,800 *	1,700 *
Guatemala	1,500 *	1,600 *
Paraguay	1,600 *	1,500 *
Costa Rica	1,400 *	1,500 *
Honduras	950 *	950 *
Jamaica	900 *	900 *
Uruguay	800 *	850 *
El Salvador	800 *	800 *
Nicaragua	650 *	700 *
Puerto Rico	550 *	600 *
Trinidad	330 *	350 *
Guyana	400 *	300 *
Belize	180 *	200 *
Bahamas	140 *	140 *
Dutch Antilles	130 *	130 *
Surinam	95 *	95 *
Haiti	90 *	80 *
Barbados	70 *	80 *
St. Lucia	60 *	70 *
Martinique	70 *	60 *
St. Vincent	51	55
Grenada	35 *	35 *
Antigua	27	26
Dominica	21	18
St. Kitts	17 *	17 *
Aruba	16 *	16 *
Cayman Islands	4 *	4 *
TOTAL	504,992	522,080

Asia

Country	2005	2006
China	306,156	351,515
Japan	63,430	62,980
Thailand	17,030	20,209
Vietnam	13,783	18,000
South Korea	17,020	16,436
Philippines	13,500	13,210
India	7,800	8,000
Taiwan	3,676	4,084
Kazakhstan (CIS)	3,276	3,640
Indonesia	1,500 *	1,420 *
Uzbekistan (CIS)	1,500	1,400
Malaysia	1,400	1,400
Singapore	1,103	1,104
Laos	927	1,025
Israel	845	766
Cambodia	480 *	520
Sri Lanka	515	469
Myanmar (Burma)	400	400
Azerbaijan (CIS)	650	350
Nepal	265	250
Hong Kong	266	225
Iran	200 *	200 *
Lebanon	185	173
Syria	100	100
Mongolia	80	74
Jordania	55 *	55 *
Pakistan	28	32
Iraq	0 *	0 *
TOTAL	456,170	508,037

Africa

Country	2005	2006
South Africa	25,900	27,000 *
Nigeria	10,000	11,500
Cameroon	4,270	4,398
Kenya	3,500	3,800
Angola	2,931	3,753
Tanzania	2,430	2,850
Ethiopia	1,700	2,421
Ghana	1,086	1,813
Uganda	1,444	1,551
Dem. Rep. Congo (Zaire)	1,650 *	1,418
Namibia	1,300	1,300
Burundi	1,004	1,231
Ivory Coast	1,300	1,226
Mozambique	1,177	1,193
Zimbabwe	1,209	1,157
Egypt	1,000	1,100
Tunesia	1,000	1,036
Congo	742	936
Morocco	950	925
Gabon	850	915
Algeria	1,337	760
Madagascar	682	714
Rwanda	561	665
Burkina Faso	620	650
Zambia	529	535
Botswana	510	473
Benin	430	470
Togo	322	346
Mauritius	368	345
Lesotho	293	290
Eritrea	338	288
Chad	230 *	230
Réunion	207	215
Swaziland	202	199
Malawi	190 *	190 *
Senegal	200	185
Central African Republic	100	124
Guinea	155 *	122
Liberia	83	94
Sierra Leone	83	90
Mali	84	80
Niger	62	61
Seychelles	66	60
Guinea Bissau	40 *	42 *
Gambia	34	36
Cape Verde Islands	20 *	20 *
TOTAL	73,189	78,807

WORLD TOTAL

	2005	2006
TOTAL	1,602,035	1,698,938

figures in 1,000 hl

in italics:

corrections for 2005 as stated in last year's report.

* estimate

^o The confederation of the states Serbia and Montenegro was dissolved by 3 June 2006. Both became independent countries.



OUTPUT DEVELOPMENT

	2005 1,000 hl	2006 1,000 hl	2005 +/- % rel.	2006 +/- % rel.
European Union	381,454	386,169	1.0%	1.2%
Rest of Europe	165,142	182,550	9.1%	10.5%
Europe total	546,596	568,719	3.3%	4.0%
North America	254,147	255,458	-0.5%	0.5%
Central America/Caribbean	87,828	94,343	5.7%	7.4%
South America	163,017	172,279	6.3%	5.7%
America total	504,992	522,080	2.6%	3.4%
Asia	456,170	508,037	3.7%	11.4%
Africa	73,189	78,807	3.5%	7.7%
Australia/Oceania	21,088	21,295	0.7%	1.0%
WORLD TOTAL	1,602,035	1,698,938	3.2%	6.0%

According to estimates, beer output in 2006 was expected to increase by between 2.5 % and 3.5 % year on year. Detailed analysis of the data, however, produced a surprising result. Beer output rose by 96m hl and therefore by an impressive 6 %. This was despite the fact the figures for the previous year (2005) had had to be revised in some countries, which led to a final output that was 4.6m hl (or 0.2 %) higher than the figure stated in the 2005/2006 Barth Report.

China is not only the country with the world's highest beer output. It also registered by far the highest growth in absolute figures, with an increase of 45.4m hl. Measured against the global increase in output,

that is equivalent to a share of 47 %.

In **Europe**, due to increases in output in Russia (+10.7m hl) and in Ukraine (+3m hl), output rose by 4 %, although the UK had a negative effect on the statistics, with output there falling by 1.9m hl.

Mexico (+5.6m hl), Brazil (+2.5m hl), Peru (+2.2m hl) and Venezuela (+2.0m hl) were responsible for the rise in output in **America**.

In addition to China (+45.4m hl), both Vietnam (+4.2m hl) and Thailand (+3.2m hl) contributed to the impressive result in **Asia**.

In **Africa**, Nigeria (+1.5m hl) and South Africa (+1.1m hl) in particular had a decisive influence on the growth in output.



MARKET ANALYSIS

Even before the 2006 harvest, the supply situation for the international brewing industry was considered to be tight. The market for high-alpha and bitter hops was viewed as ranging from very tight to undersupplied, and the market for aroma hops as well-balanced, at best. As it became apparent in July 2006 that it was going to be another hot summer with high temperatures and lack of rainfall, the international hop trading companies had no alternative but to stop selling to the brewing industry. They were faced with a threatening situation, for there was a definite possibility that meeting the obligations of forward contracts, most of which had been closed at low prices, could involve high losses for all varieties. It was also foreseeable that very few hops would be available for the spot market. The pessimists were proved right when shortfalls were reported for the 2006 harvest in September. Crop volume in continental Europe proved to be unusually poor. Year on year, world volume decreased by 9.3 % and world alpha volume also fell by 10.1 %, while in the same period beer output grew worldwide by an astonishing 6 %, which resulted in excess demand of an unexpected magnitude.

The international hop market, which had come to a complete standstill for three months, from around mid-July to mid-October, was overtaken by demand that it was unable to meet. The unexpectedly low production volume and the resulting sharp increases in prices were influenced by the following factors:

- Low hop production volume in Central Europe in 2006, primarily for climatic reasons.
- Growth in world beer output amounting to 14.9 % in the period 2004 to 2006 = approx. 220m hl.
- Stabilisation of bittering rates in beer at the previous year's level.
- Several years of ruinous hop prices for hop growers, i.e. prices below production costs.
- The resulting reduction in world hop acreage by 7.4 % over the last three crop years = approx. 4,000 ha.
- A hop industry that has been largely bled dry by 15 years of recession in the hop market.
- The historically low level of the volume of forward contracts for hops and the resulting dependence of the brewing industry on the spot market.

- The reduction in the volume of hops stocked by the brewing industry in recent years, which gave the market the wrong impression of demand.
- The first application of the alpha clause on the part of the sellers due to the low alpha acid content in the 2006 crop, which as a rule led to contractual delivery curtailments.
- A warehouse fire in the USA that destroyed 110 mt of alpha.
- The increasing use of hop products outside the brewing industry which for the first time aggravated the short supply.

As always, a bullish hop market resulted from the interaction of different factors, in 2006 primarily due to natural causes. However, the growth in world beer output and the purchasing behaviour of the market players in recent years contributed to the situation.

The buyer's market, to which everyone had been accustomed for years, unexpectedly turned into a seller's market. A decades-long process of adjustment and downsizing in the world hop market appears to have come to an end. There is every indication that crop year 2006 marks the beginning of a structural change in the market which will probably continue in the coming crop years. This can also be seen in the great interest shown by the brewing industry in forward contracts, regardless of the rising price level, in order to guarantee supplies of hops. In this context, the widely reported climate change is also likely to constitute an additional risk in the future.

In order to see clearly just how far-reaching the changes have been within the world hop industry in the last 15 years, it is worth calling the comparison of the following key figures to mind:

Crop year	1992	2006	Changes
Acreage	91,835 ha	49,526 ha	-46%
Production	122,379 mt	85,570 mt	-30%
Beer production*	1,190 mill. hl	1,750 mill. hl	+47%
Hopping rate*	6.7 g α/hl	4.8 g α/hl	-28%
Alpha production	7,537 mt	7,102 mt**	-6%
Alpha demand*	7,985 mt	8,400 mt	+5%

* The figures on beer output, hopping rates and alpha requirements refer to the brewing year following the respective crop year

** Without consideration of the shortage of 110 t by a warehouse fire

The above figures reflect the trend towards milder beers and a better exploitation of the bittering substances in the hops, which is expressed in the lower hopping rates (- 28 %). Despite the significant increase in world beer output (+ 47 %), the demand for alpha resins in absolute terms today is therefore only marginally higher (+ 5 %) than in 1992.

At the same time, successful developments in breeding and replanting with high-alpha varieties have led to planted acreage being reduced by 46 %. The recession in the hop industry connected with the adjustments in hop production explains the great turmoil in the development of the market in the last 15 years.

CONTRACT RATES

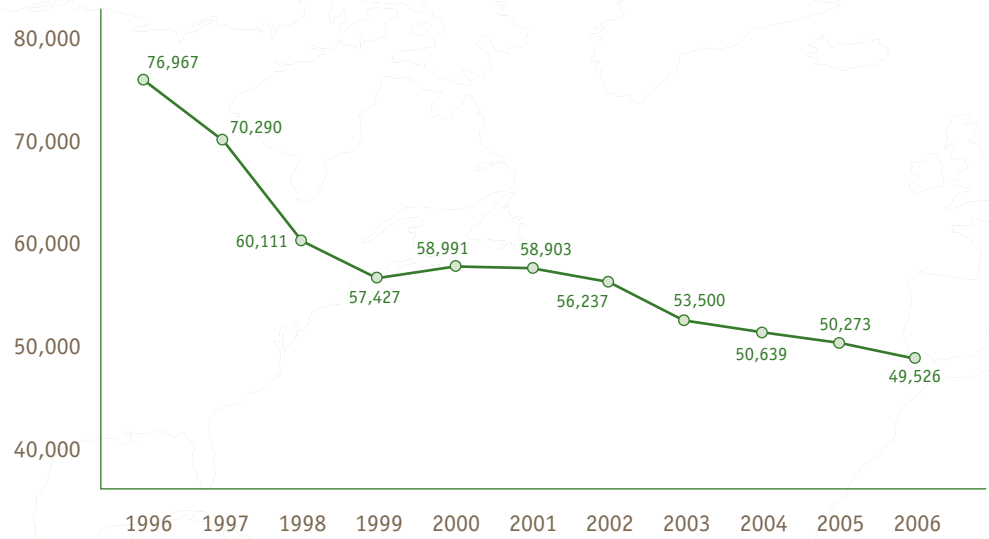


Forward contract rates in % (as per spring 2007)

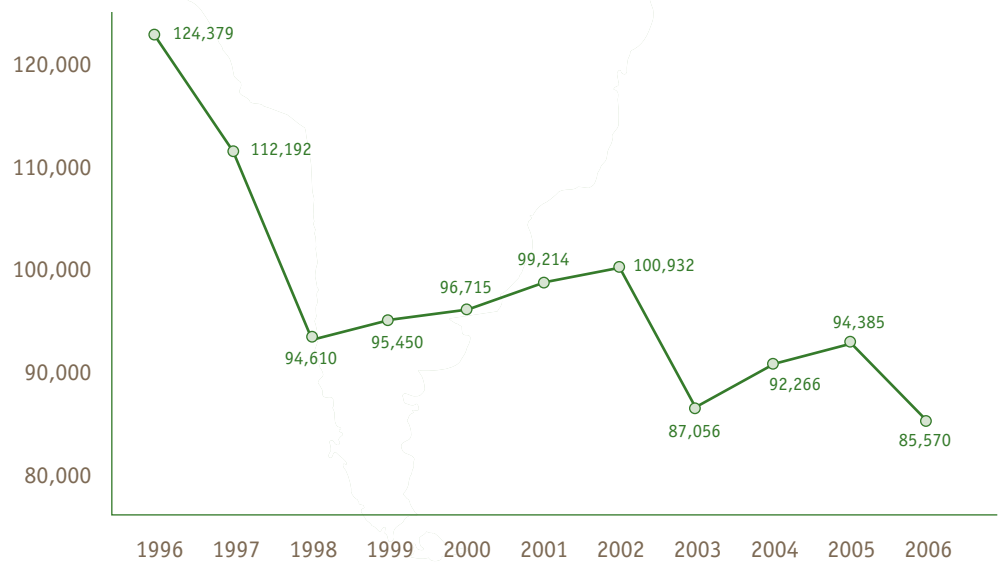
Country	2007	2008	2009	2010
Germany	95%	95%	85%	75%
USA	95%	90%	90%	70%
China	100%	75%	60%	40%
Czech Republic	100%	95%	95%	80%
Poland	60%	40%	40%	40%
Slovenia	70%	55%	45%	30%
England	80%	70%	59%	30%

Contract rates are based on the hop acreage estimated for 2007 and a long-term average yield.

AREA UNDER CULTIVATION HA



HOP PRODUCTION MT

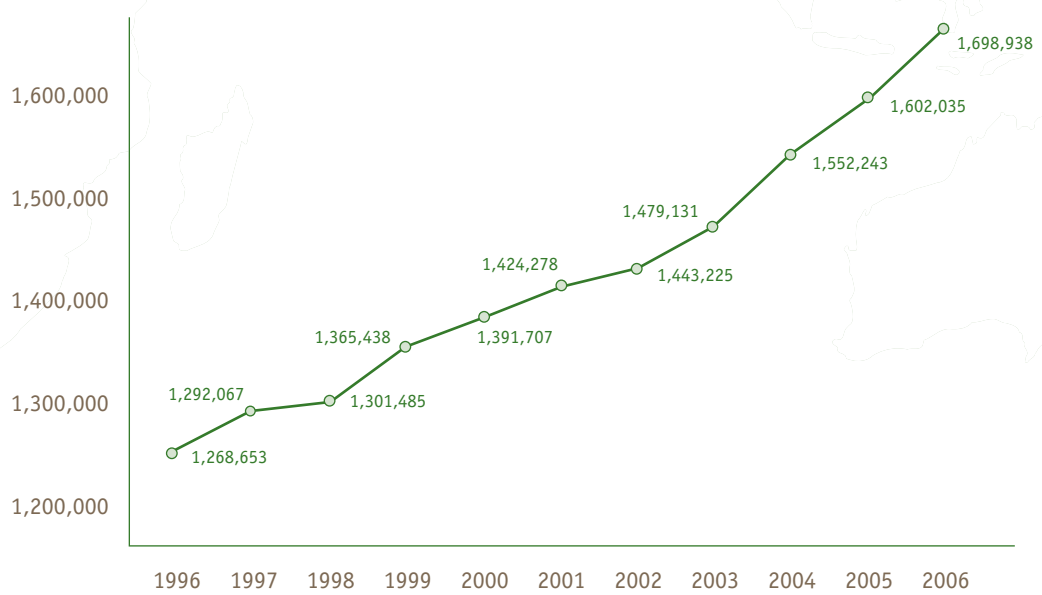




ALPHA PRODUCTION MT



BEER PRODUCTION 1,000 HL





HOP ACREAGE AND PRODUCTION

* estimate

° The confederation of the states Serbia and Montenegro was dissolved by 3 June 2006. Both became independent countries. There is no cultivation of hops in Montenegro.

in italics: corrections for 2005 as stated in last year's report.

		2005				2006			
		Acreage ha	Production mt	Ø-Alpha %	Alpha mt	Acreage ha	Production mt	Ø-Alpha %	Alpha mt
Germany	Hallertau	14,221	29,640.6	8.8%	2,599	14,280	24,294.2	7.8%	1,905
	Elbe-Saale	1,332	2,486.2	12.3%	305	1,284	2,251.9	11.1%	249
	Tett nang	1,193	1,702.8	4.2%	71	1,200	1,423.8	2.5%	36
	Spalt	395	599.6	4.4%	27	387	504.2	3.6%	18
	Others	20	37.6	7.3%	3	19	34.2	7.2%	2
	Total	17,161	34,466.8	8.7%	3,005	17,170	28,508.3	7.8%	2,210
Czech Republic	Saaz	4,227	5,462.2	3.9%	211	4,044	3,645.5	2.8%	103
	Tirschitz	705	1,260.3	4.2%	53	702	1,082.3	3.2%	34
	Auscha	740	1,108.7	3.5%	38	668	725.6	2.3%	17
	Total	5,672	7,831.2	3.9%	302	5,414	5,453.4	2.8%	154
Poland		2,289	3,413.7	6.9%	237	2,234	2,888.9	6.0%	172
Slovenia		1,511	2,539.0	7.5%	189	1,507	1,819.0	5.6%	102
England		1,071	1,593.3	7.9%	125	1,043	1,340.3	6.7%	90
France		802	1,371.3	2.9%	39	795	1,187.7	2.4%	28
Spain		685	1,294.5	10.9%	141	600	1,135.0	11.0%	125
Slovakia		320	425.5	4.0%	17	305	314.0	2.8%	9
Austria		219	337.3	7.2%	24	219	342.3	6.7%	23
Belgium		191	364.0	10.5%	38	183	274.0	7.7%	21
Hungary		37	64.1	10.9%	7	37	59.0	10.9%	6
Portugal		21	27.0	8.6%	2	21	25.2	9.3%	2
	European Union	29,979	53,727.7	7.7%	4,126	29,528	43,347.1	6.8%	2,942
Ukraine*		1,464	1,473.0	4.5%	66	1,464	1,473.0	4.0%	59
Russia		422	264.0	4.8%	13	420	340.0	4.4%	15
Romania*		400	320.0	6.0%	19	400	400.0	6.0%	24
Turkey		311	309.2	9.2%	28	331	356.0	9.0%	32
Bulgaria		221	342.0	10.1%	35	221	275.0	9.3%	26
Serbia-Montenegro/Serbia°		166	300.0	5.4%	16	67	138.0	6.1%	8
Belarus		22	22.0	9.0%	2	30	26.0	9.0%	2
Switzerland		20	38.1	11.4%	4	20	27.7	8.9%	2
	Rest of Europe	3,026	3,068.3	6.0%	183	2,953	3,035.7	5.5%	168
	EUROPE	33,005	56,796.0	7.6%	4,309	32,481	46,382.8	6.7%	3,110
USA	Washington	8,504	17,903.1	11.4%	2,032	8,714	20,100.2	12.3%	2,476
	Oregon	2,089	3,653.2	7.8%	284	2,038	4,020.5	8.6%	345
	Idaho	1,330	2,445.3	9.3%	227	1,132	2,045.9	8.3%	171
	Total	11,923	24,001.6	10.6%	2,543	11,884	26,166.6	11.4%	2,992
Argentina		184	257.4	6.6%	17	167	290.0	7.6%	22
	AMERICA	12,107	24,259.0	10.5%	2,560	12,051	26,456.6	11.4%	3,014
China	Xinjiang	1,830	5,500.0	7.0%	387	1,880	5,184.0	7.3%	381
	Gansu	1,656	4,272.5	6.3%	270	1,664	4,698.0	6.3%	297
	Total	3,486	9,772.5	6.7%	657	3,544	9,882.0	6.9%	678
Japan		244	496.5	6.3%	31	235	415.1	5.8%	24
India		73	41.6	10.6%	4	60	40.0	11.4%	5
	ASIA	3,803	10,310.6	6.7%	692	3,839	10,337.1	6.8%	707
South Africa		506	937.0	12.9%	121	430	682.0	13.5%	92
	AFRICA	506	937.0	12.9%	121	430	682.0	13.5%	92
Australia		449	1,238.0	11.8%	146	372	1,044.0	11.3%	118
New Zealand		403	844.5	8.9%	75	353	667.1	9.1%	61
	AUSTRALIA/OCEANIA	852	2,082.5	10.6%	221	725	1,711.1	10.5%	179
	WORLD	50,273	94,385.1	8.4%	7,903	49,526	85,569.6	8.3%	7,102
						Destroyed in a US warehouse fire			-110
						Remaining alpha quantity			6,992

ALPHA ACID PRODUCTION

Alpha acid production world-wide has been divided into variety groups:

GROUP I:	Fine aroma hops	such as Hallertau Mittelfrueh, Hersbruck Spaet, Klon 18, Lublin, Saaz, Saphir, SA-1, Spalt, Styrian Golding, Strisselspalt, Tettngang.
GROUP II:	Aroma hops	such as Aurora, Cascade, First Gold, Fuggles, Golding, Hallertau Tradition, Horizon, Mount Hood, NZ Hallertau, Perle, Spalt Select, Sterling, Willamette.
GROUP III:	Bitter hops/ High Alpha hops	such as Admiral, Chelan, Chinook, Cluster, Columbus/Tomahawk/Zeus (CTZ), Galena, Hallertau Magnum, Hallertau Taurus, Herkules, Kirin Flower, Marco Polo, Marynka, Millennium, Northern Brewer, Nugget, NZ Pacific Gem, Phoenix, Pride of Ringwood, Super Pride, Target, Tsingdao Flower, Victoria, Warrior.

Varieties with a long-term average alpha content of up to 4.5 %

Varieties with a long-term average alpha content of over 4.5 %

With the world hop crop divided into these groups, alpha acid production was as follows:

Group	2005					2006				
	Crop share	Crop mt	Alpha Ø	Alpha mt	Alpha share	Crop share	Crop mt	Alpha Ø	Alpha mt	Alpha share
I	19.6%	18,516	3.4%	627	7.9%	17.0%	14,541	2.4%	347	4.9%
II	27.0%	25,437	5.9%	1,503	19.0%	26.3%	22,536	5.3%	1,185	16.7%
III	53.4%	50,432	11.4%	5,773	73.1%	56.7%	48,493	11.5%	5,570	78.4%
TOTAL	100.0%	94,385	8.4%	7,903	100.0%	100.0%	85,570	8.3%	7,102	100.0%

The total figures for 2005 were amended compared to last year's report.

Alpha group I – fine aroma hops:
Germany 38.4 % (previous year: 39.1 %), Czech Republic 29.2 % (previous year: 35.7 %).

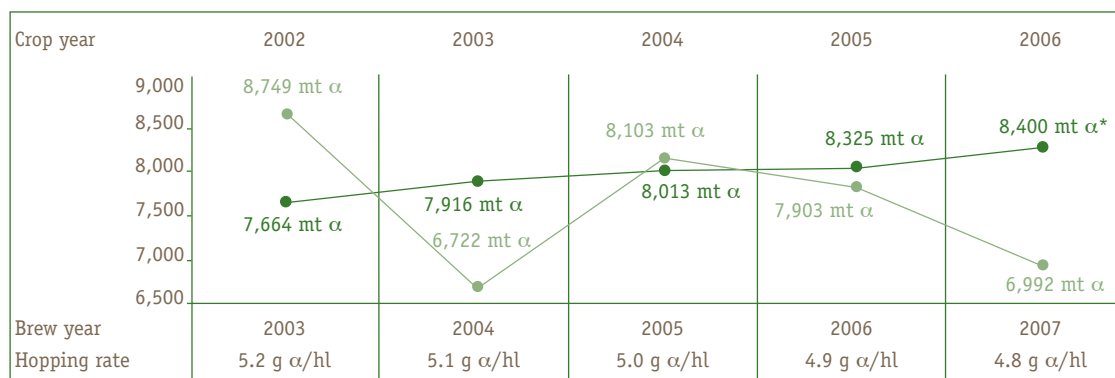
In crop year 2006 the market was faced with a year-on-year fall in alpha production totalling around 800 mt. In particular, the group comprising the fine aroma hops was adversely affected by the unfavourable weather conditions for hops in Central Europe in terms of crop and alpha volume. Also Group II, however, was unable to maintain the performance of the previous year. The share of total crop and alpha production volume accounted for by the bitter and high-alpha varieties

increased accordingly. The volume of alpha produced by Germany and the USA represents 73.3 % of total world alpha volume in crop year 2006. Germany lost its position as the world's biggest producer of alpha acid. Its share fell to 31.1 % (previous year: 38 %). The new world leader was the USA with 42.1 % (previous year: 32.2 %). China moves into third place with 9.5 % (previous year: 8.3 %).

Alpha group II – aroma hops:
Germany 46.8 % (previous year: 51.4 %), USA 29.3 % (previous year: 21.4 %).

Alpha group III – bitter hops/high-alpha hops: USA 47.5 % (previous year: 38.5 %), Germany 27.3 % (previous year: 34.4 %).

ALPHA ACID BALANCE



Alpha supply

Brew year	Surplus/Deficit
2003	+1,085 mt α
2004	-1,194 mt α
2005	+90 mt α
2006	-422 mt α
2007	-1,408 mt α

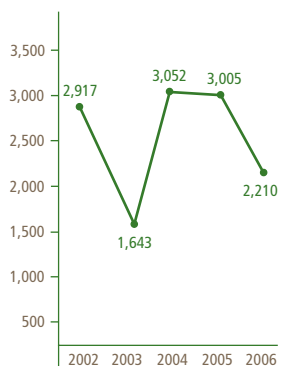
● Alpha demand (Brew year)
● Alpha production (Crop year)
* Estimated demand

Due to unfavourable weather conditions in Central Europe, the global crop figures for 2006 are characterised by below-average crop volume and below-average alpha production. Total alpha yield amounted to 7,102 mt. Approx. 110 mt of alpha was destroyed in a warehouse fire in the USA. As a result the quantity of alpha available to the market was 6,992 mt. These statistics do not take into account the approx. 150 mt of alpha required for use outside the brewing

industry or the alpha degradation occurring naturally during the time between the processing of the hops and their use in the brewing industry. The calculation of demand for the 2007 brewing year is based on an increase in beer output of 3 %. The statistical alpha deficit of 1,408 mt (16.8 % of world demand) is by far the highest imbalance of supply and demand since alpha acid statistics were first introduced in 1970.



GERMANY



• Alpha production in mt

Area	Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
		2005	+/-	2006	2005	2006	2005	2006
Hallertau	Perle	2,789	142	2,931	2.04	1.55	5,693.38	4,548.41
	Hallertau Tradition	2,116	119	2,235	2.00	1.68	4,230.16	3,765.77
	Hallertau Mittelfrueh	1,492	24	1,516	1.59	1.38	2,368.39	2,085.66
	Hersbruck Spaet	1,041	-176	865	1.91	1.74	1,985.37	1,502.06
	Spalt Select	732	8	740	2.26	1.83	1,651.12	1,351.89
	Saphir	188	3	191	2.35	2.00	441.57	381.20
	Other Aroma	45	12	57	0.77	1.17	34.86	66.61
	Total Aroma	8,403	132	8,535	1.95	1.61	16,404.85	13,701.60
	Northern Brewer	423	-28	395	2.02	1.34	852.67	528.15
	Other Bitter	39	-7	32	2.43	2.16	94.75	69.27
	Total Bitter	462	-35	427	2.05	1.40	947.42	597.42
	Hallertau Magnum	3,660	-111	3,549	2.32	1.96	8,476.50	6,969.31
	Hallertau Taurus	1,177	-31	1,146	2.33	1.89	2,745.30	2,160.69
	Nugget	318	-30	288	2.20	1.90	699.16	548.29
	Herkules	26	175	201	0.26	0.50	6.83	100.19
	Hallertau Merkur	116	-16	100	2.12	1.68	245.47	168.14
	Other High Alpha	30	-15	15	2.01	1.49	60.19	22.31
	Total High Alpha	5,327	-28	5,299	2.30	1.88	12,233.45	9,968.93
	Others	29	-10	19	1.89	1.38	54.89	26.25
Total Hallertau	14,221	59	14,280	2.08	1.70	29,640.61	24,294.20	
Elbe-Saale	Perle	119	9	128	1.85	1.42	219.96	181.81
	Hallertau Tradition	24	14	38	1.26	0.74	30.27	28.07
	Total Aroma	143	23	166	1.75	1.26	250.23	209.88
	Northern Brewer	189	-34	155	1.48	1.20	279.63	185.99
	Total Bitter	189	-34	155	1.48	1.20	279.63	185.99
	Hallertau Magnum	857	-26	831	1.98	1.97	1,694.42	1,638.70
	Nugget	62	-19	43	1.88	1.69	116.35	72.83
	Hallertau Merkur	40	-3	37	2.02	1.99	80.92	73.72
	Hallertau Taurus	33	-7	26	1.62	1.84	53.49	47.79
	Other High Alpha	8	18	26	1.40	0.88	11.17	22.97
	Total High Alpha	1,000	-37	963	1.96	1.93	1,956.35	1,856.01
Total Elbe-Saale	1,332	-48	1,284	1.87	1.75	2,486.21	2,251.88	
Tettngang	Tettngang	765	-14	751	1.33	1.15	1,018.89	863.69
	Hallertau Mittelfrueh	412	-8	404	1.51	1.19	623.82	482.02
	Other Aroma	13	27	40	3.74	1.70	48.58	67.90
	Total Aroma	1,190	5	1,195	1.42	1.18	1,691.29	1,413.60
	High Alpha	3	2	5	3.83	2.04	11.50	10.19
Total Tettngang	1,193	7	1,200	1.43	1.19	1,702.79	1,423.80	
Spalt	Hallertau Mittelfrueh	113	1	114	1.47	1.18	165.90	134.45
	Spalt Select	115	-3	112	1.90	1.47	218.50	164.71
	Spalt	95	-5	90	1.19	1.07	113.24	96.06
	Hallertau Tradition	26	0	26	1.33	1.73	34.47	44.97
	Perle	23	2	25	1.45	1.47	33.40	36.84
	Hersbruck Spaet	9	-3	6	1.23	0.65	11.09	3.87
	Total Aroma	381	-8	373	1.51	1.29	576.60	480.90
	High Alpha	14	0	14	1.64	1.66	22.94	23.26
Total Spalt	395	-8	387	1.52	1.30	599.54	504.16	
Rhen.-P./ Hochdorf	Aroma	15	-1	14	1.82	1.81	27.23	25.37
	High Alpha	5	0	5	2.08	1.77	10.39	8.84
	Total Rhenish./Hoch.	20	-1	19	1.88	1.80	37.62	34.21
Total Aroma	10,132	151	10,283	1.87	1.54	18,950.20	15,831.36	
Total Bitter	651	-69	582	1.88	1.35	1,227.05	783.41	
Total High Alpha	6,349	-63	6,286	2.24	1.89	14,234.63	11,867.23	
Total Others	29	-10	19	1.89	1.38	54.89	26.25	
GERMANY TOTAL	17,161	9	17,170	2.01	1.66	34,466.77	28,508.25	



Farm Structure

The number of hop farms continued to decline. Within the course of one year, 57 growers stopped farming hops. The remaining 1,554 producers farmed an average hop acreage of 11.05 ha.

Growth, Crop Estimate and Weights

In 2005, winter set in early at the beginning of November with heavy falls of snow and lasted a very long time. The ground lay beneath a covering of snow virtually without interruption until mid-March. Spring work therefore began very late in the season and proved to be difficult, particularly on heavy soil, due to continual rainfall. Training could not begin until one week later than usual. A marked temperature increase in early May reduced the time lag in growth. In the second half of May the nights were again too cold and average temperatures during the day were low. On the whole, spring was predominantly cool and the hop plants grew only slowly. Many varieties, above all **Perle** and **Hallertau Tradition**, lagged behind in terms of development.

From mid-June, temperatures rose and splendid summer weather set in, although there was too little precipitation for farm crops. The hop plants did not reach full trellis height until the beginning of July. The month of July was marked by unusually high temperatures. The dry conditions and heat had an additional adverse effect on the growth of the hop plants. By mid-July the full extent of vertical growth had already been reached, with the result that the appearance of the plants was only poor to middling, depending on the location. Flowering also began in mid-July. At this point, rainfall was more than necessary. Thundery showers finally came to the

Hallertau region at the end of July, helping the stressed hop plants to recover. Throughout August, weather conditions were too cool, with little sunshine and heavy rainfall. As a result, there was an intensive second flowering among late-maturing varieties, a significant delay in maturing among all varieties and slow formation of alpha acids. In addition, on 11 August, unusually widespread hail fell in the Hallertau region, causing only minor damage, however, depending on the district.

Compared with the long-term average, the unusual weather conditions brought about a delay in vegetation of up to one week. With the exception of the **Hallertau Mittelfrueh** and **Northern Brewer** varieties, the hops could not be harvested until September. When a high-pressure system finally brought warm and sunny weather in early September, it was already too late for high average levels of alpha acid to form in the early-maturing varieties. There was clearly visible growth among the later-maturing varieties, but here, too, the final results still remained below the long-term average. The visual quality of the early-maturing varieties was hardly affected by the weather conditions. The late-maturing varieties also showed an improvement in quality year on year.

The final total recorded as the officially certified hop volume for crop year 2006 in Germany was 7 % below the crop estimate made in August. Year on year, the volume of hops produced in crop year 2006 was down by nearly 6,000 mt, or 17 %. Comparison of the production volume of alpha acids makes the difference even more significant. Whereas 3,005 mt of alpha was recorded for crop year 2005, the figure for 2006 was only 2,210 mt, which means a drop of 26.5 %.

Area	Estimate 08/2006 mt	Weight 31.03.07 t
Hallertau	26,400.00	24,294.20
Elbe-Saale	2,162.00	2,251.88
Tettnang	1,550.00	1,423.80
Spalt	540.00	504.16
Rhenish-Palatinate/Hochdorf	36.25	34.21
TOTAL	30,688.25	28,508.25

Acreage/Variety Development

In terms of hop acreage, the overall figure remained stable from 2005 to 2006. Major shifts were recorded within the varieties and variety groups, however. The aroma variety group grew by 151 ha, thus seeing its acreage expand for the third year in succession. The varieties planted were **Perle** (+165 ha) and **Hallertau Tradition** (+149 ha). The acreage planted with **Hersbruck Spaet**, on the other hand, fell by 179 ha (-17 %). The acreage devoted to bitter varieties has fallen continuously since crop year 1992. In the last

two crop years, this reduction has amounted to 69 ha (-10.6 %).

The high-alpha variety group has also seen its acreage decline by 63 ha. With the exception of the new **Herkules** variety, whose acreage was increased by 188 ha to 214 ha, there has been a reduction in the acreage of all the other high-alpha varieties. The variety most affected by this was **Hallertau Magnum**, with -139 ha.



GERMANY

Over the last five years the acreage developed as follows:

Shares of variety groups in 2006:

Aroma hops 60.0 %

Bitter varieties 3.4 %

High-alpha varieties 36.6 %.

Variety	2002 ha	2003 ha	2004 ha	2005 ha	2006 ha
Perle	3,385	2,829	2,839	2,947	3,112
Hallertau Tradition	1,783	1,727	1,958	2,173	2,322
Hallertau Mittelfrueh	1,508	1,903	1,970	2,019	2,036
Hersbruck Spaet	1,378	1,270	1,196	1,050	871
Spalt Select	990	867	850	850	854
Tettnang	921	822	790	767	752
Spalt	140	116	101	99	98
Other Aroma	73	134	185	227	238
Total Aroma	10,178	9,668	9,889	10,132	10,283
Northern Brewer	1,237	870	665	612	550
Other Bitter	74	44	40	39	32
Total Bitter	1,311	914	705	651	582
Hallertau Magnum	4,847	4,929	4,870	4,526	4,387
Hallertau Taurus	1,243	1,284	1,272	1,215	1,178
Nugget	545	501	450	380	331
Other High Alpha	199	236	246	228	390
Total High Alpha	6,834	6,950	6,838	6,349	6,286
Others	29	30	44	29	19
GERMANY TOTAL	18,352	17,562	17,476	17,161	17,170

Within the last five crop years, the acreage in Germany decreased by 1,182 ha. Aroma hops suffered a reduction of 289 ha until 2004 before regaining 394 ha in 2005 and 2006. Bitter varieties have lost more than

half of their acreage, i.e. 729 ha within five years. The cultivation of the group of high alpha varieties increased by 116 ha from 2002 to 2003 suffering a constant decrease of 664 ha until 2006.

Alpha acid table

Alpha acid values as is, as per EBC 7.4, in freshly harvested hops.

All other alpha acid values mentioned in the Barth Report were recorded on the basis of % as is, EBC 7.4 ToP (Time of Processing).

Alpha acid values in 2006 far below the long-term average. Particularly severely affected was the fine aroma hop group.

If the figures for the years 2002 to 2006 are not complete, the 5-year average refers to the average figure for the years available.

Figures in %

Area	Variety	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Ø 5 Years	Ø 10 Years
Hallertau	Hallertau	5.4	4.7	4.1	4.9	4.6	4.6	3.1	4.3	4.4	2.4	3.8	4.3
	Hersbruck	4.7	3.7	2.1	4.9	3.0	3.2	2.1	3.0	3.5	2.2	2.8	3.2
	Saphir	-	-	-	-	-	-	-	3.4	4.1	3.2	3.6	-
	Perle	9.3	6.7	7.0	8.1	7.0	8.6	3.9	6.4	7.8	6.2	6.6	7.1
	Spalt Select	6.8	5.5	4.5	6.4	4.8	6.0	3.2	4.9	5.2	4.3	4.7	5.2
Elbe-Saale	Hallertau Tradition	7.0	5.6	6.0	7.1	6.3	7.2	4.1	6.3	6.3	4.8	5.7	6.1
	Northern Brewer	10.8	9.1	9.0	10.1	9.6	10.1	6.0	9.8	9.8	6.4	8.4	9.1
	Hallertau Magnum	16.9	14.0	13.4	14.4	13.9	14.6	11.7	14.8	13.8	12.8	13.5	14.0
	Nugget	13.6	11.2	10.0	12.9	11.9	12.4	8.5	10.6	11.3	10.2	10.6	11.3
	Hallertau Taurus	16.6	13.7	15.9	15.6	15.7	16.5	12.3	16.5	16.2	15.1	15.3	15.4
Tettnang	Hallertau Merkur	-	-	-	-	-	-	-	13.5	13.3	10.3	12.4	-
	Hallertau Magnum	15.4	12.4	12.2	14.0	13.9	13.9	10.2	14.0	14.4	12.4	13.0	13.3
Spalt	Tettnang	5.4	4.0	3.8	4.9	4.4	4.6	2.6	4.7	4.5	2.2	3.7	4.1
	Hallertau	5.5	4.3	4.2	4.8	4.5	4.8	3.1	5.0	4.8	2.6	4.1	4.4
Spalt	Spalt	5.6	4.4	3.8	4.0	4.4	4.6	3.1	4.4	4.3	2.8	3.8	4.1



The alpha acid table shows the average alpha acid values measured in freshly harvested hops by members of "Arbeitsgruppe Hopfenanalyse" (AHA) on the fixed date of 15 October. The members of AHA are the in-house laboratories of the German hop processing plants, the Bavarian State Institute of Agriculture's Hop Department (Hüll) and Labor Veritas (Zürich).

These values constitute the basis for any adjustments of supply contracts containing "alpha clauses" between the brewing industry and hop merchants. The alpha clause was devised jointly by the German brewers' association and the hop industry association and applied for the first time as a result of the 2003 harvest. It is a contractual provision used solely in forward contracts for aroma hops. The average values serve as the basis for parties concluding new supply contracts containing an alpha clause.

Due to the distinctly below-average alpha acid content in the hops harvested in crop year 2006, the alpha clause agreed with the brewing industry was applied for the first time.

Weather conditions unfavourable for alpha acid formation were responsible for alpha content far below the average in the early-maturing aroma varieties in particular. Among the later-maturing varieties, correspondingly late harvesting was necessary to ensure the highest alpha content possible for this crop year. Nevertheless, the production volume of these hops too remained below the long-term average.

Market Development

Due to the extreme weather conditions, the purchasing activities that had been in progress up to that point gradually ground to a halt in August 2006.

Once the disappointing production volume and low alpha acid levels for the year's crop became apparent, the growers' association's hop pool, which had by then become obligatory, opened alongside a spot market for all varieties at fixed prices.

The market for high-alpha hops opened, depending on the variety, at prices from around 3.40 to 4.00 EUR/kg and developed remarkably dynamically

until mid-October. Offers for **Hallertau Magnum** and **Hallertau Taurus** increased gradually to prices between 5.00 and 6.00 EUR/kg.

From early to mid-October, with purchasing activity brisk, aroma hops were bought at the following prices: **Perle** 4.50 to 5.30 EUR/kg, **Hallertau Tradition** 4.20 to 5.00 EUR/kg, **Spalt Select** 4.00 to 5.00 EUR/kg, **Hersbruck Spaet** 3.00 to 3.20 EUR/kg.

From the middle to the end of October, the small quantities of spot hops remaining of the varieties **Hallertau Magnum**, **Hallertau Taurus**, **Perle** and **Hallertau Tradition** achieved top prices of up to 6.50 EUR/kg. Hops of the **Hersbruck Spaet** variety fetched prices of 4.00 EUR/kg.

Due to the growers' readiness to sell, the market was already cleared by early November. As a consequence of the opening of the hop pool by the growers' association, the other hop trading companies engaged in hop purchasing initiatives in addition to the spot market purchasing described above. However, with hop prices now covering costs, the 2006 hop market played out almost exclusively at fixed prices in the conventional spot market. The pools played no part in purchasing activities. As successful pools are exclusively a phenomenon of weak markets, this was only logical.

Once the brewing industry had given up its reluctance to enter into multi-year contracts, a breakthrough was achieved in the contract market in mid-November. For the first time since the year 2000, the hop growers received attractive purchase offers from the hop trade: **Hallertau Magnum** from crop year 2007 to 2010 at 4.00 EUR/kg, **Hallertau Taurus** from 2007 to 2010 at 4.30 EUR/kg, **Perle** from 2007 to 2011 at 4.00 EUR/kg, **Hallertau Tradition** from 2007 to 2011 at 3.80 EUR/kg, and **Hersbruck Spaet** from 2007 to 2010 at 3.50 EUR/kg.

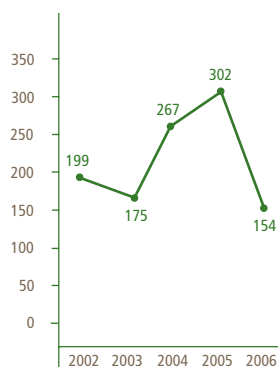
Virtually the entire volume of hops eligible for contracting for the crop years 2007 and 2008 was sold within a short time. Because of the extensive contract volume, the quantities of hops on the spot market will be very limited in the next few years.

As market activity progressed, the contract periods were extended and prices rose.

Variety	2007	2008	2009	2010	2011	2012
Hallertau Magnum	5.00	4.50	4.00	4.00	4.00	4.00
Hallertau Taurus	5.30	4.80	4.30	4.30	4.30	4.30
Hallertau Tradition	4.30	4.20	4.00	4.00	4.00	4.00
Perle	4.30	4.20	4.00	4.00	4.00	4.00
Hersbruck Spaet	4.00	4.00	4.00	4.00	4.00	4.00
Northern Brewer	4.20	4.00	4.00	4.00	4.00	4.00

Figures in EUR/kg

CZECH REPUBLIC



• Alpha production in mt

Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
	2005	+/-	2006	2005	2006	2005	2006
Saaz	5,231	-305	4,926	1.30	0.96	6,816.3	4,717.9
Sládek	202	20	222	2.33	1.64	470.5	363.5
Premiant	153	28	181	2.39	1.35	365.8	244.8
Bor	17	0	17	1.73	0.81	29.4	13.7
Total Aroma	5,603	-257	5,346	1.37	1.00	7,682.0	5,339.9
Agnus	52	-1	51	2.41	1.70	125.3	86.6
Magnum	7	0	7	2.04	1.81	14.3	12.7
Total High Alpha	59	-1	58	2.37	1.71	139.6	99.3
Others	10	0	10	0.96	1.42	9.6	14.2
CZECH REPUBLIC TOTAL	5,672	-258	5,414	1.38	1.01	7,831.2	5,453.4

Farm Structure

As in the previous year, hops were produced by 145 farmers. As a result of acreage reduction, the average planted acreage per farm decreased from 39 ha to 37 ha.

Acreage/Production/Alpha Content

In crop year 2006, hop acreage in the Czech Republic reached an all-time low.

On 20 May, hail and gale-force winds damaged approx. 1,000 ha of hop yards in the Saaz region. In addition, the abnormal vegetation pattern had an adverse effect on both yields and alpha content throughout the Republic. Compared to the very good crop in the previous year, the yield fell by 27 %.

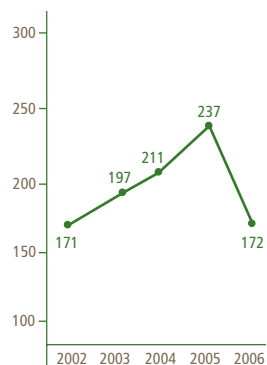
A further record low was the extremely low alpha con-

tent of 2.1 % in the **Saaz** hops (previous year: 3.3 %). Alpha content in the other varieties, with year-on-year comparison: **Sládek** 6.1 % (6.8 %), **Premiant** 6.9 % (8.2 %), **Bor** 6.5 % (6.8 %), **Agnus** 11.6 % (9.6 %). Compared to 2005, the alpha acid volume produced in 2006 was down by 49 %.

Market Situation

The hop volume produced in the 2006 harvest was far below what was necessary to fulfil contractual obligations. The 2007 crop has been bought up completely by forward contract. Acreage of the traditional **Saaz** variety is being further reduced, albeit slightly. This has been more than made up for by an increase in the acreage of **Premiant**. In total, hop acreage can be expected to remain stable.

POLAND



• Alpha production in mt

Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
	2005	+/-	2006	2005	2006	2005	2006
Lubelski	795	-52	743	1.41	1.03	1,117.4	768.3
Lomik	47	0	47	1.49	1.31	70.7	61.6
Perle	20	27	47	1.17	0.80	23.4	37.4
Other Aroma	3	8	11	1.51	0.65	3.6	7.1
Total Aroma	865	-17	848	1.40	1.03	1,215.1	874.4
Marynka	1,061	-50	1,011	1.57	1.36	1,666.2	1,372.1
Other Bitter	47	1	48	0.49	0.74	22.9	35.7
Total Bitter	1,108	-49	1,059	1.52	1.33	1,689.1	1,407.8
Magnum	316	11	327	1.61	1.86	509.4	606.7
Total High Alpha	316	11	327	1.61	1.86	509.4	606.7
POLAND TOTAL	2,289	-55	2,234	1.49	1.29	3,413.7	2,888.9



Farm Structure

The number of hop growers decreased year on year by 31, to stand at 1,113. As a result of the corresponding reduction in acreage, the average planted acreage remained constant at 2 ha per farm.

Acreage/Production/Alpha Content

Total acreage decreased by 2.4 %. The varieties principally affected by this reduction were the aroma variety **Lubelski** and the bitter variety **Marynka**. The aroma varieties in particular suffered yield losses due to the high temperatures and lack of rain. Compared with the previous year, the difference amounted to 0.37 mt per hectare.

The alpha acid levels were considerably lower than in the previous year (2005 in brackets): aroma varieties 2.3 % (3.5 %), bitter varieties 7.6 % (8.8 %). The volume of alpha by weight was 27 % below that of crop year 2005.

Market Situation

62 % of the volume produced in 2006 was committed by forward contract. The remaining hops available were sold on the spot market. By this spring, 60 % of the production volume expected in 2007 was under contract. No changes in acreage are anticipated.



Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
	2005	+/-	2006	2005	2006	2005	2006
Aurora	953	-13	940	1.74	1.22	1,659.0	1,147.0
Styrian Golding	390	-46	344	1.55	0.98	603.0	336.0
Bobek	96	55	151	1.96	1.71	188.0	256.0
Total Aroma	1,439	-4	1,435	1.70	1.21	2,450.0	1,739.0
Magnum	72	0	72	1.24	1.11	89.0	80.0
Total High Alpha	72	0	72	1.24	1.11	89.0	80.0
SLOVENIA TOTAL	1,511	-4	1,507	1.68	1.21	2,539.0	1,819.0

Farm Structure

There were 150 active hop growers in Slovenia in 2006. They grew hops on an average acreage of 10 ha per farm.

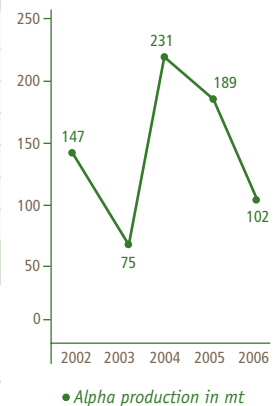
Acreage/Production/Alpha Content

The acreage planted with **Bobek** hops increased markedly by 57 %. As the varieties **Styrian Golding** and **Aurora** had been cut back, the total hop acreage in Slovenia remained virtually unchanged. Here too, the unfavourable growing conditions for hops in Central European regions in 2006 brought about a difference in yield compared with the previous two crop years

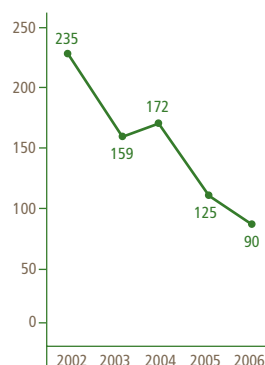
amounting to 0.47 mt/ha. The alpha acid content likewise was far below the long-term average. The results in detail for 2006 (2005 results in brackets): **Styrian Golding** 3.0 % (4.0 %), **Bobek** 4.2 % (5.5 %), **Aurora** 6.3 % (8.5 %). The total alpha acid volume was 46 % lower year on year.

Market Situation

80 % of the 2006 crop was under forward contract. The remaining non-contracted hops sold out quickly. In spring 2007, forward contracts accounted for 70 % of the coming crop. The planted acreage can be expected to increase slightly.



ENGLAND



● Alpha production in mt

Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
	2005	+/-	2006	2005	2006	2005	2006
Golding	246	14	260	1.66	1.51	409.4	391.4
First Gold	169	1	170	1.05	0.86	177.3	147.0
Fuggles	154	-7	147	1.66	1.25	255.9	184.3
Challenger	84	-5	79	1.59	1.30	133.3	103.0
Other Aroma	121	-4	117	1.34	1.18	162.4	138.5
Total Aroma	774	-1	773	1.47	1.25	1,138.3	964.2
Target	124	9	133	1.60	1.42	198.1	189.5
Other High Alpha	166	-29	137	1.51	1.36	250.0	185.9
Total High Alpha	290	-20	270	1.55	1.39	448.1	375.4
Others	7	-7	0	0.99	0.00	6.9	0.7
ENGLAND TOTAL	1,071	-28	1,043	1.49	1.29	1,593.3	1,340.3

Farm Structure

The number of hop farms has remained unchanged at 60 since crop year 2004. In the same period, acreage, on the other hand, has fallen by 23 %. The average cultivation has decreased to 17.4 ha per farm.

Acreage/Production/Alpha Content

There was little varietal change and this was limited to aroma varieties. The reduction in high-alpha hop acreage was mainly attributable to **Herald** hops being cleared. In total, acreage fell by 2.6 % from 2005 to 2006.

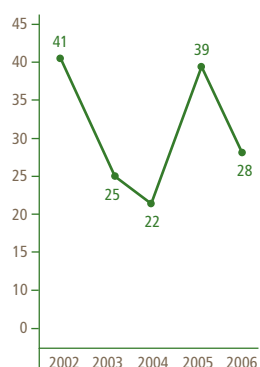
Average yields were significantly lower than those of the previous year, with aroma hops down by 15 % and high-alpha hops down by 10 %.

With the exception of **First Gold**, alpha acid levels came nowhere near to the long-term average content. Compared with the previous year, alpha content in 2006 was as follows: **Fuggles** 4.3 % (5.1 %), **Golding** 4.4 % (5.6 %), **First Gold** 8.2 % (8.3 %), **Target** 9.4 % (11.0 %). The volume of alpha produced was almost 28 % below that of the previous year.

Market Situation

Below-average yields and a high forward contract rate meant that only low quantities of hops were available for the spot market. The crop is sold out. By April, 80 % of the 2007 crop was already under contract.

FRANCE



● Alpha production in mt

Area	Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
		2005	+/-	2006	2005	2006	2005	2006
Alsace	Strisselspalt	673	-37	636	1.80	1.56	1,211.9	992.2
	Other Aroma	78	31	109	1.08	1.15	84.7	125.4
	Total Aroma	751	-6	745	1.73	1.50	1,296.6	1,117.6
	Bitter	4	0	4	0.53	1.38	2.0	5.5
	High Alpha	20	-2	18	1.62	1.86	32.4	33.5
	Total Alsace	775	-8	767	1.72	1.51	1,331.0	1,156.6
North	Aroma	7	3	10	1.62	0.90	11.2	9.0
	Bitter	5	-1	4	1.71	1.48	8.2	5.9
	High Alpha	15	-1	14	1.33	1.16	20.9	16.2
	Total North	27	1	28	1.47	1.11	40.3	31.1
FRANCE TOTAL		802	-7	795	1.71	1.49	1,371.3	1,187.7



Farm Structure

The number of active hop producers is unchanged at 96 for the third year in succession. Due to a minor reduction in acreage, the average area employed for hop production has fallen slightly to 8.3 ha per farm.

Acreage/Production/Alpha Content

In the Alsace region, the **Strisselspalt** variety was cut back by 5.5 %. The resulting decrease in acreage was almost completely compensated for by new planting with „other aroma varieties“, with the change-over favouring **Hallertau Tradition** in particular.

Strong winds in the Alsace region in late May and early June added to what were already unfavourable weather conditions for hops in general to bring about below-average yields from the **Strisselspalt** hops. The average yield

produced was 13 % lower than in the previous year.

The alpha content in all varieties was significantly below the very good levels reached in crop year 2005. **Strisselspalt**, the variety grown predominantly, produced an average content of 1.8 %, compared to 2.4 % the previous year. The alpha acid volume produced fell short of the 2005 total by almost 29 %.

Market Situation

90 % of the production volume was covered by forward contracts when the harvest began. The crop is now sold out. Forward contracts already account for 95 % of the hops from the coming 2007 harvest. The contract rate for crop years 2008 to 2010 is already 90 %. No changes in acreage are anticipated for crop year 2007.



Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
	2005	+/-	2006	2005	2006	2005	2006
Aroma	1	0	1	0.70	0.60	0.7	0.6
Nugget	675	-84	591	1.89	1.89	1,274.7	1,117.1
Magnum	6	-2	4	1.87	1.38	11.2	5.5
Columbus	3	1	4	2.63	2.95	7.9	11.8
Total High Alpha	684	-85	599	1.89	1.89	1,293.8	1,134.4
SPAIN TOTAL	685	-85	600	1.89	1.89	1,294.5	1,135.0

Farm Structure

Crop year 2006 saw the number of farms engaged in hop production decline further to 325. This was accompanied by a reduction in acreage. The average acreage allocated to hop growing remained virtually unchanged at 1.9 ha per farm.

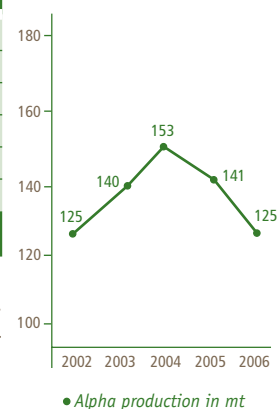
Acreage/Production/Alpha Content

Total acreage decreased by 12 %. The growing conditions in general were such that harvesting began later than usual. The yield was in line with the long-term average. With an alpha acid content of 11 %, the average level of alpha in the main variety **Nugget** was

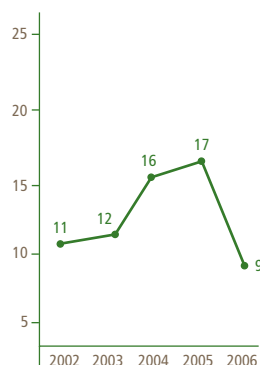
slightly higher than the previous year's level of 10.9 %. The volume of alpha produced in 2006 was nevertheless almost 12 % below the previous year's volume.

Market Situation

The Spanish brewing industry purchased the entire crop. The Spanish breweries are convinced of the advantages of local hop production and have therefore given commitments to purchase the entire annual production volume up to and including crop year 2009. Acreage is expected to remain stable up to the 2007 harvest.



SLOVAKIA



• Alpha production in mt

Variety	Development of acreage Acreage ha			Development of production			
	2005	+/-	2006	Ø-Yield mt/ha	Production mt		
	2005	+/-	2006	2005	2006	2005	2006
Saaz	290	-15	275	1.28	1.04	370.5	285.0
Premiant	30	0	30	1.83	0.97	55.0	29.0
SLOVAKIA TOTAL	320	-15	305	1.33	1.03	425.5	314.0

Farm Structure

The number of hop-growing farms in Slovakia remains 13. However, some smaller areas have been cleared of hops. The area used for hop production has decreased from 24.6 to 23.5 ha per farm.

Acreage/Production/Alpha Content

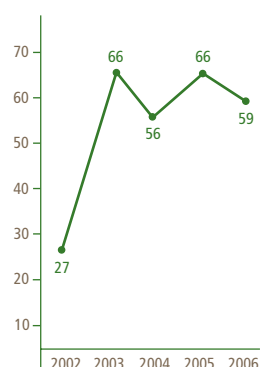
In 2006, the acreage planted with **Saaz** hops fell by 5%. The average yield per hectare was 23% below the very good level reached in crop year 2005. With a disappointing average value of only 2.8%, the alpha acid content of the **Saaz** hops fell far below both the 3.6%

produced in the previous crop year and the long-term average. As a result of the smaller acreage, the lower production volume and the very low alpha content, the volume of alpha produced was 49% lower than in the previous year.

Market Situation

None of the hops from the 2006 crop came onto the spot market as the entire production volume was under contract. Likewise, on the basis of average yields, the crops for the years 2007 to 2009 are already sold out. Hardly any change in acreage is expected.

UKRAINE



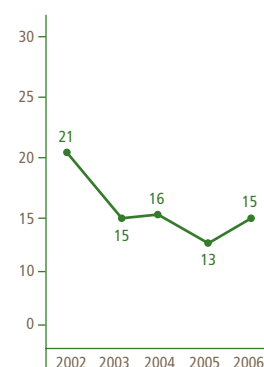
• Alpha production in mt

Variety Group	Development of acreage Acreage ha			Development of production			
	2005	+/-	2006	Ø-Yield mt/ha	Production mt		
	2005	+/-	2006	2005	2006	2005	2006
Aroma	895	0	895	1.01	1.01	904.0	904.0
Bitter	569	0	569	1.00	1.00	569.0	569.0
UKRAINE TOTAL	1,464	0	1,464	1.01	1.01	1,473.0	1,473.0

Unfortunately, it was not possible to obtain any concrete data concerning Ukrainian hop production in crop year 2006. The figures on planted acreage and production volume were taken from the statistics of

the International Hop Growing Commission (IHGC). These figures are the same as those for the previous crop year 2005.

RUSSIA



• Alpha production in mt

Variety Group	Development of acreage Acreage ha			Development of production			
	2005	+/-	2006	Ø-Yield mt/ha	Production mt		
	2005	+/-	2006	2005	2006	2005	2006
Aroma	203	-8	195	0.66	0.80	134.0	156.0
Bitter	219	6	225	0.59	0.82	130.0	184.0
RUSSIA TOTAL	422	-2	420	0.63	0.81	264.0	340.0

Farm Structure

As a result of amalgamation, the 36 production cooperatives have been merged into 24 farms. Consequently, the average planted acreage per farm has increased by 17.5 ha.

Acreage/Production/Alpha Content

Apart from minor varietal changes, total acreage remained unchanged. The most commonly grown varieties are **Ranny**, an aroma variety whose share of total acreage amounts to 38%, and **Podvyazny**, a bitter

RUSSIA



variety with a share of 30 %. The yield in crop year 2006 rose by more than 28 % year-on-year, thus by far exceeding the long-term average.

Alpha acid content, however, did not equal that of the previous year: aroma varieties 3.2 % (3.9 %), bitter varieties 5.4 % (5.7 %). Nevertheless, due to the very good yields, alpha production was 15 % higher.

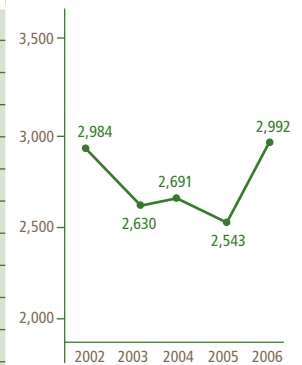
Market Situation

All the hops harvested in 2006 have been sold. Stocks from previous crop years have also been cleared. By May, approx. 40 % of the 2007 crop was under forward contract. A further reduction in acreage is expected.

USA



Area	Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
		2005	+/-	2006	2005	2006	2005	2006
Washington	Willamette	1,660	183	1,843	1.49	1.37	2,480.2	2,524.2
	Cascade	473	-21	452	2.28	2.19	1,078.6	989.2
	Centennial	45	41	86	1.55	1.41	69.9	121.6
	Palisade	22	0	22	3.07	3.34	67.6	73.4
	Golding	15	6	21	0.99	1.14	14.9	23.9
	Mount Hood	21	-3	18	1.40	1.23	29.4	22.1
	Horizon	14	0	14	1.29	1.39	18.1	19.5
	Perle	10	0	10	1.22	1.10	12.2	11.0
	Other Aroma	280	34	314	1.54	1.73	430.8	544.0
	Total Aroma	2,540	240	2,780	1.65	1.56	4,201.7	4,328.9
	Cluster	187	-45	142	2.00	2.46	374.3	348.7
	Total Bitter	187	-45	142	2.00	2.46	374.3	348.7
	CTZ	2,650	83	2,733	2.65	3.18	7,030.6	8,694.6
	Galena	1,566	-25	1,541	1.95	2.04	3,048.4	3,144.5
Nugget	430	15	445	1.93	2.06	831.9	918.6	
Millennium	451	-83	368	2.14	2.61	965.0	959.3	
Chelan/Tillicum	140	119	259	2.36	2.47	330.7	639.6	
Warrior	236	-66	170	2.05	2.43	484.8	412.3	
Chinook	198	-50	148	2.07	2.09	409.0	309.8	
Other High Alpha	105	21	126	2.16	2.73	226.8	343.9	
Total High Alpha	5,776	16	5,792	2.31	2.66	13,327.2	15,422.6	
Total Washington	8,504	210	8,714	2.11	2.31	17,903.2	20,100.2	
Oregon	Willamette	920	11	931	1.55	1.64	1,427.8	1,523.1
	Mount Hood	89	-43	46	1.58	2.45	140.4	112.8
	Golding	42	5	47	1.15	1.97	48.4	92.5
	Perle	30	0	30	1.36	1.56	40.8	46.8
	Cascade	25	0	25	1.54	2.07	38.4	51.8
	Other Aroma	307	-65	242	1.40	1.14	430.5	276.9
	Total Aroma	1,414	-92	1,322	1.50	1.59	2,126.3	2,103.9
	Nugget	552	55	607	2.29	2.58	1,265.0	1,567.3
	Millennium	119	-15	104	2.11	3.25	251.0	337.6
	Warrior	5	0	5	2.18	2.34	10.9	11.7
Total High Alpha	676	40	716	2.26	2.68	1,526.9	1,916.6	
Total Oregon	2,089	-51	2,038	1.75	1.97	3,653.2	4,020.5	
Idaho*	Total Aroma*	638	48	686	1.29	1.35	824.2	924.4
	Total Bitter*	62	-58	4	1.88	2.00	116.5	8.0
	Total High Alpha*	630	-188	442	2.39	2.52	1,504.6	1,113.5
	Total Idaho	1,330	-198	1,132	1.84	1.81	2,445.3	2,045.9
Total Aroma*	4,592	196	4,788	1.56	1.54	7,152.2	7,357.2	
Total Bitter*	250	-104	146	1.96	2.44	490.8	356.7	
Total High Alpha*	7,082	-133	6,949	2.31	2.66	16,358.7	18,452.7	
USA TOTAL	11,924	-40	11,884	2.01	2.20	24,001.7	26,166.6	



• Alpha production in mt

Minor statistical deviations may result from conversion of acres into hectares and pounds into metric tons.

* As growers in Idaho have only indicated total acreage and production figures since 2002, the figures for the individual variety groups are estimates.



Farm Structure

The number of US growers or decision making entities increased by 1 from crop 2005 to 2006 to an estimated 56, which puts the average farm size at slightly more than 200 ha.

Acreage/Production/Alpha Content

The total production area remained essentially unchanged from crop 2005 to 2006, decreasing only by 40 ha to 11,884 ha. Growers removed a total of 356 ha of the high alpha varieties **Chinook**, **Galena** and **Millennium**, but added 223 ha of **Chelan**, **Nugget**

and others, reducing this segment by a total 132 ha. Of note within the acreage development of high alpha varieties is 27 ha planting a new super alpha variety by the name of „**Summit**®“ which can be grown both on a high and a low trellis. It has an alpha yield comparable to **Columbus/Tomahawk®/Zeus (CTZ)** but unlike **CTZ** has excellent storage stability in its alpha acids.

Aroma varieties increased by a total of 196 ha, mainly due to a 178 ha expansion of **Willamette**. **Cascade** and **Mt. Hood** lost ground, as did **Cluster**, which dropped 103 ha to a mere 146 ha.

Variety development

The acreage of the main varieties in the US growing regions developed as follows:

Variety	2002 ha	2003 ha	2004 ha	2005 ha	2006 ha
Willamette	2,333	2,409	2,362	2,645	2,823
Cascade	580	994	619	505	484
Mount Hood	155	101	103	109	64
Other Aroma	1,312	1,327	1,226	1,333	1,417
Total Aroma	4,380	4,831	4,310	4,592	4,788
Cluster	289	255	244	250	146
Total Bitter	289	255	244	250	146
Columbus-Tomahawk-Zeus (CTZ)	2,598	2,317	2,679	2,911	2,911
Galena	1,513	1,410	1,638	1,849	1,733
Nugget	1,330	1,012	869	1,004	1,067
Millennium	759	728	562	571	473
Chelan/Tillicum	198	151	159	140	259
Warrior	406	507	326	241	175
Chinook	211	236	252	251	174
Other High Alpha	175	121	98	115	157
Total High Alpha	7,190	6,482	6,583	7,082	6,949
USA TOTAL	11,859	11,568	11,137	11,924	11,884*

Since 2002 the acreage of the individual varieties has been estimated, as only the total acreage is now reported for Idaho.

* rounding difference

With crop 2006, yields of most varieties returned to normal and showed an improvement of more than 9 % compared to the disappointing performance of crop 2005. As a result, crop 2006 produced 2,165 mt of hops more than the previous year with most of the increase coming from high alpha varieties. The only major variety that continued its poor performance from the prior year was **Willamette**. It fell short of expectation by approx. 250 mt, producing only slightly more than in crop 2005 on a significantly larger acreage.

Alpha contents in most varieties were better than expected and resulted into an increase of close to 450 mt alpha compared to the previous year. The total alpha production is estimated at approx. 2,990 mt.

A warehouse fire at the end of harvest destroyed approx. 110 mt of alpha bringing the available alpha to 2,880 mt.

Crop Development

Washington: The winter of 2005/6 brought much relief to the severely depleted water districts. Above average precipitation in the Cascade mountain ranges built up a solid snow pack that assured ample irrigation supplies for the growing season. A wet spring coupled with cooler than normal temperatures slowed plant emergence and subsequent growth. This created some concern about potential mildew problems. However, effective spray programs kept disease as well as pest problems to a minimum. By early summer, tem-



Alpha Acid Table

Variety	2002	2003	2004	2005	2006	Average
Willamette	4.4%	4.0%	4.2%	4.2%	4.6%	4.3%
Mount Hood	4.3%	4.5%	4.3%	4.4%	4.6%	4.4%
Cascade	5.5%	5.0%	5.5%	5.8%	6.1%	5.6%
Cluster	6.5%	6.3%	6.4%	6.0%	7.0%	6.4%
Galena	12.2%	11.9%	11.9%	12.1%	12.1%	12.0%
Nugget	12.4%	12.7%	12.7%	12.3%	13.0%	12.6%
Chinook	11.6%	12.8%	12.9%	11.5%	12.2%	12.2%
Super-High Alpha	14.9%	14.5%	14.3%	14.4%	15.2%	14.7%

peratures rose from below normal to above normal and remained there for a few weeks. This allowed most varieties to catch up in their growth and promoted a good cone development, but also left some of the earlier maturing varieties, like **Willamette**, heat stressed.

Oregon: Also this state received an abundant amount of water during the winter months which fulfilled the irrigation needs throughout the hop growing season. Growers were able to complete cultivation effectively in spite of the frequent precipitation. Nearly all varieties displayed good plant development during the spring and summer months. Moderate temperatures throughout the summer led to good quality and excellent yields at harvest.

Quality

In contrast to the previous year’s crop, growers throughout the 2006 crop season were able to keep plant diseases such as powdery and downy mildew as well as pests (mites and aphids) under good control. The effective crop protection programmes translated in much improved yields and good overall visual quality.

Harvesting quality was good with 90 % of the crop testing at 1 % or less leaf and stem contents. The seed content improved slightly over crop 2005 with 85 % of the hops produced in 2006 having 1 % or less.

Contract Market

The poor performing crop 2005 further worsened the financial health of the US growing community. Not only did growers experience a revenue shortfall due to lower yields, they were also faced with steep increases in energy and labor costs for the upcoming crop. As a result, growers showed reluctance to contract at prices that did not at least cover production costs.

While some hops sold in fall of 2005, the contract market only started to develop in early spring 2006.

In most cases, only one year, i.e. the upcoming crop was sold. **CTZ** started out at around 17.50 USD/kg alpha for natural hops and remained there until May, when prices jumped to 20.00 USD/kg alpha and to 21.00 USD/kg alpha (2.80 to 3.35 USD/kg) before harvest. The variety **Millennium** sold at approx. 2.20 USD/kg alpha higher or 19.80 to 23.00 USD/kg alpha for natural hops (3.20 to 3.70 USD/kg). **Cascade** initially sold at 3.50 USD/kg but moved quickly to 3.85 USD/kg and then 4.85 USD/kg plus premiums. **Nugget** and **Galena** sold at 3.50 and 3.85 USD/kg, respectively. Most **Willamette** sold between 6.50 and 7.00 USD/kg plus premiums. **Mt. Hood** was first priced at 4.20 USD/kg but eventually increased to USD/kg for cone hops before harvest.

In general, growers pre-sold their crop to reasonable yield levels as prices paid were better than in many years and finally covered production cost.

Spot Market

As it became clear that the European crop was below normal in yield and alpha, interest increased in US varieties, particularly **CTZ** and other alpha varieties. This coupled with rising prices growers experienced in the contract market over the months leading up to harvest, firmed up the market significantly.

- Prices for **Nugget** started at 4.40 USD/kg plus premiums, but growers were reluctant to sell. A large price increase to 5.50 USD/kg jump started that market and large quantities of the **Nugget** spot hops moved at this price. This significant price hike set expectations for the remainder of the spot market.
- Some quantities of **CTZ** sold at 22.60 USD/kg alpha for natural hops soon after the first lots of this variety were delivered at the end of September. Within days the price was raised to 24.20 USD/kg and when a rumor put the price to above 28.70 USD/kg, some hops sold at this price level. A warehouse fire that destroyed close to 900 MT ignited the market further



USA

and immediately elevated the price to 44.00 USD/kg alpha for natural hops, the same price that was paid after a warehouse fire in 2000. However, with the European alpha shortfall becoming greater, prices for **CTZ** eventually passed through 55.00 USD/kg alpha.

- Since the **Willamette** crop fell short, very little spot hops of this variety made it to market. The few uncontracted lots were sold at 6.60 and 7.00 USD/kg plus premiums and then ended at 7,70 USD/kg.
- Most of the **Galena** spots were sold as generic alpha hops at 44.00 USD/kg alpha for cone hops.

By the end of October, essentially all hops from crop 2006 as well as any inventory had moved into the trade.

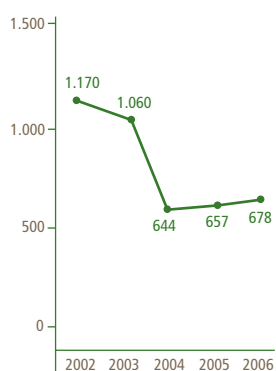
Grower Initiatives

In response to the increasing labor costs, Washington hop growers have obtained funding from the State of Washington to develop new labor saving equipment and to explore alternative uses of hops under the states hop technology grant. Currently, work is being done to develop a mechanical hop twiner and a field harvester as well as projects to refine hop production on low trellis.

Work in the alternative uses of hops included testing of hop compounds in the livestock feed industry and applications of hop fractions as a bio pesticide on field crops and the control of parasitic insects on bees.



CHINA



• Alpha production in mt

Area	Variety	Development of acreage Acreage ha			Development of production			
		2005	+/-	2006	Ø-Yield mt/ha		Production mt	
					2005	2006	2005	2006
Xinjiang	Tsingdao Flower	1,037	-92	945	2.99	2.98	3,100.0	2,814.0
	Marco Polo	300	-8	292	3.33	3.41	1,000.0	995.0
	SA-1	280	150	430	2.86	1.79	800.0	770.0
	Kirin Flower	133	2	135	3.01	3.19	400.0	430.0
	Others	80	-2	78	2.50	2.24	200.0	175.0
	Total Xinjiang	1,830	50	1,880	3.01	2.76	5,500.0	5,184.0
Gansu	Tsingdao Flower	1,338	5	1,343	2.94	3.07	3,933.0	4,120.0
	Nugget	206	2	208	0.67	1.52	139.0	316.0
	Kirin Flower	72	1	73	1.71	1.85	123.0	135.0
	Others	40	0	40	1.94	3.18	77.5	127.0
		Total Gansu	1,656	8	1,664	2.58	2.82	4,272.5
	Total Aroma	400	148	548	2.69	1.96	1,077.5	1,072
	Total Bitter	2,580	-84	2,496	2.93	3.00	7,556.0	7,499
	Total High Alpha	506	-6	500	2.25	2.62	1,139.0	1,311
	CHINA TOTAL	3,486	58	3,544	2.80	2.79	9,772.5	9,882.0



Farm Structure

The number of hop-producing farms remained constant at 46, with an average planted acreage of 77 ha per farm. There were some changes in purely statistical terms due simply to administrative mergers of farms.

Acreage/Production/Alpha Content

In comparison with crop year 2005, the acreage planted with aroma varieties is stated to be 37 % larger. The bitter variety **Tsingdao Flower**, on the other hand, has been cut back by 87 ha. These changes are to be seen more as a data adjustment, however, and do not represent any real acreage changes.

The yield per hectare was on a par with the previous year and thus within the long-term average. As in the previous year, the main variety **Tsingdao Flower** produced an alpha acid content of 6.0 %, thus remaining below the long-term average of 6.2 %. The volume of alpha produced nationwide increased by somewhat more than 3 % year on year. All the producers are considering expanding their hop acreage, but are comparing the financial returns with those from other agricultural produce which give them full earnings immediately. Without an investment boost from the trading companies or brewing groups, they will not be

able to keep pace with the expected national growth in beer output of at least 10 % per annum.

Market Situation

The 2006 crop is sold out. Stocks from previous crop years were also cleared. According to forecasts, the planted acreage stands to increase by approx. 700 ha in crop year 2007. A number of breweries approached farms directly in order to secure contracts. Despite their contract obligations to hop dealers, the farms agreed to sell further quantities to the breweries, resulting in overcontracting. By April 2007, far greater quantities of the 2007 hop crop were under contract than can possibly be harvested. Advance payments based on last year's market prices are not uncommon. The resulting risk is that quality standards in picking and drying the hops will fall due to the market situation.

Hop Statistics

There are no reliable statistics on acreage and production volume in China. The figures presented here have been gathered using our own sources and, due to the size of the Chinese hop-growing regions, are often based on estimates.

CROP 2007: SOUTH AFRICA



Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
	2006	+/-	2007	2006	2007	2006	2007
Southern Star	273	11	284	1.71	2.03	468.0	577.6
Southern Promise	108	0	108	1.53	2.35	165.0	253.8
Outeniqua	37	-3	34	1.08	1.69	40.0	57.4
Others	12	-4	8	0.75	1.43	9.0	11.4
SOUTH AFRICA TOTAL	430	4	434	1.59	2.07	682.0	900.2

Farm Structure

Hops have been grown on 15 farms for many years now. In addition to 11 private producers, there are three commercial farms and one research institute.

Acreage/Production/Alpha Content

As announced, the area set aside in crop year 2006 due to marketing problems was not reactivated in 2007 either.

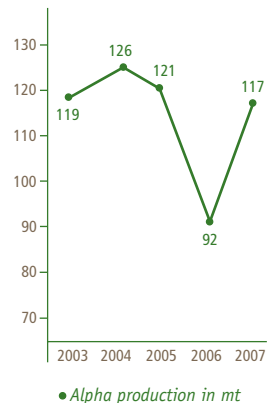
After the driest season in 30 years, which led to one of South Africa's worst ever hop years in 2006, crop year 2007, with excessive precipitation and flooding in September 2006 and March 2007, developed into one

of the best years the country has ever had in terms of yield. The difference between the two crops was 0.48 mt/ha, or 30 %.

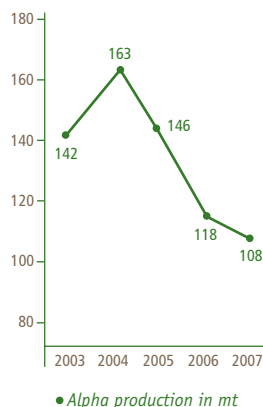
Alpha acid content in 2007 ranged slightly below the long-term average. The surprisingly good levels for the 2006 crop are shown in brackets: **Southern Promise** 10.4 % (11.5 %), **Outeniqua** 12.6 % (13.7 %), **Southern Star** 13.2 % (14.2 %). Thanks to the good yield, the volume of alpha rose by 27 %.

Market Situation

As a result of the low volume produced in 2006, there are no unsold stocks available from the 2007 crop.



CROP 2007: AUSTRALIA



Area	Variety	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
		2006	+/-	2007	2006	2007	2006	2007
Tasmania	Super Pride	103	-7	96	2.81	1.93	290.0	186.0
	Pride of Ringwood	90	-5	85	3.00	1.86	269.0	158.0
	Millennium	24	15	39	2.51	2.73	61.0	106.0
	Victoria	12	0	12	3.57	2.93	43.0	36.0
	Cluster	9	0	9	1.93	1.67	17.0	15.0
	Others	17	0	17	1.82	2.02	31.0	34.0
	Total Tasmania	255	3	258	2.79	2.07	711.0	535.0
Victoria	Topaz	45	23	68	3.51	2.57	157.0	174.0
	Super Pride	46	11	57	2.61	1.94	120.0	110.0
	Pride of Ringwood	15	14	29	2.17	0.85	32.0	25.0
	Victoria	0	13	13	0.00	1.46	0.0	19.0
	Cluster	10	0	10	2.00	1.50	20.0	15.0
	Others	1	5	6	2.93	2.04	4.0	12.0
		Total Victoria	117	66	183	2.85	1.94	333.0
	Total Bitter	124	9	133	2.73	1.60	338.0	213.0
	Total High Alpha	230	55	285	2.92	2.21	671.0	631.0
	Total Others	18	5	23	1.94	2.00	35.0	46.0
	AUSTRALIA TOTAL	372	69	441	2.81	2.02	1,044.0	890.0

Farm Structure

Due to the market situation, not all the existing hop acreage was farmed in the past. There are no pathogenic fungi in Australia's hops. This means that hop yards can be set aside at short notice without being cleared and then reactivated for the next crop year. Five of the initially 13 farms discontinued hop production last year. The remaining 8 farms did not set aside any of their hop acreage, however. As a result, the area strung with hops increased from 28 ha to 55 ha per farm.

Acreage/Production/Alpha Content

In Victoria in particular there was an increase in planted acreage. Nationwide, the acreage under hops increased by almost 19 %.

Hop plants throughout Australia were adversely affected by frost on numerous occasions at the beginning of the growing period. The most significant impact on hop development, and ultimately upon yield and alpha content, came from drought. In many areas in Tasmania and Victoria rainfall reached the lowest levels ever recorded. Farms with adequate reservoirs and ground

water supplies were able to limit the extent of yield loss. Other farms were exposed to the drought and its corresponding consequences.

Compared to the slightly above-average volume harvested the previous year, yield per hectare fell by 28 %. Alpha acid content varied within the different varieties according to irrigation volume. The alpha acid content measured in **Super Pride** hops in the Tasmanian region was the highest ever recorded for this variety, whereas in Victoria the alpha content was very low in all varieties. The average values were as follows (figures for crop year 2006 in brackets): **Pride of Ringwood** 9.4 % (8.8 %), **Super Pride** 13.3 % (12.6 %), **Millennium** 14.3 % (12.1 %), **Topaz** 12.8 % (14.8 %).

Despite the larger acreage under hops and a generally higher average alpha acid content, alpha production remained 8 % below the previous year's figure due to the lower yields per hectare

Market Situation

86 % of the crop was under forward contract.

CROP 2007: NEW ZEALAND

Variety Group	Development of acreage Acreage ha			Development of production Ø-Yield mt/ha Production mt			
	2006	+/-	2007	2006	2007	2006	2007
Aroma	224	0	224	1.88	1.99	421.6	446.7
High Alpha	129	1	130	1.90	1.95	245.5	253.4
NEW ZEALAND TOTAL	353	1	354	1.89	1.98	667.1	700.1

Farm Structure

One producer has given up hop farming. This left 17 farms with an average area of approx. 21 ha planted for the 2007 harvest.

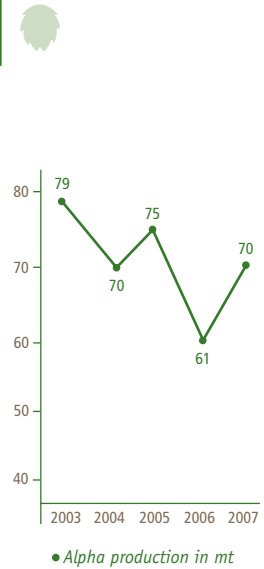
Acreage/Production/Alpha Content

In spite of international pressure on prices the acreage under hops did not decrease further. New Zealand's hop growers described the harvest in 2007 as „a good result“. Thanks to good growing conditions, both the quality of the hops and the yield were satisfactory. The alpha acid content in all varieties reached levels well above the

long-term average. The figures for the most important varieties in 2007 (compared with 2006 in brackets): **NZ Hallertau Aroma** 8.0 % (6.8 %), **NZ Pacific Gem** 15.0 % (14.1 %). The alpha acid yield increased by 15 % year on year.

Market Situation

The crop was sold to a great extent on a forward-contract basis. New Zealand is responding to market demand for an appropriate variety mix with a wide-ranging breeding programme. There will probably be an increase in the farming of organic hops.



PLANT DEVELOPMENT 2007

Germany

The very wet August of 2006 was followed by a very dry autumn, with temperatures noticeably above the long-term average. The winter of 2006/2007 had very few days of frost and was distinctly too warm. The average monthly temperatures did not fall below freezing point at any time. The volume of precipitation remained below the long-term average throughout the months of November and December 2006. The first substantial rainfall came in January 2007. As the water absorption capacity of the soil was very good due to the lack of frost, the ground was suitable for vehicles at an early date. This meant that the hop crowns could be pruned early. The month of April was very dry, but above-average temperatures encouraged rapid development of the hops. Training was completed some 8 to 10 days earlier compared to the long-term average. The lack of precipitation recorded up to the end of April was made up for in May thanks to heavy, but locally uneven rainfall. The warm weather conditions continued,

interrupted by short cooler spells, with the result that in comparison with recent years the hop plants were approximately one to two weeks ahead in terms of development. Most of the plants had already reached approx. 80% of trellis height by mid-June.

USA

Winter precipitation in the Cascade mountain ranges provided sufficient snow pack to assure ample water supplies for the growing seasons. Temperatures have fluctuated within normal ranges allowing for normal plant development. At this point, pests and diseases are well under control and growers are spending all the necessary resources to create the best possible production environment as prices are above production costs for all varieties.

As always, the weather pattern in July and August will have a decisive influence on the development of the hop plants, with effects on both quality and quantity.



Germany

According to the results of the hop acreage survey for crop year 2007, total acreage in Germany is expected to be 17,698 ha, which represents an increase in acreage of 528 ha compared with the previous year. As a result of changes in the variety mix, the area planted with young hops (i.e. not fully mature hops) totals 954 ha. While the bitter variety Northern Brewer has been cut back by a further 80 ha, an increase of 181 ha is reported among the aroma varieties. The acreage planted with Hallertau Tradition and Perle in particular is growing, whereas the acreage under Hersbruck hops is decreasing. While the group comprising the high-alpha varieties is reported to have grown in total by 423 ha, apart from the new Herkules variety, with an increase of 654 ha, all the other varieties are being reduced in acreage.

USA

The official US Department of Agriculture acreage survey (as per 1 June 2007) reported a total production area of 12,559, or an increase of 675 ha, compared with the previous year. The variety complex CTZ along with the new super high alpha variety Summit® showed the greatest increase in acreage with more than an 800 ha expansion. Galena, Millennium, Warrior® and Chinook dropped by a total of 450 ha, with Galena representing the bulk of this reduction. Acreage of aroma varieties remained relatively constant.

World

After years of being cleared, hop acreage is expected to increase worldwide by a maximum of 2,000 ha in crop year 2007.

We are hoping for a large production volume worldwide in 2007 in the interests of all parties in the market.



BARTH-HAAS GROUP AWARDS RESEARCH GRANTS

For the first time in the company's history, the Barth-Haas Group has awarded grants for research activities focusing on the use of hops and hop products in all

areas of the brewing industry. The following have been selected by the jury and will each receive a grant of 2,000 euros:

Stipendiary	Professor	University	Country	Title
Christian Brandt	Prof. K. Wackerbauer	VLB Berlin	Germany	The impact of reduced hop extracts on beer flavour stability in clear glass bottles
Annette Schmelze	Prof. B. Lindemann	Fachhochschule Wiesbaden	Germany	The Methodology of Characterising Olfactory and Gustatory Perceptions in Beer
Stefan Hanke	Dr. M. Herrmann	TU München-Weihenstephan	Germany	Investigation of the linalool transfer rate and hop aroma in beer
Anne-Catherine Vandeville	Prof. P. Hughes	Heriot-Watt University	England	The effects of hop-derived antifoams on the behaviour of top-fermenting yeasts
Andrej Rehilevich & Aksana Yarashynskaya	Prof. H. M. Milosta	Grodno State Agricultural University	Belarus Republic	Evaluation of brewing characteristic of different hops varieties planted in Belarus Republic

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Conversion Table

Area:		Weight:	
1 hectare (ha) = 10.000 m ²	= 2.934 Bavarian „Tagwerk“	1 metr. ton (mt) = 1,000 kg	= 20 cwt (D) = 2,204.6 lbs
1 hectare (ha) = 10.000 m ²	= 2.471 acres	1 Zentner cwt (D) = 50 kg	= 110.23 lbs = 1.102 cwt (USA)
1 Bavarian „Tagwerk“	= 0.341 ha		= 110.23 lbs = 0.984 cwt (GB)
1 acre	= 0.4047 ha	1 hundredweight (cwt/USA)	= 100 lbs = 45.36 kg
			= 0.9072 Ztr.
Length:		1 hundredweight (cwt/GB)	= 112 lbs = 50.800 kg
1 yard	= 3 feet = 36 inches = 91.44 cm		= 1.0160 Ztr.
1 mile	= 1.609 km	1 central (GB)	= 100 lbs = 45.36 kg
			= 0.9072 Ztr.
Volume:		1 kg	= 2.20462 lbs
1 hl = 100 l	= 26.42 gall = 0.8523 bbl (USA)	1 lb	= 0.45359 kg
1 hl = 100 l	= 22.01 gall = 0.6114 bbl (Brit.)		
1 barrel (bbl/USA)	= 31 gall = 1.1734 hl	Pressure:	
1 barrel (bbl/GB)	= 36 gall = 1.6365 hl	1 bar = 14.5038 psi	1 psi = 0.06895 bar
		86°F = $\frac{(86 - 32) \times 5}{9} = 30^{\circ}\text{C}$	30°C = $\frac{30 \times 9}{5} = 86^{\circ}\text{F}$

Currency Exchange Rates

1 EUR equals (reference by ECB):

	on 1 June 2006	on 1 June 2007
USA	1.2736 USD	1.3436 USD
Australia	1.7081 AUD	1.6214 AUD
China	10.2155 CNY	10.2749 CNY
Great Britain	0.6847 GBP	0.6793 GBP
Japan	144.1900 JPY	163.8100 JPY
Canada	1.4099 CAD	1.4335 CAD
Poland	3.9383 PLN	3.8150 PLN
Switzerland	1.5628 CHF	1.6514 CHF
Czech Republic	28.2540 CZK	28.2850 CZK

These exchange rates can only serve as an indication.
They vary from bank to bank and are not binding.



THE WORLD'S TOP 40 BREWING GROUPS AS OF 31 DECEMBER 2006

The top 40 breweries' share of the world market increased by 3,3 % during the last year. The top ten account for 61 % of the world market.

Year on year, their share grew by an impressive 104m hectoliters to stand at 1,030m hectoliters.

** BBH is a 50:50 owned joint venture between Carlsberg and Scottish & Newcastle.*

In a number of cases it was necessary to estimate the production volume due to differences in the data provided by different sources.

Rank	Brewery	Country	Production vol. 2006 in mill. hl	Percentage of world beer production
1	InBev	Belgium	222.0	13.1 %
2	SABMiller	United Kingdom	216.0	12.7 %
3	Anheuser-Busch	USA	183.2	10.8 %
4	Heineken	Netherlands	131.9	7.8 %
5	Molson-Coors	USA/Canada	49.5	2.9 %
6	Modelo	Mexico	49.4	2.9 %
7	Carlsberg (without BBH)	Denmark	49.2	2.9 %
8	Tsingtao	China	45.7	2.7 %
9	Baltik Beverage Holding (BBH)*	Russia	45.5	2.7 %
10	Femsa	Mexico	37.7	2.2 %
11	Yan Jing	China	35.3	2.1 %
12	Scottish & Newcastle (without BBH)	United Kingdom	29.7	1.7 %
13	Asahi	Japan	23.8	1.4 %
14	Kirin	Japan	23.7	1.4 %
15	Diageo (Guinness)	Ireland	19.5	1.1 %
16	Efes	Turkey	18.8	1.1 %
17	Schincariol	Brazil	18.0	1.1 %
18	Chong Qing	China	17.3	1.0 %
19	Polar	Venezuela	16.9	1.0 %
20	Gold Star	China	16.6	1.0 %
21	San Miguel	Philippines	16.1	0.9 %
22	BGI/Castel	France	15.2	0.9 %
23	Radeberger	Germany	14.0	0.8 %
24	Mahou - San Miguel	Spain	11.6	0.7 %
25	Hite	South Korea	10.3	0.6 %
26	Beer Thai (Chang)	Thailand	9.8	0.6 %
27	Obolon	Ukraine	9.3	0.5 %
28	Singha	Thailand	9.2	0.5 %
29	Foster's	Australia	9.1	0.5 %
30	Petropolis	Brazil	9.0	0.5 %
31	Lion Nathan	Australia/New Zealand	8.5	0.5 %
32	Sapporo	Japan	8.1	0.5 %
33	Bitburger	Germany	8.0	0.5 %
34	Oettinger	Germany	7.4	0.4 %
35	Damm	Spain	7.2	0.4 %
35	CCU Cerv. Unidas	Chile	7.2	0.4 %
37	Suntory	Japan	6.8	0.4 %
38	Dezhou KeDaiEr	China	6.5	0.4 %
39	Shenzen Jinwei	China	6.5	0.4 %
40	San de Li	China	6.4	0.4 %
TOTAL			1,435.9	84.5 %
WORLD BEER PRODUCTION 2006			1,699.0	100.0 %