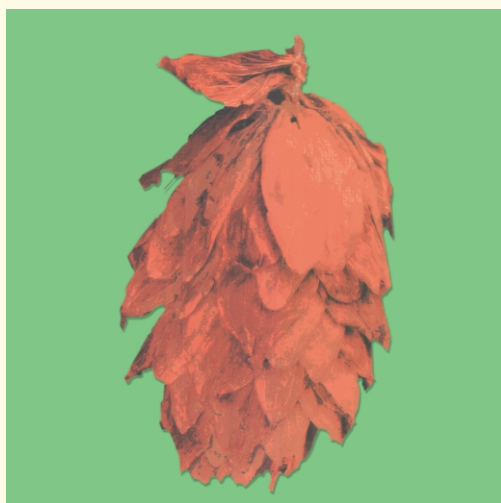
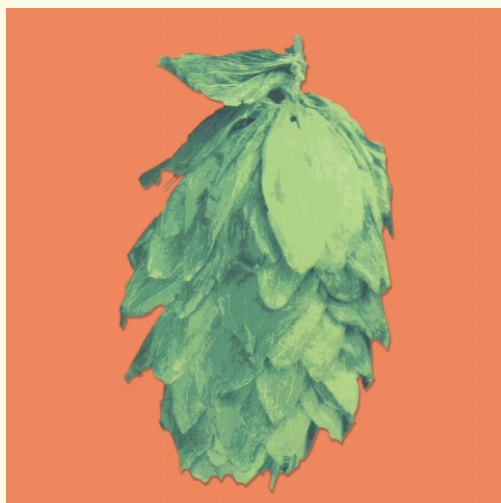


The Barth Report

Hops

2004/2005



Joh. Barth & Sohn
hops are our world

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Conversion Table

Area:

1 hectare (ha) = 10.000 m ²	= 2.934 Bavarian "Tagwerk"
1 hectare (ha) = 10.000 m ²	= 2.471 acres
1 Bavarian "Tagwerk"	= 0.341 ha
1 acre	= 0.4047 ha

Length:

1 yard	= 3 feet = 36 inches = 91.44 cm
1 mile	= 1.609 km

Volume:

1 hl = 100 l	= 26.42 gall = 0.8523 bbl (USA)
1 hl = 100 l	= 22.01 gall = 0.6114 bbl (Brit.)
1 barrel (bbl/USA)	= 31 gall = 1.1734 hl
1 barrel (bbl/GB)	= 36 gall = 1.6365 hl

Weight:

1 metr. ton (mt) = 1,000 kg	= 20 cwt (D) = 2,204.6 lbs
1 Zentner cwt (D) = 50 kg	= 110.23 lbs = 1.102 cwt (USA)
	= 110.23 lbs = 0.984 cwt (GB)
1 hundredweight (cwt/USA)	= 100 lbs = 45.36 kg
	= 0.9072 Ztr.
1 hundredweight (cwt/GB)	= 112 lbs = 50.800 kg
	= 1.0160 Ztr.
1 cental (GB)	= 100 lbs = 45.36 kg
	= 0.9072 Ztr.
1 kg	= 2.20462 lbs
1 lb	= 0.4536 kg

Pressure:

1 bar = 14.5038 psi	1 psi = 0.06895 bar
---------------------	---------------------

$$86\text{ }^{\circ}\text{F} = \frac{(86 - 32) \times 5}{9} = 30\text{ }^{\circ}\text{C} \quad 30\text{ }^{\circ}\text{C} = \frac{30 \times 9}{5} + 32 = 86\text{ }^{\circ}\text{F}$$

EURO

The EURO is legal tender in the following countries:

Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain.

Currency Exchange Rates

1 EUR equals (reference rates by ECB):

	on 1 June 2004	on 1 June 2005
USA	1.2231 USD	1.2228 USD
Australia	1.7109 AUD	1.6347 AUD
Denmark	7.4378 DKK	7.4404 DKK
Great Britain	0.6658 GBP	0.6755 GBP
Japan	134.0400 JPY	132.8400 JPY
Canada	1.6703 CAD	1.5341 CAD
New Zealand	1.9324 NZD	1.7511 NZD
Norway	8.1800 NOK	7.9170 NOK
Poland	4.6474 PLN	4.1622 PLN
Sweden	9.1020 SEK	9.1400 SEK
Switzerland	1.5280 CHF	1.5310 CHF
Czech Republic	31.6000 CZK	30.4050 CZK

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



Joh. Barth & Sohn
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Nuremberg, June 2005



Foreword

Dear reader,

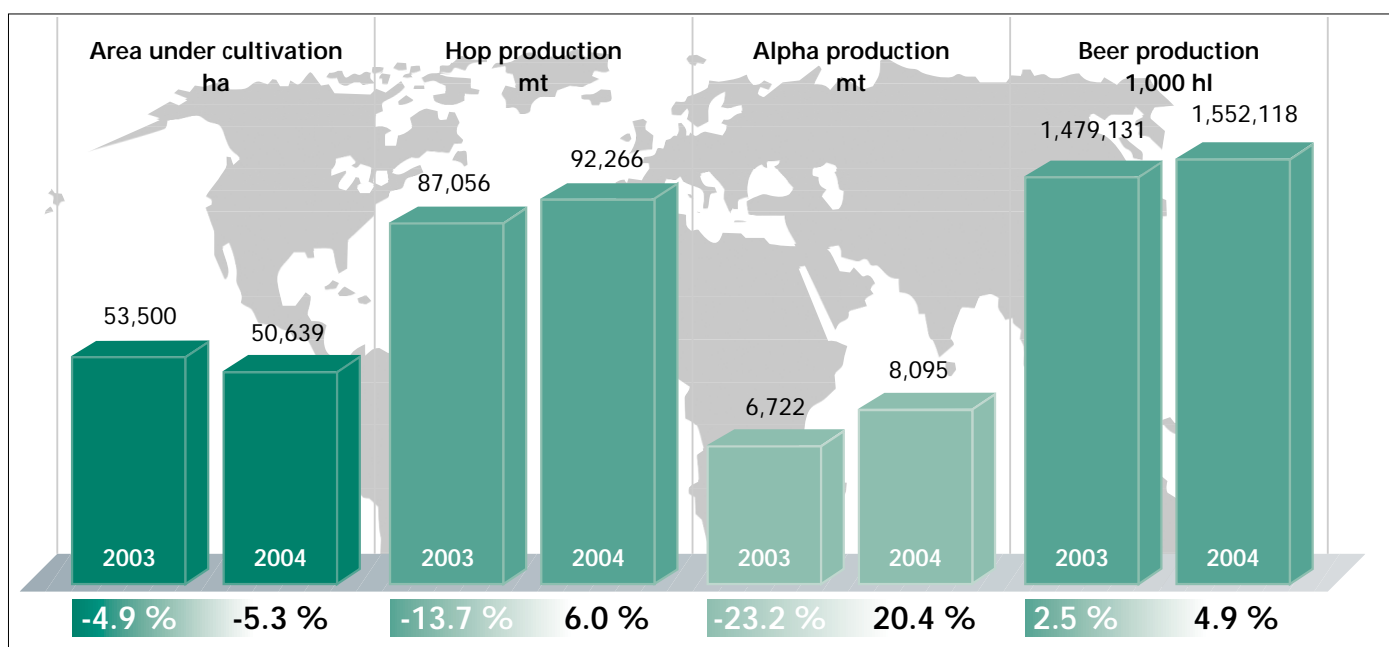
We are pleased to present the new Barth Report „Hops 2004/2005“. As announced last year, we had intended to publish this report only in digital form. However, we received requests from many of our readers not to dispense with a printed version. We therefore decided neither to refrain from going ahead with the one nor to dispense with the other. Consequently, this report can also be found on our website www.johbarth.com where it can be downloaded as a pdf file.

Publishing this report requires a considerable amount of time and money. The Barth Report is by nature the presentation of a hop year in historical terms. Although there are some who would like a description of the current events and market situation existing at the time of publication, that is not the intention of this medium. The Barth Report is and shall remain an important reference work containing reliable data.



Stephan J. Barth
Managing Partner
Joh. Barth & Sohn GmbH & Co. KG

World Market Key Data



Title photograph

The picture on the cover shows a hop cone in various colour combinations.

The images were specially designed for Joh. Barth & Sohn by the artist (Ms.) Billy Küng

together with Johannes T. Barth.

Political Situation

In the **USA** George W. Bush was returned for a second period in office as President of the United States of America on 2 November 2004. In the congressional elections, the Republicans were able to increase their majorities in both houses.

In the **United Kingdom** the Labour party led by Prime Minister Tony Blair won the British general election for the third time in succession on 5 May 2005.

In **Palestine** Yassir Arafat died on 11 November 2004 and was succeeded as President by Mahmoud Abbas on 9 January 2005. In order to implement the promised clearing of settlements in the Gaza Strip and the northern West Bank. **Israel's** president Ariel Sharon formed a grand coalition on 6 January 2005. On 8 February 2005 Sharon and Abbas agreed to a ceasefire.

A further de-escalation of violence followed in the **Lebanon**. Syria complied with the demands of the UN Security Council to withdraw its 14,000 soldiers stationed in the Lebanon, thus ending nearly 30 years of Syrian military presence in that country. The parliamentary elections in May 2005 were won by the anti-Syrian opposition led by Saad Hariri, the son of the former Lebanese prime minister assassinated in February. **Iraq** continues to demand the attention of the international community. The occupation of Iraq by the alliance led by the USA ended formally on 28 June 2004. The USA and their allies handed over a significant share of power to a transitional government headed by the Iraqi prime minister Iyad Allawi. The 150,000-strong military force led by the USA remains stationed in

Iraq to maintain security. On 30 January 2005 the Iraqis elected a new parliament in a democratic general election. In spite of this progress, the security situation in Iraq remains extremely tense.

In the **Ukraine**, the opposition led by Viktor Yushchenko emerged as the clear winner of the re-run of the presidential election on 26 December 2004. The massive manipulation of the original election result by government officials had made a re-run of the election necessary.

Pope John Paul II, who had been the head of the Roman Catholic church for more than a quarter of a century, died on 2 April 2005. The German cardinal **Josef Ratzinger** was elected as his successor on 19 April 2005. He chose Benedict XVI as his papal name.

European Union (EU)

EU enlargement

In April 2005 **Bulgaria** and **Romania** signed treaties providing for their accession to the EU in 2007. The signing of these treaties finalized the enlargement of the EU from 25 to 27 members. The accession of these two countries concludes the eastward enlargement of the EU for the time being. The accession treaties contain safeguard clauses in favour of the existing members, however, providing for a postponement of the enlargement process by one year, if necessary. This would be possible in the event that reforms failed to be made in the fields of justice, security and competition.

Turkey has received the assurance that the EU is willing to begin negotiations on Turkish accession. However, the EU expects Turkey to officially recognize the Republic of **Cyprus**, which has been a member of the EU since May 2005, prior to commencing the accession talks.

The EU has postponed the opening of accession negotiations with **Croatia**. The main obstacle is the question of extradition of persons accused of war crimes. The EU foreign ministers do not wish to resume negotiations until Zagreb has proved that it is willing to cooperate unreservedly with the UN tribunal in The Hague.

With regard to currency policy, the new EU members **Estonia**, **Lithuania** and **Slovenia** have pegged their currencies to the euro. They have thus taken the first step towards introducing the common currency from 2006.

EU constitution

For the common European constitution resolved by the heads of state and government in June 2004 to take effect from 2007, it has to be ratified by all 25 member states. It has already been ratified by the following states: Lithuania, Hungary, Slovenia, Spain, Italy, Greece, Austria, Slovakia, Germany and Latvia. In referendums in France and the Netherlands held in June 2005, on the other hand, the new constitution was rejected in each case by the majority of the voters. As a result, the United Kingdom has postponed its referendum indefinitely. The reaction of the organs of the EU to the new situation is not yet clear.

Common agricultural policy reforms – The common market organisation for hops

As of 1 January 2005, direct subsidies for hops are fully decoupled from production. The one exception concerns those countries which have been allowed a transition period and will introduce the new system by 31 December 2005. Decoupling means that the subsidies will be paid to producers irrespective of the type of production. Every farm-owner is entitled to direct payments as a supplement to his income, regardless of his produce.

As with other direct subsidies paid to producers, hop growers have to meet certain criteria. These include environmental requi-

rements (upkeep of the land in good agricultural condition; compliance with regulations regarding the health of humans, animals and plants; compliance with environmental and animal protection regulations), modulation (gradual reduction of the direct payments in the period from 2005 to 2012 and usage of the amounts saved for measures to develop rural areas) and budget discipline (adjustment of the direct payments if there is a risk of the agricultural expenditure for the markets and the direct subsidies exceeding the fixed annual ceilings).

Special support regulations apply for certain sectors, however, including hops: The member states may allow up to 25% of their national ceiling amounts as direct payments to farmers or farming cooperatives for hop acreage or for temporary set-aside of such acreage. These subsidies are paid in order to offset the effects of special market conditions or exceptional structural features at regional level.

The Federal Republic of Germany makes use of this provision. The farm bonus implementing law of 26 July 2004 permits 25% of the share of the national ceiling amount allocated to hops to be withheld for the purpose of making payments to the recognized growers' associations. This reference amount is calculated by multiplying the hop acreage for which subsidies were granted in the period 2000-2002 by the sum of 480 euros per hectare.

Farmers in the new member states are en-

titled to direct payments from the first year of their country's membership in the EU. However, they do not immediately receive the full subsidy. There is a 10-year introductory phase during which their entitlement to direct payments rises from 25% to 100% of the entitlement held by the "old"

EU-15 countries. The entitlements to direct payments will not be the same for all member states until 2013.

In order to offset the differences in EU direct payments to old and new member states during the introductory phase, the new members have the possibility to allow

national direct payments as a top-up measure by agreement with the EU Commission. However, the sum total of EU and national payments must not exceed the amount of the EU subsidies to the EU-15 states.

Economic Situation

Bolstered by above-average growth in the **USA**, **Russia** and **Asia**, particularly in **China**, world economic growth picked up further momentum. On average, **gross domestic product (GDP) in 2004** grew by 3.8%, compared with 2.5% the previous year. Imbalances within the world economic system are giving increasing cause for concern.

As the driving force behind world growth, the **USA** continues to finance its population's appetite for consumption by allowing its balance of payments and its balance of trade to remain at record levels. The Federal Reserve reacted by raising the prime lending rate eight times, from 1.0% to 3.0%, since 30 June 2004. Under these circumstances the dollar weakened further. On 30 December 2004 the dollar reached a new all-time low against the euro of 1.3637. By 1 June 2005 it had recovered, however, to stand at 1.23, thus returning to approxi-

mately the same level as one year before. At the same time, growth in the eurozone, and in **Germany**, in particular, was below average in 2004. The weakness of the German domestic market could not even be outweighed by growth in exports. In 2004, **Germany** exported more goods than any other country in the world. Nevertheless, only Italy, the Netherlands and Portugal had lower growth than Germany. All eyes are now on the oil price which threatens to dampen growth in the world economy. It has climbed from one record level to another, reaching an all-time high of USD 58.15 per barrel of US light crude on 4 April.

In **China**, the economy grew in 2004 by 9.5%, the highest growth since 1996. **China** is on the way to becoming an economic superpower. The dynamism of the Chinese economy has already led to a fundamental shift in the world's economic and political balance in recent years and will

continue to do so in the future.

On 11 June 2005, the seven leading industrial nations and Russia (G8) resolved a debt relief package amounting to 55 billion dollars, so that the world's poorest countries would no longer be prevented by crippling debts from reforming their economic systems. The resolution covers debts to the International Monetary Fund, the World Bank and the African Development Bank. 18 states are being relieved of 40 billion dollars of debt with immediate effect. 38 countries stand to profit from the resolution in the long term.

A tsunami struck the countries on the rim of the Indian Ocean on 26 December 2004, costing more than 300,000 people their lives and causing very extensive economic damage.

Key data of the USA, Japan, Germany and China

		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	2002	2.2%	-480.9	-468.3	1.6%	4.61%	5.8%
	2003	3.0%	-549.4	-535.7	2.3%	4.02%	6.0%
	2004	4.4%	-666.0	-630.5	2.7%	4.27%	5.5%
Japan	2002	-0.3%	112.5	78.9	-0.9%	1.28%	5.4%
	2003	1.4%	136.2	88.3	-0.3%	0.99%	5.2%
	2004	2.6%	172.2	127.2	0.0%	1.40%	4.7%
Germany	2002	0.2%	59.2	125.1	1.3%	4.79%	9.8%
	2003	-0.1%	57.4	146.3	1.0%	4.09%	10.5%
	2004	1.0%	92.6	194.1	1.8%	3.76%	10.6%
China	2002	8.0%	35.4	30.4	-0.7%	-	4.0%
	2003	9.3%	28.9	25.4	1.2%	-	4.5%
	2004	9.5%	70.0	31.9	3.9%	-	4.5%

The figures for 2003 have been revised according to the latest statistics.

*) Interest rate for 10-year bonds

World Beer Production 2003/2004

figures in 1,000 hl

Europe		
Country	2003	2004
Germany	105,990	106,190
Russia (CIS)	73,200	85,200
Great Britain	58,014	58,911
Spain	30,677	30,677*
Poland	27,300	27,700
Netherlands	25,124	23,828
Czech Republic	18,548	18,753
Belgium	15,650	17,409
Ukraine (CIS)	16,645	17,290
France	18,100	16,801
Romania	12,514	14,000
Italy	13,672	13,125*
Austria	8,891	8,670
Denmark	8,351	8,550
Turkey	7,840	8,245
Ireland	8,023	8,142
Portugal	7,350	7,710
Hungary	7,500	6,872
Serbia/Montenegro	6,000*	6,000*
Finland	4,564	4,617
Bulgaria	4,693	4,312
Slovakia	4,676	4,218
Greece	4,400*	4,200*
Sweden	3,979	3,788
Croatia	3,774	3,653
Switzerland	3,645	3,561
Latvia	2,466	2,770
Norway	2,271	2,490
White Russia (CIS)	2,000*	2,200*
Slovenia	2,200	2,100
Lithuania	1,453	1,350
Estonia	970	1,100
Bosnia-Herzegovina	1,458	1,079
Georgia (CIS)	500*	750*
Macedonia	680	716
Moldavia	566	650
Cyprus	440	450*
Albania	390	400
Luxembourg	391	387
Armenia	180*	350*
Other CIS-countries	300*	300*
Iceland	129	145
Malta	78	80*
Total	515,592	529,739

Australia/Oceania		
Country	2003	2004
Australia	17,260	16,910
New Zealand	3,127	3,060
Papua-New Guinea	400*	390
Tahiti	180*	180*
Fiji Islands	160	160*
New Caledonia	130*	130*
Samoa	80	72
Salomon Islands	27	31
Tonga	8*	8*
Vanuatu	7*	7*
Total	21,379	20,948

America		
Country	2003	2004
USA	231,300	233,300
Brazil	82,200**	85,600*
Mexico	66,420	68,482
Canada	23,443	23,130
Venezuela	15,000*	18,000*
Columbia	15,074**	16,000*
Argentina	12,725**	12,800*
Peru	6,044*	6,100*
Chile	4,168**	4,200*
Dominican Republic	3,370**	3,000*
Ecuador	2,994**	3,000*
Cuba	2,305*	2,490
Bolivia	1,881**	1,881*
Paraguay	1,600*	1,600*
Panama	1,426**	1,500*
Guatemala	1,310**	1,400*
Costa Rica	1,260**	1,300*
Honduras	961**	961*
Jamaica	900*	900*
Uruguay	800*	800*
El Salvador	763**	770*
Nicaragua	665**	665*
Puerto Rico	500*	500*
Guyana	400*	400*
Trinidad	300*	300*
Belize	120*	150*
Bahamas	140*	140*
Dutch Antilles	127*	130*
Haiti	100*	100*
Surinam	97*	97*
Barbados	70*	70*
Martinique	70*	70*
St. Lucia	60*	60*
St. Vincent	38	45
Grenada	35*	35*
Antigua	22	25
Dominica	16	18
St. Kitts	17*	17*
Aruba	16*	16*
Cayman Islands	4*	4*
Total	478,741	490,056

Asia		
Country	2003	2004
China	254,048	291,000
Japan	64,970	65,490
South Korea	19,802	20,158
Thailand	15,239	16,135
Philippines	12,700*	13,000*
Vietnam	10,498	11,664
India	6,000*	7,000*
Taiwan	3,600	3,846
Kazakhstan (CIS)	2,360	3,110
Indonesia	1,485	1,470*
Uzbekistan (CIS)	900*	1,200*
Singapore	735	1,130*
Malaysia	1,250	1,100
Laos	702	826
Israel	722	722
Sri Lanka	429	484
Cambodia	422*	450*
Aserbaidshan (CIS)	300*	450*
Hong Kong	328	288
Nepal	231	251
Myanmar (Burma)	232	245*
Iran	150*	200*
Lebanon	150	150*
Syria	91	104
Mongolia	30	80
Jordania	50*	50*
Iraq	0	50*
Pakistan	18	30
Gesamt	397,442	440,683

Africa		
Country	2003	2004
South Africa	25,000*	25,000*
Nigeria	8,600*	9,400
Cameroon	4,600	4,775
Egypt	1,750	2,650
Kenya	2,100	2,600
Tanzania	2,015	2,135
Angola	1,598	2,059
Dem. Rep. Congo (Zaire)	1,496	1,812
Ethiopia	1,064	1,610
Zimbabwe	1,182	1,300
Ivory Coast	1,210	1,214
Uganda	1,098	1,200
Namibia	1,168	1,165*
Mozambique	977	1,085
Algeria	814	1,071
Ghana	950*	1,048
Tunesia	1,000	1,000
Burundi	875	962
Morocco	877	914
Gabon	750	760
Madagascar	725	700
Congo	660	671
Burkina Faso	550	578
Botswana	559	570
Zambia	550	570
Rwanda	434	464
Benin	560	430
Mauritius	388	374
Togo	294	316
Lesotho	310	301
Eritrea	200	277
Chad	216	207
Réunion	198	196
Malawi	190	190*
Swaziland	188	189
Senegal	155	183
Guinea	150	156
Central African Republic	122	116
Mali	77	79
Sierra Leone	79	71
Liberia	30	68
Seychelles	71	63
Niger	65	61
Guinea Bissau	30*	46
Gambia	32	36
Cape Verde Islands	20*	20*
Total	65,977	70,692

WORLD TOTAL	
2003	2004
1,479,131	1,552,118

In italics:
corrections for 2003 as stated in last year's report.

* estimate
** Source: Alaface



Output Development

	2003 1,000 hl	2004 1,000 hl	2003 +/- % rel.	2004 +/- % rel.
European Union	313,176	378,398	0.7%	20.8%
Rest of Europe	202,416	151,341	5.2%	-25.2%
Europe total	515,592	529,739	2.4%	2.7%
North America	254,743	256,430	-0.5%	0.7%
Central America/Caribbean	80,576	83,078	3.8%	3.1%
South America	143,422	150,548	-1.4%	5.0%
America total	478,741	490,056	-0.1%	2.4%
Asia	397,442	440,683	5.7%	10.9%
Africa	65,977	70,692	4.5%	7.1%
Australia/Oceania	21,379	20,948	-0.9%	-2.0%
WORLD TOTAL	1,479,131	1,552,118	2.5%	4.9%

In 2004 beer output grew at the surprisingly high rate of 4.9%. Growth in **China**

(+37m hl) and **Russia** (+12m hl) alone caused world beer output to rise by 3.3%.

In **Europe**, it was Russia that accounted for the growth. A proportional redistribution has taken place within Europe as a result of the enlargement of the EU in 2004. Growth in **America** is accounted for by the USA (+2m hl) in North America, by Mexico (+2m hl) in Central America and by Brazil (+3.4m hl) and Venezuela (+3m hl) in South America. **Asia** has the highest growth of all continents, with 10.9%. In **Africa**, Egypt (+0.9m hl) and Nigeria (+0.8m hl) are the countries mainly responsible for the increase.

At the foot of the international rankings come France and the Netherlands with a drop in output of more than 1 million hectolitres.

Market Analysis

After the exceptional summer and the consequently disastrous hop harvest in Europe in 2003, it was generally feared that the crop following in 2004 might also be affected by the previous year's water shortage. This proved not to be the case, however.

In fact, above-average high yields and also above-average high alpha yields, at least among the high-alpha varieties, were recorded in all the European hop-growing areas. In Europe, the harvest produced 1,700 metric tons of alpha, amounting to a 65% year-on-year increase in alpha acid production. The production volume in the USA was comparable with the previous year's. In China, on the other hand, extensive clearing and a very hot summer caused the production volume there to drop to approx. 640 metric tons of alpha acid, compared with 1,060 mt the year before. Alpha production worldwide totalled 8,095 metric tons, compared with 6,722 mt the year before.

The continued existence of old stocks, mainly in the form of extract, in the high-

alpha segment both in the USA and in Europe weighed heavily on the mood of the market. This resulted in a downward price trend in the market which also affected the 2004 crop. From a European point of view, the unfavourable weakening of the US dollar not only added to the pressure on prices for European high alpha hops but also caused hop trading activity to be diverted towards the USA.

As a result, no farm-gate market developed for uncontracted high-alpha hops either in Germany or in the USA. Uncontracted hops were marketed exclusively through hop pools. Accounts were settled with the growers by June 2005, with earnings falling well short of production costs.

Contrary to general expectations, both the old stocks and the spot hops sold steadily at slightly rising prices.

At the time of going to press, only small quantities were still available on the spot market and stocks from previous crops had been largely run down.

The situation regarding aroma hops was different. The deficit carried over from 2003

at the beginning of the marketing period was offset by the universally good harvests in the European hop-growing areas. A market formed rapidly for uncontracted hops at acceptable fixed prices. Only very small quantities were marketed through the trading companies' pools. From February 2005 the tight supply situation led to unusually high forward contract rates between the hop product trade and the brewing industry, which suggests that the supply situation for aroma hops will also be very tight in crop year 2005.

Due to clearing measures taken in the high-alpha segment following the 2004 harvest, a year-on-year reduction in supply is expected for the 2005 crop. As some companies have succeeded in opening up new markets for hops outside the brewing industry, the alpha balance no longer reflects the demand for hops in its entirety. This is a factor that the brewing industry will have to take into greater consideration in the future.

Forward contact rates in % (as per spring 2005)

Country	2005	2006	2007	2008
Germany	73%	49%	30%	19%
USA	67%	40%	20%	16%
Czech Republic	97%	80%	60%	10%
England	75%	50%	43%	25%
Slovenia	50%	30%	25%	10%
Poland	50%	30%	20%	10%
China	80%	25%	10%	10%

The contract figures were calculated on the basis of the acreage expected to be farmed in 2005 and a long-term average.



Hop Acreage and Production 2003/2004

		2003				2004			
		Acreage ha	Production mt	Ø-Alpha %	Alpha mt	Acreage ha	Production mt	Ø-Alpha %	Alpha mt
Germany	Hallertau ²⁾	14,489	21,137.6	6.6%	1,392	14,515	28,240.7	9.4%	2,649
	Elbe-Saale	1,402	2,180.6	9.1%	199	1,333	2,525.4	11.6%	294
	Tettngang	1,256	1,552.6	2.4%	37	1,220	1,861.2	4.5%	83
	Spalt	395	446.7	2.9%	13	388	543.6	4.4%	24
	Others	20	38.7	5.1%	2	20	37.1	6.5%	2
	Total	17,562	25,356.2	6.5%	1,643	17,476	33,208.0	9.2%	3,052
Czech Republic ¹⁾	Saaz	--	--	--	--	4,382	4,435.5	4.3%	191
	Auscha	--	--	--	--	756	816.4	3.3%	27
	Tirschitz	--	--	--	--	700	1,058.8	4.7%	49
	Total	--	--	--	--	5,838	6,310.7	4.2%	267
Poland ¹⁾		--	--	--	--	2,239	3,015.2	7.0%	211
Slovenia ¹⁾		--	--	--	--	1,557	2,690.0	8.6%	231
England		1,455	1,928.6	8.2%	159	1,358	2,048.2	8.4%	172
France		817	1,389.1	1.8%	25	786	1,159.5	1.9%	22
Spain		673	1,304.9	10.7%	140	684	1,338.2	11.4%	153
Slovakia ¹⁾		--	--	--	--	320	363.6	4.4%	16
Austria		207	292.0	5.5%	16	207	299.6	7.7%	23
Belgium		209	403.4	8.5%	34	194	395.0	9.5%	38
Hungary ¹⁾		--	--	--	--	37	62.5	12.4%	8
Portugal		24	35.0	8.3%	3	22	38.9	9.7%	4
European Union		20,947	30,709.2	6.6%	2,020	30,718	50,929.4	8.2%	4,197
Ukraine		1,985	1,300.0	5.1%	66	1,464	1,270.0	4.4%	56
Russia		630	320.0	4.8%	15	555	340.0	4.7%	16
Turkey		317	245.3	8.6%	21	342	274.8	8.9%	25
Serbia/Montenegro		389	305.0	6.0%	18	246	428.0	5.3%	23
Bulgaria		221	303.0	9.5%	29	221	323.0	10.1%	33
Romania		200 *	100.0 *	6.0%	6	100 *	50.0 *	6.5%	3
White Russia		22 *	22.0 *	9.0%	2	22 *	22.0 *	9.0%	2
Switzerland		20	24.0	9.2%	2	20	48.6	11.9%	6
Czech Republic ¹⁾		5,942	5,526.8	3.2%	175	--	--	--	--
Poland ¹⁾		2,172	3,121.4	6.3%	197	--	--	--	--
Slovenia ¹⁾		1,652	1,326.0	5.6%	75	--	--	--	--
Slovakia ¹⁾		320	323.4	3.6%	12	--	--	--	--
Hungary ¹⁾		37	49.7	9.7%	5	--	--	--	--
Rest of Europe		13,907	12,966.6	4.8%	623	2,970	2,756.4	5.9%	164
EUROPE		34,854	43,675.8	6.1%	2,643	33,688	53,685.8	8.1%	4,361
USA	Washington	7,888	18,121.5	11.4%	2,071	7,844	18,791.0	11.5%	2,165
	Oregon	2,326	4,240.0	8.4%	355	2,067	3,906.3	7.6%	297
	Idaho	1,388	2,388.8	8.6%	204	1,316	2,342.8	9.5%	221
	Total	11,602	24,750.3	10.6%	2,630	11,227	25,040.1	10.7%	2,683
Argentina		160	191.0	8.0%	15	160	185.0	7.5%	14
AMERICA		11,762	24,941.3	10.6%	2,645	11,387	25,225.1	10.7%	2,697
South Africa		503	912.2	13.1%	119	510	988.5	12.8%	126
AFRICA		503	912.2	13.0%	119	510	988.5	12.8%	126
China	Xinjiang	2,850	8,691.0	7.2%	629	2,056	5,260.0	7.1%	372
	Gansu	2,308	6,236.0	6.9%	431	1,696	4,398.4	6.2%	272
	Total	5,158	14,927.0	7.1%	1,060	3,752	9,658.4	6.7%	644
Japan		286	504.2	6.0%	30	274	459.2	6.7%	31
India		71	42.6	10.3%	4	71	28.0	11.0%	3
ASIA		5,515	15,473.8	7.1%	1,094	4,097	10,145.6	6.7%	678
Australia		439	1,271.8	11.1%	142	535	1,428.5	11.4%	163
New Zealand		427	780.8	10.1%	79	422	792.1	8.8%	70
AUSTRALIA/OCEANIA		866	2,052.6	10.8%	221	957	2,220.6	10.5%	233
WORLD		53,500	87,055.7	7.7%	6,722	50,639	92,265.6	8.8%	8,095

* estimate ¹⁾ Accession to the European Union as of 1 May 2004. ²⁾ inclusive Hersbruck *In italics: corrections for 2003 as stated in last year's report.*



Alpha Acid Production

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

Group I:	Fine aroma hops	Hops with a long-term average alpha content of up to 4.5%, such as Hallertau, Hersbruck Spaet, Klon 18, Lublin, Saaz, Saphir, SA-1, Spalt, Styrian Golding, Strisselspalt, Tett nang.
Group II:	Aroma hops	Varieties with a long-term average alpha content of over 4.5%, such as Aurora, Cascade, First Gold, Fuggles, Goldings, Hallertau Tradition, Horizon, Kirin Flower, 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, Marco Polo, Marynka, Millennium, Northern Brewer, Nugget, NZ Pacific Gem, Phoenix, Pride of Ringwood, Super Pride, Target, Tsingdao Flower, Victoria, Warrior.

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

Group	2003			2004		
	Crop share	Crop mt	Alpha Ø	Crop share	Crop mt	Alpha share
I	16.1%	13,992	2.6%	17.5%	16,162	3.7%
II	23.7%	20,606	4.5%	25.7%	23,739	5.8%
III	60.2%	52,458	10.4%	56.8%	52,365	11.7%
Total	100.0%	87,056	7.7%	100.0%	92,266	8.8%

The total figures for 2003 were amended compared to last year's report.

All the alpha acid values stated in this report were recorded on the basis of % air-dry, according to EBC analysis 7.4 ToP (Time of Processing).

With the 2004 hop harvest, the percentage shares of the world market, which had been disrupted by the unusually dry weather conditions in Europe in 2003, returned to normal.

Germany and the USA between them accounted for 70.9% of total world alpha production in crop year 2004 (2003: 63.5%). With a share of world alpha production totalling 37.7% (2003: 24.4%), Germany overtook the USA, whose share

fell to 33.2% (2003: 39.1%), as the world's biggest alpha producer. China remained in third place, although its share of 15.8% in 2003 dropped to 8.0% in 2004 as a result of the reduction in acreage and the lower average alpha content there.

In Alpha Group I – fine aroma hops – Germany produced 40.7% (2003: 27.4%), beating the Czech Republic, with 35.6% (2003: 40.6%), into second place.

In Alpha Group II – aroma hops – Germany,

with 44.0%, also regained the top position it had lost to the USA in 2003 with a share of only 30.2%. The USA's share in 2004 was only 22.3% (2003: 34.5%).

The USA, on the other hand, was able to maintain leadership in Alpha Group III – bitter hops/high-alpha hops – with 38.8%, although this share was below the previous year's figure of 42.5%. Germany followed in second place with 36.0% (2003: 23.3%).

Alpha Acid Balance

Calendar year	Alpha demand		Alpha production		Alpha supply	
	Hopping rate	Demand	Crop year	Production	Surplus	Deficit
2001	5.5 g α/hl	7,834 mt α	2000	8,020 mt α	186 mt α	---
2002	5.3 g α/hl	7,649 mt α	2001	8,646 mt α	997 mt α	---
2003	5.2 g α/hl	7,664 mt α	2002	8,749 mt α	1,085 mt α	---
2004	5.1 g α/hl	7,916 mt α	2003	6,722 mt α	---	1,194 mt α
2005*	5.0 g α/hl	7,993 mt α	2004	8,095 mt α	102 mt α	---

* Estimated demand

In purely arithmetical terms the alpha acid balance after the 2004 harvest, with an alpha production volume of 8,095 mt, shows a surplus of 102 mt alpha.

However, new markets have opened up for hops outside the brewing industry in recent years, but are not taken into account in the

alpha acid balance. The demand from these new markets in calendar year 2005 should be around 100 metric tons of alpha – and this demand is rising.

Furthermore, alpha degradation occurs naturally during the time between the processing of the hops and their actual use in

the brewery. This loss is not taken into account in calculating the supply situation either.

The stocks of alpha held by the brewing industry have also declined significantly, largely due to the low alpha production levels in 2003.

Germany

Area	Variety	Development of acreage			Development of production			
		2003	+/-	2004	2003	2004	2003	2004
		Acreage ha			Ø-Yield mt/ha		Production mt	
Hallertau*	Perle	2,644	46	2,690	1.40	1.87	3,694.46	5,032.68
	Hallertau Tradition	1,692	227	1,919	1.57	1.78	2,652.52	3,419.62
	Hallertau	1,334	106	1,440	0.50	1.32	665.54	1,903.97
	Hersbruck Spaet	1,254	-67	1,187	1.69	1.70	2,120.29	2,018.66
	Spalt Select	730	4	734	1.69	1.94	1,237.01	1,425.90
	Saphir	128	55	183	0.64	1.33	82.28	243.51
	Other Aroma	1	0	1	0.85	3.63	0.85	3.63
	Total Aroma	7,783	371	8,154	1.34	1.72	10,452.95	14,047.97
	Northern Brewer	624	-150	474	1.03	1.97	640.48	933.03
	Other Bitter	42	-2	40	2.17	2.28	91.20	91.12
	Total Bitter	666	-152	514	1.10	1.99	731.68	1,024.15
	Hallertau Magnum	4,059	-63	3,996	1.70	2.31	6,909.72	9,212.03
	Hallertau Taurus	1,242	-4	1,238	1.52	2.13	1,888.87	2,635.84
	Nugget	423	-42	381	1.81	2.38	767.53	906.03
	Hallertau Merkur	144	6	150	1.17	1.79	168.55	269.23
	Other High Alpha	44	-6	38	1.90	2.52	83.60	95.89
	Total High Alpha	5,912	-109	5,803	1.66	2.26	9,818.27	13,119.02
	Others	30	14	44	1.28	1.13	38.43	49.54
	Total Hallertau	14,391	124	14,515	1.46	1.95	21,041.33	28,240.68
Elbe-Saale	Perle	137	-22	115	1.20	1.95	164.35	224.35
	Hallertau Tradition	9	5	14	1.49	1.21	13.43	16.91
	Total Aroma	146	-17	129	1.22	1.87	177.78	241.26
	Northern Brewer	246	-55	191	0.97	1.73	237.79	330.75
	Total Bitter	246	-55	191	0.97	1.73	237.79	330.75
	Hallertau Magnum	851	16	867	1.78	1.94	1,511.70	1,678.94
	Nugget	78	-9	69	1.51	1.77	117.43	121.81
	Hallertau Merkur	34	6	40	1.32	1.86	44.79	74.33
	Hallertau Taurus	39	-9	30	1.94	2.24	75.64	67.32
	Others High Alpha	8	-1	7	1.93	1.57	15.45	10.97
Total High Alpha	1,010	3	1,013	1.75	1.93	1,765.01	1,953.37	
Total Elbe-Saale	1,402	-69	1,333	1.56	1.89	2,180.58	2,525.38	
Tett nang	Tett nang	822	-32	790	1.24	1.41	1,015.58	1,116.43
	Hallertau	426	-12	414	1.22	1.73	520.98	717.57
	Other Aroma	7	6	13	1.91	1.56	13.36	20.28
	Total Aroma	1,255	-38	1,217	1.23	1.52	1,549.92	1,854.28
	High Alpha	1	2	3	2.63	2.33	2.63	6.98
Total Tett nang	1,256	-36	1,220	1.24	1.53	1,552.55	1,861.26	
Spalt	Spalt Select	114	1	115	1.37	1.68	155.87	193.63
	Hallertau	117	-3	114	1.01	1.30	117.99	148.21
	Spalt	116	-15	101	0.92	1.16	107.28	116.71
	Hallertau Tradition	12	6	18	1.60	1.39	19.15	25.10
	Perle	17	0	17	1.62	1.70	27.50	28.90
	Hersbruck Spaet	9	0	9	1.07	1.46	9.64	13.14
	Total Aroma	385	-11	374	1.14	1.41	437.43	525.69
	High Alpha	10	4	14	0.93	1.28	9.27	17.88
Total Spalt	395	-7	388	1.13	1.40	446.70	543.57	
Hersbruck*	Hallertau	25	-25	--	0.99	--	24.63	--
	Spalt Select	21	-21	--	1.08	--	22.67	--
	Perle	19	-19	--	0.76	--	14.37	--
	Other Aroma	19	-19	--	0.92	--	17.51	--
	Total Aroma	84	-84	--	0.94	--	79.18	--
	Bitter	2	-2	--	1.39	--	2.78	--
High Alpha	12	-12	--	1.20	--	14.36	--	
Total Hersbruck	98	-98	--	0.98	--	96.32	--	
Rhineland-Pal/Bitburg/Baden	Aroma	15	0	15	1.79	1.75	26.92	26.21
	High Alpha	5	0	5	2.36	2.18	11.80	10.90
	Total Rhine./Bitb.	20	0	20	1.94	1.86	38.72	37.11
Total Aroma	9,668	221	9,889	1.32	1.69	12,724.18	16,695.41	
Total Bitter	914	-209	705	1.06	1.92	972.25	1,354.90	
Total High Alpha	6,950	-112	6,838	1.67	2.21	11,621.34	15,108.15	
Total Others	30	14	44	1.28	1.13	38.43	49.54	
GERMANY TOTAL	17,562	-86	17,476	1.44	1.90	25,356.20	33,208.00	

* With effect of March 2004, the hop-growing area of Hersbruck was incorporated into the Hallertau hop region, becoming the region's 15th sealing district.



Farm structure

While there were still 1,788 hop growers in Germany in 2003, only 1,698 hop farms were still active in 2004. 90 producers had given up hop farming.

The average acreage per farm in Germany in crop year 2004 rose to 10.29 ha, thus exceeding the 10-hectare mark for the first time.

Growth, crop estimate and weights

Spring work in the hop yards got off to a rather late start following a long-lasting, but not excessively cold winter. Training began in calendar week 18 and was completed in week 20. With moderately warm weather and little precipitation in June, the plants reached maximum trellis height by the end of that month. In mid-July, warm and humid weather conditions accompanied by heavy rainfall led to slightly above-average development of the hop plants. The rainfall came while the hops were flowering - in other words, just at the right time. Compared with previous years, the hops came into burr some 8 to 10 days later than usual. There was also sufficient rain while the cones were developing, which further encouraged the very good development of the crop. Due to

Area	Estimate 08/2004 mt	Weight 31.03.05 mt
Hallertau incl. Hersbruck	29,125.00	28,240.68
Elbe-Saale	2,032.00	2,525.38
Tettngang	1,850.00	1,861.26
Spalt	505.00	543.57
Rhineland-Pal/Bitburg/Baden	37.00	37.11
TOTAL	33,549.00	33,208.00

thunderstorms in mid-August, plants of the **Hallertau Mittelfrueh** variety suffered in some cases severe wind damage. Harvesting began about one week later than usual over the long-term average.

The crop produced very high yields which lay above the long-term average. The **Hallertau Magnum** variety provided particularly high yields.

The final total recorded as the officially certified hop volume for Germany in crop year 2004 was only slightly below the estimate made at the beginning of the harvest, but at the same time 7,851.8 mt, or 31%, higher than the previous year's figure. Alpha production across the board was 86% higher than in crop year 2003.

Acreage/Variety development

In 2004 there was a slight year-on-year fall in acreage amounting to 86 ha.

Although aroma hops had been cut back by 510 ha in crop year 2003, 2004 saw their acreage expand by 222 ha (+2.3%). This is largely attributable to one variety, **Hallertau Tradition**.

The **Northern Brewer** variety was cut back by a further 205 ha, thus accounting for most of the 209-hectare reduction (-22.9%) among bitter hops.

There was also a reduction totaling 114 ha (-1.6%) in the high alpha variety group. Only one year before, this group had seen its acreage growing by 116 ha.

Overall hop acreage is divided up as follows: Aroma varieties 56.6%, bitter varieties 4.0% high alpha varieties 39.1% and other varieties 0.3%.

Over the last five years the acreage developed as follows:

Variety	2000 ha	2001 ha	2002 ha	2003 ha	2004 ha
Perle	3,373	3,606	3,385	2,829	2,839
Hallertau	1,437	1,411	1,508	1,903	1,970
Hallertau Tradition	1,746	1,849	1,783	1,727	1,958
Hersbruck Spaet	1,888	1,643	1,378	1,270	1,196
Spalt Select	1,079	1,080	990	867	850
Tettngang	1,025	994	921	822	790
Spalt	170	156	140	116	101
Other Aroma ¹⁾	15	34	73	134	186
Total Aroma	10,733	10,773	10,178	9,668	9,890
Northern Brewer	1,858	1,695	1,237	870	665
Other Bitter ²⁾	153	130	74	44	40
Total Bitter	2,011	1,825	1,311	914	705
Hallertau Magnum	4,179	4,535	4,847	4,929	4,870
Hallertau Taurus	980	1,154	1,243	1,284	1,272
Nugget	578	581	545	501	450
Other High Alpha ³⁾	78	118	199	236	244
Total High Alpha	5,815	6,388	6,834	6,950	6,836
Others ⁴⁾	39	37	29	30	45
Total	18,598	19,023	18,352	17,562	17,476

1) Other aroma include: Huell, Hersbruck Pure, Saphir

2) Other bitter include: Brewers Gold, Orion

3) Other high alpha include: Columbus, Hallertau Merkur, Target

4) Others include: Record, others

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).

Area	Variety	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Ø 5 Years	Ø 10 Years
Hallertau	Hallertau	3.6%	5.4%	5.4%	4.7%	4.1%	4.9%	4.6%	4.6%	3.1%	4.3%	4.3%	4.5%
Hallertau	Hersbruck Spaet	2.2%	4.3%	4.7%	3.7%	2.1%	4.9%	3.0%	3.2%	2.1%	3.0%	3.2%	3.3%
Hallertau	Saphir*	--	--	--	--	--	--	--	--	--	3.4%	--	--
Hallertau	Perle	5.5%	8.5%	9.3%	6.7%	7.0%	8.1%	7.0%	8.6%	3.9%	6.4%	6.8%	7.1%
Hallertau	Spalt Select	3.9%	5.7%	6.8%	5.5%	4.5%	6.4%	4.8%	6.0%	3.2%	4.9%	5.1%	5.2%
Hallertau	Hallertau Tradition	4.9%	6.8%	7.0%	5.6%	6.0%	7.1%	6.3%	7.2%	4.1%	6.3%	6.2%	6.1%
Hallertau	Northern Brewer	7.7%	10.5%	10.8%	9.1%	9.0%	10.1%	9.6%	10.1%	6.0%	9.8%	9.1%	9.3%
Hallertau	Hallertau Magnum	11.8%	14.2%	16.9%	14.0%	13.4%	14.4%	13.9%	14.6%	11.7%	14.8%	13.9%	14.0%
Hallertau	Nugget	9.7%	10.7%	13.6%	11.2%	10.0%	12.9%	11.9%	12.4%	8.5%	10.6%	11.3%	11.2%
Hallertau	Hallertau Taurus	--	--	16.6%	13.7%	15.9%	15.6%	15.7%	16.5%	12.3%	16.5%	15.3%	--
Hallertau	Hallertau Merkur*	--	--	--	--	--	--	--	--	--	13.5%	--	--
Elbe-Saale	Northern Brewer	--	--	9.3%	8.1%	8.0%	9.8%	7.6%	8.8%	6.0%	8.5%	8.1%	--
Elbe-Saale	Hallertau Magnum	--	--	15.4%	12.4%	12.2%	14.0%	13.9%	13.9%	10.2%	14.0%	13.2%	--
Tettngang	Tettngang	3.0%	4.8%	5.4%	4.0%	3.8%	4.9%	4.4%	4.6%	2.6%	4.7%	4.2%	4.2%
Tettngang	Hallertau	3.5%	5.0%	5.5%	4.3%	4.2%	4.8%	4.5%	4.8%	3.1%	5.0%	4.4%	4.5%
Spalt	Spalt	3.2%	5.6%	5.6%	4.4%	3.8%	4.0%	4.4%	4.6%	3.1%	4.4%	4.1%	4.3%

* Saphir and Hallertau Merkur are new additions.

The 5-year average refers to the average of the available years for the varieties without a 10-year average.

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.

Market development

The extremely poor hop harvest in 2003 contributed to normalizing brewery stock levels. Basically, prior to the 2004 harvest the market was in a better state, although mainly in the aroma sector rather than for the high alpha varieties. The latter sector was influenced by the following factors:

- Insufficient clearing of high alpha varieties in Germany
- Stocks of high alpha hops in all product categories held by growers and merchants, predominantly in the USA and Germany
- A relatively strong euro compared with a very weak US dollar.

It was therefore to be expected that, as in the previous year, the market would be divided along the lines of aroma hops and alpha hops.

The aroma varieties **Perle** and **Hallertau Tradition** were bought at the same price on the spot market, starting at 3.50 EUR/kg and rising to 3.70 EUR/kg from 10 September. The **Spalt Select** variety sold at 3.20 EUR/kg throughout.

On the other hand, no real spot market developed at all for bitter and high alpha hops. Growers were offered hop pools with prepayment prices of 1.30 EUR/kg for **Hallertau Taurus** and 1.00 EUR/kg for all other high alpha varieties. A prepayment price of 2.00 EUR/kg was paid for **Northern Brewer**.

At the time of going to press in mid-April, the aroma varieties were sold out, whereas the bitter and high alpha varieties in the non-contracted hop pools had yet to be finally settled. In view of the extremely low market prices, the final settlement prices will be at a painfully low level for the growers and will come nowhere near to covering their actual production costs.

Hop research

The new aroma varieties **Opal** and **Smaragd** and the new high alpha variety **Herkules** have been approved for planting.

As a high alpha, high-yield variety, **Herkules** is intended to ensure the future of German high alpha hop farming which had been forced onto the defensive by the weak US dollar. (Average results from 1997 to 2004 at the hop research centre

in Hüll: yield 3.06 mt/ha, alpha acid 15.6%).

While **Opal** has been licensed by the Federal German variety licensing office since 2001, licensing of the other two varieties is expected in the spring of 2006.

Acreage reduction programme

In order to create an incentive for growers to reduce acreage, on 28 October 2004 the hop marketing cooperative "HVG Hopfenverwertungsgenossenschaft e.G." resolved to institute a set-aside and clearing programme.

For a period of two years, this programme provides an annual payment of 750 EUR for each hectare of bitter and high alpha varieties cleared. The one variety not included is **Northern Brewer**. Farms may not increase their hop acreage as long as they take part in this programme. If a hop grower discontinues production completely for a period of at least three years, a bonus amounting to 1,500 EUR/ha is to be paid for all varieties.

According to initial reports, a total of 405 ha has been registered for this special programme. This total is made up of 93 ha of aroma varieties and 312 ha of bitter and high alpha varieties. The predominant share (230 ha) is accounted for by the high alpha variety **Hallertau Magnum**. The figure also includes 25 ha of **Hallertau Taurus**.



Variety	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
Goldings	234	17	251	1.48	1.84	346.4	461.5
First Gold	169	8	177	1.01	0.99	171.4	174.9
Fuggles	179	-9	170	1.30	1.52	231.7	258.9
Challenger	102	-12	90	1.36	1.72	138.0	154.6
Northdown	29	4	33	1.80	1.73	52.9	56.6
Other Aroma	73	0	73	0.91	1.40	66.4	102.8
Total Aroma	786	8	794	1.28	1.52	1,006.8	1,209.3
Target	329	-58	271	1.61	1.70	527.3	459.6
Admiral	88	-10	78	1.38	1.92	121.0	148.6
Pilgrim	67	-11	56	1.13	1.18	76.0	65.8
Herald	57	-1	56	1.08	0.95	61.6	53.1
Phoenix	77	-25	52	1.26	1.36	97.4	70.2
Other High Alpha	41	0	41	0.58	0.72	24.0	29.8
Total High Alpha	659	-105	554	1.38	1.49	907.3	827.1
Others	10	0	10	1.49	1.14	14.5	11.8
ENGLAND TOTAL	1,455	-97	1,358	1.33	1.51	1,928.6	2,048.2

Farm structure

The withdrawal of some 16 farmers from hop growing left approximately 60 actively involved in hop farming in crop year 2004. The average hop acreage per farm rose from 19.1 ha to 22.6 ha.

Acreage/Production/ Alpha content

The acreage planted with alpha varieties was cut back by 16%. On the other hand, there was a slight increase in aroma variety acreage. The yield per hectare exceeded the long-term average, with aroma varieties providing particularly high yields. Compared with crop year 2003, average alpha levels were higher in 2004.

Market situation

By the start of the 2004 harvest approx. 80% of the aroma hops and approx. 35% of the alpha hops were accounted for by forward contracts. In the meantime the entire crop has been sold.

Due to falling demand for alpha varieties, a sharp reduction in acreage is expected for

these varieties in 2005. Aroma hop acreage, on the other hand, is to remain unchanged. Forward contracts account for 75% of the aroma hops.

Hop research

Although the high alpha variety **P6** produced very good alpha acid yields, it proved to be highly susceptible to wilt disease, thus casting doubt on the future of this variety. It was therefore decided to dispense with further trials. Similarly, the dwarf varieties **SW199** and **RJ13**, produced low yields in 2004 and were also abandoned. The dwarf variety **XG38** produced good yields, but was also rejected, as it did not display any obvious advantages over **Pilot** which had already been registered for variety certification.

The dwarf variety code-named **TA200** has aroused interest from brewers. It has very small leaves and has the appearance of a solid wall of hop cones at harvest time. It has a very appealing aroma and an alpha acid content of approx. 5.5%. The National Hop Association has decided to approve a number of large-scale growing trials with this variety.

Within the framework of the hop breeding programme at East Malling Research, Wye, some of both the highest and the lowest values ever recorded at the Wye research station were measured in new trial varieties in 2004. One of the twelve new plots planted for growing trials in 2003 produced a yield 43% higher than that of **Wye Target**. Analysis of alpha acid in one of the new breeds found a cohumulone content of only 9%.

Alpha acid table

Variety	2003	2004
Fuggles	4.8%	4.8%
Goldings	5.1%	5.6%
Challenger	6.2%	6.7%
Northdown	7.0%	7.7%
First Gold	7.9%	8.5%
Pilgrim	9.7%	10.3%
Phoenix	10.5%	11.2%
Target	10.5%	11.3%
Herald	12.0%	11.3%
Admiral	13.4%	13.9%

France

Area	Variety	Development of acreage			Development of production			
		2003	+/-	2004	2003	2004	2003	2004
		Acreage ha			Ø-Yield mt/ha		Production mt	
Alsace	Strisselspalt	755	-70	685	1.70	1.56	1,281.9	1,070.8
	Hallertau Tradition	14	36	50	1.64	0.52	23.4	25.8
	Total Aroma	769	-34	735	1.70	1.49	1,305.3	1,096.6
	Bitter	1	0	1	2.98	1.65	2.1	1.7
	High Alpha	15	4	19	1.88	1.30	27.9	24.6
	Total Alsace	785	-30	755	1.70	1.49	1,335.3	1,122.9
North	Aroma	8	0	8	1.66	1.45	12.8	11.6
	Bitter	5	0	5	1.82	1.49	8.7	7.4
	High Alpha	19	-1	18	1.67	0.98	32.3	17.6
	Total North	32	-1	31	1.69	1.18	53.8	36.6
FRANCE TOTAL		817	-31	786	1.70	1.48	1,389.1	1,159.5

Farm structure

Compared with 2003, the number of hop growers fell by 4, leaving a total of 96 hop farms. Hops were grown on an average of 8.2 ha per farm.

Acreage/Production/ Alpha content

The only significant changes in acreage were in the Alsace region. The predominant variety, **Strisselspalt**, was cut back by 9.3%. Planting of **Hallertau Tradition** was increased.

Lack of rainfall, strong winds and hail damage led to relatively low average crop yields per ha.

The 1.4% average alpha content in the **Strisselspalt** hops in crop year 2004 was similarly low to that of the previous year (1.3%).

Market situation

All the hops from crop year 2004 have been sold. In spring 2005, forward contracts accounted for approximately 75% of the coming crop.

The change-over in varieties from **Strisselspalt** to **Hallertau Tradition** continues on a minor scale.

Spain

Variety	Development of acreage			Development of production				
	2003	+/-	2004	2003	2004	2003	2004	
		Acreage ha			Ø-Yield mt/ha		Production mt	
Nugget	665	10	675	1.94	1.95	1,288.8	1,319.2	
Magnum	6	0	6	2.05	2.05	12.3	12.3	
Total High Alpha	671	10	681	1.94	1.96	1,301.1	1,331.5	
Others	2	1	3	1.90	2.23	3.8	6.7	
SPAIN TOTAL		673	11	684	1.94	1.96	1,304.9	1,338.2

Farm structure

In 2004, hops were grown in Spain by 395 producers, 5 fewer than in the previous year. Average hop acreage remained unchanged at 1.7 ha per farm.

Acreage/Production/ Alpha content

Acreage was increased slightly by 11 ha. There were frequent changes in the weather conditions throughout the growing period. The yield of 1.96 mt/ha in 2004 was similarly to that of the previous year.

Nugget hops yielded an above-average alpha content of 11.4%, further up on the previous year's value of 10.7%.

Market situation

The entire crop volume was purchased by the local brewing industry. The average price paid for **Nugget** hops from crop year 2004 was 3.21 EUR/kg.

Acreage will remain unchanged in crop year 2005. The Spanish brewing industry has already signed contracts for 1,325 mt over the next four years.



Czech Republic

Variety	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
Saaz	5,574	-167	5,407	0.89	1.02	4,958.9	5,518.6
Sládek	163	32	195	1.57	1.94	256.3	377.9
Premiant	149	2	151	1.83	2.02	272.6	304.7
Bor	18	-1	17	0.87	1.16	15.6	19.8
Total Aroma	5,904	-134	5,770	0.93	1.08	5,503.4	6,221.0
Agnus	19	33	52	0.89	1.32	17.0	68.6
Magnum	0	7	7	0.00	0.91	0.0	6.4
Total High Alpha	19	40	59	0.89	1.27	17.0	75.0
Others	19	-10	9	0.34	1.63	6.4	14.7
CZECH REPUBLIC TOTAL	5,942	-104	5,838	0.93	1.08	5,526.8	6,310.7

Farm structure

In 2004 the number of hop-growing farms in the Czech Republic fell slightly to 162. Compared with 2003, the average hop acreage remained virtually unchanged at 36 ha per farm.

Acreage/Production/Alpha content

While hop acreage was expanded by 10 ha in the Auscha region, it decreased by 99 ha in Saaz and by 15 ha in Tirschitz. The variety

table shows a reduction in **Saaz**, accompanied by expansion among other varieties. In total, there was a reduction of 104 ha in hop acreage in the Czech Republic.

The average yields of the traditional **Saaz** variety varied from one growing region to another: Saaz 0.96 mt/ha, Auscha 1.06 mt/ha, Tirschitz 1.39 mt/ha.

The alpha content in **Saaz** hops averaged 3.7% across all the growing regions, significantly exceeding the previous year's figure of 3.0%. The same applies to the results for the other varieties (figures for crop year

2003 in brackets): **Sládek** 5.4% (3.5%), **Premiant** 8.7% (5.9%), **Bor** 6.8% (4.6%), **Agnus** 11.0% (10.1%).

Market situation

All the hops from the 2004 crop were sold on the basis of forward contracts.

Forward contracts already account for 97% of the 2005 crop.

There will be a reduction in hop acreage of approx. 100 ha in 2005.

Poland

Variety	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
Lubelski	834	-42	792	1.20	1.37	1,001.4	1,085.4
Lomik	46	4	50	1.09	1.18	50.0	59.2
Other Aroma	8	4	12	1.21	1.34	9.7	16.1
Total Aroma	888	-34	854	1.19	1.36	1,061.1	1,160.7
Marynka	964	69	1,033	1.60	1.30	1,542.0	1,342.4
Other Bitter	63	-16	47	1.31	1.15	82.2	54.1
Total Bitter	1,027	53	1,080	1.58	1.29	1,624.2	1,396.5
Magnum	257	48	305	1.70	1.50	436.1	458.0
Total High Alpha	257	48	305	1.70	1.50	436.1	458.0
POLAND TOTAL	2,172	67	2,239	1.44	1.35	3,121.4	3,015.2

Farm structure

In crop year 2004 hops were grown in Poland by 1,121 producers. There was a slight increase in the average acreage per farm from 1.92 ha to 2.00 ha.

Acreage/Production/Alpha content

There was a slight reduction in aroma hop acreage, while bitter and high alpha hop

acreage increased. In total, there was a 3% increase in acreage.

Favourable weather in July and August compensated for the unfavourable growing conditions in the spring. The aroma varieties produced good, above-average yields both in crop volume and in alpha content (**Lubelski** 3.9% (2003 2.8%)).

Other alpha contents in crop year 2004 compared with the previous year: **Marynka** 8.0% (7.6%), **Magnum** 12.1% (10.4%).

Market situation

90% of the 2004 crop was sold by forward contract. The entire remaining crop volume was sold on the spot market.

Varietal change-over continues. In crop year 2005, 10% of the **Lubelski** aroma hop acreage is being replanted with **Marynka** and **Magnum** hops.

The forward contract rate for the current year's crop is 50%.

Slovenia

Variety	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
Aurora	1,060	-72	988	0.79	1.90	841.0	1,875.0
Styrian Golding	312	-25	287	0.61	1.30	191.0	373.0
Bobek	72	3	75	0.76	2.13	55.0	160.0
Total Aroma	1,444	-94	1,350	0.75	1.78	1,087.0	2,408.0
Magnum	102	-9	93	1.26	1.48	129.0	138.0
Total High Alpha	102	-9	93	1.26	1.48	129.0	138.0
Others	106	8	114	1.04	1.26	110.0	144.0
SLOVENIA TOTAL	1,652	-95	1,557	0.80	1.73	1,326.0	2,690.0

Farm structure

The number of producers still growing hops in Slovenia fell to 176 in 2004 after ten producers gave up hop farming. The average acreage allocated to hop growing remained virtually unchanged at 8.8 ha per farm.

Super Styrian – Aurora

Now that Slovenia is a member of the EU, the Slovenian hop varieties are subject to the EU certification order. The trading name **Super Styrian** that has been in general use up to now is none other than the variety **Aurora**. Due to the fact that there is no **Super Styrian** on the EU variety register, these hops may only be certified by

the name of **Aurora**. The correct name has been adopted in this report.

Acreage/Production/ Alpha content

In 2004 there was a year-on-year reduction in acreage of 5.8%.

The average yield for aroma varieties in 2004 was 2.4 times higher than in the previous year when production volume was seriously affected by unfavourable weather conditions. The total yield produced per hectare in crop year 2004 was well above the long-term average.

The average alpha contents recorded in 2004 were also far in excess of the long-

term average levels. The values in brackets are those of the previous year. **Styrian Golding** 4.5% (3.2%), **Bobek** 5.8% (3.5%), **Aurora** 9.5% (5.6%), **Magnum** 14.0% (12.0%).

Market situation

Contract sales accounted for 70% of the production volume, while the rest was sold on the spot market. There are no stocks left.

Acreage is expected to increase slightly by 20 ha in crop year 2005. 50% of the crop has already been contracted.

Slovakia

Variety	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
Saaz	290	0	290	0.96	1.06	278.4	308.1
Premiant	30	0	30	1.50	1.85	45.0	55.5
SLOVAKIA TOTAL	320	0	320	1.01	1.14	323.4	363.6

Farm structure

As in crop year 2003, 13 hop growers farmed an average of 24.6 ha of hops per farm in 2004.

Acreage/Production/ Alpha content

Hop acreage remained unchanged. The yield of 1.14 mt/ha was higher than ever before. The average alpha acid content of the variety **Saaz** was 3.9%, as opposed to 3.2% in crop year 2003.

Market situation

Forward contracts accounted for 85% of the 2004 crop. The remaining 15% was sold during the harvest at an average price of 145 crowns/kg (4.60 EUR/kg). A reduction in acreage is expected.

Ukraine

Variety Group	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
Aroma	1,250	-355	895	0.65	0.87	818.0	777.0
Bitter	735	-166	569	0.66	0.87	482.0	493.0
UKRAINE TOTAL	1,985	-521	1,464	0.65	0.87	1,300.0	1,270.0

Acreage/Production/ Alpha content

Hop acreage fell by 26% from 2003 to 2004. The reduction in acreage applied

both to aroma hops and to bitter hops. The most widely grown varieties remained **Klon-18** in the aroma hop category and **Polски** among the bitter hops. In 2004 the yield per mt/ha was significant-

ly above the long-term average. The alpha content of the crop was below that of the previous year: aroma hops 3.1% (3.7%), bitter hops 6.4% (7.5%).

Russia

Variety Group	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
Aroma	362	-47	315	0.54	0.55	194.0	173.0
Bitter	268	-28	240	0.47	0.70	126.0	167.0
RUSSIA TOTAL	630	-75	555	0.51	0.61	320.0	340.0

Farm structure

With 8 hop-growing cooperatives discontinuing hop production, only 78 hop farms remained in crop year 2004. The average hop acreage farmed by each production cooperative fell from 7.3 ha to 7.1 ha.

Acreage/Production/ Alpha content

Hop acreage declined by 12%. The average yield for the aroma varieties rose slightly year on year, while the bitter varieties produced a significantly better yield. The predominantly grown aroma variety **Ranny** yielded an alpha content of 3.8%, well below the yield produced in 2003 (4.2%). The bitter varieties **Smolisty**, **Podvyazny**,

and **Istrinsky** were on a par with the previous year, averaging 5.6%

Market situation

At the end of April, it was reported that 30 mt from the 2004 crop remained unsold. A reduction in acreage of about 10% to approx. 500 ha is expected for 2005.

Serbia/Montenegro

	Development of acreage			Development of production			
	2003	+/-	2004	2003	2004	2003	2004
	Acreage ha			Ø-Yield mt/ha		Production mt	
SERBIA/MONTEN. TOTAL	389	-143	246	0.78	1.74	305.0	428.0

Farm structure

As hop growing continues to decline, two further farms have discontinued production. In crop year 2004, 7 producers farmed an average hop acreage of 35 ha. The hop gardens are in the vicinity of Novi Sad and Backi Petrovac.

Acreage/Production/ Alpha content

Year on year, there was a 37% decrease in acreage. Furthermore the main variety is **Brewers Gold** with 190 hectares. The production yield of 1.74 mt/ha significantly exceeded the long-term average. The average alpha content remained below the previous year's level.

Market situation

The entire crop was sold at an average price of 3.00 EUR/kg. With the domestic brewing industry showing hardly any further interest in locally produced hops, acreage will continue to decline, in particular because the hop producers cannot cover their costs at these prices.

Area	Variety	Development of acreage			Development of production			
		2003	+/- Acreage ha	2004	2003 Ø-Yield	2004 mt/ha	2003 Production	2004 mt
Washington	Willamette	1,475	-42	1,433	1.49	1.58	2,202.2	2,267.0
	Cascade	858	-283	575	2.03	2.25	1,738.6	1,293.9
	Perle	42	-23	19	1.03	1.40	43.4	26.5
	Mount Hood	13	3	16	1.65	1.01	21.4	16.1
	Golding	9	6	15	1.23	1.25	11.1	18.8
	Horizon	55	-41	14	1.59	1.53	87.6	21.4
	Other Aroma	164	84	248	1.12	1.60	184.4	397.6
	Total Aroma	2,616	-296	2,320	1.64	1.74	4,288.7	4,041.3
	Cluster	174	8	182	2.25	2.28	390.7	414.3
	Total Bitter	174	8	182	2.25	2.28	390.7	414.3
	CTZ	2,052	349	2,401	3.16	3.18	6,482.2	7,628.1
	Galena	1,156	227	1,383	2.14	2.08	2,479.5	2,882.9
	Millennium	561	-106	455	2.54	2.62	1,425.2	1,192.5
	Nugget	371	-44	327	2.11	2.32	783.7	758.8
	Warrior	503	-182	321	2.38	2.58	1,197.7	827.3
	Chinook	183	16	199	2.14	2.13	391.0	424.0
	Chelan/Tillicum	151	8	159	2.73	2.47	412.5	393.2
	Other High Alpha	121	-24	97	2.23	2.36	270.3	228.6
	Total High Alpha	5,098	244	5,342	2.64	2.68	13,442.1	14,335.4
	Total Washington	7,888	-44	7,844	2.30	2.40	18,121.5	18,791.0
Oregon	Willamette	900	-20	880	1.53	1.69	1,381.2	1,486.5
	Perle	182	-77	105	1.15	1.49	209.5	156.0
	Sterling	34	56	90	2.25	1.35	76.4	121.7
	Mount Hood	88	-1	87	1.75	1.82	154.4	158.0
	Golding	38	5	43	1.13	1.45	42.9	62.3
	Cascade	109	-72	37	2.07	1.55	225.7	57.5
	Other Aroma	185	8	193	0.94	1.61	174.4	310.3
	Total Aroma	1,536	-101	1,435	1.47	1.64	2,264.5	2,352.3
	Nugget	619	-99	520	2.43	2.50	1,504.3	1,300.0
	Millennium	166	-59	107	2.78	2.27	461.5	243.1
	Warrior	5	0	5	1.93	2.18	9.7	10.9
	Total High Alpha	790	-158	632	2.50	2.46	1,975.5	1,554.0
	Total Oregon	2,326	-259	2,067	1.82	1.89	4,240.0	3,906.3
Idaho*	Total Aroma*	713	-68	645	1.15	1.15	821.7	740.4
	Total Bitter*	81	-19	62	1.90	1.96	154.2	121.5
	Total High Alpha*	594	15	609	2.38	2.43	1,412.9	1,480.9
	Total Idaho	1,388	-72	1,316	1.72	1.78	2,388.8	2,342.8
Total Aroma*	4,865	-465	4,400	1.52	1.62	7,374.9	7,134.0	
Total Bitter*	255	-11	244	2.14	2.20	544.9	535.8	
Total High Alpha*	6,482	101	6,583	2.60	2.64	16,830.5	17,370.3	
USA TOTAL	11,602	-375	11,227	2.13	2.23	24,750.3	25,040.1	

* As growers in Idaho have only indicated total acreage and production figures since 2002, the figures for the individual varieties are estimates. Minor statistical deviations may result from conversion of acres into hectares and pounds into metric tons.

Acreage and production

The US acreage for crop 2004 declined for the fifth year in a row. From crop 2003 to 2004, growers took out a total 375 ha. Aroma varieties accounted for the largest portion of the reduction with a combined total of 465 ha. The major part of this

decrease was due to the removal of **Cascade** which dropped by 375 ha and of **Perle** with 100 ha. Acreage adjustments in the alpha varieties were mixed, with **Nugget**, **Millennium** and **Warrior™** declining by a total of 490 ha, and **Galena** and „**CTZ**“ (**Columbus**, **Tomahawk™**, **Zeus**) expanding by a total of 590 ha, which increased

the total alpha acreage by a net 100 ha. In spite of the total acreage reduction of 375 ha for crop 2004, the total US production was 25,040 mt or 290 mt higher than the previous year. Yields per acre rose by 4.5%. Total alpha production increased to an estimated 2,683 mt or 2% more than for crop 2003.

Variety development

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

Variety	2000 ha	2001 ha	2002 ha	2003 ha	2004 ha
Willamette	2,390	2,519	2,333	2,409	2,362
Cascade	403	406	580	994	619
Perle	274	284	233	224	124
Mount Hood	271	252	155	101	103
Total main Aroma	3,338	3,461	3,301	3,728	3,208
Cluster	460	311	289	255	244
Total main Bitter	460	311	289	255	244
Columbus-Tomahawk-Zeus (CTZ)	3,163	3,067	2,598	2,317	2,679
Galena	2,257	1,996	1,513	1,410	1,638
Nugget	2,822	2,605	1,330	1,012	869
Millennium	411	607	759	728	562
Warrior	–	554	406	507	326
Total main High Alpha	8,653	8,829	6,606	5,974	6,074

Since 2002 the acreage of the individual varieties has been estimated, as only the total acreage is now reported for Idaho. Some of the figures for 2003 published in last year's report have been corrected.

Crop development

Washington: Precipitation in November and December was above normal. From January to March, however, it remained below the usual level, which led to water rationing being imposed by the water districts for the coming growing season. This had virtually no effect on the overall crop development, as the wide use of drip irrigation in hop production has allowed growers to make do with about half of the normal water deliveries.

The temperatures in spring were within the usual range until mid-May. A subsequent period of unusually cool weather delayed training of the vines by 1-2 weeks. In June the plants were so underdeveloped that it was feared that most of the high alpha varieties would not have sufficient vine growth for the cones to develop. However, thanks to a period of warmer weather in July and August, the plants were able to make up for the earlier lack of growth.

Oregon: Temperatures and precipitation in December and January were slightly above normal, but by February through mid-May precipitation fell below average while temperatures remained at above normal levels. Plant growth remained normal through most of the growing season.

Vine growth in **Willamette** was regarded as lighter than normal but a good set of bloom and increased cone size helped generate a better than expected yield. Nearly all the varieties produced improved yields in 2004 with the exception of **Sterling**, due to persistent mildew infection.

Quality

As a result of timely fungicide applications and above average temperatures, powdery mildew was effectively controlled, as were spider mites and aphids.

In 2004, US growers continued to produce clean and high quality hops. Ninety percent of the hops produced had 0% leaf and stem content.

Spot market

Virtually all the 2001 and 2002 crop extract and pellets held by growers moved into the market during the spring and summer of 2004, lifting the financial and psychological burden of these old inventories from growers' shoulders. At the same time, the US dollar continued to weaken, giving growers hope for a better spot market than they had seen in three years. In addition, one marketer/processor expanded its high alpha pool from previous years to allow a larger number of growers to participate. This provided an alternative marketing route for a larger amount of hops that would have otherwise appeared on the market as spots in previous years.

In recent years, the volume on the spot market ranged from 5 to 9 million lbs (2,200 to 4,000 mt). For crop 2004, the spot volume was considerably lower with only an estimated 2 to 3 million lbs (900 to 1,400 mt) of available fresh crop hops. Also different from previous years, demand from multiple marketers/processors kept the market active from harvest to the end of November during which period growers

were able to sell most of their spots. By late spring, the few remaining alpha and aroma hops also sold, leaving no inventory carry-over from crop 2004 in growers' hands.

- **Cascade:** After the news that a major brewer dropped this variety, spot demand plummeted. As a result, the first spot quantities sold in early September at 0.75 USD/lb (1.65 USD/kg). Prices remained at this level until the end of the year when further market activity pushed prices up to 0.90 USD/lb (1.98 USD/kg) for most of the remaining quantities.
- **Willamette:** Fewer spots than normal came onto the market, as a large user of this variety allowed growers to deliver all excess quantities on their contracted acreage as part of their existing hop contracts. As a result, the initial spot price was 2.90 USD/lb (6.39 USD/kg), but dropped to 2.50 USD/lb (5.51 USD/kg) and then to 2.45 USD/lb (5.40 USD/kg) once the initial demand was filled. No spots remained in growers' hands.
- **Galena:** Spots initially sold at ~1.55 USD/lb (~3.40 USD/kg) in September but moved ~1.70 USD/lb (~3.75 USD/kg), as supplies were bought up quickly. Few growers held out for 1.90 USD/lb to 2.00 USD/lb (4.19 to 4.41 USD/kg). Most hops were sold within few weeks after harvest and the remaining quantities in spring.
- **Nugget:** The market for this variety opened at 1.50 USD/lb (3.31 USD/kg) plus premiums and increased to 1.55 USD/lb (3.42 USD/kg) within a few weeks. Spot quantities of this variety were very low and all hops sold shortly after harvest.

Alpha acid table

Variety	2000	2001	2002	2003	2004	Average
Willamette	4.3%	4.9%	4.4%	4.0%	4.2%	4.4%
Mount Hood	4.6%	5.1%	4.3%	4.5%	4.3%	4.6%
Cascade	5.1%	6.2%	5.5%	5.0%	5.5%	5.5%
Cluster	7.1%	7.1%	6.5%	6.3%	6.4%	6.7%
Galena	12.2%	12.3%	12.2%	11.9%	11.9%	12.1%
Nugget	13.3%	13.9%	12.4%	12.7%	12.7%	13.0%
Chinook	11.0%	12.0%	11.6%	12.8%	12.9%	12.1%
Super-High Alpha	13.5%	15.1%	14.9%	14.5%	14.3%	14.5%

• **High alpha:** Due to the presence of the high alpha pool, fewer than normal hops made it to the spot market. Prices started out at levels paid during late spring and summer, ~0.80 USD/lb (~1.75 USD/kg) and increased to ~0.90 USD/lb (~2.00 USD/kg) by mid September. As it became clear that the crop was not going to achieve the high pre-harvest yield expectations, prices quickly moved to ~0.95 USD/lb (2.10 USD/kg) and a month later to ~1.10 USD/lb (~2.42 USD/kg). Toward the end of the year, the last remaining alpha hops were sold at 1.20 USD/lb (2.65 USD/kg). As with the other varieties, growers were able to sell all of their high alpha spot production.

Contract market

The forward market was more active than in recent years for the upcoming and subsequent crops. In January, three-year contracts of **Galena** were sold at 1.70, 1.75 and 1.80 USD/lb (3.75, 3.86 and 3.97 USD/kg) plus leaf/stem and alpha premiums starting with crop 2004 as part of a **Cascade** cancellation programme. Additional quantities were contracted in May at 1.55, 1.65 and 1.70 USD/lb (3.42, 3.64 and 3.75 USD/kg) for the same time frame. Three-year contracts for **Nugget** in March started with crop 2004 at 1.20, 1.30 and 1.35 USD/lb (2.65, 2.87 and 2.98 USD/kg) plus premiums. By June, prices jumped to 1.50, 1.55 and 1.60 USD/lb (3.31, 3.42 and 3.53 USD/kg) as unexpected large demand hit the market and put virtually all remaining

open **Nugget** under contract for 2004. Multiple-year contracts for high alpha **CTZ** hops were entered into in January and February at ~0.95 to 1.05 USD/lb (~2.10 to 2.30 USD/kg) as part of **Cascade** cancellations. As there still appeared to be an excess of generic alpha hops, the market dropped to around 0.90 USD/lb (2.00 USD/kg), but only few transactions occurred at that level. Interest in alpha picked up again around June but at ~0.70 USD/lb (~1.55 USD/kg) growers were unwilling to sell and instead chose to place some of their uncontracted hops into a pool for crop 2004 with portions of that quantity committed for crops 2005 and 2006. **Willamette** were contracted in January at 2.80 USD/lb (6.17 USD/kg) plus premiums for one year only. Subsequent contracts in March for the remaining hops were written at 2.50 and 2.35 USD/lb (5.51 and 5.18 USD/kg) plus premiums.

Grower initiatives

Very little activity has occurred on the proposed **Hop Marketing Order**. With hearings conducted in October 2003 and commentary requested in the first months of 2004, the USDA has not yet reached a decision on allowing growers to vote on proposed Order. In February of 2005, the USDA asked for commentary on whether the representative base period should be 1997 through 2002 or the most recent six years. At the time of writing this report, no decision had been made.

Inventory reports

The USDA tracks hop imports and exports for all hop products entering or exiting the US. Shipment data is converted in raw hop equivalents on a formula basis which may or may not be accurate on individual shipments but in the aggregate gives an important trend indication on the overall inventory balance. Data presented at the annual Hop Growers of America convention showed that 66.5 million lbs (~30,100 mt) were exported during marketing period 2003/2004. This figure exceeded the produced crop 2003 volume of 55.4 million lbs (24,750 mt) by 11.1 million lbs (5,350 mt). The exported volume in excess of the produced volume does not take into account domestic consumption which widens the gap even further. While there are no official figures on domestic consumption, it can be estimated at 15 to 20 million lbs (6,800 to 9,100 mt). Based on this assumption, the US shipped a minimum of 25 million lbs (12,150 mt) more than it produced from crop 2003, i.e. it depleted its inventory by that amount. A similar but not as dramatic situation occurred with crops 2002 and 2001.

Over the last 3 to 4 crop years, it is reasonable to assume that the US depleted its inventory by an estimated 60 million lbs (27,000 mt) or approximately the equivalent of one crop year's production.

Quantities contracted forward (in mt)

Report as of spring	same Crop Year	Years forward...		
		1 Year	2 Years	3 Years
2005	16,777	10,079	4,984	4,007
2004	19,993	12,760	8,690	5,389
2003	18,214	12,048	8,539	4,428
2002	20,181	14,817	8,930	6,852
2001	21,883	13,610	10,595	7,465

Degree of forward contracting (in %)

Crop	Part
2005	67%
2006	40%
2007	20%
2008	16%



China

Area	Variety	Development of acreage			Development of production			
		2003	+/-	2004	2003	2004	2003	2004
		Acreage ha			Ø-Yield	mt/ha	Production mt	
Xinjiang	Tsingdao Flower	1,860	-660	1,200	3.12	2.80	5,800.0	3,360.0
	Marco Polo	270	17	287	3.47	2.61	936.0	750.0
	SA-1	280	1	281	2.70	2.06	755.0	580.0
	Kirin Flower	300	-140	160	3.00	2.50	900.0	400.0
	Others	140	-12	128	2.14	1.33	300.0	170.0
Total Xinjiang		2,850	-794	2,056	3.05	2.56	8,691.0	5,260.0
Gansu	Tsingdao Flower	2,138	-760	1,378	2.74	2.87	5,850.0	3,960.0
	Others	170	148	318	2.27	1.38	386.0	438.4
	Total Gansu	2,308	-612	1,696	2.70	2.59	6,236.0	4,398.4
CHINA TOTAL		5,158	-1,406	3,752	2.89	2.57	14,927.0	9,658.4

Farm structure

With 17 farms having abandoned hop production, hops were harvested in 2004 on only some 45 farms, of which 25 were in Xinjiang and 20 in Gansu. The average hop-growing acreage per farm remained unchanged at 83 ha.

Acreage

The overproduction and consequently low sales prices seen in previous years resulted in acreage being reduced by 27% from 2003 to 2004.

Growth and quality

In Xinjiang, high temperatures and too little precipitation during the vegetation period had an adverse effect on production vol-

ume. In Gansu, the weather conditions were normal. However, production volume was affected by severe frost in May. The alpha content of the **Tsingdao Flower** hops was good, with an average of 6.5% in Xinjiang and 6.0% in Gansu.

Market situation

The reduction in acreage led to a corresponding decrease in supply. Production volume was additionally reduced due to unfavourable weather conditions. Prices for hops from crop year 2004 were two to three times higher than those for the 2003 crop, which brought them back to normal levels. Farms were paid prices of 12 to 13 renminbi/kg for **Tsingdao Flower** hops. This corresponds to approx. 1.20 to 1.30 EUR/kg.

In mid-April, some 900 mt of hops (approx. 50 mt alpha) from crop year 2004 and previous crop years remained unsold. When the 2004 harvest began, the quantity of unsold hops from crop year 2003 and previous years is said to have been as much as 3,500 mt.

There will be a slight increase in acreage again in 2005. This increase will be in the region of 250 ha.

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 extent of the Chinese hop growing regions, are often based on estimates.

Crop 2005

South Africa

Variety	Development of acreage			Development of production				
	2004	+/-	2005	2004	2005	2004	2005	
		Acreage ha			Ø-Yield	mt/ha	Production mt	
Southern Star	198	60	258	2.11	1.88	417.7	484.1	
Southern Promise	129	-1	128	1.98	2.03	255.7	260.4	
Outeniqua	107	-33	74	1.45	1.56	155.3	115.8	
Southern Brewer	76	-30	46	2.10	1.67	159.8	76.7	
SOUTH AFRICA TOTAL		510	-4	506	1.94	1.85	988.5	937.0

Farm structure

The number of producers actively engaged in hop farming in 2004 remained constant at 15. There was also hardly any change in acreage, with each producer farming an average of 33.7 ha.

Growth and quality

Hot and dry weather conditions persisted throughout the growing season. In some

areas there was a shortage of water for irrigation. The hop plants developed well, although in many cases there was excessive leaf growth. The alpha content in crop year 2005 was as follows: **Southern Brewer** 9.7%, **Southern Promise** 11.3%, **Outeniqua** 13.6%, **Southern Star** 14.1%.

Market situation

In the past, the entire production volume was purchased each year by the local

brewing industry. Due to the continually low prices for European hops on the one hand and the strength of the local currency (rand) on the other, it has become very difficult to market South African hops. Consequently, crop year 2005 produced a surplus of approx. 120 mt above the contracted volume.



Australia

Area	Variety	Development of acreage			Development of production			
		2004	+/-	2005	2004	2005	2004	2005
		Acreage ha			Ø-Yield	mt/ha	Production mt	
Tasmania	Pride of Ringwood	121	-16	105	3.07	3.03	371.8	318.0
	Cluster	10	-1	9	1.72	2.00	17.2	18.0
	Total Bitter	131	-17	114	2.96	2.95	389.0	336.0
	Super Pride	131	-14	117	2.26	2.13	295.6	249.0
	Victoria	51	-18	33	2.97	3.03	152.9	100.0
	Other High Alpha	51	-29	22	2.53	3.05	128.8	67.0
	Total High Alpha	233	-61	172	2.48	2.42	577.3	416.0
	Others	10	-4	6	0.61	1.00	6.0	6.0
Total Tasmania		374	-82	292	2.60	2.60	972.3	758.0
Victoria	Pride of Ringwood	13	-1	12	2.08	2.00	27.0	24.0
	Cluster	18	-8	10	1.94	2.00	35.0	20.0
	Total Bitter	31	-9	22	2.00	2.00	62.0	44.0
	Victoria	56	-1	55	2.89	2.84	162.5	156.0
	Topaz	41	0	41	3.92	4.10	159.6	168.0
	Super Pride	33	6	39	2.17	2.85	71.3	111.0
	Total High Alpha	130	5	135	3.03	3.22	393.4	435.0
	Others	0	0	0	2.67	3.33	0.8	1.0
Total Victoria		161	-4	157	2.83	3.05	456.2	480.0
Total Bitter		162	-26	136	2.78	2.79	451.0	380.0
Total High Alpha		363	-56	307	2.67	2.77	970.7	851.0
Total Others		10	-4	6	0.67	1.11	6.8	7.0
AUSTRALIA TOTAL		535	-86	449	2.67	2.76	1,428.5	1,238.0

Farm structure

In 2005 there were 14 farms actively engaged in hop growing. As a result of a 16% reduction in acreage, which was almost entirely confined to Tasmania, average hop acreage per farm fell from 38 ha in 2004 to its present level of 32 ha.

Growth and quality

As in the previous year, crop year 2005 produced widely varying results in the two hop-growing regions.

Tasmania had a cool, dry summer. Despite sufficient irrigation, growing conditions proved to be unfavourable. Strong winds

were responsible for a fall in production volume. The Tasmanian harvest ended with average yields and alpha levels.

Victoria, by contrast, experienced ideal conditions throughout the growing season. The above-average rainfall brought about by storms coincided with a period of warm weather. Consequently, the harvest produced above-average yields and record alpha levels.

Market situation

94% of the crop had already been sold prior to harvest.

Alpha acid table

Variety	2004	2005
Cluster	4.8%	5.2%
Pride of Ringwood	8.6%	8.8%
Opal	11.5%	12.2%
Super Pride	12.4%	12.7%
Victoria	12.4%	12.4%
Millennium	13.3%	12.6%
Topaz	14.9%	16.7%



New Zealand

Variety Group	Development of acreage			Development of production			
	2004	+/-	2005	2004	2005	2004	2005
	Acreage ha			Ø-Yield mt/ha		Production mt	
Aroma	257	-4	253	1.73	2.07	444.8	523.9
High Alpha	165	-15	150	2.10	2.14	347.3	320.6
NEW ZEALAND TOTAL	422	-19	403	1.88	2.10	792.1	844.5

Farm structure

As in the previous year, 19 farms produced hops. The average hop acreage farmed dropped to 21.2 ha.

Growth and quality

The 2004/2005 growing period was characterized by a mild spring, followed by a cold and wet summer season from Decem-

ber to mid-January. From that time until the harvest it was sunny and temperatures returned to normal levels.

Although 2005 saw an improvement in alpha content over the previous year, the levels failed to equal the multi-year average (2004 values in brackets). **NZ Hallertau Aroma** 7.1% (6.8%), **NZ Pacific Gem** 13.1% (12.7%), **NZ Super Alpha** 10.5% (10.3%).

Market situation

In April 2005 a quantity of 17 mt of alpha hops from the 2004 crop remained unsold. At the beginning of the 2005 harvest 70% of the hops were under contract.

Plant Development 2005

Germany

Rainfall in the autumn of 2004 was within the long-term average range. In the winter months of November and December 2004, precipitation fell significantly below the average levels, only to exceed them again later in the winter as a result of heavy snowfall.

A severe winter set in late in the season, bringing very much snow and lasting until mid-March. Heavy rain in April left the soil

in the hop gardens severely waterlogged and consequently it was not always possible to carry out the spring work in ideal conditions. Spring was very late in coming and due to late pruning and to the cold and wet weather conditions, the spring growth of the hop plants was varied and delayed accordingly. Training commenced a good week later than in previous years. At the time of going to press in early June, nearly all the plants had reached mid-trellis height.

USA

During the winter months there was only very little precipitation in the hop-growing areas in the Pacific Northwest. The State of Washington officially declared a drought. Growers prepared themselves for the worst water supply situation in decades. However, the spring turned out to be wetter and cooler than usual and thanks additionally to costly water transfers and purchases, the hop harvest should produce a normal volume.

Outlook 2005

Germany

In 2005 an acreage survey was conducted for the first time in Germany by the district boards of agriculture. The findings have not yet been published.

According to our own forecasts, acreage in 2005 will be somewhat below that of the previous year. In addition to clearing, particularly of high alpha varieties (see set-aside and clearing programme, page 12), growers have also been changing over to aroma varieties. In the aroma category, new acreage will also be planted.

USA

The official hop acreage survey conducted by the US Department of Agriculture (USDA) and published at the beginning of June, reports an increase in acreage of 586 ha compared with 2004. There has been an increase in acreage of both alpha and aroma varieties. Most of this increase is accounted for by alpha varieties. In view of these changes in acreage, only a slight increase in production volume is expected for 2005.

World

Due to more extensive clearing measures than expected following the 2003 harvest, combined with what continues to be sharply rising growth in beer output in both China and Eastern Europe, markets worldwide will be very tight. There are no longer any stocks of hops worth mentioning left over from either the 2004 crop or previous crops. Compared with the previous year, however, there appears to have been only a slight change in hop acreage in 2005. With forward contracts with the international brewing industry currently at historically low levels, the coming year promises to be an unsettled one for the world hop market even in the event of a very good harvest.

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.



The Top 40 brewery groups in the world as of 31 December 2004

World beer production continued its relentless rise. At the same time, the process of concentration went on in the international beer market, in particular among the global players. The merger of Interbrew and AmBev created a

new world leader in the beer industry. Whereas the ten largest brewing groups accounted for 53.3% of world beer production in 2003, their share had already risen to 58.8% by 2004.

Rank	Brewery	Country	Production volume 2004 in million hl	Percentage of world beer production
1	InBev	Belgium	193.4	12.5%
2	Anheuser-Busch	USA	159.7	10.3%
3	SABMiller	United Kingdom	148.3	9.6%
4	Heineken	Netherlands	112.6	7.3%
5	Carlsberg	Denmark	92.0	5.9%
6	Molson-Coors	USA/Canada	59.4	3.8%
7	Modelo	Mexico	42.8	2.8%
8	Tsingtao	China	36.9	2.4%
9	BBH	Russia	36.0	2.3%
10	Scottish & Newcastle	United Kingdom	30.2	1.9%
11	Santo Domingo (Bavaria)	Columbia	28.6	1.8%
12	Yan Ying	China	28.5	1.8%
13	Asahi	Japan	25.9	1.7%
14	Femsa (Cuauhtemoc)	Mexico	25.7	1.7%
15	Kirin	Japan	22.5	1.5%
16	San Miguel	Philippines	16.9	1.1%
17	Polar	Venezuela	15.5	1.0%
18	Schincariol	Brazil	14.3	0.9%
19	Radeberger	Germany	14.2	0.9%
20	Diageo	Ireland	13.0	0.8%
20	Efes	Turkey	13.0	0.8%
22	BGI/Castel	France	12.9	0.8%
23	Gold Star	China	12.3	0.8%
24	Quilmes	Argentina	12.0	0.8%
25	Chong Qing	China	11.2	0.7%
26	Hite	South Korea	10.9	0.7%
27	Mahou – San Miguel	Spain	10.7	0.7%
28	Foster's	Australia	10.5	0.7%
29	Sapporo	Japan	9.7	0.6%
30	Chang	Thailand	9.5	0.6%
31	Bitburger	Germany	8.6	0.6%
32	Lion Nathan	New Zealand/Australia	8.6	0.6%
33	Xue Jin	China	7.3	0.5%
34	Suntory	Japan	6.8	0.4%
35	Oettinger	Germany	6.4	0.4%
36	Damm	Spain	6.2	0.4%
37	CCU Cerv. Unidas	Chile	5.9	0.4%
38	Krombacher	Germany	5.5	0.4%
38	Krasny Vostok	Russia	5.5	0.4%
40	Boonrawd	Thailand	5.4	0.3%
40	Otschakovo	Russia	5.4	0.3%
Total			1,300.7	83.9%
World beer production 2004			1,552.1	100.0%

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