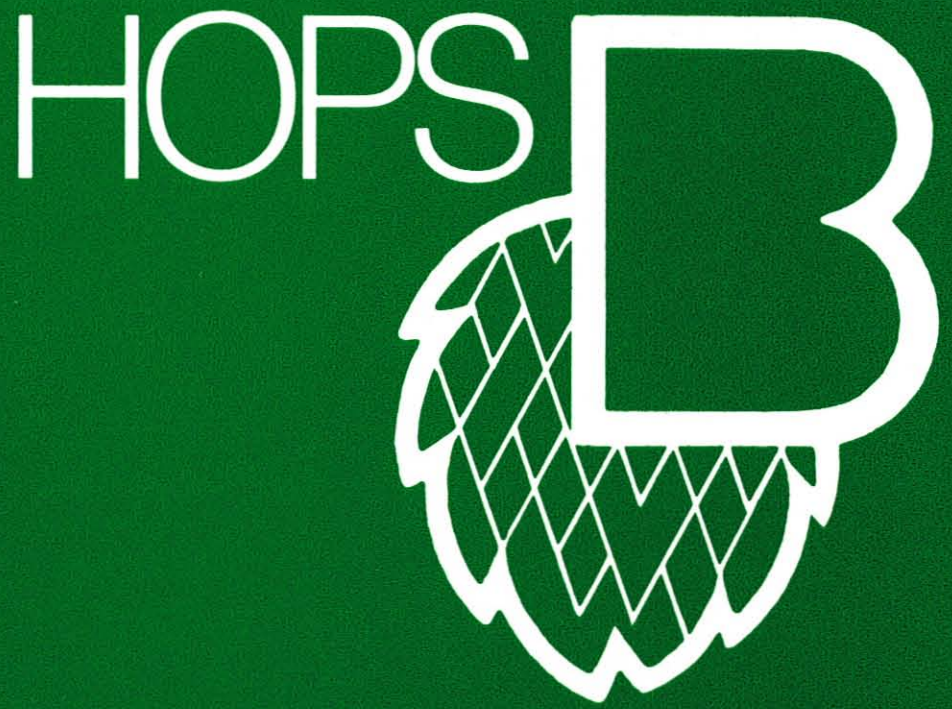


1992/93



**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 30, 1993

	Spot Rate 30/6/93	
	Selling Rate	Buying Rate
New York *	1.6842	1.6922
London *	2.541	2.555
Dublin *	2.432	2.446
Montreal *	1.3158	1.3238
Amsterdam	89.055	89.275
Zurich	112.600	112.800
Brussels	4.856	4.876
Paris	29.575	29.735
Copenhagen	25.950	26.070
Oslo	23.600	23.720
Stockholm	21.870	22.030
Milan **	1.0955	1.1055
Vienna	14.190	14.230
Madrid	1.304	1.314
Lisbon	1.041	1.061
Tokyo	1.5970	1.6000
Helsinki	29.730	29.930

## Unofficial dealings as of June 30, 1993

	Selling Rate	Buying Rate
Australia *	1.1210	1.1330
New Zealand *	0.9030	0.9150
Poland **	-	0.0974
Czech Republic **	5.67	5.77

These rates are only given for the purpose of information.

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

## Table of Contents

Political Situation – Economic Situation Table of Bitter, Constituents	1
World Beer Production – Table	2
Output Development Market Analysis	3
World Hop Production Table	4
Alpha Acid Production Alpha Acid Balance	5
European Community Federal Republic of Germany	6
Federal Republic of Germany	7
Federal Republic of Germany	8
United Kingdom	9
France Belgium	10
Europe	11/12
Other Countries	13
USA	14/15/16
Crop 93	17

## The world market's key data

	1992	1991	Diff. %
Acreage/ha	91,835	91,409	+ 0.5
Hop production/tons	122,818	130,060	- 5.6
Alpha production/tons	7,537	8,612	- 12.5
Beer production/1,000 hl	1,163,238	1,165,291	- 0.2

Nuremberg, July 1993



# Joh. Barth & Sohn

Glockenhofstraße 24-26 · D-90478 Nürnberg

P.O.B. 1227 · D-90002 Nürnberg

Phone: (0911) 47 44-0 · Telex: 622030

Telefax (0911) 47 44-47

## Political Situation

World affairs in 1992 were characterized by a variety of regional conflicts on an ethnic-religious basis.

Fourteen independent states emerged from the former USSR with Russia being the biggest and most powerful nation by far. It is especially in the succession states of Armenia and Azerbaijan that hostile sections of the population are fighting each other in bloody conflicts.

The former state of Yugoslavia has been divided into five new countries. The fate of Bosnia is still uncertain – despite all of the U.N.'s attempts to mediate. The civil war in this area, which lasts more than one year already, continues with extraordinary cruelty above all to the advantage of the Serbian population and to the disadvantage of the Muslims. Neither the UN troops nor the economic embargo, which the international community laid on Serbia, can change this fact.

The process of democratization in former Czechoslovakia led to the peaceful division into the Czech Republic and the Republic of Slovakia that came into force on January 1, 1993.

There is still unrest in the countries of the Arabian-Islamic world. In spite of all discussions the US encouraged between Israel and its neighbouring countries, no real progress can be reported. Violence and terrorism of Islamic fundamentalists have aggravated the situation in Egypt and Algeria, while the Iraq under its present government still represents a trouble spot.

In late 1992, Somalia has been occupied by UN troops to avert chaotic conditions.

In January 1993, the newly elected American President William Jefferson (Bill) Clinton acceded to his office.

## Economic Situation

While most West European economies are currently fighting a recession, the US seems to have overcome the bottom of the trough; the economy seems to recover gradually. Japan, too, had to accept a clear slow-down of its economic activities. The economic trend in South-East Asia, however, was positive; especially the People's Republic of China was able to make progress.

The former communist countries are still wrestling with major economic difficulties caused by the conversion into market economies which accompanies the political reorganization. However, depending on the single countries, some progress is being made, too.

The Maastricht resolutions obtained the bare parliamentary majority in the EEC member states, in the case of Denmark it was only obtained in a second vote though. With its referendum of December 6, 1992, the Swiss population voted against joining the European Economic Community.

Due to different economic development in these countries, the currencies of the United Kingdom, Italy, Spain and Portugal had to be exempted temporarily from the European monetary system and corrected downwards. Most of the Scandinavian currencies were subject to the same constraints, while the US dollar and above all, the Japanese Yen gained more external value. Under the international pressure the Deutsche Bundesbank (Federal Bank of Germany) was forced to depart from its high interest policy, which had been adopted because of the increased risk of inflation, and reduce its key interest rate.

The Federal Republic of Germany has to face even more difficult problems regarding the financing of the economic recovery in East Germany which proves to be much more expensive than initially expected. In 1993 alone, the Federal budget provides DEM 104 billion to finance the unification. As a consequence, the public debt is quickly increasing making it necessary to cut expenses of the government budgets and increase revenues. The present recession is another aggravating factor in this situation.

To counterbalance the economic unity in Europe, the US, Canada and Mexico agreed upon the formation of a free trade zone, the so-called NAFTA (North American Free Trade Agreement) which has not yet been ratified though.

As regards the negotiations between the US and the European Community for the elimination of trade barriers within GATT (General Agreement on Tariffs and Trade), satisfactory results have not yet been obtained.

### The key 1992 economic Data for the USA and the Federal Republic of Germany

Key data	USA	FRG (old)
Gross national product	+ 2.1 %	+ 0.9 %
Balance of trade	– \$ 82.9 bn	+ DEM 48.3 bn (FRG total)
Balance of current acct.	– \$ 66.4 bn	– DEM 39.1 bn
Inflation rate	+ 3.0 %	+ 4.0 %
Interest rate	6.0 %	6.75 %
	(prime rate p. 2. 7. 92)	(Federal Bank discount rate p. 2. 7. 93)
Unemployment rate on December 31, 1992	7.4 %	5.8 % (FRG old) 16.1 % (FRG new Länder)

## Table of Bitter Constituents

The bitter constituent values of the most important European varieties 1992 (conductometric value) were:

variety	1992	1991
Hallertau Hallertau	3.9	5.0
Hallertau Hersbruck	2.3	3.6
Hallertau Hüll	4.8	6.5
Hallertau Perle	5.0	7.7
Hallertau Record	4.5	6.4
Hallertau Northern Brewer	7.3	8.8
Hallertau Brewers Gold	5.8	6.8
Hallertau Orion	5.8	8.4
Tettwang	3.6	4.6
Spalt	3.5	4.5
Saaz	2.8	3.9

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 1991/92

Specification in 1,000 hl

## EUROPE

Country	1992	1991
FRG	120,172	118,000
Great Britain	55,887	60,843 <sup>1)</sup>
C.I.S.	50,000	50,000 <sup>2)</sup>
Spain	25,800	26,447
Czechoslovakia	23,382	23,885
Netherlands	20,659	19,893
France	18,512	22,880
Belgium	14,259	14,084
Poland	14,100	12,000
Italy	10,923	10,699
Austria	10,014	10,188
Hungary	9,160	9,352
Romania	9,000*	9,727
Denmark	8,410	8,700
Ireland	7,100	4,870
Portugal	6,893	6,882
Bulgaria	6,000	5,500
Sweden	5,470	5,240
Yugoslavia	5,000	10,000*
Finland	4,457	4,275
Greece	4,100	3,500
Switzerland <sup>3)</sup>	4,090	4,183
Norway	2,181	2,236
Slowenia	2,000*	-
Lithuania	1,565	1,715
Latvia	800	-
Luxemburg	569	542
Estonia	500	-
Malta	170*	170
Iceland	61*	61*
Albania	-	100*
Croatia	-	unknown
<b>TOTAL</b>	<b>441,234</b>	<b>445,972</b>

<sup>1)</sup> later correction to 57,716  
<sup>2)</sup> Russia 31,000, Ukraine 14,000  
<sup>3)</sup> brewing year 1. 10. to 30. 9.

## AMERICA

Country	1992	1991
USA	237,174	237,283
Brazil	57,300	65,000
Mexico	42,168	40,753
Canada	21,570	22,135
Colombia	16,500	24,000 <sup>1)</sup>
Venezuela	15,900	12,900
Argentina	9,500	8,300
Peru	8,800	6,400
Cuba	3,900	3,000*
Chile	3,500	3,000
Dominican Rep.	2,400	1,400
Ecuador	2,200	1,750
Paraguay	1,740	1,280
Bolivia	1,600	1,450
Guatemala	1,200	1,300
Panama	1,150	1,100
Costa Rica	800	740
Uruguay	800	710
Honduras	770	758
Puerto Rico	760	690
Jamaica	750	850
El Salvador	700	760
Nicaragua	620	400
Trinidad	500	600
Netherl. Antilles	167	140
Haiti	132	36
Guyana	128	130
Surinam	120	120
Barbados	92	120
Bahamas	90	96
San Lucia	86	44
Martinique	65	65
Belize	60	35
St. Kitts	45	23
Grenada	28	29
St. Vincent	24	26
Guadeloupe	-	30*
<b>TOTAL</b>	<b>431,339</b>	<b>437,453</b>

<sup>1)</sup> later correction to 18,000

## AFRICA

Country	1992	1991
South Africa	22,500	22,500
Nigeria	6,500	8,386 <sup>1)</sup>
Cameroon	4,185	3,965 <sup>2)</sup>
Kenya	3,600	3,300
Zimbabwe	1,800*	2,800 <sup>3)</sup>
Zaire	1,580	3,000 <sup>4)</sup>
Burundi	1,151	1,000*
Ruanda	1,042	600*
Ivory Coast	953	1,095
Ethiopia	901	499
Zambia	900	900
Gabon	800	900
Morocco	700	625
Ghana	632	602
Egypt	600	500
Namibia	590	556
Tanzania	550	667 <sup>5)</sup>
Botswana	450	459
Tunisia	450	400
Angola	410	460
Togo	432	550
Burkina Faso	359	400
Moçambique	359	372
Lesotho	330	399
Mauritius	320	315
Benin	318	286
P. Rep. Congo	316	600*
Central African Rep.	314	222
Algeria	300	321
Uganda	236	247
Madagascar	225	236
Reunion	177	190*
Swaziland	172	198
Senegal	137	150
Chad	128	110*
Malawi	100*	100*
Guinea	96	-
Niger	93	101
Seychelles	68	59
Liberia	58	50
Sierra Leone	54	50*
Yemen	50	80
Mali	45	80*
Guinea Bissau	20	20*
Gambia	18	30
Cap Verde	-	20*
Sao Tome	-	100 <sup>6)</sup>
<b>TOTAL</b>	<b>54,960</b>	<b>58,500</b>

<sup>1)</sup> presumably lower  
<sup>2)</sup> later correction to 4,500  
<sup>3)</sup> later correction to 2,150  
<sup>4)</sup> later correction to 2,140  
<sup>5)</sup> presumably 550  
<sup>6)</sup> closed at the moment

## NEAR EAST

Country	1992	1991
Turkey	4,750	3,000
Israel	450	533
Cyprus	362	340
Iraq	100*	100*
Syria	90*	90*
Jordan	40	60*
Lebanon	30	40
<b>TOTAL</b>	<b>5,822</b>	<b>4,163</b>

## FAR EAST

Country	1992	1991
People's Rep. China	90,000 <sup>1)</sup>	80,000
Japan	69,683	67,990
Rep. of Korea	14,779	16,400
Philippines	14,000*	15,400
Taiwan	4,416	4,501
Thailand	3,330	2,880
Vietnam	2,500 <sup>2)</sup>	1,000
India	2,250	2,010
Hong Kong	1,400*	1,378
Malaysia	1,255	855
D. P. Rep. Korea	1,000	1,000*
Indonesia	942	1,195
Singapore	671	487
Nepal	120	100
Iran	100**	100**
Mongolia	100*	100*
Sri Lanka	95	68
Laos	30*	30*
Burma	21	40
Cambodia	10*	10
Pakistan	10	9
Bangladesh	5*	5*
<b>TOTAL</b>	<b>206,717</b>	<b>195,558</b>

<sup>1)</sup> other sources: more than 100,000  
<sup>2)</sup> other sources: 1,121

## AUSTRALIA/OCEANIA

Country	1992	1991
Australia	18,623	19,000
New Zealand	3,597	3,700
New Guinea	428*	428
Fiji Islands	230*	230*
Tahiti	122*	122
New Caledonia	66	65
Samoa	60	60
Salomon Islands	30	30
Vanuatu	10	10*
<b>TOTAL</b>	<b>23,166</b>	<b>23,645</b>

\* estimated  
\*\* non-alcoholic

## WORLD

1992	1991
<b>1,163,238</b>	<b>1,165,291</b>

## Output development

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

	1992 % rel.	1991 % rel.	1992 total	1991 total	+/- total
Europe	- 1.1	- 1.8	441,234	445,972	- 4,738
America	- 1.4	+ 4.4	431,339	437,453	- 6,114
Africa	- 6.4	- 0.9	54,960	58,500	- 3,540
Asia (Far East)	+ 5.7	+ 8.3	206,717	195,558	+ 11,159
Near East	+ 39.9	- 16.0	5,822	4,163	+ 1,659
Australia/Pacific	- 2.0	- 2.9	23,166	23,645	- 479
Total	- 0.2	+ 2.1	1,163,238	1,165,291	- 2,053

After several years with a continuously increasing world beer production, a small decline has to be reported in 1992 for the first time since 1984. Asia's in-

creasing beer production (Far East) could not compensate for the reduction in beer output in Europe, America and Africa.

## Market Analysis

For the second time in three years, the European growing regions suffered from a continuous drought which had a negative effect on the results of the world harvest. With its 122,818 tons, the result was almost 6 % below that of the previous year. The poor German crop decisively contributed to this reduction. Another result of the hot and dry summer in Central Europe was the alpha acid decrease. The alpha acid production of the world harvest was even 12.5 % below that of 1991.

From the point of view of statistics, those German hop growers were right, who expected a steady market situation and spot market prices to be considerably higher than contract prices. Prices of more than DEM 1,000.00 per zentner were talked about. After some small transactions in this price range in September and October 1992, the farmers were no longer willing to sell their hops at a lower price.

Markets, however, usually consist of both supply and demand and are in-

fluenced by factors like expected need, stocks and the brewing industry's trends. A glance on the 1992 beer production figures shows that the worldwide recession affected the beer market, too. Thus, the trends in the European and US brewing industry were focussed on cautious output expectations and less raw material need. As a consequence, the low willingness to buy did not give way to the expected price increase. It was too late when German farmers realized that the market went past and hops of other origins came in first.

After a certain nervousness in September 1992, the markets became calm when it turned out that apart from the balancing of non-fulfilled contracts, there was only little interest in spot hops. Due to the attitude adopted by German hop farmers, non-German hops available at more favourable conditions were bought to fulfill the contracts.

From November 1992 on, the market in general was calm. This situation lasted until spring 1993. The fact that the US

harvest was about 10 % higher than estimated before (30,700 tons) may have contributed to this development. Anyway, the knowledge of considerable amounts of German hops of the 1992 harvest being unsold was in no way encouraging, but stressed the whole world market. Although US farmers were willing to market their spot hops at moderate prices, it was not possible to avoid that they were affected by the market stagnation in November 1992 with a limited amount of hops still unsold.

When in March 1993 the market slowly got started again, the prices for spot hops were considerably lower. Contract prices, especially those for US hops, were affected by the downtrend, too. German hops were bought hesitantly at bottom prices. Using EEC funds, the hop producers' association bought the considerable remainder of some 25,000 zentners to "neutralize the market", so that these hops no longer appeared on the spot market.

For the main hop growing countries, our estimates of the contract rate for the years to come on basis of the current acreage are the following (in %):

Country	1993	1994	1995	1996	1997
Fed. Rep. of Germany	60	50	40	20	20
USA	90	80	70	30	20
Czech Republic	70	60	50	40	40
United Kingdom	70	60	40	10	10
Slovenia	60	50	40	30	10

# Acreage and Hop Production

area	1992			1991		
	acreage in ha	∅ tons per ha	crop in to = 1000 kg	acreage in ha	∅ tons per ha	crop in to = 1000 kg
Hallertau	18,519	1.28	23,702.4	17,360	1.67	28,919.9
Spalt	807	1.13	911.9	792	1.31	1,034.1
Hersbruck	113	1.42	160.0	117	1.21	147.2
Jura	-	-	-	752	1.94	1,456.5
Tettwang	1,552	1.22	1,886.0	1,512	1.46	2,206.1
Elbe-Saale	1,924	1.06	2,036.5	2,011	1.32	2,662.2
others	23	1.23	28.3	23	1.19	27.3
<b>Fed. Rep. of Germany <sup>1)</sup></b>	<b>22,938</b>	<b>1.25</b>	<b>28,725.1</b>	<b>22,567</b>	<b>1.62</b>	<b>36,453.3</b>
<b>England</b>	<b>3,396</b>	<b>1.42</b>	<b>4,820.0</b>	<b>3,527</b>	<b>1.71</b>	<b>6,016.7</b>
<b>Belgium</b>	<b>395</b>	<b>1.54</b>	<b>609.2</b>	<b>389</b>	<b>1.65</b>	<b>640.2</b>
Alsace	578	1.47	852.2	521	1.27	661.6
Nord	62	1.00	62.0	61	1.20	73.0
Burgundy	2	1.45	2.9	2	1.35	2.7
<b>France</b>	<b>642</b>	<b>1.43</b>	<b>917.1</b>	<b>584</b>	<b>1.26</b>	<b>737.3</b>
<b>Ireland</b>	<b>12</b>	<b>1.73</b>	<b>20.8</b>	<b>12</b>	<b>1.49</b>	<b>17.9</b>
<b>Spain</b>	<b>1,370</b>	<b>0.94</b>	<b>1,280.9</b>	<b>1,387</b>	<b>1.39</b>	<b>1,920.4</b>
<b>Portugal</b>	<b>10</b>	<b>0.21</b>	<b>2.1</b>	<b>92</b>	<b>1.78</b>	<b>163.5</b>
<b>EEC</b>	<b>28,763</b>	<b>1.27</b>	<b>36,375.2</b>	<b>28,558</b>	<b>1.61</b>	<b>45,949.3</b>
Saaz	7,368	0.77	5,680.0	7,291	0.89	6,520.0
Auscha	1,764	0.97	1,717.0	1,773	1.15	2,038.0
Tirschitz (Moravia)	1,153	0.99	1,139.0	1,137	1.05	1,192.0
Slovakia	1,379	0.86	1,179.0	1,319	0.92	1,211.0
<b>Czechoslovakia</b>	<b>11,664</b>	<b>0.83</b>	<b>9,715.0</b>	<b>11,520</b>	<b>0.95</b>	<b>10,961.0</b>
Ukraine	6,692	0.94	6,256.3	7,300	0.83	6,056.0
Rep. of Russia <sup>1)</sup>	4,675	0.86	4,000.0	5,000	0.72	3,600.0
Rep. of White Russia		no figures available			no figures available	
<b>CIS (former USSR)</b>	<b>11,367</b>	<b>0.91</b>	<b>10,256.3</b>	<b>12,300</b>	<b>0.78</b>	<b>9,656.0</b>
<b>Slovenia</b>	<b>2,384</b>	<b>1.54</b>	<b>3,675.4</b>	2,388	1.55	3,696.0
<b>Serbia (former Bačka and Ilok)</b>	<b>556</b>	<b>0.81</b>	<b>450.0</b>	621	1.43	889.0
<b>(former Yugoslavia)</b>	-	-	-	<b>3,009</b>	<b>1.52</b>	<b>4,585.0</b>
<b>Poland</b>	<b>2,262</b>	<b>1.12</b>	<b>2,534.2</b>	<b>2,225</b>	<b>1.18</b>	<b>2,630.8</b>
<b>Bulgaria</b>	<b>903</b>	<b>0.85</b>	<b>764.2</b>	<b>913</b>	<b>0.95</b>	<b>862.5</b>
<b>Romania</b>	<b>2,350</b>	<b>1.20</b>	<b>2,820.0</b>	<b>2,380</b>	<b>1.10</b>	<b>2,618.0</b>
<b>Hungary</b>	<b>288</b>	<b>1.18</b>	<b>341.0</b>	<b>374</b>	<b>1.46</b>	<b>544.7</b>
Mühlviertel	110	1.40	153.7	105	1.34	141.0
Leutschach	85	1.29	110.0	87	1.40	119.0
Waldviertel	11	0.68	7.5	7	0.67	4.7
<b>Austria</b>	<b>206</b>	<b>1.32</b>	<b>271.2</b>	<b>199</b>	<b>1.33</b>	<b>264.7</b>
<b>Switzerland</b>	<b>23</b>	<b>1.74</b>	<b>40.0</b>	<b>21</b>	<b>2.27</b>	<b>47.8</b>
<b>Albania</b>		no figures available		<b>70</b>	<b>1.00</b>	<b>70.0</b>
<b>EUROPE</b>	<b>60,766</b>	<b>1.11</b>	<b>67,242.5</b>	<b>61,569</b>	<b>1.27</b>	<b>78,189.8</b>
Washington	12,298	2.11	25,903.0	11,439	2.12	24,290.0
Oregon	3,200	1.66	5,300.0	2,912	1.58	4,615.0
Idaho	1,620	1.55	2,516.0	1,667	1.47	2,463.0
<b>USA</b>	<b>17,118</b>	<b>1.97</b>	<b>33,719.0</b>	<b>16,018</b>	<b>1.95</b>	<b>31,368.0</b>
<b>Canada</b>	<b>328</b>	<b>0.62</b>	<b>203.4</b>	<b>329</b>	<b>0.51</b>	<b>166.1</b>
<b>Japan</b>	<b>660</b>	<b>1.92</b>	<b>1,270.1</b>	<b>741</b>	<b>1.70</b>	<b>1,256.2</b>
<b>Australia</b>	<b>1,155</b>	<b>2.70</b>	<b>3,113.0</b>	<b>1,125</b>	<b>2.38</b>	<b>2,675.0</b>
<b>New Zealand</b>	<b>262</b>	<b>2.24</b>	<b>587.4</b>	<b>216</b>	<b>2.10</b>	<b>454.5</b>
<b>People's Rep. of China <sup>1)</sup></b>	<b>8,000</b>	<b>1.63</b>	<b>13,000.0</b>	<b>8,000</b>	<b>1.63</b>	<b>13,000.0</b>
<b>Dem. People's Rep. of North Korea *</b>	<b>2,000</b>	<b>0.60</b>	<b>1,200.0</b>	<b>2,000</b>	<b>0.60</b>	<b>1,200.0</b>
<b>Republic of Korea</b>	<b>144</b>	<b>0.50</b>	<b>72.0</b>	<b>317</b>	<b>0.49</b>	<b>154.0</b>
<b>Republic of South Africa</b>	<b>650</b>	<b>1.82</b>	<b>1,180.0</b>	<b>587</b>	<b>1.72</b>	<b>1,010.0</b>
<b>Turkey</b>	<b>283</b>	<b>0.58</b>	<b>163.0</b>	<b>120</b>	<b>1.00</b>	<b>120.0</b>
<b>Argentina</b>	<b>350</b>	<b>1.46</b>	<b>510.0</b>	<b>303</b>	<b>0.96</b>	<b>289.5</b>
<b>Zimbabwe</b>	<b>119</b>	<b>1.00</b>	<b>119.0</b>	<b>84</b>	<b>2.10</b>	<b>177.0</b>
<b>WORLD</b>	<b>91,835</b>	<b>1.33</b>	<b>122,379.4<sup>1)</sup></b>	<b>91,409</b>	<b>1.42</b>	<b>130,060.1</b>

<sup>1)</sup> see corresponding country report (last actual weight: Hallertau 24,140 to, Federal Republic of Germany 29,138 to **total world: 122,818 to**)

\*) estimated

## 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 1992 which compares to the previous year's as follows:

Group	1992				1991			
	share %	crop tons	$\alpha$ % $\phi$	$\alpha$ tons	share %	crop tons	$\alpha$ % $\phi$	$\alpha$ tons
A	5.4	12,000.0	3.4	407	7	14,201	4.2	600
B	18.3	31,339.0	4.4	1,380	23	36,796	5.4	1,986
C	23.2	33,564.5	5.2	1,750	21	34,238	5.2	1,780
D	53.1	45,914.5	8.7	4,000	49	44,825	9.5	4,246
Total	100.0	122,818.0	6.2	7,537	100	130,060	6.6	8,612

The lower 1992 world harvest, which was 6 % below the previous year's, and the only moderate bittering values especially of the European hops caused a decrease in alpha acid production by 12.5 % compared to that of the previous year.

When viewing the single groups of varieties it becomes clear that the USA with its high-alpha hops and a more than 50 % share of the hops of group D decisively contribute to the stabilization of the supply to the world market. Meanwhile, the US alpha acid production with its 3,200 tons in 1992 makes up for about 40 % of the total alpha acid supply

to the world market. Thus the US growing regions lead that of the Federal Republic of Germany by a wide margin, which in the same year only had a 16 % share of the world market due to reduced quantity and poor quality.

## Alpha Acid Balance

According to the official estimates, a deficit in alpha acid supply to the world market of about 700 tons was expected at first.

In the end, this deficit is probably less than half of the estimate which also was confirmed by the market development. The figures listed below are based on a zero growth of the 1993 world beer production. The trend of a reduced hop addition was taken into account by decreasing the average hopping rate of 6.8 to 6.7 g/hl.

The short supply of the market determined by way of calculation was easily balanced by the breweries' stocks. However, these stocks must have decreased worldwide.

1990\* hop demand (hopping rate 6.9 g alpha/hl) 7,877.3 tons alpha  
 1989 production 7,290.0 tons alpha  
 Deficit 587.3 tons alpha

1991 hop demand (hopping rate 6.8 g alpha/hl) 7,924.4 tons alpha  
 1990 production 6,864.0 tons alpha  
 Deficit 1,060.4 tons alpha  
 1992 hop demand (hopping rate 6.8 g alpha/hl) 7,910.0 tons alpha  
 1991 production 8,612.0 tons alpha  
 Surplus 702.0 tons alpha  
 1993 hop demand (estimated hopping rate 6.7 g alpha/hl) 7,839.0 tons alpha  
 1992 production 7,537.0 tons alpha  
 Deficit 302.0 tons alpha

## EUROPEAN COMMUNITY

The subsidy hop growers were granted for the 1991 crop was stipulated in regulation (EEC) no. 3339/92 of the Council, dated November 16, 1992.

The hop growers are granted the following subsidies for the 1991 harvest:

Group of Variety	ECU = DM (per ha)	
Aroma varieties	340	800.42
Bitter varieties	340	800.42
Others	340	800.42
Trial lines	340	800.42

1992: 1 ECU = DM 2.35418

All in all, the commission granted a total of ECU 9.8 million = DEM 23.0 million to the hop growers.

The EEC regulations in respect of marketing the hops of member states were subject to several amendments.

On October 26, 1992, the Council of the European Community published regulation (EEC) no. 3124/92 as an amendment of regulation (EEC) no. 1696/71 regarding the common market organisation for hops. The most important amendment refers to article 7, clause 3, with the last subparagraph of letter B being stipulated as follows: "Until December 31, 1996, the members of an

officially recognized producers' association may partly or fully market their production with the approval of the producers' association as per the regulations determined by this association and under its supervision. The producers' associations shall make every effort to market the total production of their members as of January 1, 1997 at the latest".

In addition, the following letter is added to article 12 clause 5: c.) "The subsidy for officially recognized producers' associations, that are being granted subsidies as per clause 3 and that are not marketing the total production of their members, decreases for 1992 by 4 %, for 1993 by 8 %, for 1994 by 12 %, for 1995 by 15 % and for 1996 by 15 %. For 1991 and the years to follow, at least 15 % of the subsidy granted to such an association are used by that community for measures as per article 1, clause 1, letter B, subparagraph c.c of the Commission's regulation (EEC) no. 1351/72 as of 28 June 1972 regarding the recognition of producers' associations in the hop sector."

Further regulations (no. 3337/92) of the Council as of 16 November 1992 refer to the laying down of the table of hop

growing regions belonging to an association that is granted a subsidy for hop production as well as to special measures for certain hop growing regions.

Another regulation, namely regulation (EEC) no. 2940/92 of the Commission as of 9 October 1992, partly amends regulation (EEC) no. 3076/78 in respect of hop imports of non-EEC states. Article 7a of the former regulation was amended as follows:

"If the responsible authorities of the member states find out that the analysed samples do not meet the above-mentioned minimum requirements customary in hop trade, the lots in question must not be liberated to free trade.

The commission shall be informed in case any member state finds out that the characteristics of a product are not the same as indicated in the certificate of equivalence. According to the process indicated in article 20 of regulation (EEC) no. 1696/71, it may be decided to exclude the authority responsible for the certificate of equivalence of the relevant product from the table included in the annex of regulation (EEC) no. 3077/78."

## Federal Republic of Germany

### Growth, estimated harvest and actual weight

In winter 1991/92 there was only little rainfall so that the water supply of the soils was inadequate. Only the following rainfalls from mid March to early April really improved the situation in the Hallertau area.

Thanks to more favourable weather, the plants developed well and training started in late April. The following month of May was warmer than usual with an average temperature of about 14.5°C (2.6°C above the long-time average). Plants grew quickly under such favourable conditions, so that they reached the top of the trellises in early June. The plants normally reach this stage of growth around June 24.

At the same time, it was too dry with above-average temperatures. Some occasional rainfalls could not make up for the lack of precipitation. First signs of disturbed growth caused by insufficient water supply and excessive temperatures, especially in the form of too short lateral shoots, became apparent.

Bloom and cone set also started too early. Due to the heat with temperatures

ranging between 30-35°C the cones did not reach the optimum stage of maturity. The plants showed signs of damage due to the drought and heat.

The red spider mite occurring during the heatwave was difficult to control, however there were only small or moderate attacks by other pests.

Due to the extraordinarily and constantly high temperatures, the different stages of maturity of the single hops

even within one garden and due to the drought, the harvest of the variety Northern Brewer started before its optimum maturity around August 18 to 20, in some cases even on August 13.

Because of the early harvest, the official estimates were given much earlier than usual, namely from August 12 on, starting with the growing region of Elbe-Saale until August 19, for the Hallertau area.

The following amounts were harvested in comparison with the estimates:

Acreage	Estimates (tons)	Total amount harvested	+/- tons	%
Hallertau	24,800.0	24,140.0	- 660.0	- 2.7
Spalt	995.0	921.3	- 73.7	- 7.4
Tettwang	2,045.0	1,853.5	- 191.5	- 9.4
Hersbruck	150.0	158.7	+ 8.7	+ 5.8
Baden, Rheinpfalz,				
Bitburg	28.5	28.3	- 0.2	0.0
Elbe-Saale	2,262.5	2,036.5	- 226.0	- 10.0
<b>Total</b>	<b>30,281.0</b>	<b>29,138.3</b>	<b>- 1,142.7</b>	<b>- 3.9</b>



## Subsidies for Structural Changes in Hop Acreage

In a meeting on February 11, 1993, the Representatives of the hop producer association HVG Hallertau Erzeugergemeinschaft eG decided that 15 % of the 1991 subsidy, that is about 2 million DM, are used to finance the change from the variety Hallertau Hersbrucker Spät towards the varieties Hallertauer Tradition, Hallertauer Spalter Select and Hallertauer Magnum. More details about this programme were published in the guidelines for its execution, which were distributed among the farmers. All in all,

the subsidy is limited to an area of 1,000 ha. From the funds available, 2,000.00 DM can be paid for each hectare on which the variety is changed. Due to the limited area, the subsidy will be granted on a first-come-first-served basis.

## Varieties Grown

At the time of reporting in mid April 1993 not all of the hops harvested were weighed and statistically registered (see "Market Analysis" and "Market Development"). Upon request of the Association of German Hop Growers (Verband Deutscher Hopfenpflanzer) and with publication of the EEC regulation no. 715/93, the end of the weighing period, normally on March 31 after the harvest, was postponed to May 31, 1993.

The following statistics on the amounts harvested in German hop growing regions only represent preliminary results.

## Varieties

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

area	variety	ha	Ø-yield/tons	crop quantity/tons preliminary
<b>Hallertau</b>	Hallertauer	219	0.86	189.3
	Hersbrucker	6,839	1.36	9,287.1
	Hüller	362	1.18	427.5
	Perle	3,169	1.25	3,949.4
	Select	495	0.49	243.6
	Tradition	260	0.34	88.0
	Northern Brewer	4,583	1.19	5,440.9
	Brewers Gold	1,643	1.95	3,197.2
	Orion	134	1.34	180.1
	Nugget	210	1.08	227.3
	Target	76	1.46	110.8
	Magnum	338	0.35	119.3
	Record	169	1.18	199.1
others	22	1.96	43.2	
<b>Spalt</b>	Hallertauer	308	0.97	297.8
	Spalter	217	0.99	213.9
	Hersbrucker	160	1.79	286.8
	Perle	35	1.64	57.3
	Select	75	0.56	41.7
	others	12	1.21	14.5
<b>Hersbruck</b>	Hallertauer	39	1.25	48.8
	Hersbrucker	47	1.64	77.1
	others	27	1.26	34.1
<b>Tettngang</b>	Hallertauer	509	1.45	736.5
	Tettnanger	1,040	1.10	1,145.0
	others	3	1.50	4.5
<b>Elbe-Saale</b>	Perle	21	0.26	5.4
	Select	4	0.05	0.2
	Saazer	14	0.88	12.3
	Northern Brewer	1,732	1.01	1,747.7
	Nugget	11	0.46	5.1
	Bullion	134	1.39	258.7
	others	8	0.60	7.2
<b>remainder</b>		23	1.23	28.3

## Acreage development

In comparison with last year, the acreage (in ha) for the major varieties showed the following changes:

Variety	1992	1991	+/-
Hallertauer	1,079	1,153	- 74
Hersbrucker	7,049	7,300	- 251
Perle	3,237	2,966	+ 271
Northern Brewer	6,323	6,585	- 262
Brewers Gold	1,656	1,741	- 85

**Final crop result as of May 31, 1993:**  
Hallertau 24,140 tons

Hallertauer	211 tons
Hersbrucker	9,336 tons
Perle	4,070 tons
Brewers Gold	3,318 tons
Northern Brewer	5,478 tons
Remainder	1,728 tons

# Federal Republic of Germany

## Acreage

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

area	acreage development			aroma varieties							
	1992 (ha)	+/- (ha)	1991 (ha)	Hallertauer (ha)	Hersbrucker (ha)	Hüller (ha)	Perle (ha)	Select (ha)	Tradition (ha)	Spalter (ha)	Tettmanger (ha)
Hallertau	18,519	+ 407	18,112	219	6,839	362	3,169	495	260	7	2
Spalt	807	+ 15	792	308	160	0	35	75	5	217	0
Hersbruck	113	- 4	117	39	47	0	7	9	2	0	0
Tettmang	1,552	+ 40	1,512	509	0	0	0	0	0	0	1,040
Elbe-Saale	1,924	- 87	2,011	0	3	0	21	4	0	0	0
others	23	+/- 0	23	4	0	2	5	0	0	0	8
<b>FRG total</b>	<b>22,938</b>	<b>+ 371</b>	<b>22,567</b>	<b>1,079</b>	<b>7,049</b>	<b>364</b>	<b>3,237</b>	<b>583</b>	<b>267</b>	<b>224</b>	<b>1,050</b>

area	bitter varieties and others							
	Northern Brewer (ha)	Brewers Gold (ha)	Orion (ha)	Nugget (ha)	Target (ha)	Magnum (ha)	Bullion (ha)	others (ha)
Hallertau	4,583	1,643	134	210	76	338	0	182
Spalt	2	5	0	0	0	0	0	0
Hersbruck	5	4	0	0	0	0	0	0
Tettmang	0	0	0	0	0	0	0	3
Elbe-Saale	1,732	1	0	11	1	3	134	14
others	1	3	0	0	0	0	0	0
<b>FRG total</b>	<b>6,323</b>	<b>1,656</b>	<b>134</b>	<b>221</b>	<b>77</b>	<b>341</b>	<b>134</b>	<b>199</b>

## Market Development

Due to the drought, the amount harvested on about the same acreage was 21% below that of the previous year. The alpha acid decrease, also caused by the lack of precipitation, was even worse. Contracts covering the major part of the harvest could not be fulfilled. On an average, the amount supplied was 15 to 20%, for some varieties even up to 40% below that agreed upon. The average German hop yield fell to 1.25 tons/ha (1.62 tons in the previous year). For German hop growers, this meant a serious reduction of income for the second time since 1990.

Thus it is easy to understand that the growers tried to make up for this loss by obtaining the highest possible spot prices for the remaining 2,500 to 3,000 tons that mainly consisted of hops from the Hallertau area. Slogans like "Kommt Zeit, kommt Markt" (time will bring a market) were easily believed in; the market behaviour was characterized by very little willingness to sell. The wise old hop saying that "big crops sell quickly and small crops sell slowly" turned out to be true again.

The following purchase prices of the Association of German Hop Growers only roughly reflect the market development, as in some cases price expectations were even higher. On the other hand, the turnover was so low that it hardly represented any real market activity from September to December 1992, when leaving aside the payment for overweights.

Our market report indicated the following purchasing prices for spot hops in farmer's bales of 50 kg.

area/variety	9/92	10/92	11/92	12/92	1/93	2/93	3/93
Hallertau Hersbrucker	-	500-600	350	350	300	-	100
Hallertau Perle	1,000	1,100	600	450	420	-	100
Hallertau Northern Brewer	800	800-900	600	400	380	-	100
Hallertau Brewers Gold	600	700	500	300	280	-	100
Spalt	-	1,000	-	-	-	-	-
Tettmang	-	1,000	-	-	-	-	-

The reality of the market was different though: the deficits caused by contract cutbacks were either balanced by postponing contracts to later years or in most of all cases, by buying foreign hops especially from the US, so that a considerable part of the spot market was active on a small scale only. The unattractive, low bitter values of German hops of the 1992 harvest may have con-

tributed to that. When finally the farmers were ready to sell at lower prices, there no longer was any demand.

In February 1992 already, the producers' association Hallertau decided to keep DEM 3.3 million from the 1990 subsidy, that is 25% to finance market stabilization measures. In view of the critical

market situation in spring 1993, the association came back on this decision and decided on March 14, 1993 to buy all of the 1992 spot hops in farmers' hands for utilization on a commission basis. The actual weight for this action was finished on April 16, 1993. As almost all farmers made use of this opportunity, the first hand was considered as sold out by mid April 1993.

# UNITED KINGDOM

## Growth and Market Development

The English harvest again suffered from insufficient precipitation and a mildew attack.

The weather conditions at the beginning of the vegetation period were favourable. In April and May, rain was abundant and the temperatures were warm. In the month of May, all of the English growing regions reported above average growth.

The month of June, however, brought a decisive aggravation of the situation. The continuous high temperatures were accompanied by high winds, especially in the southeast of the country. This considerably slowed down plant growth

which in some regions even was interrupted. It was only in July that the situation improved with temperatures slightly decreasing and some single or moderate rainfalls in the south east and West Midlands respectively.

The yields per ha reported from the south east were as low as in 1956 for the last time, while the average crop per ha in the West Midlands was slightly better. The weather conditions, which all in all were unfavourable, led to an only moderate hop quality with low bittering values. Due to the high winds in late August, the

cones have not reached the optimum point of maturity. The bittering value of the English harvest and especially of the varieties Northdown and Challenger, was low.

With 4,820.9 tons the English yield was about 20 % below that of the previous year. However, the amount harvested in the previous year, namely 6,000 tons, was a record yield which was not obtained during several years. The average yield per ha decreased from 1.71 tons in the previous year to only 1.42 tons.

## Varieties grown and yield

Following are acreage and amount harvested per variety of the English yield:

Variety	Crop 1992 ha	Crop 1991 ha	Crop 1990 ha
Goldings	323	337	382
Fuggles	297	319	370
W.G.V.	60	67	73
Progress	69	62	57
Bramling Cross	31	29	34
Total aroma varieties	780	814	916
Target	1,664	1,692	1,289
Yeoman	110	128	162
Zenith	4	11	14
Omega	10	21	48
Challenger	410	437	408
Northdown	403	408	409
Northern Brewer	15	16	3
others	0	0	1
Total bitter varieties	2,616	2,713	2,334
Total	3,396	3,527	3,250

Variety	Harvest 1992 tons	Harvest 1991 tons	Harvest 1990 tons
Goldings	448	585	521
Fuggles	406	513	464
W.G.V.	71	81	76
Progress	61	93	56
Bramling Cross	37	37	26
Total aroma varieties	1,023	1,309	1,143
Target	2,370	2,813	1,651
Yeoman	150	203	172
Zenith	6	17	15
Omega	12	35	43
Challenger	643	820	542
Northdown	599	795	575
Northern Brewer	17	26	3
Total bitter varieties	3,797	4,709	3,001
Total	4,820	6,018	4,144

The bittering values of the English hops of the 1992 harvest were the following compared to the previous year:

Variety	Crop 1992 %	Crop 1991 %
Goldings	4.6	6.0
Fuggles	3.7	4.8
W.G.V.	4.4	6.5
Progress	5.7	7.0
Bramling Cross	5.9	6.5
Average aroma varieties	4.3	5.6
Target	10.1	12.0
Yeoman	10.2	12.3
Zenith	9.0	9.7
Omega	8.1	10.6
Challenger	5.8	8.0
Northdown	7.0	8.5
Northern Brewer	9.0	9.7
Average bitter varieties	8.8	10.7
Total average	7.9	9.3

## FRANCE

### Growth and Market Development

The climatic conditions in 1992 were more or less disadvantageous. Hail, storms, storm damages and, at the beginning of the harvest, excessive temperatures and drought with periods of heavy rainfall negatively affected growth and hop maturity.

The average yield per ha thus was lower than expected and the quality of the hops was not satisfying. Above all, the content of bitter substances of all varieties was far below the long-time average.

At the time of reporting in spring 1993, the total French yield was sold, apart from some remainders. 60 % of the total amount were exported.

### Varieties Grown and Yield

In Alsace, the acreage increased by 61 ha. The aroma variety Strisselspalt is grown on 91 % of the additional acreage.

### Cultivation of varieties

The acreage is cultivated with the single varieties as follows:

variety/ha area	Total		Aroma hops		Brewers Gold		Northern Brewer		High Alpha	
	1992	1991	1992	1991	1992	1991	1992	1991	1992	1991
Alsace	578.0	521.0	544.0	492.0	13.0	13.0	-	-	21.0	16.0
Nord	62.0	61.0	16.0	15.5	11.0	11.0	14.5	14.5	20.5	20.0
Burgundy	2.0	2.0	-	-	2.0	2.0	-	-	-	-
Total	642.0	584.0	560.0	507.5	26.0	26.0	14.5	14.5	41.5	36.0

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

variety/area	Total	Aroma hops	Brewers Gold	Northern Brewer	High Alpha
Alsace	852.2	792.5	35.5	-	24.2
Nord	62.0	11.9	14.3	13.7	22.1
Burgundy	2.9	-	2.9	-	-
Total	917.1	804.4	52.7	13.7	46.3

## BELGIUM

While the acreage itself with its 394 ha was about the same than in the previous year (389 ha), there was a change in this country's hop cultivation structure. During the last two years, 50 ha each were planted with the English alpha varieties Target and Yeoman in particular. Thus more than 70 % of the total acreage are planted with alpha hops by now. The total amount harvested includes 426 tons of bitter varieties, that also is more than 70 % of the total amount harvested.

Another 50 ha may be planted with bitter hops next year, whereas the acreage on which aroma varieties are cultivated might further decrease.

In spring this year about 90 tons of Belgian hops, especially of the variety Target, may still have been unsold.

### Varieties grown and yield

The acreage in ha distributes to the different varieties as follows:

Growing region	Total	Bitter varieties	Aroma varieties	Others
Poperinge	330	268	62	-
Aalst/Asse	64	16	40	8
Total	394	284	102	8

The total amount harvested (in tons) distributes to the varieties as follows:

Growing region	Total	Bitter varieties	Aroma varieties	Others
Poperinge	499.6	399.8	99.8	-
Aalst/Asse	107.8	26.5	67.3	14.0
Total	607.4	426.3	167.1	14.0



## CZECH REPUBLIC - SLOVAKIAN REPUBLIC

### Political Development

On January 1, 1993 the Federal Republic of Czechoslovakia was divided into the now independent states of the Czech Republic and the Slovakian Republic. Three of the four hop growing regions in former Czechoslovakia are situated in today's area of the Czech Republic, namely the growing regions of Saaz (Zatec), Auscha (Ustek) and Tirschitz (Trstice). The hop gardens situated in the eastern part of former Czechoslovakia around the cities of Trenčin and Piestany now are part of the Slovakian Republic. The 1992 hop crop was dealt with before the division into two states. Thus, the new political situation will be taken into consideration from the 1993 harvest on. It remains to be seen how the Slovakian harvest will be marketed in future. Up to now, hop trade was organized with the help of institutions situated in today's Czech Republic. It might be difficult to keep the present marketing system for the Slovakian Republic since the drawing up of the frontier between the two states is completed and there are differences in the efficiency of the two states' economies and the evaluation of the relevant currencies.

### Growth and Market development

During the whole vegetation period, the Czech growing regions suffered from an extreme drought and heat. The plant growth was considerably impaired. The total amount harvested was more than 10% below that of the previous year. With an average of below 3%, the bittering values of the aroma hops were much less than that of the previous year (3.9%).

In all of the four growing regions of the Czech and Slovakian republics only the variety Saazer is cultivated. Today about 80% of the amount harvested are exported.

### Organization of Hop Business

The privatization in the new republics continues - especially in the Czech Republic. This also applies to hop business. Meanwhile, 6 trading companies are working on the Czech hop market and hop cultivation partially passed into the hands of private individuals. As before in other communist or socialist countries, the process of converting a planned or state economy into a market economy leads to considerable problems for both farmers and trading companies.

As regards the acreage, there were no important changes in comparison with last year. According to experts of the market, the acreage should remain stable during the years to come.

## SLOVENIA

The acreage of this country, which is independent since 1991, was slightly reduced to 43 ha. 88 ha of the acreage are planted with baby hops.

Acreage and yield of the three variety groups were the following:

Variety	Acreage (ha)	Yield (tons)
Steirer Golding	987.1	1,163.8
Supersteirer Aurora	1,259.3	2,319.8
Other varieties	137.9	191.8
Total	2,384.3	3,675.4

More than 80% of the harvest of this country are exported. The local brewing industry with its estimated beer output of about 2 million hl needs approx. 400 tons. There were no imports of hops of the 1992 harvest.

In 1993, the acreage should be about the same.

## SPAIN

The weather conditions in spring were favourable at first. The month of June, however, brought cold and rainy days that resulted in a deterioration of the general situation. After having inspected the hop gardens, the members of the administrative council of the hop marketing association expected the crop to be considerably lower than that of the previous year.

The harvest results confirmed these expectations. Spain had to face one of the lowest yields per ha of the past years. The total amount of 1,280.5 tons is made up by the following varieties:

H/3	1,018.0 tons
H/7	261.6 tons
Strisselspalter	0.9 tons

Especially the major varieties H/7 and H/3 suffered from the bad weather conditions. The amounts harvested of these varieties were about 50% and 40% below that of last year.

The bittering value of the variety H/7 with 6.1% was lower than last year's (6.6%), the one of the variety H/3 with 8.2%, however, was higher than last year's (7.7%).

## YUGOSLAVIA - Vojvodina

### Weather Conditions

In 1992, an extraordinarily dry period was to be noted in the growing region. The plants suffered from a lack of water, the vines had sufficient, but small cones which did not reach the optimum point of maturity.

In July and even in August the temperatures ranged between 22.1 and 25.8°C respectively, which is far above the long-time average. The amount of precipitation was only 33.2 mm in July, in August there was not any precipitation at all.

Due to the high temperatures and lack in precipitation, the plants suffered from a red spider attack, which already started in early May, so that they had to be treated with pesticides during the whole vegetation period.

### Varieties Grown and Yield

In comparison to the previous year, the acreage was reduced to 556 ha. 260.5 ha are cultivated with aroma varieties, whereas 290 ha are cultivated with high-alpha varieties. 12 ha of the total acreage is baby acreage.

Due to the unfavourable weather conditions, the average yield per ha was extraordinarily low (0.86 tons), the content of bitter substances was far below average, too.

The total yield of this growing region was sold to domestic breweries. It would not have been possible to export any hops because of the trade embargo on Yugoslavia (Serbia and Montenegro), the beer output of which is said to be about 5 million hl.

## Other Countries of Europe

### AUSTRIA

#### Mühlviertel

On an acreage, which was about the same than in the previous year, the amount harvested was slightly higher due to a marginally improved average yield.

For the second year in a row, the hop classification committee, consisting of six experts of the brewing industry, four hop farmers and one arbitrator, placed the total yield in quality class 1. The total yield thus was taken up by the local brewing industry without any problems. The hop price is calculated from the so-called statistics on hop imports. Due to the price increase on the world market, the prices paid for the 1992 harvest were about 7 % higher than that of the previous year.

### SWITZERLAND

With its total yield of 40 tons, the 1992 harvest was below that of the previous year (47.8 tons).

The Swiss brewing industry again took up the total crop which covers about 20 % of its annual hop need.

### HUNGARY

305 ha of the acreage are cultivated with high-alpha varieties that also make up for about 95 % of Hungary's 1992 yield.

In 1992, the acreage decreased by 56 ha in comparison with the previous year; another reduction is expected for 1993.

### POLAND

The amount harvested on a slightly increased acreage was a bit below that of the previous year.

90 % of the acreage is cultivated with aroma hops, the average bittering value of which was 3.8 % in 1992. The amount harvested of the aroma varieties was about 2,268.2 tons. The acreage cultivated with bitter hops was 200 ha. This is 40 ha more than in the previous year, with an amount harvested of about 226 tons.

Another slight increase in the acreage cultivated with bitter hops is reported for 1993.

About 50 tons of the Polish harvest were still unsold in spring 1993.

### BULGARIA

This country's acreage slightly decreased by 10 ha. Due to an additional decrease of the average yield, the amount harvested was only 764 tons.

The total yield is taken up by the local brewing industry, the beer output of which is said to be 6 million hl.

A considerable decrease of the acreage to approx. 750 ha is announced for the next crop year.

### UKRAINE

In comparison to last year, the acreage was reduced by about 10 % (= 600 ha). 6,300 ha of the total area are cultivated with aroma hops, while 400 ha are cultivated with bitter hops. The amount harvested was reported to be 6,256 tons. The complete hop cultivation of that state, which now is independent, is directed by a state unit controlled by the Ministry of Agriculture. This authority called Ukrchmel controls 75 state farms and about 100 cooperative associations. 4,300 ha of the total acreage are cultivated by state farms. The variety exclusively cultivated on that area is called Klon 18, an aroma variety with an average bittering value of 3 % to 4 %. 170 ha of the total area are used for hop research and hop breeding.

The state marketing organisation Ukrchmel owns five packing systems as well as a research institute for hop cultivation. The organisation also includes a sales and marketing department as well as a foreign trade department.

The beer output in the Ukraine is indicated to be 13.8 million hl which is an annual per capita consumption of about 25 litres.

### REPUBLIC OF RUSSIA

An acreage of about 5,000 ha is said to be cultivated with hops in today's Russia. The most important area (80 % of the total acreage) is situated in Tschuwassch in the vicinity of the Ural mountains. Apart from that, hops are said to be cultivated in 10 different growing regions that are very small though. The amount harvested in this country is about 4,000 tons. In 1991, however, only 3,600 tons were harvested. 80 % to 85 % of the total amount of hops harvested are made up by an aroma variety the alpha acid content of which is rather low (about 3.5 % as is).

Russian beer output is indicated to be 31 million hl. The Russian brewing industry may need about 9,000 tons of hops per year. We assume that the major part of the hops imported comes from the Ukraine which is now independent of Russia.

### ROMANIA

The total amount harvested is estimated at 2,800 tons. The quantity harvested in the most important growing region which is situated near Sichisoara (Schäsburg) amounts up to 1,400 tons. Still today mainly state farms are cultivating hops. It is only in the area of Sichisoara that 6 private enterprises are growing hops. The main varieties are Brewers Gold, Hüller and Northern Brewer as well as some locally bred varieties. For marketing, hops are placed in three quality categories. The classification according to quality is carried out in the laboratory of the agricultural university of Cloy (Klausenburg). About 800 tons of the total amount harvested were pre-contracted with the local brewing industry. 1,600 Lei were paid for 1 kg of hops of the best quality class (1 DM = 304 Lei). Within the course of price liberalization, however, a further price increase is expected. The last price, which became known for free hops, was about 2.800 Lei per kg.

### TURKEY

Hop cultivation in this country more than doubled. The average amount harvested, however, was only about 0.6 tons per ha because of the baby acreage.

The varieties Brewers Gold and Late Cluster are cultivated on an acreage of 190 ha and 50 ha respectively, while the remaining acreage is cultivated with aroma varieties.

## OTHER COUNTRIES

### AUSTRALIA

The result of the 1992 crop is the following:

Region	Variety	Acreage/ha	Crop/tons	Yield tons/ha
Tasmania	Pride of Ringwood	618	1,828.5	2.95
	APR *)	170	415.0	2.44
	Cluster	15	32.5	2.17
	Aroma	10	10.5	1.05
<b>Subtotal</b>		<b>813</b>	<b>2,286.5</b>	<b>2.81</b>
Victoria	Pride of Ringwood	274	744.0	2.71
	Cluster	46	87.0	1.89
	APR *)	22	14.0	0.64
<b>Subtotal</b>		<b>342</b>	<b>845.0</b>	<b>2.47</b>
<b>Total</b>		<b>1,155</b>	<b>3,131.5</b>	<b>2.71</b>

\*) APR = Australian Highalpha

### NEW ZEALAND

The result of crop 1992 is as follows:

Variety	Acreage ha	Amount tons	Yield harvested tons/ha
New Zealand Hallertau	25	55.7	2.2
Pacific Gem	67	155.6	2.3
Green Bullet	39	85.3	2.2
Super Alpha	95	226.4	2.4
Sticklebract	25	62.4	2.5
Tettnanger	2	1.2	0.6
Hallertauer	1	0.9	0.9
<b>Total</b>	<b>254</b>	<b>587.5</b>	<b>2.3</b>

The bitter values were the following:

New Zealand Hallertau	8.0
Pacific Gem	14.8
Green Bullet	12.4
Super Alpha	12.2
Sticklebract	12.7
Tettnanger	8.3
Hallertauer	7.1

in percent, as is. The values were measured after the harvest.

### INDIA

Some years ago, hop cultivation in this country, namely in the state of Cashmere in the north-west of India, was given up due to political and religious reasons and continuous unrest in this area. Now some experiments on hop cultivation are made in Pattan Valley, situated in the state of Himachal Pradesh which is farther south in comparison to the former growing region. At present, about 400 ha in the valleys of the rivers Chonad and Sutley are said to be cultivated with hops. The main variety cultivated is Late Cluster. The amount harvested in 1992 allegedly was only 20 tons which is an average yield per ha of below 0.1 tons. A yield of 600 tons is expected for the future.

Hop cultivation is supported by local breweries and federal authorities. For example, credits are being granted for the construction of trellises. The hops are marketed by the association of the farmers. The price paid by the breweries depends on a quality assessment of the hops delivered.

### PEOPLE'S REPUBLIC OF CHINA

For the brewing year of 1992, the beer output of this country is estimated to be above 100 million hl. However, the actual beer output is still uncertain. We decided to indicate 90 million hl in our statistics on world beer production – at any rate, a considerable increase in comparison to last year's output which was also based on estimates though.

Due to the economic changes, it now is easier to get information on the development of hop cultivation in this country than it was a few years ago. The 1992 yield of the main hop growing region Xinjiang is expected to be about 10,000 tons. In the two other growing regions, Ganzu and Ninxia, about 3,000 to 4,000 tons will be harvested. Thus the total amount harvested in China would range between 13,000 and 14,000 tons.

It is still difficult to estimate the acreage. Officially, it is indicated to be 70,000  $\mu$  which is about 4,600 ha. Thus the acreage of 8,000 ha, which we indicated in former reports, would be too high. As a consequence, the yield per hectare would be much higher than assumed so far, in spite of the low trellises they use there. Since there is no actual increase in acreage, we decided to keep the values we indicated until now.

China plans to double its beer output until the end of this millennium. However, a per capita consumption of less than 20 litres per inhabitant would still be rather low.

### REPUBLIC OF KOREA

The acreage in this country was further reduced to a mere 144 ha. As a consequence, the yield was less than half of that of the previous year, the average amount harvested was equal to the previous year's though.

For the first time after several years, beer production decreased by about 10 %, resulting in an output of less than 15 million hl.

### JAPAN

At the beginning of the vegetation period in April and May, the temperatures were low which caused a certain delay in growth. The situation improved with more favourable weather, so that in late June the hop plants were in an excellent condition. It was only from the southern area of the growing region of Tohoku that before the harvest a moderate plant condition was reported.

Due to these favourable conditions, the average amount harvested in Japan was 1.93 tons which is about 10 % more than in 1991. In spite of a reduction in acreage, the amount harvested (1,271 tons) was about the same than that of the previous year.

In this country, hop acreage decreases year after year. For 1993, another reduction to a mere 600 ha is expected. The number of hop growers decreased from 1,427 of the previous year to 1,248 this year. The major difficulties hop cultivation experiences in Japan are the lack of successors to the single farmers as well as inadequate farm equipment.

The total crop is bought by the four Japanese brewery groups. In more detail, the single breweries account for the following acreage and yield:

Brewery group	Acreage ha in 1992	Acreage ha in 1991
Kirin	402	456
Sapporo	171	172
Asahi	78	103
Suntory	9	11
<b>Total</b>	<b>660</b>	<b>742</b>

The single breweries take over the following amounts:

Kirin	770 mt
Sapporo	331 mt
Asahi	154 mt
Suntory	16 mt
<b>Total</b>	<b>1,271 mt</b>

The hops taken over by the breweries were placed in three categories. The following prices were paid on the basis of a water content of 11.5 %:

Category 1	2,129 Yen/kg
Category 2	2,024 Yen/kg
Category 3	1,599 Yen/kg

The farmer's cooperative was paid 95 Yen/kg (100 Yen = approx. DEM 1.15).

## USA Growth

The winter season of 1991/92 lacked sufficient cold temperatures to cause concern over plant damage. More concern was focused on the upcoming water situation with predictions of dry, hot summer temperatures.

As predicted, the summer brought hot and dry days, with average daily temperatures increasing by 5° F over 1991 (1991 average daily temperature 80°, 1992 average daily temperature 85° F). The warmer temperatures resulted in an earlier start on harvest by 10 days. Harvest conditions were hot, with occasional thunder showers and high winds. Yields were not affected by the weather conditions, except for the aroma varieties Tettnanger and Fuggles.

Acreage increased in 1992 by 2,713 acres, resulting in a total crop of 74.34 million pounds (1991 = 69.19 million pounds) with an average yield of 1,881 pounds per acre, compared to 1,748 pounds per acre in 1991.

### Washington

The mild winter of 1991/92 brought several uncertainties to the 1992 growing season. The primary concern was less than normal snowpack in the mountains forcing irrigation districts and growers to plan for a short water supply. In spring, the various water districts established a water rationing program for each district. With the rationing program and cooperation among growers the water supply in general was adequate in the Yakima Valley although the situation varied between the individual irrigation districts.

Another concern of the hop growers were warm spring temperatures. The average daytime temperature in April was 72° F, which brought an early plant development and disrupted training dates for the aroma varieties Perle and Tettnang. Most growers trained these two varieties earlier than normal which made them weak all year long. Compared to 1991, the Perle yield decreased by 60 pounds per acre to 1,290 pounds and Tettnang yield decreased by 480 pounds per acre to 730 pounds per acre.

Some varieties produced very well and had strong yields. The Cascade yield increased by 150 pounds per acre to 2,200 pounds per acre, Chinook increased by 330 pounds per acre to 2,120 pounds per acre and Eroica increased by 390 pounds per acre to 2,470 pounds per acre compared to 1991 yields.

The 1992 Washington crop was 57,106,300 pounds with an average

yield of 1,881 pounds per acre. This yield exceeded the hop industry estimates from August by approximately 5 million pounds which was a surprise to the whole hop industry. The 1992 overall crop size was larger than the 1991 crop because of higher acreage despite the fact that the average yield per acre was down by 15 pounds.

### Oregon

The 1991/92 winter was the warmest on record with temperatures reaching 60° to 70° F during the months of January and February. This weather trend resulted in the disruption of dormancy and normal growth patterns for a number of varieties. While Fuggle, Nugget and Galenas grew vigorously early on, they experienced some serious early bloom. In contrast, Willamettes did not begin any growth until late May or early June. Rainfall totals were seriously below normal and temperatures continued to be high throughout the growing season. Downy mildew infections were insignificant but spider mites became a difficult problem due to the dry conditions.

In spite of the late start, the Willamettes made a remarkable recovery averaging 1,380 pounds per acre, 20 pounds per acre more than 1991. Fuggles and Galenas fell victim to the early bloom problem. The Nuggets bloomed early but in most cases continued to set cones through late August yielding 2,060 pounds per acre, an increase of 270 pounds from 1991. The total crop in Oregon averaged 1,479 pounds per acre in 1992 versus 1,415 pounds per acre in 1991.

### Idaho

For the third year in a row, the winter snowpack in the mountains was extremely light. The irrigation districts set up rationing programs, but with the limited water supply, it was known by all that water delivery would not be possible for the complete growing season. In addition to spring work, growers started hiring well drillers to establish another source of water to help supplement their water needs.

Spring weather, May through June, was warm and dry. Hop plants developed normally but the soil was dry. Therefore, irrigation was started early. July weather continued hot and dry, daytime temperatures averaging in the 85-90° F range, with no precipitation. On August 5th, irrigation districts turned off all supplies of water. Growers then worked together sharing well water to finish out the season. Although the yield per acre was 1,387 pounds, up from 1,319 pounds per acre in 1991, it could possibly have been even stronger if the water supply had been normal.

## Quality

In general, the physical appearance of the hop crop was good in 1992. This can be attributed mainly to the use of plant protection materials which controlled hop aphid and spider mites. Using these plant protection measures, mold and redness in the hops was kept to an absolute minimum.

The picking quality decreased slightly as the average leaf and stem content increased from 0.85 % to 0.93 %. Seed content decreased slightly compared to 1991.

Alpha production increased to 3,154 metric tons (1991 - 2,878 metric tons) which is a 9.1 % increase. Part of the alpha increase is due to the 9.5 % increase in acreage. Also, the average alpha increased to 9.35 % from 9.2 % in 1991. The alpha range for high alpha varieties remained relatively the same at 10.5 % to 14.0 %. The aroma varieties ranged from 3.5 % to 6.6 %, with Perle showing alpha from 7.1 % to 9.2 %.

## Spot Market

There were approximately 1,500 to 2,000 bales of 1991 crop left in grower hands at the beginning of 1992. These 1991 crop spots consisted mainly of Cluster and high alpha varieties. The growers sold most of these spots between January and February at \$ 2.00 flat per pound for Cluster and \$ 2.20 flat per pound for high alpha.

The 1992 spot market began in mid August with a few Willamettes selling for \$ 2.40 per pound. For the first three weeks of September, the following prices prevailed:

Variety	Price per Pound
Cluster	\$ 1.70
Cascade	\$ 2.00 - \$ 2.10
Willamette	\$ 2.30
Tettnang	\$ 2.50 - \$ 3.00
High Alpha	\$ 2.00 - \$ 2.20

At the above-mentioned prices, the market was moving cautiously because growers were anticipating even higher markets. During the last week of September, growers were offered the following:

Variety	Price per Pound
Cluster	\$ 1.60
Cascade	\$ 2.00 - \$ 2.10
Willamette	\$ 2.30
Tettnang	\$ 2.50 - \$ 3.00
High Alpha	\$ 2.40

continued on page 16



## Variety Structure

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

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

Variety/ Variety Group	Washington		Oregon		Idaho		Total	
	92	91	92	91	92	91	92	91
Cluster	21	22	-	-	16	18	17	18
Cascade	4	4	-	-	-	-	3	3
Aroma varieties	25	25	58	61	7	6	29	30
Highalpha	49	48	30	25	24	30	43	42
others *	1	1	12	14	54	46	8	8
Total	100	100	100	100	100	100	100	100

### Acreage (ha) per Variety/Variety Group

Variety/ Variety Group	Washington		Oregon		Idaho		Total	
	92	91	92	91	92	91	92	91
Cluster	2,613	2,523	-	-	254	297	2,867	2,820
Cascade	511	502	-	-	-	-	511	502
Highalpha								
Galena	3,380	3,089	41	40	207	209	3,628	3,338
Nugget	1,460	1,197	932	687	-	-	2,392	1,884
Chinook	883	855	-	-	183	188	1,066	1,043
Olympic	118	136	-	-	-	-	118	136
Eroica	151	161	-	-	-	98	151	259
Aroma varieties								
Willamette	1,064	1,046	1,458	1,454	-	-	2,522	2,500
Tettnang	861	913	233	234	-	-	1,094	1,147
Mt. Hood	579	332	37	19	-	-	616	351
Perle	294	307	115	72	-	-	409	379
Banner	147	148	-	-	66	59	213	207
Aquila	139	140	-	-	42	42	181	182
others *	94	88	385	407	869	774	1,348	1,269
Total	12,298	11,439	3,200	2,913	1,620	1,668	17,118	16,017

### Yield (tons) per variety

Variety/ Variety Group	Washington		Oregon		Idaho		Total	
	92	91	92	91	92	91	92	91
Cluster	5,968	5,906	-	-	591	683	6,559	6,589
Cascade	1,257	1,153	-	-	-	-	1,257	1,153
Highalpha								
Galena	7,603	6,955	59	91	411	360	8,073	7,406
Nugget	3,661	3,029	2,148	1,380	-	-	5,809	4,409
Chinook	2,098	1,715	-	-	313	257	2,411	1,972
Olympic	270	303	-	-	-	-	270	303
Eroica	419	376	-	-	-	182	419	558
Aroma varieties								
Willamette	1,867	1,839	2,253	2,275	-	-	4,120	4,114
Tettnang	700	1,237	193	332	-	-	893	1,569
Mt. Hood	714	398	38	33	-	-	752	431
Perle	425	464	171	78	-	-	596	542
Banner	390	382	-	-	151	120	541	502
Aquila	378	392	-	-	75	71	453	463
others *	153	141	438	426	975	791	1,566	1,358
Total	25,903	24,290	5,300	4,615	2,516	2,463	33,719	31,369

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

\* Others include: Oregon Aquila, Banner, Cascade, Chinook, Cluster, Eroica; Idaho Cascade, Mt. Hood, Nugget, Olympic, Perle, Tettnang, Willamette

continuation of page 14

As shown above, Clusters decreased by \$ .10 per pound and high alpha increased by \$ .20 per pound. This sent a confusing signal to the growers as to whether the market was strengthening or weakening. Due to this uncertainty only a few hops traded. By the first week of October, the spot market had almost diminished with a very few sales. This left approximately 10,000 bales of the original 22,000 - 25,000 bales in grower hands. During the months of October 1992 until March 1993 the market was at a standstill. Certain trading started again in March/April 1993 at \$ 1.05/\$ 1.25 per lb. for Cluster and \$ 1.75/\$ 1.65 for high alpha varieties. By June 1993 about 4,000 bales of high alpha hops and 1,000 bales of Clusters were still left unsold.

According to the USDA Hop Stock Report, there were 56.3 million pounds of hops held by growers, dealers and brewers as of September 1, 1992. This was an increase of 4 % compared to September 1, 1991.

Hop stocks held per September 1 of each **crop year**:

1986 -	70.9 million pounds
1987 -	70.6 million pounds
1988 -	60.6 million pounds
1989 -	51.7 million pounds
1990 -	51.9 million pounds
1991 -	54.2 million pounds
1992 -	56.3 million pounds

The USDA Marketing Service has revised its conversion factors for exports. Therefore, the 1989-1990 export figures are now at 42.9 million pounds. Exports decreased by 11.6 million pounds to 31.3 million pounds in 1990-1991. Imports increased by 3.7 million pounds from 17.2 million pounds in 1989-1990 to 21.0 million pounds in 1990-1991.

## Contract Market

Activity on future contracts was relatively slow in 1992. In January and February, there were a few contracts made for 1992 through 1996. Cluster contracts were made for \$ 1.80 per pound for years 1992-1995. For high-alpha varieties, \$ 1.90 per pound were obtained for the same period. For the aroma varieties, Mt. Hood sold for \$ 2.40, \$ 2.45, \$ 2.50 and \$ 2.55 per pound for 1992 through 1995, too. Cascades sold for \$ 1.85, \$ 1.90, \$ 1.95 and \$ 2.00 per pound for 1993, 1994, 1995 and 1996.

Variety/\$/lb	1992	1993	1994	1995	1996
Cluster	1.80	1.80	1.80	1.80	1.80
High Alpha	1.90	1.90	1.90	1.90	
Mt. Hood	2.40	2.45	2.50	2.55	
Cascade		1.85	1.90	1.95	2.00
Willamette			No Activity		
Tettnang			No Activity		
Perle			No Activity		

In June 1992 with the small demand for future contracts, prices dropped slightly.

Variety/\$/lb	1992	1993	1994	1995	1996
Cluster	1.60	1.60	1.70	1.70	
High Alpha			1.70	1.75	
Mt. Hood	2.40	2.45	2.50		
Cascade		1.80	1.80	1.90	1.90
Willamette			No Activity		
Tettnang			No Activity		
Perle			No Activity		

In August just before harvest, there was a small amount of interest in Clusters at \$ 1.80 per pound for 1993-1995 and High Alpha at \$ 1.80 to 1.90 for 1992-1995. Essentially, there was no contract market for aroma varieties as growers had little or nothing to sell.

Variety/\$/lb	1992	1993	1994	1995
Cluster		1.80	1.80	1.80
High Alpha	1.90	1.80-1.90	1.85-1.90	1.90
Mt. Hood		No Activity		
Cascade		No Activity		
Willamette		No Activity		
Tettnang		No Activity		
Perle		No Activity		

The influence the short European hop crop 1992 had on the US contract market was negligible. Due to the lack of demand, the contract market stopped completely during the last months of 1992 - a development foreshadowing a decline of prices.

### Average Price Return for Growers:

Year	\$/lb.
1987.....	1.51
1988.....	1.40
1989.....	1.31
1990.....	1.40
1991.....	1.58
1992.....	1.64
(preliminary figure of January 1993)	

In comparison to the previous year, the average price increased by \$ 0.06 per pound for crop 1992. The figure may have to be revised downwards by a small amount after completion of all sales of the 1992 crop. The fact that higher prices were obtained can be explained by the expiration of older contracts with lower prices that were replaced with contracts concluded during the higher price period of 1990-1992. Also, some of the price increase is due to the larger production of aroma varieties which demand a higher price because of lower yield.

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.

## CROP 1993 AUSTRALIA

The harvest on a slightly increased acreage was 6 % lower than that of the previous year. This deficit was caused by the fact that the harvest in the state of Victoria was about 25 % below that of the previous year, whereas the results obtained in Tasmania were about the same as in 1992. Again, this proves that Tas-

mania belongs to the growing regions with the highest yields (2.78 tons/ha).

The fact that the hops became overripe too quickly, which made picking even more difficult because of a high level of cone disintegration, was characteristic for the 1993 crop. The alpha acid content of the major variety Pride of Ringwood (9 to 9.5 % as is) was below that obtained in other years.

The crop statistics show the following figures:

Region	Variety	Acreage/ha	Crop/tons
Tasmania	Pride of Ringwood	576	1,752
	APR	225	524
	Cluster	8	18
	Aroma	22	18
<b>Subtotal</b>		<b>831</b>	<b>2,312</b>
Victoria	Pride of Ringwood	280	504
	APR	32	79
	Cluster	34	46
<b>Subtotal</b>		<b>346</b>	<b>629</b>
<b>Total</b>		<b>1,177</b>	<b>2,941</b>

## NEW ZEALAND

Last summer, the temperatures in New Zealand were lower than usual, at the end of the growing period it was rather dry though. Due to low temperatures, pest attacks were not important. The amount harvested on a 270 ha acreage was 630 tons, that is 7 % more than in the previous year. The major part of the 1993 harvest was already sold at harvest.

Apart from an increase in the amount harvested, a rise in the content of alpha acids was reported.

## SOUTH AFRICA

The harvest on an acreage of 732 ha is said to be good. At the time of reporting, the amount harvested is estimated to be slightly more than 1,300 tons which would be another increase in the yield per ha.

The only variety cultivated still is Southern Brewer. At present, experiments with the cultivation of high-alpha hops are made in the experimental gardens of the local South African Brewery.

451 ha in this country are cultivated by private individuals, while 280 ha are cultivated by the South African Brewery. The South African beer output, which was continuously increasing before, now stagnates at 22.5 million hl.

## ZIMBABWE

Contrary to the original plans, namely to increase acreage during the years to come to more than 300 ha, we nowadays assume an acreage of 160 ha with a maximum yield of 220 to 240 tons. The acreage is reported to be 162 ha with an amount harvested of 202 tons. This means an average yield of 1.25 tons compared to 1.00 tons in 1992. The average bittering value of the only variety cultivated, namely Southern Brewer, was about 10.0 % as is.

## Europe 1993 Crop Outlook

After the extraordinarily dry summer Europe experienced in 1992, which caused quantity and quality losses, the winter of 1992/1993 brought sufficient precipitation. This temporarily guaranteed the water supplies the soil needed for the 1993 vegetation period. However, the winter of 1992/1993 was a rather long one with temperatures below freezing point until early April. This delayed hop growth and it was only in mid April that the first lower shoots appeared at the cut crown. The month of April brought higher temperatures, but no rain. The varieties Northern Brewer and Perle were trained at that time. In general, hop growth is about one week earlier than usual.

In the following period, in May and June, the weather was characterized by intermittent cold and rainy as well as long dry, very summery periods. In late June plant growth was average or good in all European growing regions.

## USA 1993 Crop Outlook

Snow fell early in Yakima Valley, beginning in November of 1992 and staying on the ground until early March of 1993. The snowfall was a near record of 52.5 inches. Although the hop growing region had a large accumulation, the surrounding mountain areas had a snowpack below normal. The mountain areas received only 46 % of normal snowpack. This has the potential of disrupting the summer irrigation water delivery.

In the Idaho mountains, the snowpack was very good. The snowfall was welcomed because all reservoirs in the Idaho growing area were drained in 1992. With this ample snowfall, most, if not all, the reservoirs should be full by spring, and Idaho should have an adequate water supply in 1993.

Oregon has always had an abundant water supply, and this should continue in 1993.

While the growing season was delayed because of the late winter, favorable weather conditions in April/May 1993 have brought plants almost at par.

Great concern in the hop growing community is caused by a constant narrowing of approved chemicals and their application on hops. Growing areas with a more humid climate like the Willamette Valley in Oregon are particularly exposed.

## Prospects 1993

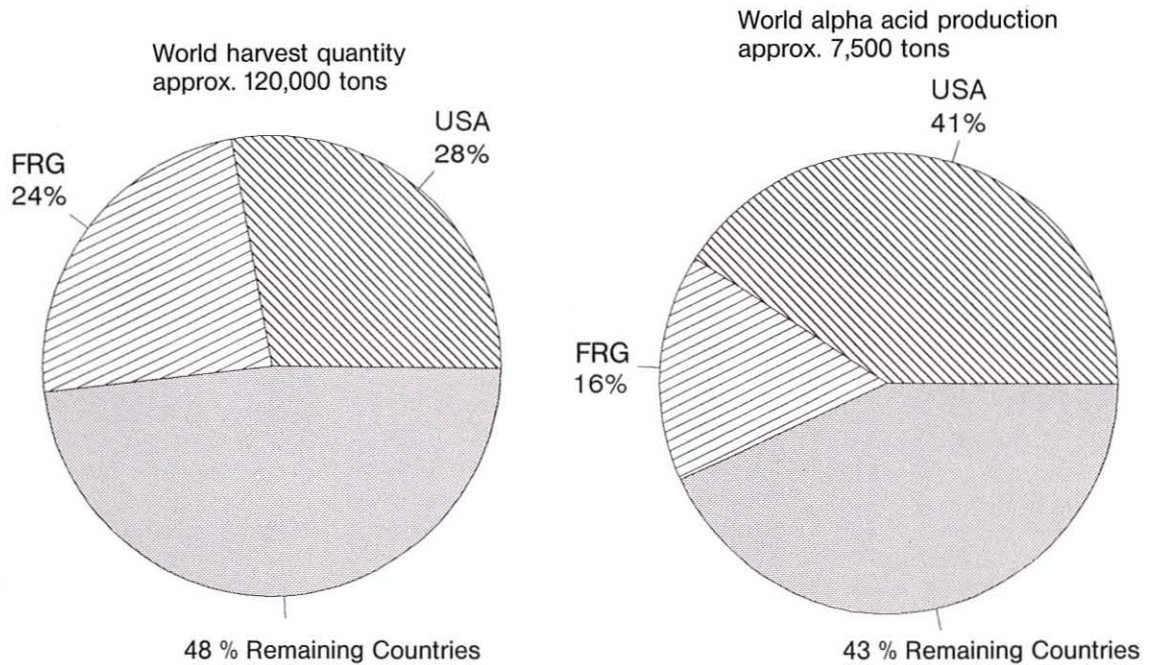
With a slightly increased world acreage, a normal yield is expected for 1993 despite the mainly cold and wet weather in the most important growing regions. In view of the fact that beer output is stagnating in most countries, hops of the 1993 harvest will be sufficient to ensure an abundant world market supply. However, the market situation differs from variety to variety and from growing region to growing region. As far as estimates regarding the market situation of the coming season are concerned, we may assume that German hop growers will adopt a more active policy as opposed to their abstinence policy in the previous year.

The constant limitation of chemical pesticides and insecticides increasingly threatens the total hop business. The lack of an international harmonization for admissible substances, in particular between the major hop growing countries USA and Germany, restricts the international trade and runs the risk of being abused in favour of protectionist measures. In addition, dangerous situations regarding the quality and quantity harvested in the single growing regions may develop from particular weather conditions.

# Supply of the World Market with Hops

Today it is the quantity of alpha acids harvested and demanded that determines the world hop market. Excess and short supply of alpha acids are the decisive factors for price increases and decreases.

The world alpha acid production of the 1992 crop was only 7,537 tons – as a consequence of lower yields in **Europe** and poor hop quality. On the present acreage and with standard quality, an average world harvest would supply approx. 8,500 tons of **alpha acids**. The following graphics show the world market share of the world's most important growing regions, namely the **USA** and the **Federal Republic of Germany**.



As regards the amount harvested worldwide, the **USA** and the **Federal Republic of Germany** are about equal, whereas the **USA's** high-alpha hop cultivation results in a more than 40 % share of the world's alpha acid production.

The following graphic (starting in 1985) clearly shows how the **USA** was able to strengthen its leading alpha acid production in comparison with other growing regions.

