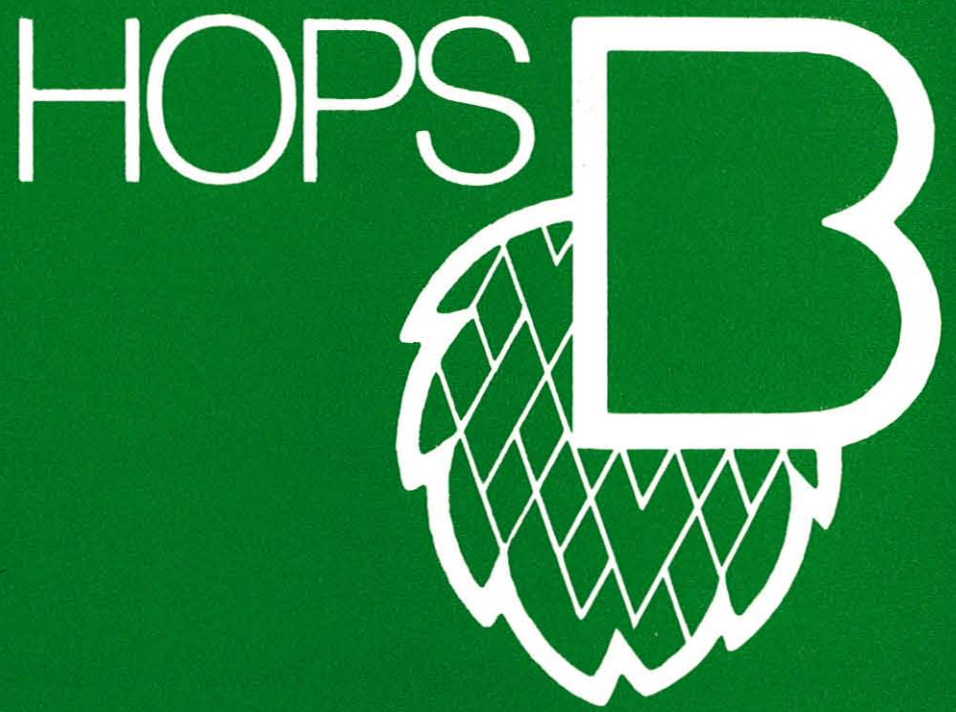


1989/90



**Joh. Barth & Sohn**

## Conversion Table

1 ha	= 2,934 bayerische Tagwerk
1 ha	= 2,471 acres
1 bayerisches Tagwerk	= 0,341 ha
1 acre	= 0,405 ha
1 yard = 3 feet = 36 inches	= 91,44 cm
1 hl = 100 l	= 26,42 gall = 0,8523 bbl (USA) = 22,01 gall = 0,6114 bbl (Brit.)
1 bbl (USA)	= 31 gall = 1,1734 hl
1 bbl (Brit.)	= 36 gall = 1,6365 hl
1 metr. ton = 1.000 kg	= 20 Ztr. = 2.204,6 lbs
1 Ztr. = 50 kg	= 110,23 lbs = 1,102 cwt (USA) = 110,23 lbs = 0,984 cwt (Brit.)
1 cwt (USA)	= 100 lbs = 45,359 kg
1 cwt (Brit.)	= 112 lbs = 50,800 kg
1 cental (Brit.) = 100 lbs	= 45,359 kg = 0,9072 Ztr.
1 kg	= 2,20462 lbs
1 lb	= 0,45359 kg

Conversion of thermometer degrees  
in Fahrenheit and Celsius:

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

$$30^{\circ}\text{C} = \frac{30 \cdot 9}{5} + 32 = 86^{\circ}\text{F}$$

## Currency Exchange Table

As of June 1990 the Frankfurt Currency Exchange  
Market listed:

	Spot Rate 26/6/90	
	Selling Rate	Buying Rate
New York *	1.6749	1.6829
London *	2.904	2.918
Dublin *	2.677	2.691
Montreal *	1.4264	1.4344
Amsterdam	88.770	89.990
Zurich	118.950	119.150
Brussels	4.867	4.887
Paris	29.730	29.890
Copenhagen	26.240	26.360
Oslo	25.995	26.115
Stockholm	27.595	27.755
Milan **	1.3605	1.3705
Vienna	14.195	14.235
Madrid	1.623	1.633
Lisbon	1.129	1.149
Tokyo	1.0825	1.0855
Helsinki	42.445	42.645

\* = 1 unit, \*\* = 1000 units, all other 100 units

## The world market's key data

	1989	1988	Diff. %
Acreage/ha	90,177	89,875	+ 0.3
Hop production/tons	118,551	117,363	+ 1.0
Alpha production/tons	7,290	7,276	+ 0.2
Beer production/1,000 hl	1,104,336	1,075,573	+ 2.7

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## Unofficial dealings

	Selling Rate		Buying Rate
Australia	1 A\$	1.22	1.36
Yugoslavia	100 Dinar	12.00	16.00
New Zealand	1 NZ\$	0.92	1.20

These rates are only given for the purpose of information.

Nuremberg, July 1990



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## Political Situation

1989 was the year of the revolutions in the countries of the former eastern block, most of which were peaceful. Democratization progressed in Poland and Hungary lived up to its international obligations for human rights and tore down the border fence to the neighbouring country of Austria. This triggered off an enormous flow of refugees from the G.D.R. to the FRG. Already during the celebrations of the 40th anniversary of the G.D.R. in October 1989 the decline of the regime of the Socialist Unity Party (SED) was obvious. In mid-November the borders between the two German states were opened and this right to free movement and to travel was soon followed by further democratization, culminating in the first free and democratic elections in the G.D.R. in March 1990. The first step towards a unified Germany was taken in the form of a social and monetary union created by an international treaty between the two Germanies effective as of July 1, 1990.

Not only Poland, Hungary, and the G.D.R. freed themselves from the decades of communist oppression in November/December 1989. This also occurred in other eastern European countries and was most dramatic in Rumania where ousting the dictator Ceausescu and his clan caused much bloodshed. The revolution in Czechoslovakia was peaceful, resembling that of the neighbouring countries and Bulgaria, as well, could not ignore the reforms any longer.

So far the USSR was the strongest support of the East, now even its formerly uncontested Communist Party is showing signs of decay. The policy of opening up both at home and abroad pursued by President Gorbachev who is

now vested with extensive executive powers, must brave heavy storms, because the Soviet Union is not only suffering economic problems, but the non-Russian peoples are also demanding independence from Moscow. These controversies are not only limited to politics, but also caused violence.

The events in eastern Europe have pushed other major international political developments to the background last year – such as the cocaine war led with brutal violence in South America, free elections in Nicaragua and the recent efforts of the South African government to abandon apartheid progressively. Unsolved problems and potential regions of crises still are the Near East, especially Lebanon and the Israeli-occupied areas of Palestina as well as Iraq and Iran.

## Economic situation

In 1989 world economy and trade continued to grow at almost the same speed as in the year before. Again the industrial countries' national product in real terms rose by 3.5%. Production in Japan and

continental Europe – particularly in the FRG – expanded above average. World trade substantially increased by + 7.5%. The continued positive development in Europe was probably due to the prospect of the European single market in 1992 and to the political opening of the East that is now about to adopt a free market economy.

On the other hand prices clearly deteriorated in 1989. Consumer prices in the industrialized countries increased by more than one percent, reaching 4.5%. In order to face the risks to stability resulting from this increase in time the major national banks tightened their monetary policy. Through the interaction of market forces the whole level of short-term interests moved upward. The national banks' policy which mainly aimed at containing inflation was supported by a tendency to consolidate public finances. Therefore the budgetary deficit of the seven major industrialized countries (related to the national product) went down to 1%, as against 1.5% the year before. The public deficit in the USA related to GNP, however, remains at 2%.

The key 1989 economic data for the **USA** and the **Federal Republic of Germany**:

Key data	USA	FRG
Gross national product	\$ 4,144 bn	DM 2,255 bn
Balance of trade	– \$ 109.0 bn	+ DM 135 bn
Balance of current acct.	– \$ 105.9 bn	+ DM 104 bn
Inflation rate	+ 4.6%	+ 2.8%
Interest rate on April 1, 1990	10.0% (prime rate)	6.0% (Federal Bank discount rate)
Unemployment rate on June 1, 1990	5.3%	6.2%

## Table of Bitter Constituents

The bitter constituent values of the most important European varieties 1989:

variety	total resin	conductometric value	conductometric value in the total resin
Hallertau Hallertau	12,7	4,2	33,1
Hallertau Hersbruck	12,4	3,5	28,2
Hallertau Hüll	15,1	5,5	36,4
Hallertau Perle	15,4	6,9	44,9
Hallertau Record	15,0	6,7	44,6
Hallertau Northern Brewer	16,8	7,9	47,1
Hallertau Brewers Gold	14,4	6,6	45,8
Hallertau Orion	17,3	7,8	45,2
Tettnang	11,8	4,2	35,6
Spalt	11,9	4,0	33,6
Saaz	10,1	3,1	30,7
Yugoslavian Styrian Golding	14,8	5,7	38,4
Yugoslavian Super Styrian	17,4	8,0	46,0

The values are in % as is according to Woellmer. (Extraction with ether)

The values were measured in October/November after the harvest. For deliveries in the later course of the season reductions have to be taken into account.

The bitter values of other important varieties are listed in the respective country report.

# World Beer Production 1988/89

Specification in 1,000 hl

## EUROPE

Country	1989	1988
Fed. Rep. of Germany	93.200	92.639
Great Britain	60.140	60.280
USSR	56.000*	54.000
Spain	27.200	26.579
German Dem. Rep.	24.800	24.400
Czechoslovakia	22.684	22.670
France	20.900	19.959
Netherlands	18.813	17.526
Rumania	14.000	13.000 <sup>2</sup>
Belgium	13.166	13.792
Poland	12.380	12.257
Yugoslavia	11.107	11.000*
Italy	10.383	11.191
Hungary	9.388	9.480
Austria	9.200	9.015
Denmark	8.600	8.600
Bulgaria	7.000*	7.000*
Portugal	6.810	5.325
Ireland	5.401	5.401
Sweden	4.586	4.350
Switzerland	4.133 <sup>3</sup>	4.100 <sup>3</sup>
Finland	3.914	3.645
Greece	3.700*	3.700*
Norway	2.205	2.080 <sup>1</sup>
Luxemburg	611	635
Malta	163	165
Albania*	100*	100*
Iceland	66	51
<b>TOTAL</b>	<b>450.650</b>	<b>442.940</b>

<sup>1</sup> later correction to 2,217  
<sup>2</sup> Please see country report  
<sup>3</sup> Production year from 1. 10. to 30. 9. 1988: 4,075

## AMERICA

Country	1989	1988
USA	233.619	231.500
Brazil	55.000	47.800
Mexico	38.677	34.131
Canada	22.710	23.837
Colombia	18.000	18.000
Venezuela	11.000	13.000
Argentina	6.100	5.950
Peru	5.400	6.700
Cuba	3.333	3.320
Chile	2.765	2.657
Ecuador	1.700	1.200
Dominican Rep.	1.467	1.139
Bolivia	1.000	1.280
Jamaica	1.000	1.100
Paraguay	1.000	800
Panama	980	980
Guatemala	900	900
Costa Rica	809	746
Honduras	738	680
El Salvador	680	690
Uruguay	650	640
Puerto Rico	592	526
Trinidad	450	450
Nicaragua	300	300
Netherl. Antilles	165	157
Guyana	120	164
Barbados	120	110
Surinam	117	99
San Lucia	85	69
Bahamas	84	61
Haiti	70	60
Martinique	63	66
Belize	51	40
St. Vincent	38	23
Guadeloupe	30*	32
Grenada	30	25
St. Kitts	18	25
<b>TOTAL</b>	<b>409.861</b>	<b>399.257</b>

## AFRICA

Country	1989	1988
South Africa	21.000	19.200
Nigeria	7.000	7.300
Cameroon	4.738	5.059
Kenya	3.900	3.600
Zaire	3.173	4.014 <sup>2</sup>
Zimbabwe	1.800	1.700
Ivory Coast	1.360	1.400
Zambia	945	900
Burundi	916	953
Gabon	800	1.000
Ruanda	710	700
Ethiopia	706	930
P. Rep. Congo	700*	725
Angola	700	600
Ghana	614 <sup>3</sup>	585
Tansania	538	530
Burkina Faso	500*	500*
Marocco	500	498
Namibia	498	455
Egypt	460	480
Togo	438	450
Botswana	415	342
Tunesia	400	390
Algeria	366	430*
Central African Rep.	325	285
Lesotho	313	200*
Moçambique	300	296
Madagascar	250	203
Swaziland	213	210
Benin	206	250
Mauritius	180	290
Senegal	153	150
Malawi	150*	160
Liberia	143	145 <sup>1</sup>
Reunion	135	132
Uganda	130	155
Chad	113	105
Niger	100*	100
Mali	80*	80*
People's Dem. Rep. Yemen	60	53
Seychelles	53	53
Sierra Leone	43	30
Guinea Bissau	20	15
Gambia	16	17
<b>TOTAL</b>	<b>56.160</b>	<b>55.670</b>

<sup>1</sup> later correction to 139  
<sup>2</sup> later confirmed with 4,050  
<sup>3</sup> other sources: 567

## NEAR EAST

Country	1989	1988
Turkey	2.500	2.650
Israel	700	425
Iraq	400*	400*
Cyprus	314	291
Lebanon	130*	130
Syria	90*	90*
Jordan	37	36
<b>TOTAL</b>	<b>4.171</b>	<b>4.022</b>

## FAR EAST

Country	1989	1988
Japan	61.005	57.498
People's Rep. China	60.000 <sup>2</sup>	55.000*
Philippines	13.650	12.480
Rep. of Korea	10.500	10.420
Taiwan	4.000*	3.987
Vietnam	2.000*	2.000*
Thailand	1.900	1.300
Hong Kong	1.686	1.618
India	1.723*	1.487 <sup>1</sup>
D. P. Rep. Korea	1.000*	1.000
Indonesia	992	910
Malaysia	709	650
Singapore	441	414
Iran	100**	100**
Mongolia	100*	100*
Sri Lanka	71	75
Burma	50*	50*
Nepal	50	50
Laos	10	10
Pakistan	9	9
Bangla-Desh	5*	5*
Cambodia	5*	5*
<b>TOTAL</b>	<b>160.006</b>	<b>149.168</b>

<sup>1</sup> from 1. 4. 1988 to 31. 3. 1989  
<sup>2</sup> Please see country report

## AUSTRALIA/OCEANIA

Country	1989	1988
Australia	18.700	19.500
New Zealand	3.890	4.100
New Guinea	494	502
Fiji Islands	170*	170*
Tahiti	121	125
New Caledonia	59	64
Samoa	54	55
Vanuatu ***		
Salomonen ***		
<b>TOTAL</b>	<b>23.488</b>	<b>24.516</b>

\* estimated  
\*\* non-alcoholic  
\*\*\* from 1990 onwards

## WORLD

1989	1988
<b>1.104.336</b>	<b>1.075.573</b>

## Output development

In the different continents production experienced the following changes (in 1,000 hl):

	1989 % rel.	1988 % rel.	1989 total	1988 total	+/- total
Europe	+ 1.7	+ 2.4	450,650	442,940	+ 7,710
America	+ 2.7	+ 1.4	409,861	399,257	+ 10,604
Africa	+ 0.9	+ 2.8	56,160	55,670	+ 490
Asia (Far East)	+ 7.3	+ 9.8	160,006	149,168	+ 10,838
Near East	+ 3.7	+ 2.0	4,171	4,022	+ 149
Australia/Pacific	- 4.2	+ 3.1	23,488	24,516	- 1,028
<b>Total</b>	<b>+ 2.7</b>	<b>+ 3.1</b>	<b>1,104,336</b>	<b>1,075,573</b>	<b>+ 28,763</b>

Again beer production rose by almost 3% compared to the previous year. Most of this positive development is due to the countries in the Far East. If the latest news of a strong decline of production in the People's Republic of China prove to be true the growth rate for 1990 will be lower.

## Market analysis

The hop growing acreage worldwide increased only by approx. 300 ha. This expansion was mainly borne by the USA and the FRG whereas the acreage in the remaining EC-countries with the exception of France was reduced.

The crop was slightly larger than last year. As beer consumption continued to increase, the market was sold out soon without any significant deterioration of prices. To the contrary, quotations for bitter and high alpha hops stabilized on the world market. The market situation was further improved by the reduction of the stocks of the world brewing industry and unexpected purchases of East European countries.

Whereas the market for bitter hops was relatively active, the market for European aroma hops was rather weak with the exception of Tettnang and Spalt. These two regions were completely sold out, with the breweries and merchants still having demand for these varieties. The Hallertau Hersbrucker variety was neglected, as some overseas breweries postponed their contractual obligations.

This situation on the spot market for Hallertau Hersbrucker is still having an impact on the contract market.

As in the past years in 1989 as well problems came up regarding the hop exports to the USA, because only a limited number of agents were admitted for pest control.

All persons involved in the hop market had to make great efforts to ensure that all the export contracts were fulfilled.

In contrast to the European prices US quotations improved both on the spot and on the contract market. Early in spring 1990 the entire crop 1989 was completely sold out and the 1990 crop is largely precontracted.

Our sold ahead projection for the next year in the world's major growing areas is based on the volumes harvested in 1989 (%):

Country	1990	1991	1992	1993	1994
Fed. Rep. of Germany	85	70	60	45	30
USA	90	85	55	30	30
CSFR	90	80	30	20	20
United Kingdom	80	50	40	10	10
Yugoslavia	60	40	40	30	20



# Acreage and Hop Production

area	1989			1988		
	acreage in ha	Ø tons per ha	crop in tons = 1000 kg	acreage in ha	Ø tons per ha	crop in tons = 1000 kg
Hallertau	16.859	1,63	27.397,2	16.756	1,54	25.845,8
Spalt	821	1,21	989,7	814	1,29	1.048,1
Hersbruck	124	1,29	168,7	130	1,13	146,9
Jura	734	1,92	1.408,0	727	1,59	1.155,5
Tettwang	1.380	1,42	1.956,9	1.336	1,39	1.858,2
others	20	1,23	24,6	19	1,23	23,3
<b>Fed. Rep. of Germany</b>	<b>19.938</b>	<b>1,60</b>	<b>31.945,0</b>	<b>19.782</b>	<b>1,52</b>	<b>30.077,8</b>
<b>England</b>	<b>3.742</b>	<b>1,26</b>	<b>4.719,5</b>	<b>3.878</b>	<b>1,27</b>	<b>4.915,4</b>
Aalst	80	1,46	137,3	84	1,67	140,4
Poperinge	322	1,72	468,9	332	1,39	461,4
<b>Belgium</b>	<b>402</b>	<b>1,51</b>	<b>606,2</b>	<b>416</b>	<b>1,45</b>	<b>601,8</b>
Alsace	455	1,51	688,8	425	1,68	715,0
Nord	69	0,96	66,2	56	1,00	56,0
Burgundy	2	2,50	5,0	8	1,63	13,0
<b>France</b>	<b>526</b>	<b>1,44</b>	<b>760,0</b>	<b>489</b>	<b>1,60</b>	<b>784,0</b>
<b>Ireland</b>	<b>22</b>	<b>1,16</b>	<b>25,6</b>	<b>22</b>	<b>1,27</b>	<b>28,0</b>
<b>Spain</b>	<b>1.560</b>	<b>1,46</b>	<b>2.269,6</b>	<b>1.600</b>	<b>1,02</b>	<b>1.624,3</b>
<b>Portugal</b>	<b>118</b>	<b>2,11</b>	<b>248,4</b>	<b>134</b>	<b>1,15</b>	<b>154,3</b>
<b>EEC</b>	<b>26.308</b>	<b>1,54</b>	<b>40.574,3</b>	<b>26.321</b>	<b>1,45</b>	<b>38.185,6</b>
Saaz	7.690	0,97	7.481,0	7.678	1,34	10.259,0
Auscha	1.602	1,18	1.897,0	1.657	1,27	2.105,0
Tirschtitz	1.144	1,24	1.414,0	1.015	1,52	1.542,0
Slovakia	1.505	0,98	1.481,0	1.600	0,92	1.465,0
<b>Czechoslovakia</b>	<b>11.941</b>	<b>1,03</b>	<b>12.273,0</b>	<b>11.950</b>	<b>1,29</b>	<b>15.371,0</b>
<b>USSR*</b>	<b>15.000</b>	<b>0,63</b>	<b>9.500,0</b>	<b>15.000</b>	<b>0,63</b>	<b>9.500,0</b>
Slovenia	2.518	1,29	3.247,0	2.460	1,50	3.702,0
Bačka and Ilok	685	1,35	926,0	706	1,50	1.059,0
<b>Yugoslavia</b>	<b>3.203</b>	<b>1,30</b>	<b>4.173,0</b>	<b>3.166</b>	<b>1,50</b>	<b>4.761,0</b>
<b>Germ. Dem. Rep.</b>	<b>2.239</b>	<b>1,37</b>	<b>3.074,8</b>	<b>2.320</b>	<b>1,36</b>	<b>3.156,9</b>
<b>Poland</b>	<b>2.372</b>	<b>1,03</b>	<b>2.450,0</b>	<b>2.399</b>	<b>1,19</b>	<b>2.840,0</b>
<b>Bulgaria</b>	<b>833</b>	<b>0,94</b>	<b>780,0</b>	<b>950</b>	<b>0,83</b>	<b>785,5</b>
<b>Rumania</b>	<b>2.300</b>	<b>1,10</b>	<b>2.500,0</b>	<b>2.200</b>	<b>0,75</b>	<b>1.650,0</b>
<b>Hungary</b>	<b>441</b>	<b>1,36</b>	<b>599,7</b>	<b>495</b>	<b>1,28</b>	<b>637,8</b>
Mühlviertel	96	1,57	150,3	91	1,71	155,7
Leutschach	85	1,32	112,0	86	1,14	98,0
Waldviertel	5	0,60	3,0	3	0,23	0,7
<b>Austria</b>	<b>186</b>	<b>1,43</b>	<b>265,3</b>	<b>180</b>	<b>1,41</b>	<b>254,4</b>
<b>Switzerland</b>	<b>21</b>	<b>2,17</b>	<b>45,7</b>	<b>23</b>	<b>1,81</b>	<b>41,7</b>
<b>Albania*</b>	<b>70</b>	<b>1,00</b>	<b>70,0</b>	<b>70</b>	<b>1,00</b>	<b>70,0</b>
<b>EUROPE</b>	<b>64.914</b>	<b>1,18</b>	<b>76.305,8</b>	<b>65.074</b>	<b>1,19</b>	<b>77.253,9</b>
Washington	9.849	2,00	19.716,0	9.424	1,92	18.131,0
Oregon	2.999	1,80	5.390,0	3.010	1,63	4.914,0
Idaho	1.133	1,64	1.860,0	1.186	1,43	1.699,0
<b>USA</b>	<b>13.981</b>	<b>1,93</b>	<b>26.966,0</b>	<b>13.620</b>	<b>1,80</b>	<b>24.744,0</b>
<b>Canada</b>	<b>290</b>	<b>1,45</b>	<b>419,2</b>	<b>281</b>	<b>1,59</b>	<b>445,9</b>
<b>Japan</b>	<b>935</b>	<b>2,07</b>	<b>1.939,3</b>	<b>980</b>	<b>1,90</b>	<b>1.862,2</b>
<b>Australia</b>	<b>1.113</b>	<b>2,22</b>	<b>2.473,0</b>	<b>1.085</b>	<b>2,14</b>	<b>2.325,0</b>
<b>New Zealand</b>	<b>199</b>	<b>2,21</b>	<b>439,3</b>	<b>162</b>	<b>2,47</b>	<b>400,0</b>
<b>People's Rep. of China</b>	<b>5.000</b>	<b>1,40</b>	<b>7.000,0</b>	<b>5.000</b>	<b>1,40</b>	<b>7.000,0</b>
<b>Dem. People's Rep. of North Korea<sup>1</sup></b>	<b>2.000</b>	<b>0,60</b>	<b>1.200,0</b>	<b>2.000</b>	<b>0,80</b>	<b>1.600,0</b>
<b>Republic of South Korea</b>	<b>410*</b>	<b>1,33</b>	<b>545,0</b>	<b>412</b>	<b>1,30</b>	<b>536,4</b>
<b>South Africa</b>	<b>515</b>	<b>1,18</b>	<b>605,0</b>	<b>481</b>	<b>1,16</b>	<b>556,0</b>
<b>India*</b>	<b>450</b>	<b>0,56</b>	<b>250,0</b>	<b>450</b>	<b>0,56</b>	<b>250,0</b>
<b>Turkey</b>	<b>120</b>	<b>1,08</b>	<b>130,0</b>	<b>80</b>	<b>1,75</b>	<b>140,0</b>
<b>Argentina*</b>	<b>250</b>	<b>1,11</b>	<b>278,0</b>	<b>250</b>	<b>1,00</b>	<b>250,0</b>
<b>WORLD</b>	<b>90.177</b>	<b>1,32</b>	<b>118.550,6</b>	<b>89.875</b>	<b>1,31</b>	<b>117.363,4</b>

\* estimated

<sup>1</sup> see corresponding country report.

## Alpha Acid Production

Alpha acid production on the world market was determined on the basis of the following groups of varieties:

Group A: finest aroma hops such as Saaz, Tettnang, Spalt  
 Group B: aroma hops such as Hallertau, Hersbruck, Hüll, Perle, Golding, Fuggle, Cascade and others

Group C: hop varieties without significance for the world market  
 Group D: bitter hops such as Northern Brewer, Brewers Gold, Cluster, Bullion, Pride of Ringwood, high-alpha hops from the USA and the UK

When grouping world hop production in this way the following alpha production results for 1989 which compares to the previous year's as follows:

Group	1989				1988			
	share %	crop tons	$\alpha$ % $\phi$	$\alpha$ tons	share %	crop tons	$\alpha$ % $\phi$	$\alpha$ tons
A	7	17,283	3.1	530	10	18,733	3.7	694
B	19	29,980	4.5	1,360	15	25,788	4.2	1,091
C	22	29,820	5.4	1,600	24	31,477	5.6	1,771
D	52	41,468	9.2	3,800	51	41,365	9.0	3,720
Total	100	118,551	6.2	7,290	100	117,363	6.2	7,276

## Alpha Acid Balance

After a year of surplus in 1987 and a year of shortage following the 1988 crop, the 1989 hop production resulted in another deficit, even though the hopping rate was still further reduced worldwide.

One factor is the further rise of world beer production – which we estimated to be + 1% in 1990 –, another the extension of acreage for aroma varieties in the US which now affects the world market supply with bitter substances.

In our last report we estimated that the international brewing industry had stocks for 6-8 months, we may now safely assume that the overstocks have been almost used up.

1987 demand (hopping rate 7.1 g alpha/hl) 7,413.6 tons alpha  
 1986 production 7,199.0 tons alpha  
 Deficit 214.6 tons alpha

1988 demand (hopping rate 7.0 g alpha/hl) 7,529.0 tons alpha  
 1987 production 8,080.0 tons alpha  
 Surplus 551.0 tons alpha

1989 demand (hopping rate 7.0 g alpha/hl) 7,730.0 tons alpha  
 1988 production 7,276.0 tons alpha  
 Deficit 454.0 tons alpha

1990 demand (estimated hopping rate 6.9 g alpha/hl) 7,690.0 tons alpha  
 1989 production 7,290.0 tons alpha  
 Deficit 400.0 tons alpha

## European Community

### Subsidies for structural changes in hop acreage

In 1987 the EC adopted regulation (EEC) no. 2997/87 granting subsidies to hop growers to change from less commercial to high alpha and aroma varieties (see also „Hops 1988/89“ report – section on the European Community).

In June 1989 the Council replaced the first regulation by regulation (EEC) no. 1809/89 to include a larger number of

growers into the programme. The amendments made the subsidies available throughout the Community and not only in certain areas thereof. Additionally the condition that areas may participate only if their total acreage did not increase between 1986 and 1988 was abolished. The extension of the programme's duration from December 31, 1990 to end of 1993 allows the Hop Growers' Association sufficient time to go ahead with the conversion.

Six of the seven hop-growing EC member states submitted programmes for such structural measures to the Commission. The table below gives a survey of the programmes submitted following regulation (EEC) no. 2997/87.

The most extensive programme approved so far affects 787 ha in the UK. A major part of Spain's conversion areas are to be planted with bitter hops. It is said to be a clone of variety H 3. While converting varieties in Spain the opportunity arose to redistribute land and improve accessibility and irrigation at the same time.

The Federal Republic of Germany has meanwhile submitted a programme for changing the maximum acreage of 800 ha. The subsidies granted, however, are not enough to satisfy the growers' demand for financial assistance completely.

Memberstate	Original variety	Future acreage (ha)		Total
		Aroma	Bitter/Superalpha	
United Kingdom	Aroma	56	369	425
	Bitter	74	256	330
	Others	10	22	32
	Total	140	647	787
France	Aroma	–	–	–
	Bitter	125	45	170
	Others	–	–	–
	Total	125	45	170
Federal Republic of Germany	Aroma	–	–	–
	Bitter	15+552* = 567	233*	15+785* = 800
	Others	–	–	–
	Total	15+522* = 567	233*	15+785* = 800
Belgium	Aroma	8	10	18
	Bitter	–	–	–
	Others	54	83	137
	Total	62	93	155
Spain	Aroma	–	–	–
	Bitter	6	101	107
	Others	–	–	–
	Total	6	101	107
Portugal	Aroma	–	–	–
	Bitter	–	166	166
	Others	–	–	–
	Total	–	166	166
EC	Aroma	64	379	443
	Bitter	772	801	1,573
	Others	64	105	169
	Total	900	1,285	2,185
Of these approved on April 1, 1990		348	1,052	1,400

\* indicates acreages which have not yet been approved by the Commission

### Subsidies to growers 1988

The following subsidies to growers were determined for the 1988 harvest:

Type of variety	ECU = DM (per ha)	
Aroma	330	779.15
Bitter	390	921.00
Other	390	921.00

1988: 1 ECU = DM 2.36110

### Regulations

Regulation (EEC) no. 3687/89 to amend regulation (EEC) no. 1517/77 included the varieties Chinook, Galena and Nugget in the bitter category.

## Federal Republic of Germany

### Growth, estimated harvest and actual weight

It was a mild winter, spring work in the gardens started early. In the areas with sandy soil the weevil caused some problems for US export varieties at the beginning of the growing period.

Temperatures during the remainder of spring were slightly cooler and in the first week of June the Hallertau area suffered a hailstorm which severely affected 1,200 to 1,300 ha. Ideal weather followed until a second hailstorm caused damage at the end of June. The damage of both storms might be between 500 and 1,000 tons.

Official estimates, as usual made around August 20 throughout the German growing areas, expected the following volumes. These are compared to the actual weights:

area	estimate tons	Actual weight 1989 as at March 31, 1990
Hallertau	26,500	27,397
Jura	1,315	1,408
Spalt	1,035	990
Tettngang	1,975	1,960
Hersbruck	160	169
Total	30,985*	31,924*

\* Excluding "Other" areas

The actual crop of Hallertau was about 3.4 % larger than expected. Probably the damage caused by the hailstorms was less than originally assumed.



## Varieties

In the german hop districts following varieties were cultivated and produced the following crop quantities:

area	variety	ha	Ø-yield/tons	crop quantity/tons
<b>Hallertau</b>	Hallertauer	504	1,09	550
	Hersbrucker	6.412	1,54	9.854
	Hüller	584	1,35	787
	Perle	2.306	1,73	3.992
	Northern Brewer	4.952	1,61	7.976
	Brewers Gold	1.724	2,09	3.607
	Orion	133	1,84	244
	others	244	1,60	390
<b>Jura</b>	Hallertauer	43	1,21	52
	Hersbrucker	445	1,88	838
	Hüller	6	1,17	7
	Perle	89	2,24	199
	Northern Brewer	51	1,90	97
	Brewers Gold	87	2,29	199
	others	13	1,23	16
<b>Spalt</b>	Hallertauer	423	1,18	497
	Spalter	227	1,00	227
	Hersbrucker	130	1,42	185
	Perle	33	1,91	63
	others	8	2,25	18
<b>Hersbruck</b>	Hallertauer	60	1,20	72
	Hersbrucker	49	1,47	72
	others	15	1,60	24
<b>Tett nang</b>	Hallertauer	385	1,83	705
	Hersbrucker	5	1,60	8
	Tett nanger	990	1,26	1.244
<b>remainder</b>		20	1,25	25

## Acreage Development

The following table shows the acreage development of the individual varieties resp. types of varieties in 1989 compared to the previous year:

Type of Variety	Variety	1989 ha	1988 ha	+/- ha
Aroma	Hallertauer	1,420	1,535	- 115
	Hersbrucker	7,041	6,537	+ 504
	Tett nanger	996	970	+ 26
	Perle	2,438	2,178	+ 260
	Spalt	239	249	- 10
	Sub-Total	12,134	11,469	+ 665
Bitter	North. Brew.	5,013	5,291	- 278
	Brew. Gold	1,821	1,945	- 124
	Orion	136	137	- 1
Sub-Total	6,970	7,373	- 403	
Others		834	940	- 106
Total		19,938	19,782	+ 156

The share in % of aroma to bitter varieties is as follows:

Type of Variety	1989	1988
Aroma	61 %	58 %
Bitter	35 %	37 %
Others	4 %	5 %
	100 %	100 %

# Federal Republic of Germany

## Acreage

in the Federal Republic of Germany the following acreage development resulted:

area	acreage development			aroma varieties					bitter varieties and others			
	acreage 1989 (ha)	+ / - (ha)	acreage 1988 (ha)	Hallertauer (ha)	Hersbrucker (ha)	Spalter (ha)	Tettnanger (ha)	Perle (ha)	Northern Brewer (ha)	Brewers Gold (ha)	Orion (ha)	others (ha)
Hallertau	16.859	+103	16.756	504	6.412	2	—	2.306	4.952	1.724	133	826
Jura	734	+ 7	727	43	445	10	—	89	51	97	3	6
Spalt	821	+ 7	814	423	130	227	—	33	3	5	—	—
Hersbruck	124	— 6	130	60	49	—	—	6	6	3	—	—
Tettnang	1.380	+ 44	1.336	385	5	—	990	—	—	—	—	—
others	20	+ 1	19	5	—	—	6	4	1	2	—	2
<b>total</b>	<b>19.938</b>	<b>+156</b>	<b>19.782</b>	<b>1.420</b>	<b>7.041</b>	<b>239</b>	<b>996</b>	<b>2.438</b>	<b>5.019</b>	<b>1.821</b>	<b>136</b>	<b>834</b>

Source: Verband Deutscher Hopfenpflanzer, „Statistik über die Hopfenvermarktung 1989“.

## Market development

At the beginning of the season the impression prevailed that on the German market there was an ample supply of bitter hops whereas on the other hand a shortage of aroma hops was expected.

A high degree of the estimated crop of the aroma varieties Hallertau Hersbrucker, Spalt and Tettnang was precontracted. Thus only very small quantities could be expected on the spot market. But as some overseas breweries postponed their contracts of aroma hops to later crop years, the market for aroma hops was easing up. Additionally the breweries concentrated on the bitter hops and neglected the aroma hops market. Therefore the farmers' price expectations of DM 300,- for Hallertau Northern Brewer and of DM 400 for Hallertau Hersbrucker could not be realized at the beginning of the season.

In order to stabilize the situation on the market the representatives of the HVG Hallertau (Association of the Hallertau Hop Producers) decided on Sep 28, 1989 to use part of the 1988 European Community's Farmer subsidies to buy hops on the spot market. In this way about 1.250 to of hops of all varieties

were temporarily withdrawn from the market during the season and were returned later. The cost of this activity is estimated at DM 2,1 million. In the course of the season prices finally stabilized at DM 400 for Hersbrucker, DM 300 for Northern Brewer and DM 200 for Brewers Gold (each per 50 kilos farmers' prices). Spalter and Tettnanger were not offered on the market. In early November the entire crop in farmers' hands was sold out, whereas the breweries still had demand for bitter hops. The beer production worldwide continued to rise and the surplus of stocks was drastically reduced due to a shortage of supply in the previous years. Therefore the market did not expect a price reduction later in the season. Due to the ample activities on the market the prices for Hallertau Northern Brewer moved up at the end of the year from DM 320 to DM 350 and Hallertau Perle and Hallertau Brewers Gold, too, showed a rising tendency. Hallertau Hersbrucker continued to be neglected and remained stable at DM 400.

As farmers were sold out at the end of 1989 the price formation concentrated

on the activities of the Nuremberg market where prices rose with the demand. In February Hallertau Perle were offered at DM 365, Hallertau Northern Brewer at DM 385 and Hallertau Brewers Gold at DM 295 (farmers bales per 50 kilos). Due to a buying activity of a Eastern country varieties with a lower alpha content also were sold and therefore contributed to a further price stabilization.

The contract market started at the end of November. The relatively firm situation on the spot market influenced the price formation for contracts. At first Hallertau Northern Brewer quoted at DM 300. In the later course of the season the farmers were offered DM 320 and then DM 330 for this variety. Due to only very small business at these prices the quotations rose to DM 350 farmers price for all years. There was also a lively demand for Hallertau Perle, whereas the Hallertau Hersbrucker, influenced by the spot market, were neglected. It seemed that the market expected a sufficient production of this aroma variety in the next years.

The farmers prices each per 50 kilos in DM were:

area/variety	9/89	10/89	11/89	12/89	1/90
Hallertau Hersbrucker	400	400	400	400	400
Hallertau Perle	300	300	320	320	320
Hallertau Northern Brewer	280	280	320	350	350
Hallertau Brewers Gold	180	180	220	220	220
Spalt	550	550	550	550	550
Tettnang	550	550	550	550	550

## UNITED KINGDOM

After three years of comparatively low yields, the planters hoped for a better crop in 1989.

At the beginning of the year, during spring and even until early summer the conditions for growth were ideal. The entire summer, however, was unusually dry which affected growth adversely. Additionally the plants suffered severely from the red spider which proved extremely difficult to control.

Thus all prognoses for a good crop had to be revised, in the end both the volume and the bitter values were disappointing.

### Varieties grown and yield

With the exception of the breweries' own gardens, the acreage was planted with the different varieties as follows:

Variety	Acreage/ ha	Average yield tons per ha	Crop/ tons
Fuggles	420.1	1.08	454.1
Goldings	415.4	1.42	591.1
Progress	44.0	1.11	49.0
W.G.V.	79.4	1.00	79.5
Bramling Cross	38.6	0.90	34.7
Challenger	423.6	1.37	582.1
Northdown	426.9	1.28	545.5
Omega	53.7	1.10	59.1
Target	1,221.6	1.28	1,522.7
Yeoman	223.4	1.10	246.1
Zenith	13.5	1.50	420.3
Others	6.6	1.26	8.3
Total	3,366.8	1.25	4,192.2

The estimated acreage for 1990 is 3,378.9 ha; of these 1,461.6 ha aroma and 1,917.3 ha alpha hops.

The following contracting rate has been reported (%):

1990	80
1991	51
1992	38
1993	9

## FRANCE

The mild winter and good conditions in spring permitted to start spring work early. A long dry spell in summer seemed to have an adverse affect on the yield of Strisselspalt and Northern Brewer. Low precipitation also seems to be the reason for reduced bitter values which remained below average.

Pests were controlled successfully and without major problems.

The French 1989 hops had the following bitter values:

Variety	Bitter value (%)
Strisselspalter	3.0
Brewers Gold	4.5
Northern Brewer	8.0

Values as is according to Wöllmer

The change in varieties within the scope of the EC Commissions structural improvement programme in hop growing (Regulations 29977/87 and 3888/87) which was applied for and carried out by France progresses on schedule. During

the period under review the following changes were made:

Alsace 25.2 ha mainly changed to Strisselspalter  
 Nord 16.2 ha mainly changed to high alpha varieties

Acreage in Alsace increased by 30 ha, in the regions Nord and Burgundy it dropped. At the time of reporting the entire French crop had been sold.

## FRANCE

### Cultivation of varieties

The table below shows which varieties were grown on which acreage and in which region:

variety/ha area	total		Aroma hops		Brewers Gold		Northern Brewer		Target/Yeoman		Others	
	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
Alsace	455.0	425.0	394.5	345.0	52.0	74.0	-	-	5.5	3.0	3.0	3.0
Nord	69.0	56.0	11.0	-	11.0	14.0	25.5	27.0	21.0	12.5	0.5	2.5
Burgundy	2.0	7.5	-	0.5	2.0	7.0	-	-	-	-	-	-
Total	526.0	488.5	405.5	345.5	65.0	95.0	25.5	27.0	26.5	15.5	3.5	5.5

The following amounts were harvested of the different varieties (to):

variety/area	total	Aroma hops	Brewers Gold	Northern Brewer	Target/Yeoman	Others
Alsace	688.8	553.0	126.0	-	6.0	3.8
Nord	66.2	4.0	23.0	24.5	14.5	0.2
Burgundy	5.0	-	5.0	-	-	-
Total	760.0	557.0	154.0	24.5	20.5	4.0

## BELGIUM

### Growth and varieties

Winter was mild and dry. February and March brought rain and hail, the remainder of the growing period was characterized by a long dry spell until

September to which the hops' poor quality can be attributed.

The acreage was planted with the different varieties (in ha) as shown:

The hops had a low bitter content. Obviously the extreme drought and early harvest caused these disappointing values. The following average values were determined in early October (conductometrically, as is):

Area	Total ha	Northern Brewer ha	Brewers Gold ha	Hallertau ha	Others ha
Poperinge	322	178	60	28	56
Aalst/Asse	80	20	41	1	18
Total	402	198	101	29	74

Variety	α %
Northern Brewer	7.0
Hallertau	3.8
Brewers Gold	5.2
Record	5.7

"Others" mainly includes baby plants of the restructuring programme. In Poperinge 15 ha each are planted with Challenger, Target and Yeoman. Next are some ha with Spalter, Star and some other new varieties. In the Aalst/Asse

region 14 ha are planted with Record and the rest with Saazer.

The total of 606.2 tons consists of the different varieties as follows:

Area	Total to	Northern Brewer to	Brewers Gold to	Hallertau to	Others to
Poperinge	468.9	240.3	106.0	52.7	69.9
Aalst/Asse	137.3	29.0	81.6	2.1	24.6
Total	606.2	269.3	187.6	54.8	94.5

Target and Yeoman from new plantations achieved values between 7.8 and 10%.

Due to the poor bitter values the purchasing price from farmers dropped from BFR 7,500 to BFR 6,500 for Hallertauer, from BFR 6,500 to BFR 5,000 for Northern Brewers, from BFR 4,000 to BFR 3,000 for Brewers Gold (50 kg). In the course of the trading period quotations went up to their original level for bitter varieties.

At the time of reporting the 1989 crop had been sold with the exception of some insignificant amounts of aroma hops.

## YUGOSLAVIA

### Slovenia

The winter was mild and brought little snow. Neither did temperatures drop during the following months, except for April which was colder than normal. The weather in May and June was very unfavourable, because temperatures were low and rain abundant.

Consequently the 1989 crop was disappointing in general.

Compared to the previous year acreage per variety was as follows:

Variety	Acreage/ha	
	1989	1988
Styrian Golding	1,063	1,014
Aurora	1,227	1,179
Other varieties	228	267
<b>Total</b>	<b>2,518</b>	<b>2,460</b>

The different varieties yielded the following quantities:

Variety	Crop (tons)	
	1989	1988
Styrian Golding	1,044	1,225
Aurora	1,924	2,099
Other varieties	279	378
<b>Total</b>	<b>3,247</b>	<b>3,702</b>

For 1990 acreage is expected to decrease.

### Bačka

Because of the mild weather the plants survived the winter well. Because good weather continued spring work started earlier than usual.

Quality was good and bitter values slightly exceed those of last year.

Of the different varieties the following amounts were produced:

Variety	Acreage/ha		Crop/ton	
	1989	1988	1989	1988
Bačka	357	430	490	639
Neo Planta	100	100	145	150
Other varieties	228	176	291	270
<b>Total</b>	<b>685</b>	<b>706</b>	<b>926</b>	<b>1,059</b>

For 1990 a further decrease of acreage is expected.

## CZECHOSLOVAKIA

### Growth and size of crop

Growth proceeded normally. The plants were not affected by diseases in any significant way. All in all precipitation was somewhat low especially towards the end of the growing period.

Average quantities were harvested. Therefore the 1989 crop was much inferior to the previous year that had brought a record high.

The following amounts were harvested in the four growing regions:

Region	ha	Crop/tons	tons per ha
Zatec	7,690	7,481	0.97
Ustec	1,602	1,897	1.18
Trstice	1,144	1,414	1.24
Slovakia	1,505	1,481	0.98
<b>Total</b>	<b>11,941</b>	<b>12,273</b>	<b>1.09</b>

### Cultivation and Marketing

The political changes the country underwent will also subject the marketing for hops to certain changes. It might therefore be of interest to recall the way the cultivation and marketing of hops has hitherto been organized.

There is a total of 116 hop farms in the four growing regions. According to 1989/90 data one third of these are state-owned farms and the remainder cooperatives.

The government packing company "Chmelarstvi" bought the entire crop

from the farmers. They were paid fixed rates for different categories ranging from I to IV. For category I the price was 110,000 Kcs/ton and for category IV 53,000 Kcs/ton. (Official tourist exchange rate: 9 Kcs = approx. DM 1. For the purpose of international trade one can assume that the tourist-rate is an overvaluation.)

This packing company marketed the hops to the domestic breweries, exports were handled by a government foreign trade firm.

## POLAND

After the mild winter a good harvest was expected. But then temperatures fluctuated enormously during the following vegetation period that included a long drought. All of this had a negative effect on growth. Some areas suffered from strong winds and hail storms in addition.

Disease and pests were be successfully controlled. The quality of the crop was good, although the unfavourable weather considerably reduced the amount harvested.

The different varieties were harvested in the following areas and in the following quantities:

Variety	area/ha	crop/ton
Lublin	2,142	2,144
Pulawi	10	10
Northern Brewer	150	210
Estera	30	36
Others	40	50
<b>Total</b>	<b>2,372</b>	<b>2,450</b>

The main part of the acreage, i.e. 2,222 ha is still planted with aroma varieties. Bitter values for these were 4.9% and 9.3% for bitter hops. (dry substance)

For the next season a minimal extension of acreage to a total of 2,410 ha has been announced.

## G.D.R.

Acreage and crop decreased slightly. On most of the acreage bitter varieties called "Nordischer Brauer" and "Brauerstolz" in the G.D.R. are grown. The formerly traditional variety "Saale", has become insignificant today.

The G.D.R.'s growing regions are located around Leipzig, Dresden, Erfurt, and

Halle. They are integrated into Agricultural Production Cooperatives (LPG) or state-owned farms. The last months' political development will certainly bring changes for hop cultivation and marketing.

The same applies to the breweries which have hitherto been organized in state-owned production facilities.

The 1989 crop was harvested in the different regions as follows:

Area	ha	Average yield/tons	Total yield/tons
Halle/Magdeburg	994	1.37	1,359.0
Erfurt/Gera	557	1.46	814.5
Dresden/Leipzig/Chemnitz	688	1.31	901.3
Total	2,239	1.37	3,074.8

On quite our own behalf:

It is possible that our data are overtaken by the rapid political and economic development in the G.D.R.. We are hoping for your understanding.

## SPAIN

Until June the conditions for growth were ideal. Subsequently a heat wave affected the plants' development adversely in July and August. This is especially true for the variety H 3. In addition a thunderstorm caused considerable damage.

Average bitter value for H 3 was 7.2 and for H 7 6.5% (as is measured conductometrically).

Aroma hops are only grown on 5 ha and are thus insignificant. The following amounts were harvested of the different varieties:

H 3	1,609 tons
H 7	659 tons

The remainder are aroma varieties and a small amount of Target which was harvested in 1989 for the first time.

2,000 tons of the total crop were sold in advance. The Spanish growers achieved prices between DM 380 for H 7 and DM 322 for H 3 for 50 kg (approx. 24,000 or 20,000 Pts resp. per 50 kg).

## ROMANIA

Until now hop growing in Romania was characterized by stateplanned economy and its administration. The ruling party and government forced the breweries to guarantee production and to increase their output permanently according to plan. Consequently the hop planters as well had to increase production. Other sources state that the acreage was 2,500 ha and the crop amounted to 3,000 tons in 1989.

After the government dictated targets have been abolished now, acreage will certainly be reduced, because only competitive farms will survive.

## SWITZERLAND

Acreage was slightly less and the crop was slightly higher than in the previous year, due to favourable weather.

Most of the acreage is planted with the varieties Perle (13.7 ha) and Hallertauer (6.5 ha). One new 0.8 ha garden grows Orion.

All of the hops harvested were of class I quality and bought by breweries at SFR 630. The price for the producers was SFR 620.

## TURKEY

The acreage planted with Brewers Gold and Late Clusters was extended by 40 ha. Because of the high share of baby acreage average yield was relatively low. A corresponding increase must be expected for the next year.

## USSR

We regret to have only very little data about this major brewing and hop-growing country.

Allegedly beer consumption increased by 4 million hl in 1989 compared to the previous year. In view of the prevalent bottlenecks in supply this figure should be seen cautiously, however.

The crop is said to be 9,500 tons, 6,500 tons of which were harvested in the Ukraine and the rest in Georgia. It seems that the Ukraine-crop suffered from a severe drought.

Two thirds of the total amount harvested were aroma hops and one third bitter hops. The bitter hop varieties grown in the Ukraine are called Silny and Polesky and had an alpha content of approx. 6-7%.

## AUSTRIA

### Mühlviertel

The 1989 crop was 3.5% below that of the previous year, amounting to a total of 150.3 tons from the 96 ha of acreage including the baby acreage which is said to be 5 ha. The number of growers remained unchanged at 55.

The main variety is Malling holding a share of 75%, next are Aurora with 10%, Santana 13% and the remainder is split between Perle and Hersbrucker. Growing of Apollon, Northern Brewer and Brewers Gold has been discontinued.

98.7% of the hops harvested were categorized as class I. The price for class I was determined on the contractually agreed calculatory basis as ÖS 74.53 per kg. Which means that the growers had to accept lower prices than the year before, when they received ÖS 76.98 per kg.

### Styria

Acreage slightly decreased, because a farm with 1 ha gave up hop growing.

The crop, however, amounted to 112 tons, somewhat more than the year before. 60% of the acreage is still planted with the variety Santana.

### Waldviertel

This new Austrian hop growing region counts 7 farms. Acreage increased by 2 ha. 3 tons were harvested. The only variety grown is a type of Perle, called Zwettler Perle.

## HUNGARY

Acreage was somewhat less than in the previous year, 78 tons of aroma hops and 522 tons of bitter hops were harvested. Alpha acid values for bitter hops were 6.4% and for aroma hops 3.6%.

It is expected that acreage will be cut again in 1990.

## BULGARIA

After this country has now joined the IHB International Hop Growers Association we possess more precise data on acreage and crop.

Acreage in 1989 was 833 ha, 470 ha of which were planted with bitter hops and the remainder with aroma hops.

The total crop of 780 tons consisted of 486 tons of bitter hops and 294 tons aroma hops. The acreage is not expected to change in 1990.



## OTHER COUNTRIES

### JAPAN

Compared to the previous year acreage decreased by 45 ha. More precisely by 19 ha in Yamagata, by 13 ha in Iwate and by 10 ha in Fukushima.

Acreage and crop were distributed as follows:

Area	ha	Crop/to
Iwate	3,204	647
Akita	1,789	431
Yamagata	2,794	582
Fukushima	816	152
Yamawashi	22	3
Hokkaido	125	17
Aomori	332	70
Negano	268	38
<b>Total</b>	<b>9,348</b>	<b>1,940</b>

The average yield of 2.07 tons per ha is unparalleled in Japanese hop-growing. The areas in the northern part of northeast Japan had extremely favourable weather without any damage from hurricanes. The situation was not quite as good in the southern part of north-eastern Japan. Another factor for the good harvest was that neither diseases nor pests caused any considerable damage.

The four Japanese breweries bought the following quantities of Japanese hops.

Brewery	Acreage	Production/to
Kirin	5,872	1,236
Sapporo	2,024	394
Asahi	1,324	281
Suntory	128	29
<b>Total</b>	<b>9,348</b>	<b>1,939</b>

Japanese breweries paid between Yen 2,129 and 1,684 (100 Yen = DM 1.11) per kg of 1989 Japanese hops.

### INDIA

Still only estimates are available for acreage and crop of the Indian growing region in Cashmere. There are indications that acreage and consequently the crop will be reduced in future. This might be due to the fact that mostly Muslims are living there who reject the production and consumption of alcoholic beverages.

### NEW ZEALAND 1989

The major varieties contributed as follows to the total crop of almost 440 tons:

Variety	Crop/tons
Roborghs Super Alpha	196.0
Sticklebract	122.0
Green Bullet	98.0
Pacific Gem	23.6
Others	1.4

New Zealand's breweries take over 178 tons of these. After taking into consideration further quantities used for other purposes, 250 tons are available for exports.

The average bitter value of the 1989 crop was 13.2% compared to 12.4% in the previous year.

### CANADA

There are only three farms in Canada that are still growing hops.

Acreage went up slightly from last year. However, the 1.5 tons average yield was lower and so was the total crop.

Dominant varieties are Bramblings yielding 210 tons, Fuggles 49 tons and Willamettes 36 tons. The high-alpha variety Nuggets is gaining significance, this year 67 tons were produced. The remainder consisted of Brewers Gold, Kent, Hallertau, Perle, Chinook, Tettngang and Hallertau Experimentals.

### ZIMBABWE

First trials to grow hops were made in this African country with two plots of 0.5 ha each in 1986.

Because the daylight period in summer is too short the plants needed artificial illumination and an irrigation system.

In 1989 the first 24 ha of hop gardens were planted. This means that the first crop can be expected for 1991.

### REPUBLIC OF KOREA

Unfortunately for 1989 this country reported only its crop to us, which was 545 tons. It can be assumed that acreage has been slightly reduced and we hope to be provided with more precise data next year.

### DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

It has been confirmed now that we were correct in our assumption that the acreage amounts to 2000 ha. Their yield is only 1,200 tons and thus lower than quoted by us.

Parts of the total crop are constantly offered on the world market. When deducting these, the amount used domestically should be 900 tons.

### PEOPLE'S REPUBLIC OF CHINA

The development of beer production during the last years is merely guesswork.

There are trustworthy sources which report a production of 65-68 million hl already in 1988. In our earlier report we mentioned only 55 million hl. It is further said that production increased by another 15%, i.e. almost 75-80 million hl in 1989.

However, there are other sources that report a drastic reduction in beer production. An indication hereof could also be China's various activities on the international hop market. At any rate it seems that some of the new breweries have not yet started production or are working below capacity. For the above reasons any indication of the beer production in the People's Republic of China must be seen very cautiously. In view of these contradictory statements we decided to quote 60 million hl in our table on international beer production.

It is said that 800 breweries are working nationwide, 2/3 of which are said to have a capacity of less than 100,000 hl. Breweries with an output of 3 million hl or more account for only 5% of total production.

The majority of breweries - reportedly about 300 - are situated in the economically advanced coastal provinces.

## USA Growth

The winter in most growing areas of the USA was slightly colder than normal. Most areas had a ground cover of snow when a severe cold front came through; therefore, the hop plants were not damaged. The exception was Northern Idaho, where the snow cover was minimal and some plant damage occurred. The water supply for all areas was adequate. The summer was dry and warm as usual.

Acreage increased in 1989 by approximately 850 acres, resulting in a total crop of 59.33 million pounds (1988 = 54.56 million pounds) with an average yield of 1,717 pounds per acre, compared to 1,609 pounds per acre in 1988.

### Washington

Winter had been mild until the latter part of January when an Arctic air mass hit with windchill factors into the sub-zero temperatures (0°F). This had little to no effect on the crop due to a blanket of snow on the ground. The precipitation over the winter was adequate to supply the Yakima Valley with a sufficient water supply for the 1989 crop year.

The fluctuating temperatures and rainfall throughout the growing season caused some problems. Weather changes in the latter part of spring and

early part of summer caused some virus and mildew to show. However, the mildew problem was remedied when a warm, dry spell developed. Also due to a cooler year, aphid increased in abundance and were a problem to control. Some growers did experience some crop loss due to these pests and to rainfall that occurred in August. The fluctuating temperatures have also made it difficult to maintain consistent growth.

In spite of these crop losses, the 1989 Washington crop was estimated at over 42 million pounds, with an average yield of 1,760 pounds per acre, up from 1,711 pounds per acre in 1988.

### Oregon

The winter of 1989 was much more severe than normal, followed by heavy rainfall during March. Spring growth was quite vigorous in both Aroma and Hi-Alpha varieties. There were early mildew infestations which were controlled by mid-May. Plant growth slowed during June, due to hot weather and no rainfall. July weather was more moderate with cool temperatures and frequent, light rainfall. Both Aroma and Hi-Alpha varieties responded favorably throughout the bloom and hopping periods. There were some severe attacks of Downy Mildew during harvest, causing losses of up to

30% in certain Hi-Alpha yards. The overall crop was much higher than the 1,407 pounds per acre in 1988, rising to 1,695 pounds per acre in 1989. Limitation of pesticides in this state where precipitation is substantially higher is causing problems to growers.

### Idaho

With a good snowpack in the mountains, the water supply was set for the growing season. The spring activities went well for good plant growth and development. In mid-July, the plant growth and bloom set looked strong, which would indicate a big crop; then a hot spell developed which lasted for about two weeks. Temperatures during this time reached well above 100°F, which reduced the crop due to stress on the hop plants. The average yield per acre was 1,461 pounds, which is down approximately 200 pounds per acre from what the industry anticipated. Also due to the hot spell, the spider mites became a small problem.

### California

Conditions have not changed, as acreage still remains well below 100 acres, and no acreage increase is anticipated in the near future.

## Quality

Overall appearance of the crop continues to deteriorate due to the loss of various pesticides. Due to these pesticide losses, more insect damage is occurring. The picking quality improved, as the average leaf and stem dropped from 1.00% to .95%. Seed content has increased slightly in the 1989 crop.

The alpha production can be estimated at 2.430 tons (1988 – 2.230 tons), which is up slightly due to increase of acreage, the increase of Hi-Alpha varieties, and the reduction of Cluster acreage. The alpha average of the crop remained the same at 9%. The production increase reflects the larger acreage in 1989. Cluster hops remained stable at about 7.5% alpha, whereas the Hi-Alpha varieties were up, ranging from 11.3 – 14.3%. The aroma varieties analyzed from 4.3 – 5.5% with Perle variety showing alphas from 7.4 – 11.3%.

## Spot Market

There were approximately 3,000 to 3,500 bales of 1988 crop spots in grower's hands at the start of the 1989 season. These spots consisted mainly of Clusters with small amounts of Cascades and Tettnangs. All of the spots sold prior to May 1989. The spot market price for Clusters started in January at \$.60/lb. flat, softening to \$.50/lb. flat in February and then strengthening to \$.70/lb. plus in April. The Cascades and Tettnangs sold out by February at \$1.30/lb. and \$2.40/lb. respectively.

The 1989 spot market began in the late part of August, with Tettnangs selling for \$2.45/lb., Willamettes at \$1.90/lb., Cascades at \$1.35/lb., Clusters at \$1.05/lb. and Hi-Alpha at \$1.25/lb. Most of the aroma varieties were purchased quickly at these prices. The Hi-Alpha varieties started out at a price of \$1.25/lb. and reached \$1.40/lb. by December, and the last Hi-Alpha sold at \$1.50/lb. by spring. Most of the Clusters sold between \$1.05/lb. to \$1.10/lb. by the middle of November but there were a few Clusters which sold in January 1990 for \$1.30/lb.,

which depleted the supply of hops in grower's hands. The total number of 1989 crop spots available was estimated to be 15,000 to 18,000 bales, consisting of only a few hundred bales of aroma varieties and the remaining balance made up evenly of Cluster and Hi-Alpha varieties.

The September hop stocks report showed another reduction of 8.9 million pounds which brings the hop stocks very close to the 1982 level of 47.0 million pounds.

1983	61.6 Million Pounds
1984	68.6 Million Pounds
1985	70.5 Million Pounds
1986	70.9 Million Pounds
1987	70.6 Million Pounds
1988	60.6 Million Pounds
1989	51.7 Million Pounds

Exports increased again for the third consecutive year, bringing the figure for exports to 47.5 million pounds, up 12 million pounds from 1988. The imports increased slightly from 11.1 million pounds in 1987/88 to 12.3 million pounds in 1988/89.

# USA

## Varietal Structure

Acreeage per variety and yield in the U.S. hop growing areas are as follows:

### Acreeage per Variety/Variety Group (%)

Variety/ Variety Group	Washington		Oregon		Idaho		Total	
	89	88	89	88	89	88	89	88
Cluster	26	35	-	-	17	17	20	25
Cascade	5	4	-	-	-	-	4	3
Highalpha	42	36	19	20	40	39	36	33
Aroma varieties	23	21	73	73	-	-	32	31
others*	4	4	8	7	43	44	8	8
<b>total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

### Acreeage (ha) per Variety/Variety Group (absolute)

Variety/ Variety Group	Washington		Oregon		Idaho		Total	
	89	88	89	88	89	88	89	88
Cluster	2,580	3,264	-	-	198	200	2,778	3,464
Cascade	525	410	-	-	-	-	525	410
Highalpha	4,045	3,422	577	617	449	458	5,071	4,497
Aroma varieties	2,305	1,997	2,189	2,178	-	-	4,494	4,175
others*	394	338	233	217	486	530	1,113	1,084
<b>total</b>	<b>9,849</b>	<b>9,431</b>	<b>2,999</b>	<b>3,012</b>	<b>1,133</b>	<b>1,188</b>	<b>13,981</b>	<b>13,631</b>

### Yield (to) per ha

Variety/ Variety Group	Washington		Oregon		Idaho		Total	
	89	88	89	88	89	88	89	88
Cluster	2,29	2,26	-	-	2,26	2,10	2,29	2,25
Cascade	2,22	2,27	-	-	-	-	2,22	2,27
Highalpha	2,16	2,10	2,25	2,35	1,84	1,85	2,14	2,11
Aroma varieties	1,32	1,03	1,66	1,39	-	-	1,49	1,22
others*	2,21	1,73	1,95	2,03	1,21	0,81	1,72	1,34
<b>total</b>	<b>2,00</b>	<b>1,92</b>	<b>1,80</b>	<b>1,63</b>	<b>1,64</b>	<b>1,43</b>	<b>1,93</b>	<b>1,82</b>

### Yield (to) 1989

Variety	Washington	Oregon	Idaho	Total
Cluster	5.910	-	448	6.358
Cascade	1.167	-	-	1.167
Highalpha	8.717	1.300	826	10.843
Aroma varieties	3.050	3.636	-	6.686
others*	872	454	586	1.912
<b>total</b>	<b>19.716</b>	<b>5.390</b>	<b>1.860</b>	<b>26.966</b>

By converting acres into ha and lbs into tons insignificant deviations may result.

\* Others include Washington - Hallertau, Hersbrucker, Bullion, Northern Brewer, Mt. Hood, Fuggle, Aquila, Banner, Experimental. Oregon - Hallertau, Chinook, Bullion, Aquila, Eroica, Cluster, Cascade, Experimental. Idaho - Hallertau, Mt. Hood, Tettnang, Cascade, Talisman, Nugget, Experimental.

## Contract Market

The contract market concentrated mainly in the Hi-Alpha varieties. The Hi-Alpha market demand was at a low level but was constant throughout the year. The price for the Hi-Alpha varieties only changed \$.05/lb. from the beginning of the year to the end.

The interest for Aroma varieties was mainly in the current crop, with the only exception being the Perle, which had some contracting earlier in the year for the 1992 crop only. The Cascade showed activity in future contracts late in the year.

The cluster market had activity in the spring, with future contracts being made for five years, starting in 1989. This market was curtailed quickly.

This table does not reflect the rising price trend during November until March which was for 1990 crop (\$/lb):

	Nov. 89	March
Clusters	from 1.10	to 1.30
Hi-Alpha	from 1.20	to 1.40

with later crop increments of \$.05/lb. per year.

Contracts were made between January and July, 1989 as follows:  
(on grower basis, per lb. plus premiums)

Variety/\$	1989	1990	1991	1992	1993	1994
Clusters	1.05	1.10	1.15	1.20	1.25	
Hi-Alpha		1.20	1.30	1.35	1.40	
Willamette and Fuggle			(No Activity)			
Tettnang	2.20					
Hallertau			(No Activity)			
Perle				2.20		
Cascade	1.30					

From September, 1989 - March, 1990:

Variety/\$	1990	1991	1992	1993	1994	1995
Clusters	1.30	1.35				
Hi-Alpha	1.25	1.35	1.40	1.45	1.50	
Cascade	1.25	1.30	1.35			
Tettnang			(No Activity)			
Willamette and Fuggle		2.05	2.10	2.15	2.20	2.25
Perle				2.25		

## Average Price return for Growers

Year	\$/lb.
1984	2.15
1985	1.98
1986	1.74
1987	1.56
1988	1.34
1989	1.38

This is the first time in the last six years that the average price returned to the grower has increased. Part of this increase is due to contract prices being increased, and the spot market bringing better returns to the grower.

This \$1.38/lb. average price represents a small return to the grower. Unless prices continue to increase, the grower will continue to struggle with his profit and loss program.

## Growth 1990

The winter of 1989/90 was very mild in all the growing areas of the USA. The temperatures were considered above normal when they never dipped below 0°F. The precipitation in Oregon's growing areas was near normal. Precipitation in Washington's growing areas was below normal; therefore the hop fields came into spring drier than usual. However, Washington's mountain snowpack appears to be very good, so the growing areas should have an adequate water supply for the growing season. Idaho's hop growing areas also had below normal precipitation and Idaho faces possible water rationing because the mountains, which normally store the snowpack for the reservoirs, are in short supply of snow.

The hop plants appear to have come through the winter in good order. Spring work begun just in time, with root digging and root planting under way. There appear to be several acres of varietal changes, and the preliminary acreage increase appears to be around 1,100 acres.

# 1990 Harvest

## ARGENTINA 1990

One of the regions in which hops are grown in this Latin American country extends over 100 ha and is located near the city of Neuquen in the valley of the Rio Negro, the other one with 150 ha in the Bolson valley near the Chilean border. Already since 1940 hops have been grown in Argentina. The average size of a farm is 25 ha. After replacing Spalt in 1978 Cascade became the dominant variety. A major Argentinian brewery is sponsoring tests of new breeds of hops to improve low yields.

## AUSTRALIA 1990

With the exception of southern Tasmania all areas reported favourable conditions after a winter with much precipitation and a warm spring period.

However, it turned out later that the Victoria crop which traditionally amounts to 30% of the total Australian crop was disappointing both regarding quality and bitter value. Though the bitter values in Tasmania were higher than 1989, the total crop yielded 10% lower than the year before.

The following data characterize the 1990 crop of the four growing areas.

Region	ha	tons	Yield/ ha	$\alpha$ -acid/ %
South-Tasmania	225	490	2.20	11.0
NE-Tasmania	350	690	1.97	11.3
NW-Tasmania	150	365	2.43	11.5
Victoria	360	555	1.54	9.1
Total	1,085	2,100	1.93	10.7

## NEW ZEALAND 1990

420.4 tons were harvested and the bitter values were excellent. For the traditional high-alpha varieties they were over 10%, the new breed Pacific Gem boasted 18.5% and New Zealand Hallertau Aroma was 7.5% they reported.

A relatively humid spring-time and normal conditions for growth throughout summer were followed by an extensive dry spell. However, the irrigation system installed in the gardens avoided any damage to the plants. The only pest that is known in this growing region is the Red Spider and it did not appear during this year.

## SOUTH AFRICA 1990

At first there was no danger of drought, because there was ample precipitation. Later on in the growing period the hop gardens suffered water shortages, though.

Acreage remained almost constant. The crop increased to an estimated amount of 740 tons. Still the only variety grown is Southern Brewer containing 9.0-9.5% bitter substances.

## EUROPE 1990

The winter of 1989/90 was again very mild with very little snowfall in the major European growing areas.

Thus this year as well spring work could start in February and all through March the temperatures were as warm as in spring. The cool and rainy month of April stopped the plants' further development. Early cuttings were trained at the beginning of May.

For pest control according to US standards only a very limited number of substances was available. In this situation the growers had to afford considerable effort to control pests successfully even in the absence of any extra problems created by extreme weather.

## 1990 PROSPECTS

The revolutionary political events of 1989/90 will not leave the world market for beer and hops unaffected.

The world's markets are opening up. Borders which have so far not only stopped people but also the exchange of goods, have been abolished. This means that some of the former Eastern Block hop growing countries are suddenly confronted with the international market prices for hops (see rear cover). On the other hand breweries may choose freely among the various hop products available.

The positive economic development of the East European countries to be expected in the medium range will certainly stimulate the beer market's growth as well. Consequently the basic trend on the market is positive, although prices are still unsatisfactory despite certain improvements.

Printed in Germany

The publication of our Hop Report involves obtaining data from all parts of the world. We wish to express our gratitude to all who assisted us.

## 1989 – The Wall comes down

In August 1961 the Chairman of the **German Democratic Republic's State Council, Walter Ulbricht**, completely sealed off his "**first democratic state of workers and farmers**" against the West with mines and barbed wire. Basic democratic rights such as freedom of opinion, of the press or of free movement were prohibited and the exchange of goods and services with western markets was limited to the minimum or merely served to obtain dearly needed foreign exchange.

At the brink of the year 1990 the **G.D.R.'s** peaceful revolution brought down the wall and cut the barbed wire between the two German states.

While everybody is rightfully happy that the **G.D.R.'s** population may enjoy its new freedoms, it must not be forgotten that after having worked within a stateplanned economy for so long the people will have to undergo painful processes of economic and social adjustment.

Production and marketing of hops are no exception. In the early fifties hop growing was started in **Saxony** and **Thuringia** with cuttings from **Czechoslovakia** to make the **G.D.R.** self-sufficient and avoid imports. The sizes of the State cooperatives were better suited for hop-growing than those of the areas in southern (**West**) **Germany**. Despite this advantage the varieties "**Nordischer Brauer**" and "**Brauerstolz**" which were grown there later on, could not compete on the world-market regarding yield per ha, bitter content and processing.

The **G.D.R.** farms will also be forced to adjust their production cost. So far no exact cost accounting system following the principles of a free market economy has been introduced. Western experts quote production cost as "between DM 800 and DM 1,000 per 50 kg"). The hop producing farms were paid for their crop on the basis of volume and of qualitative categories for which the so-called "**universal bitter value**" was the sole criterion.

The state owned buying organization "**Hopfenverarbeitung Leipzig**" distributed the hops to the breweries. A government advisory board **WTÖZ** (=Wissenschaftlich-technisch-ökonomisches Zentrum / scientific-technical-economical centre) Berlin dictated the hopping rate for the different types of beer.

The hops industry and the brewing industry are now challenged to live up to the requirements of competition on a free market. Hopefully this transition will take place in a economically and socially acceptable way.

\*) see also Hopfen-Rundschau No. 9/1990, p. 134