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HOPS 1979/1980

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Hops 1979/1980

Political Situation

A wave of violence has alarmed the world. The occupation of the US Embassy in Tehran and the seizure of hostages in November, 1979 represented a breach of the international law, the consequences of which are still persisting. In some Central American countries, social tensions exploded in civil war and rebellion. In Europe, separatist attempts and terroristic attacks took a heavy toll of lives. The invasion of Afghanistan by Soviet troops caused a mood of anxiety throughout the whole world. The concern about the conservation of peace was expressed by massive purchasings of precious metal which was paid astronomical prices at times.

Economic Situation

Central problems the politicians and economic experts have to cope with are now as before a sufficient energy supply in the next decades, the attenuation of the worldwide inflation and a reduction of the unemployment rate. The upswing in the economic trend slowed down but no general recession is expected.

For 1980, an increase of the world trade of 3.5 to 4 % (1979: + 7 %) is reckoned with. Repeated increases of the petroleum prices mainly further an acceleration of rising prices.

In the **USA,** recessive tendencies made their way while inflation is going on. In July, 1979 the government announced an energy saving program and in March, 1980 an anti-inflation program was proclaimed. After the Prime Rate had reached its peak with 16 % of the Central Bank by the middle of March, 1980, a slight decline can be realized at present.

As compared with other OECD-countries, the **Fed. Rep. of Germany** could achieve good results in 1979: Gross National Product + 4.4 % real, export surplus 22.4 milliards DM, increase of the cost of living + 4.1 %. For the first time since 1965, however, there was a deficit in the balance of current transactions amounting to 9 milliards DM (1978 there was still a surplus of 17.6 milliards). The discount rate was raised step by step and amounts to 7.5 % since 2. 5. 1980; the bank rate for collateral loans reached 9 %. For 1980, the economic institutes expect a real economic growth of 2.5 %, a price increase of 5.5 % and an average unemployment below 850,000 according to the expert opinion published at the end of April.

The most important data:

World-		1978	1979	Difference
cultivation area	ha.	77.599	79.733	+ 3 %
hop production	t.	109.439,5	121.867,4	+ 11 %
α-production	t.	6.456,2	7.141,7	+ 11 %
beer production	million hl.	873,7	909,3	+ 4 %

Production of Beer 1979

Country	1000 hectolitres		Country	1000 hectolitres	
Germany, Fed. Rep.	91.623		b. f.	13.510	772.552
USSR*)	70.000		Cameroons	3.000	
United Kingdom	67.416		Kenya	2.800	
Czechoslovakia	23.610		Zaire	2.619	
Germany, Dem. Rep.	23.000		Ivory Coast	1.300	
France	22.793		Zambia	1.000	
Spain	19.712		Ruanda/Burundi	935	
Netherlands	15.388		Tanzania	900	
Belgium	13.681		Zimbabwe	900	
Jugoslavia	11.254		Angola*)	800	
Poland	11.127		Gabun	650	
Italy	8.899		Algeria*)	600	
Denmark	8.307		Ethiopia	574	
Romania*)	8.300		Mozambique	573	
Austria	7.660		PR Congo	491	
Hungary*)	7.500		Upper Volta	490	
Ireland	6.039		Egypt	430	
Bulgaria*)	5.500		Morocco	389	
Sweden	4.033		Ghana	383	
Switzerland	4.022		Togo	350	
Portugal	3.300		PR Benin	350	
Finland	2.698		Tunisia	349	
Greece	2.200		Senegal	300	
Norway	1.917		Central Africa	240	
Luxembourg	732		Madagascar	234	
Malta	117		Mauritius a. Reunion	225	
Iceland	33		Namibia	221	
Europe		440.861	Liberia	180	
			Tchad	136	
USA[1])	215.809		Uganda	102	
Brazil*)	28.000		Sudan	82	
Mexico	24.649		**Africa**		35.113
Canada	20.540				
Colombia	11.354		Japan	44.758	
Venezuela	10.000		Philippines	7.177	
Peru	4.616		South-Korea	6.425	
Cuba	2.307		China, Peoples Rep.*)	5.000	
Ecuador	2.263		Turkey	2.630	
Argentina	2.100		Taiwan	2.450	
Chile	1.698		Malaysia a. Singapore	1.565	
Bolivia	1.063		Thailand	1.558	
Guatemala	800		Vietnam*)	1.500	
Dominican Rep.	763		India*)	1.200	
Costa Rica	750		Hongkong	700	
Puerto Rico	735		Indonesia	560	
Uruguay	650		Israel	492	
Panama	582		Iraq	430	
Jamaica	580		Lebanon*)	190	
Nicaragua	550		Cyprus	174	
Paraguay	520		Sri Lanka*)	95	
Honduras	485		Syria	80	
El Salvador	439		Jordan	80	
Trinidad a. Tobago	350		**Asia**		77.064
Martinique	53		Australia	19.678	
Guadeloupe	35		New Zealand	3.753	
America		331.691	Oceania	150	
			Australia/Oceania		23.581
South Africa	6.800				
Nigeria	6.710		other countries*)		975
c. f.	13.510	772.552	**WORLD**		909.285

*) Estimate
[1]) USA: Above figure refers to **beer produced** in 1979, i.e. including non-taxable and exported quantities

Beer Production

From 1978 to 1979, the world beer production increased by some 4 %. Many European countries achieved increments resulting in an increase of the Continental output of 3 %. Further increase amounted to 3.5 % in America, 9.5 % in Africa and 10 % in Asia. There was a slight decrease (— 1.5 %) in Australia/Oceania.

1979 Crop

Market Observations

The price development for all hops of the 1979 crop confirmed the existing deficit. While in the previous year it was possible to make up for this shortage largely by means of brewery reserves, the 1979/80 world hops market developed in an unfavourable way for the consumer, since

— with an increasing world beer production (+ 2.5-3 % per year)
— the hop acreage of the main exporting countries remained virtually unchanged,
— the brewery reserves decreased considerably and
— the demand for less yielding aroma hops increased worldwide.

Thus the accumulating needs of the brewing industry had to be covered fully out of the 1979 hops crop, a fact which called forth a price increase which had not been seen for over 20 years. Quantitatively and qualitatively, however, the 1979 world hops crop only achieved average values, except for a few individual cases.

Already at the very beginning of 1979, foresighted breweries started to stock up their hops requirements of future crops. The quantities determined as being unobjectionably contractable in Germany were soon sold out in the aroma varieties of the 1979 and 1980 crops. But also Czechoslovakia, Poland and Jugoslavia were able to book in advance their export quotas of these crops quite early. To the extent of hops being available at all, the more the harvest approached, the more their prices went up.

Because of the high percentage of contractual hops, uncommitted aroma hops of the 1979 crop were extremely scanty. After their quick marketing, the brewing industry took up bitter hops to a large extent, which became scanty as well and benefitted of advanced prices. Favoured by the market bottleneck, British hops were succesful in finding substantial export outlets on the Continent for the first time after many years. It was, however, difficult to find buyers for these mostly unknown varieties.

The hops market has become a typical sellers' market and all signs point to the fact that this will continue to be true during the coming years.

Contract Market

While former bullish trends normalized after a relatively short period of time, this upward tendency is now already lasting for 1½ years and extends to the 1982 crop. Only as from 1983 onwards a slight reduction of the prices can be realized. Most of the aroma hops can no longer be bought from farmers until 1982.

The data on hand show the percentages of contractual hops as follows:

	1980	**1981**	**1982**	**1983**	**1984**
Federal Rep. of Germany	86 %	74 %	69 %	63 %	45 %
France	90 %	80 %	70 %	30 %	
Belgium	50 %	30 %	10 %		
Czechoslovakia	95 %	95 %			
Jugoslavia (Slovenia)	95 %	95 %	95 %	90 %	80 %
USA	99 %	98 %	94 %	84 %	68 %

These numbers cover the total crop which means that with some — mostly aroma — varieties the percentage is considerably higher, such as in 1980/81 up to 100 % in France and over 90 % in the Hallertau.

Acreage and Hop Production

Country	1978 Acreage hectares	1978 ⌀ ton per ha	1978 Crop tons = 1.000 kg	1979 Acreage hectares	1979 ⌀ ton per ha	1979 Crop tons = 1.000 kg
Hallertau	15.012	1,73	25.999,3	14.718	1,83	26.924,9
Spalt	797	1,79	1.430,8	764	1,77	1.355,9
Hersbruck	169	1,67	282,3	167	1,70	284,1
Jura	512	1,94	994,8	509	1,86	944,9
Tettnang	1.109	1,44	1.593,7	1.125	1,48	1.671,7
Other Districts	23	1,27	29,2	23	1,24	28,5
Germany, Federal Rep.	**17.622**	**1,72**	**30.330,1**	**17.306**	**1,80**	**31.210,0**
Kent	3.171	1,57	4.970,4	3.104	1,71	5.316,6
Hampshire	209	1,31	273,1	209	1,59	332,4
Sussex	251	1,51	379,1	225	1,61	362,4
Herefordshire	1.620	1,70	2.756,5	1.592	2,02	3.214,3
Worcestershire	586	1,69	989,6	579	1,88	1.087,1
England	**5.837**	**1,60**	**9.368,7**	**5.709**	**1,81**	**10.312,8**
Alsace	530	1,92	1.016,2	474	2,12	1.004,1
Burgundy	57	1,18	67,5	43	1,56	67,2
Flanders	280	1,44	402,9	245	1,95	478,9
Other Districts	20	0,74	14,8	6	1,48	8,9
France	**887**	**1,69**	**1.501,4**	**768**	**2,03**	**1.559,1**
Aalst	177	1,72	304,8	176	2,06	362,6
Poperinge	602	1,69	1.016,9	554	2,33	1.289,3
Vodelée	22	1,50	33,0	22	1,61	35,5
Belgium	**801**	**1,69**	**1.354,7**	**752**	**2,24**	**1.687,4**
EC-Countries, w/o. Ireland	**25.147**	**1,69**	**42.554,9**	**24.535**	**1,82**	**44.769,3**
Saaz	7.040	0,92	6.442,3	7.040	1,08	7.622,4
Auscha	1.795	1,12	2.016,2	1.795	1,20	2.150,3
Tirschitz	615	1,14	703,5	615	1,30	799,9
Slovakia	950	0,97	925,8	950	1,30	1.240,6
Czechoslovakia	**10.400**	**0,97**	**10.087,8**	**10.400**	**1,13**	**11.813,2**
USSR	**12.000**	**0,92**	**11.000,0*)**	**13.000**	**1,19**	**15.500,0*)**
Slovenia	2.135	1,37	2.917,8	2.139	1,29	2.770,5
Backa and Ilok	966	1,42	1.373,6	967	1,69	1.638,0
Jugoslavia	**3.101**	**1,38**	**4.291,4**	**3.106**	**1,42**	**4.408,5**
Germany, Democratic Rep.	**2.104**	**1,13**	**2.386,5**	**2.160**	**1,67**	**3.610,4**
Poland	**2.400**	**0,81**	**1.942,5**	**2.447**	**1,00**	**2.448,0**
Bulgaria	**1.400**	**0,53**	**750,0*)**	**1.500**	**0,53**	**800,0*)**
Romania	**1.100**	**1,00**	**1.100,0**	**1.150**	**0,96**	**1.100,0*)**
Hungary	**557**	**1,06**	**590,0**	**568**	**0,96**	**550,0**
León	1.737	1,19	2.069,3	1.797	1,43	**2.571,8**
Cantábrica and Galicia	66	0,31	20,5	55	0,25	**13,9**
Spain	**1.803**	**1,16**	**2.089,8**	**1.852**	1,40	**2.585,7**
Other European Countries	**440**	**1,07**	**472,7**	**417**	**1,48**	**619,1**
EUROPE	**60.452**	**1,28**	**77.265,6**	**61.135**	**1,44**	**88.204,2**
Washington	8.637	2,10	18.163,8	9.042	2,01	18.207,4
Oregon	2.214	1,67	3.698,6	2.287	1,71	3.911,8
Idaho	1.081	2,03	2.192,2	1.106	1,89	2.094,2
California	593	1,56	925,7	466	1,51	702,2
USA	**12.525**	**1,99**	**24,980,3**	**12.901**	**1,93**	**24.915,6**
Canada	**327**	**1,44**	**470,6**	**327**	**1,79**	**586,2**
Argentina	**340**	**0,74**	**250,0**	**320**	**0,71**	**227,0**
Japan	**1.234**	**1,76**	**2.167,0**	**1.181**	**1,54**	**1.815,9**
Victoria	431	2,22	959,0	430	1,79	771,1
Tasmania	565	2,12	1.201,0	576	2,53	1.457,0
Australia	**996**	**2,17**	**2.160,0**	**1.006**	**2,21**	**2.228,1**
New Zealand	**137**	**1,54**	**210,5**	**136**	**1,90**	**258,8**
Other Countries	**1.588**	**1,14**	**1.935,5*)**	**2.727**	**1,33**	**3.631,6*)**
WORLD	**77.599**	**1,41**	**109.439,5**	**79.733**	**1,53**	**121.867,4**

*) Estimate

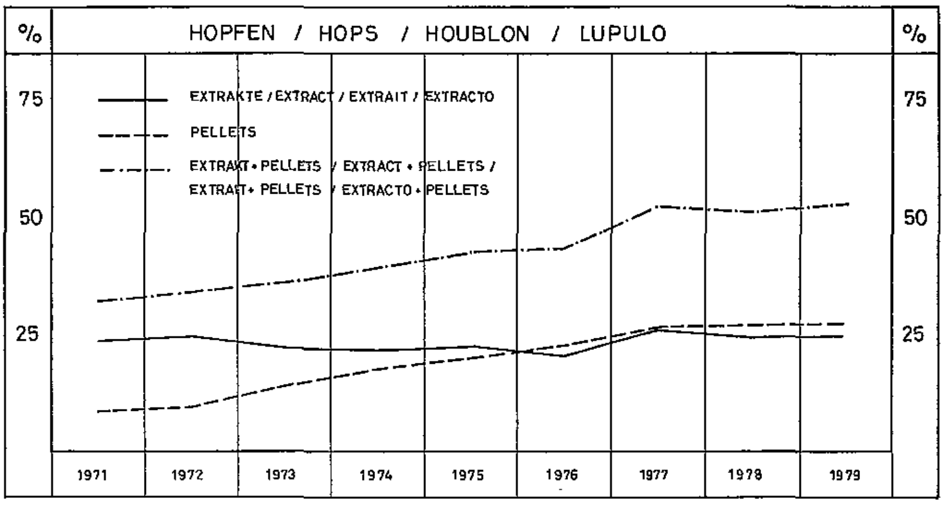
[1]) 1 to = 2.204 lbs = 11.02 Standard bales

The quantities of hops processed into extract and pellets, expressed in percentages of the world hop crop, seem to have stabilized. Subject to the reservations which always apply to **estimates,** the following figures can be given:

Hop Products

Processed to			1976	1977	1978	1979
Extract:	Fed. Rep. of Germany	ca. to	8.800	13.675	10.255	11.170
	USA	ca. to	7.200	9.425	10.000	10.080
	Other countries	ca. to	5.850	7.050	6.290	8.840
		ca. to	21.850	30.150	26.545	30.090
	= % of world production		20,3	25,8	24,3	24,7
Pellets:	Fed. Rep. of Germany	ca. to	11.975	15.600	12.870	14.920
	USA	ca. to	6.750	6.900	7.500	8.970
	Other countries	ca. to	5.670	8.050	8.790	9.015
		ca. to	24.395	30.550	29.160	32.905
	= % of world production		22,7	26,1	26,7	27,0

The percentage of the world production of hops processed is shown in the following graph.



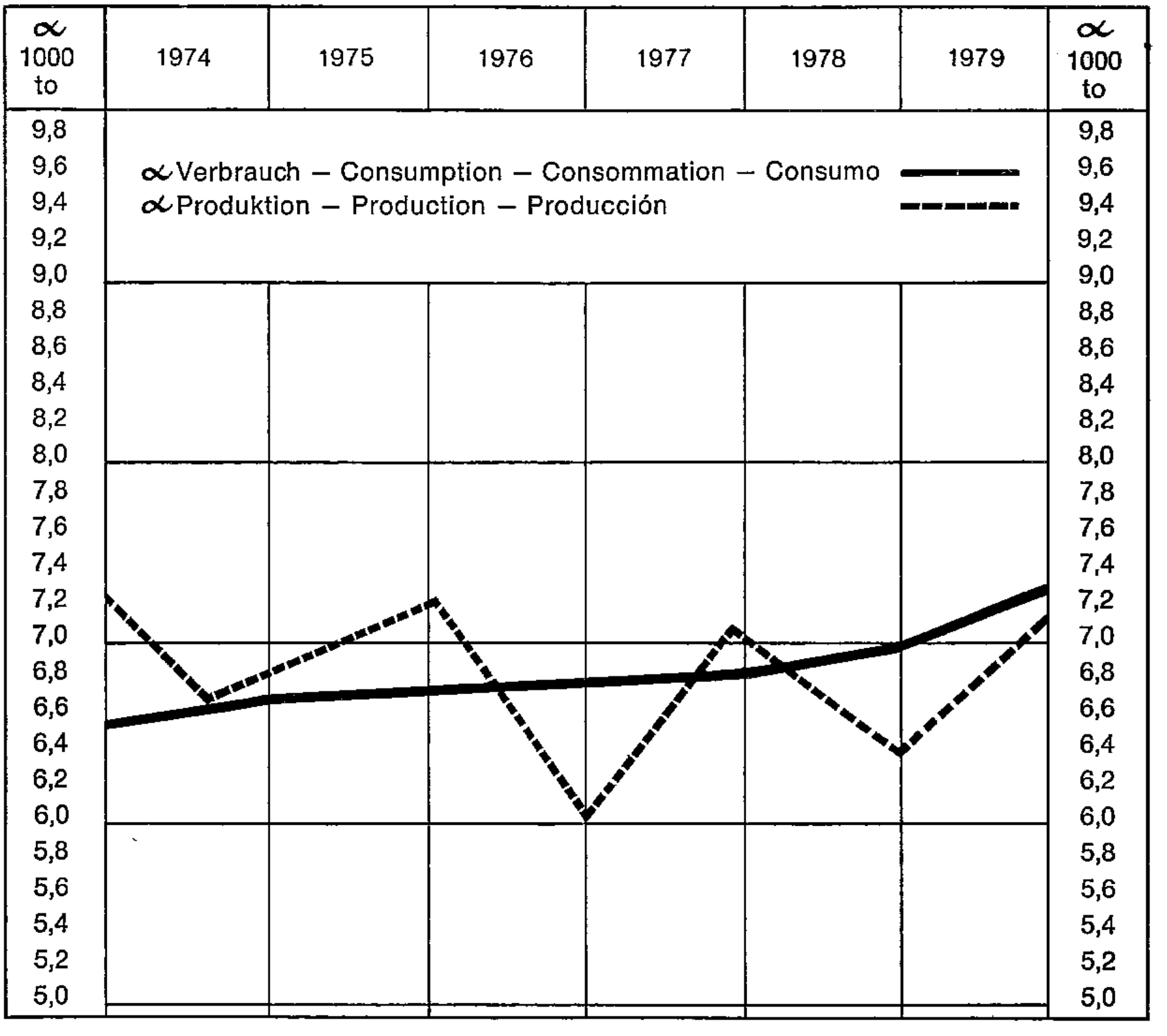
Bitter Values 1979 Crop

Roughly estimated, the alpha content of the 1979 hops was some 10 % above the previous year's one. Exceptions were Brewers Gold and US-Yakima possessing almost the same values. The quick reduction of alpha acids starting already shortly after the harvest with almost all hops often gives room for discussions. Buyers and sellers mostly take as a basis the first analytic values when concluding contracts, which often can no longer be maintained when delivered at a later date. This is the reason for the note at the foot of the following bitter values table.

Variety	1978			1979		
	Total Resin Content %	α %	% of total resins	Total Resin Content %	α %	% of total resins
Hallertau/Hallertau	11,9	3,8	31,9	12,0	4,3	35,8
/Hersbruck	11,8	3,8	32,2	11,7	4,2	35,9
/Hüller	13,3	4,4	33,1	12,0	4,5	37,5
/Northern Brewer	15,1	7,2	47,7	16,0	7,9	49,4
/Brewers Gold	13,4	6,0	44,8	13,8	5,9	42,8
Spalt	11,8	3,9	33,1	13,2	4,8	36,4
Tettnang	11,5	4,0	34,8	13,4	4,5	33,6
Saaz	11,0	3,4	30,9	11,6	3,9	33,6
Alsace / Strisselspalt	12,1	4,0	33,1	10,8	3,0	27,8
Jugoslav. Styria (Golding)	14,9	6,3	42,3	17,4	6,0	34,5
Belgian Northern Brewer	15,7	7,6	48,4	17,2	8,2	47,7
Belgian Brewers Gold	12,4	5,5	44,3	12,6	5,3	42,1
Polish Lublin	12,8	4,1	32,0	13,8	4,7	34,1
US-Yakima Clusters	16,1	6,7	41,6	16,4	6,8	41,5

The figures in the above table refer to the values per Oct./Nov. 1979, **as is,** α evaluated conductometrically. Therefore, they cannot be used as a basis for the evaluation of supplies in the later course of the season.

World Production of Beer and Alpha



For the determination of Alpha production following classification of hops has been maintained:

Group A) **Choicest Aroma Hops** (Saaz, Tettnang, Spalt)
Group B) **Aroma Hops** (Hallertau, Hersbruck, Hüller, Strisselspalt, Lublin, Golding, Fuggle, Cascade and others)
Group C) **Hops with no influence on the World Market** (Eastern Europe, England, Spain, Africa, Asia and other countries)
Group D) **Bitter Hops** (Northern Brewer, Brewers Gold, Cluster, Bullion, Pride of Ringwood and others)

Hop Group	1978 *)				1979			
	% of World Crop	Crop metr. tons	α ∅	α metr. tons	% of World Crop	Crop metr. tons	α ∅	α metr. tons
A	11 %	11.781,1	3,48	410,2	12 %	14.840,8	4,05	601,0
B	22 %	24.547,2	4,46	1.096,2	20 %	24.160,8	4,48	1.082,2
C	30 %	32.583,1	6,36	2.072,1	34 %	41.261,4	5,89	2.429,3
D	37 %	40.528,1	7,10	2.877,7	34 %	41.604,4	7,28	3.029,2
Total	100 %	109.439,5	5,90	6.456,2	100 %	121.867,4	5,86	7.141,7

*) Because of later corrections, some figures have been increased.

There is no relevant indication for a worldwide reduction of the hopping, for which reason we continue calculating **8 g of α-acid per hectolitre of beer.** The following alpha balance is shown:

1976: 825.71 mill. hl×8.2 = 6,770.8 tons α
Production 6,012.3 tons α
Deficit 758.5 tons α

1977: 848.37 mill. hl×8.0 = 6,787.0 tons α
Production 7,048.9 tons α
Surplus 216.9 tons α

1978: 873.33 mill. hl×8.0 = 6,986.6 tons α
Production 6,456.2 tons α
Deficit 530.4 tons α

1979: 909.3 mill. hl×8.0 = 7,274.4 tons α
Production 7,141.7 tons α
Deficit 132.7 tons α

The accumulated deficit of the 1974 requirements/1973 production until 1979 requirements/1978 production of abt. 200 tons of alpha, calculated in **HOPS 1978/79** has gone up to some 260 tons because of subsequent corrections which were mainly due to the fact that the requirements for the brewing year 1979 had been estimated too low. The following picture is shown:

			Balance
Accumulated deficit until 1977 requirements/1976 production			+ 495.0 tons α
1978	Requirements	6,986.6 tons α	
1977	Production	7,048.9 tons α	
	Surplus	62.3 tons α	+ 557.3 tons α
1979	Requirements	7,274.4 tons α	
1978	Production	6,456.2 tons α	
	Deficit	818.2 tons α	— 260.9 tons α
1980	Requirements	ca. 7,493.4 tons α (estimate)	
1979	Production	7,141.7 tons α	
	Deficit	351.7 tons α	— 612.6 tons α

EUROPEAN COMMUNITY (EC)

On 10. 6. 1979 the first direct elections for the European Parliament in Strasbourg took place, representing about 260 million people in the 9 member states. With the joining of Greece, and Spain and Portugal at a later date, this number is going to exceed 350 million. In addition to the inherent and complicated problems, the fighting of the accelerating inflation and unemployment takes an important place.

In June, 1979 England put 20 % of her currency reserves at the disposal of the **European Currency System (ECS)** and on 24.10.1979 the last foreign exchange controls were dispensed with. This provides for a free movement of capital within the EC. But also in future the ECS will remain heavily charged by the different rates of inflation in the individual countries.

In the agricultural line, the expensive storage of surplus goods represents an oppressive problem. About 3/4 of the 1979 EC budget, i. e. 27 milliards of D-Marks, are allotted to agriculture, the warehousing alone devouring some 4 milliards of D-Marks.

Hops Market

As a consequence of the high producers' prices obtained on the spot market which were followed by the contract quotations for years ahead, an uncontrolled extention of the cultivation areas with a subsequent decay of prices was to be feared. In order to avoid this, in January, 1980 the EC Commission proposed to the Council of Ministers a prolongation of the cultivation stop until 30. 8. 1980. The Council, however, did not follow this motion since there is the obligation for producers groups not to enlarge the hop growing areas for 3 years when being granted aids for structural measures.

There are, however opposite interpretations on whether this concerns the single farmer or whether each producers group is to be viewed as one farmer. Obviously, those farmers who do not belong to any producers group are not affected by this measure.

The EC Hop Market Regulations were supplemented by a number of new provisions:

Regulation (EEC) No. 1084/79 issued by the Commission and dated 30. 5. 1979 on changes to the Regulation (EEC) No. 1640/73 dealing with motions for reimbursement of aids granted to the producers groups;

Regulation (EEC) No. 1105/79 issued by the Commission and dated 5. 6. 1979 on a 2nd change of the Regulation (EEC) No. 3077/78 about the determination of the equivalence of certificates for hops imported from third countries. Spain was accepted as a new member;

Regulation (EEC) No. 1209/79 issued by the Council and dated 19. 6. 1979 dealing with the establishment of a producers aid for the 1978 crop. In accordance with what was proposed by the Commission, the following aids were granted:

Aroma hops	350 Acc. Un.	= DM 1.190,—/ha
Bitter hops	300 Acc. Un.	= DM 1.020,—/ha
Other hops	400 Acc. Un.	= DM 1.360,—/ha;

Regulation (EEC) No. 1465/79 issued by the Commission and dated 13. 7. 1979 on changes to the Regulation (EEC) No. 890/78 dealing with particulars on the certifying of hops and to the Regulation (EEC) No. 3076/78 on the importation of hops from third countries;

Regulation (EEC) No. 1466/79 issued by the Commission and dated 13. 7. 1979 on the new acceptance of certificates of equivalence: A new country is New Zealand;

Regulation (EEC) No. 1467/79 issued by the Commission and dated 13. 7. 1979 on a 2nd change to the Regulation (EEC) No. 1517/77 dealing with the establishment of the list of variety groups for the cultivation of hops in the Community. According to this, as from the 1979 crop the varieties were classified as:

Group I, Aroma Hops:	Hallertau, Hersbruck late, Hüller, Spalt, Tettnang, Progress, Fuggles, Golding, W.G.V., Tutsham, Saaz, Strisselspalt, Burgundy late, Star, Bramling Cross, Challenger, Sunshine and Saxon.
Group II, Bitter Hops:	Northern Brewer, Brewers Gold, Bullion, Target, Keyworth's Midseason and Northdown.
Group III, others:	Record, Perle, Kent, Triploid and Viking;

Regulation (EEC) No. 2225/79 issued by the Commission and dated 9. 10. 1979 on the registration of the nett resp. gross weights in the accompanying documents;

Regulation (EEC) No. 3041/79 issued by the Commission and dated 21. 12. 1979 dealing with the prolongation of certain periods of time prescribed for the certification of hops. Goods produced before 1. 8. 1978 may be put into circulation until 30. 6. 1980.

Regulation (EEC) No. 382/80 issued by the Commission and dated 18. 2. 1980 classifies the hop variety Perle in Group I, Aroma Hops.

FED. REP. of GERMANY 1979 Growth

Initial arrears in growth of about a fortnight in spring could be made up with good weather conditions in June. The hops were attacked by the wilt disease more than the year before. All aroma varieties yielded average crops, while the Northern Brewer yields per ha were particularly disappointing this year. The crop of the variety Brewers Gold proved satisfactory; being one of the late varieties it was able to profit from the nice autumn weather.

Quality: All hops were of good quality and free from diseases. Their bitter value, however, corresponded only to the average of several years.

1979 Crop

The crop estimates carried out as usual at the end of August and the official weighing up on 31st March, 1980, representing already the final result, showed the following picture:

	Estimate		Weighed on 31.3.1980	
	Ztr.	to	Ztr.	to
Hallertau	520.000	26.000	538.499	26.924,9
Jura	18.500	925	18.898	944,9
Spalt	27.000	1.350	27.119	1.355,9
Hersbruck	5.500	275	5.682	284,1
Tettnang	32.000	1.600	33.434	1.671,7
remaining districts .	565	28,25	570	28,5
Total	603.565	30.178,25	624.202	31.210,0

Deviating from the effective result by 3,4 % only, the 1979 estimate must be recognized as being very good.

Purchase from Farmers

Because of the very high quota of forward contracts, only relatively few non-contractual hops were to be expected. The producers groups abstained from intervening into the market, since a support was not required due to the pleasingly high prices paid to the farmers.

The following table indicates the development of the farmers' prices for **hops from the 1979 crop** in the course of the year:

Area/Variety	Feb.	Mar.	June	Aug.	10. 9.	15. 9.	30. 9.	5. 10.	15. 10.	5. 11.	30. 11.
Hallertau:											
Aroma varieties	425	500	600	600	600	700	700	750	800	900	950
Northern Brewer	300	350	400	450	450	450	450	450	450	500	600
Brewers Gold	250	300	350	350	400	400	400	400	400	500	600
Spalt	500	550	600	600	750	750	800	800	850	900	950
Tettnang	500	550	600	600	700	750	800	800	900	900	900

The precited prices are understood in DM per 50 kg, ex producer's premises, excluding packing and value-added tax.

By mid-October, the German cultivation areas were cleared for the most parts, except for the Hallertau.

There was a keen buying interest for the Hallertau Aroma and the special varieties Spalt/Tettnang over the whole period of time, while bitter hops were not much in demand. Only when aroma hops were no longer available, the buying activities passed over to bitter hops more intensively, prices of which went up considerably and which were finally cleared by the end of the year, too.

The great difference in prices between the forward contracts concluded for the most part in a cheap period of time and the spot market, gave rise to fears about a possibly incorrect delivery of these contracts. Underdeliveries, however, did not exceed an average percentage of 8 to 9 % for aroma hops and 4-5 % for bitter hops; they were thus below the 1978 rate. Since in the most cases the breweries insisted on delivering the contracts fully, the trade was forced to procure the shortages at the substantially higher current market prices.

Nuremberg Market

Because of the very limited purchasing possibilities from the producers, hops were being in constant demand already before harvesting. The main interest covered aroma varieties from all provenances. On the Nuremberg Market, however, there was only a limited supply in these varieties while bitter hops were marketed on a larger scale.

The situation remained unchanged in the months of September to December, 1979, i. e. after harvesting of the hops. Both German and foreign hops offered on the Nuremberg Market found a ready sale. During a short period of settled market the prices drifted down slightly in the second half of December. Surprisingly enough, the supply of 1979 crop hops enlivened at the beginning of 1980. This apparently was due to a corrective adjustment of the traders' stocks. By the end of April, 1980 also these hops were finally marketed.

The price development on the Nuremberg Market took the following course:

Area/Variety	until July 1979	Septem. 1979	October 1979	Novem. 1979	31. 12. 1979	January 1980	Feb./Apr. 1980
Hallertau Aroma	650,—	755/765,—	810/950,—	970/980,—	940,—	950/960,—	900/930,—
Northern Brewer	450,—	490/500,—	500/560,—	570/660,—	670,—	670/685,—	695/710,—
Brewers Gold	405,—	425/435,—	435/520,—	545/610,—	630,—	640/660,—	645/670,—
Spalt	—	770,—	850/880,—	940/970,—	960,—	—	915/930,—
Tettnang	—	780,—	915/950,—	980,—	960,—	—	930/940,—

The aforementioned prices are understood in DM per 50 kg of packed hops ex warehouse, excluding VAT and packing materials.

Contract Market

The extremely fast price increase of the 1979 crop and repeated market information gradually convinced even sceptics of a long-term highprice period.

While the 1979 crop was still transacted, a keen demand for follow-up contracts began. In the **course of the year 1979** (January until December) the producers prices climbed as illustrated below:

Variety	Crops				
	1980 Jan./Dec.	1981 Jan./Dec.	1982 Jan./Dec.	1983 Jan./Dec.	1984 Jan./Dec.
Hallertau Aroma	425/600*	410/550*	400/500*	400/470	400/470
Hall. North. Brew.	300/500*	300/450*	300/420*	300/420	300/420
Hall. Brew. Gold	250/450*	250/450	250/350	250/350	250/350
Spalt/Tettnang	500/750*	500/700*	500/650*	500/600	500/600

Above quotations in DM per 50 kg ex producer's premises, excluding VAT and packing material.

* nominal prices since no purchases from farmers possible

With the exception of Brewers Gold, no contracts can any longer be concluded for any other variety with the farmers up to and including 1982. We will have to wait and see whether by new plantings or favourable growing conditions additional quantities might be offered on the market.

Acreage

For 1979, the hop acreage under cultivation is made up as follows:

Growing Region	1975 Total Acreage ha	1979 Existing Acreage ha	1979 New Plantings ha	1979 Total Acreage ha
Hallertau	16.911	14.073	645	14.718
Jura	491	476	33	509
Spalt	1.089	754	10	764
Hersbruck	336	161	6	167
Tettnang	1.351	1.120	5	1.125
other regions	33	22	1	23
Federal Republic	20.211	16.606	700	17.306

The total area of hops under cultivation decreased by 315 ha in 1979, 294 ha of which are allotted to the Hallertau. Only Tettnang increased by 16 ha. In the Hallertau, the part of the new plantings resulting from regroupment of varieties, which do not yet yield any crops, is substantially large.

Since 1975, the year of the largest German cultivation area, hop growing in the Federal Republic decreased by 2,905 ha, i. e. 14.4 % of the then hop acreage. But also the number of hop farmers has diminished. In contrast to this, the average hop acreage per producer went up to 3 ha, a fact which considerably contributed to an efficient cultivation.

Cultivation of Varieties

The varieties cultivated are shown below:

Growing Region	Hallertau ha	%	Hersbruck ha	%	Hüller ha	%	Spalt ha	%	Tettnang ha	%	Northern Brewer ha	%	Brewers Gold ha	%	other varieties ha	%
Hallertau	2.157	15	3.258	22	1.408	9	21	—	—	—	5.529	38	1.886	13	459	3
Jura	253	50	116	23	32	6	—	—	—	—	42	8	64	13	2	—
Spalt	459	60	2	—	8	1	264	35	—	—	6	1	24	3	1	—
Hersbruck	85	51	64	38	2	1	—	—	—	—	11	7	4	2	1	1
Tettnang	272	24	8	1	—	—	—	—	845	75	—	—	—	—	—	—
Total	3.226	19	3.448	20	1.450	8	285	2	845	5	5.588	32	1.978	11	463	3

In sum, there is a slight shift of the cultivation of varieties in favour of aroma varieties as compared with 1978. While — related to the Hallertau area — the variety Hallertau (formerly: mittelfrueh) decreased by a further percent, the Hersbruck quota increased by 3 %. In spite of the decrease of the Hüller (— 1 %), the cultivation of aroma hops in the Hallertau went up by 1.5 % to 46.5 %. When adding the variety Perle, even 47 % are obtained. The bitter hops, however, decreased by 2 %. Among „other varieties" Perle already occupies an area of 114 ha. A further, powerful enlargement of the acreage of this variety is certain.

ENGLAND

In spite of the prevailing cold weather until June, the growth of the hops progressed steadily. The conditions were favourable to the spreading of downy mildew, which could, however, be kept under control. Later in the summer, there were also aphis which had to be fought vigorously. The stand of the aroma hops was quite different. The varieties Wye Northdown and Challenger yielded very good crops which was equally true in many cases for the Targets mainly cultivated in Kent.

Quality: Diseases and pests occurred less frequently than was originally presumed. The alpha content of the 1979 crop was within the average values of several years. Merely Bullion showed a surprising decrease as compared with the 1978 alpha values.

In spite of a cultivation area which had decreased by 2 %, the crop was by 10 % larger than that harvested in 1978. By end of September, some of the varieties recorded substantial contract surpluses which enlivened the spot market and made for major export transactions.

Contract Market

The bottleneck on the world hops market which is also expected for the next years, provides good export chances for English hops. A substantial handicap, however, ist the index clause of the Primary and Secondary Indexed Contracts, which need to be served primarily. The foreign buyer either does not know the final price when concluding such contracts or he has no guarantee of being supplied fully when agreeing upon a fixed-price contract, since this depends on the crop results. In general practice, until the existing indexed contracts are fulfilled, it will become evident only which quantities and varieties remain available for fixed-price contracts.

Cultivation of Varieties

In the table below, the 1979 cultivation of varieties is broken down:

County / Variety	Golding ha	%	W.G.V. ha	%	Braml. Cross ha	%	Challenger ha	%	Fuggles ha	%	Target ha	%	Northdown ha	%	Bullion ha	%	North. Brewer ha	%	other varieties ha	%
Kent	289	9	333	11	392	12	248	8	51	2	951	31	176	6	145	5	49	1	471	15
Hampshire	1	—	—	—	—	—	34	16	2	1	—	—	128	62	5	3	36	17	2	1
Sussex	4	2	2	1	18	8	33	15	30	13	66	29	11	5	23	10	4	2	34	15
Herefordshire	113	7	—	—	—	—	346	22	430	27	—	—	455	29	82	5	150	9	15	1
Worcestershire	82	14	—	—	—	—	105	18	63	11	—	—	173	30	87	15	59	10	11	2
Total	489	9	335	6	410	7	766	13	576	10	1.017	18	943	17	342	6	298	5	533	9

When comparing last years' cultivation of varieties, it is shown that the traditional English varieties are increasingly replaced by new breeds, as is illustrated by the following numbers:

	Increase 1972 / 1979		Decrease 1972 / 1979
Bitter:		**Bitter:**	
Target	1 / 1.017 ha	Bullion	605 / 342 ha
Northdown	115 / 943 ha	Northern Brewer	434 / 298 ha
Aroma:		**Aroma:**	
Challenger	8 / 766 ha	Bramling Cross	1.182 / 410 ha
Saxon, 1975	5 / 164 ha	Fuggles	2.101 / 576 ha

In addition to the aim of obtaining a high alpha content with bitter hops, better resistance to diseases and pests was one of the most important breeding goals. The large increase in the new varieties shows the success of the English research work.

FRANCE

During the cool and moist spring the growth was retarded, but this could be compensated later on with nice weather. In **ALSACE**, in July the hops suffered from dryness which in the mainly affected areas delayed the formation of cones. In contrast to this, the weather prevailing in **FLANDERS** was excellent in July/August. Diseases and pests were fought successfully. Only a late attack of aphis caused some difficulties to Brewers Gold.

The **quality** of the 1979 crop altogether was good, the alpha value, however, was only a medium one and with the aroma hops it partly even was quite weak.

Market Development

Due to the high percentage of hops under contract in Alsace, only little non-contractual hops were available. There are large variations of the contract volume in the different cultivation areas, which is shown as follows:

in Alsace	approx. 88 %
in Burgundy	approx. 23 % and
in Flanders	approx. 20 %.

The price development followed the general tendency, last lots of Strisselspalt were sold at FF 2.280,—/50 kgs (DM 980,—) ex warehouse, packed, by mid-December. Bitter hops were purchased only after the other markets had been cleared.

The world market situation enlivened also the contract business in France. While the farmers in Flanders are still reluctant, percentage of 1980 crop under contract only some 35-40 %, the contract volume in Burgundy and Alsace is very high. In **Alsace** the following forward contracts for the **1980 crop** are estimated:

100 % with Strisselspalt
100 % with Northern Brewer
85 % with Brewers Gold
50 % with Record.

Cultivation of Varieties

For 1979, the varieties cultivated are made up as follows:

Growing Region	Aroma Hops (Strisselspalt a. o.) ha	%	Brewers Gold ha	%	Northern Brewer ha	%	Record ha	%
Alsace	179	38	236	50	49	10	10	2
Flanders	1	—	181	74	63	26	—	—
Burgundy	7	16	34	79	2	5	—	—
Others	—	—	6	100	—	—	—	—
Total	187	24	457	60	114	15	10	1

In terms of the whole cultivation area, the following changes have resulted as compared with 1978:

	1978	1979
Aroma hops	27 %	24 %
Brewers Gold	55 %	60 %
Northern Brewer	16 %	15 %
Record	2 %	1 %

It cannot be forseen yet whether or not the hop cultivation decline is going to continue or to revive on account of the attractive prices. Experience shows that cultivation areas and varieties will become uninteresting for the world market once the production can not guarantee permanent and sufficient supplies in case of poor crops.

BELGIUM

After a very long, cold and wet winter, the hops could catch up quickly with the arrears in growth as from mid-May onwards. In spite of the changing, too cool and not very sunny summer weather, all varieties produced excellent hectare yields. The alpha value was an average one, except for Brewers Gold which were considerably below their normal level.

Market Development

Unlike previous years about 60 % of the 1979 crop had already been sold before the harvest, the prices going up steadily. The quotations were:

		May 1979	June	Aug.	Oct.	Nov.	Dec.	Jan. 1980
Northern Brewer	Bfr.	6.500,—	7.000,—	7.500,—	8.400,—	8.500,—	10.000,—	11.000,—
Brewers Gold	Bfr.	5.500,—	6.000,—	6.500,—	7.500,—	8.000,—	9.500,—	9.500,—

per 50 kg, packed free Belgian border.

The quotations for contracts, which already amount to 60-65 % of the 1980 crop, were correspondingly increasing, too. But also for the subsequent 1981 and 1982 crops, contracts are being concluded continuously.

Cultivation of Varieties

Bitter hops (Northern Brewer and Brewers Gold) are the mainly cultivated varieties and also constitute the principal exports of Belgian hops. There were slight modifications of the varieties cultivated in the two main cultivation areas.

	Bitter hops 1978	Bitter hops 1979	Aroma hops 1978	Aroma hops 1979	Others 1978	Others 1979
Poperinge	92 %	91 %	5 %	7 %	3 %	2 %
Aalst	40 %	44 %	40 %	38 %	20 %	18 %
Vodelée	36 %	48 %	55 %	12 %	9 %	40 %
Total	79 %	79 %	14 %	14 %	7 %	7 %

For 1980, a slight expansion of the hop growing area is expected.

IRELAND

The somewhat reduced 59 ha area of cultivation (1978: 65 ha) consists of 12 ha of Fuggles, 46 ha of Northern Brewer, 0.2 ha Bullion and 0.8 ha of Northdown. The weather, in general, was cool and during ripening the hops lacked sunshine. For that reason picking was delayed by 8 to 10 days. Nevertheless the crop comprised almost 82 tons (1978: 72.5 tons). With the exception of Northdown, the average alpha content was some 10 % below the preceding years' values.

The hop production is under contract with the domestic brewing industry.

The planned change of Fuggles to Northdown hops has not yet been carried out but it is intended to do so step by step in the next years.

CZECHO-SLOVAKIA

Extreme weather periods caused an irregular growth of the hops. Due to very high temperatures, even a **premature flowering** occurred in some areas. Diseases and pests, in particular aphis, had to be fought intensively. There were hail damages on an area of some 255 ha. Thanks to a favourable weather in August, i. e. before picking began, an ample and **qualitatively good crop** could be harvested. The hops in Tirschitz and in Slovakia yielded especially well. The alpha content of the 1979 hops exceeded the previous year's values by 15 %.

The area under cultivation had not been changed as compared with 1978, but the crop volume was some 17 % higher. Due to a keen demand from abroad, 70 % of the hops produced were exported, which is the reason why hops had to be imported to cover the own requirements.

The 1980 crop is virtually sold out by forward contracts. Because of the increasing demand, it is intended to plant some 700 ha of new hop gardens this year.

JUGOSLAVIA

SLOVENIA. A dry period from mid-May to the beginning of June affected even the late phase of growth and produced below average yields per hectare with the early Golding hops. It is estimated that hail destroyed about 300 tons of hops. Despite the somewhat delayed start of picking, the previous year's high alpha values were not obtained. Nevertheless the **quality** of the 1979 crop was excellent (96 % was Class I).

The loss of crop brought about by the hail led to a considerable scarcity of the supply. About 70 % of the crop was exported. Some 95 % of the subsequent three 1980-1982 crops is already under contract so that all further sales have been stopped.

BACKA. Because of the warm weather, the hops shot forth powerfully at the beginning of the vegetation period. Unfavourable conditions slowed down this development and it was not before July and August, hence at the time of the formation of cones and ripening of the hops, when it was warm again and rain fell sufficiently. The **quality** was considered to be good (80 % Class I, 15 % Class II), yet the bittering substances of the hops remained below the level of the previous year.

There was no difficulty in marketing the 1979 crop.

Some 60 % of the Jugoslavian hop production was exported. For 1980, area extentions are planned in Backa and Ilok only.

POLAND

During the period of time decisive for the crop, mid-July until mid-August, unfavourable weather conditions were prevailing. It was too cool and rainy and strong winds caused damage to the laterals.

Quality. The quality of the 1979 crop was good and it was free from diseases. With respect to the alpha content, the crop was better than that of the previous year by some 15 %. 30 % of the hops were graded Class I and 52 % Class II.

The entire 1979 crop was sold without difficulties.

The area under cultivation of the variety Lublin increased by 140 ha to 1,998 ha, while the variety Pulawy fell by 125 ha covering only 399 ha now. Northern Brewer hops are grown on 50 ha, as compared with 18 ha in the previous year. It is intended to enlarge the area under cultivation by some 100 ha in 1980.

GERMAN DEMOCRATIC REPUBLIC (GDR)

Cool weather until mid-May delayed the growth of the hops, which could, however, be made up again with warm weather later on. During ripening and picking, favourable conditions were prevailing providing an excellent crop **quality** both in quantity and in the bittering content. The alpha values of the 1979 crop attained some 24 % more than those of the previous year, a fact which is certainly also due to a longer picking period caused by the exceptionally high yields per hectare, and which made it possible for the hops to profit from the warm autumn weather. 74 % of the hops were Class I und II, the remaining 26 % were graded as Class III and IV.

The entire crop was taken up by the domestic brewing industry. Some 45 % of the hops were processed into extracts in the country. Also the 1980 crop is already fully under contract.

The 1979 areas of cultivation are broken down as follows:

Growing Region	Acreage ha	Yield to/ha	Crop to
Halle/Magdeburg	955	1,61	1.539,5
Erfurt	542	1,68	911,0
Dresden/Leipzig	615	1,74	1.072,9
Gera/Karl-Marx-Stadt	48	1,81	87,0
Total	2.160	1,67	3.610,4

The varieties cultivated show a distinct shift away from the aroma hops and towards the bitter hops. The area of the Saaz variety dropped by some 260 ha, whereas Northern Brewer increased by some 100 ha.

The English bitter variety Bullion, covering 220 ha, was cultivated for the first time. For 1980, an increase of the acreage under cultivation of some 40 ha is planned.

SOVIET UNION

Only sparse news is coming out from this country. The indications concerning the acreage under cultivation reach from 12,000 to 16,000 ha, the yield being said to be between 12,000 and 17,500 tons. There is, however, no doubt about a constant endeavour to cover the needs of the domestic brewing industry from own production.

The main cultivation areas are in the Ukraine (Shitomir, Rovno and around Lvov and Volhynia). In a research station in Kalistovo, some 50 km north-east of Moscow, new breeds with a high bittering content are being developed on an area covering 26 ha.

It is planned to harvest some 60 to 70 % of the 1980 crop by machines.

SPAIN

During the entire vegetation period, the weather conditions were excellent, a fact which resulted in a crop 24 % larger than that of the previous year. Correspondingly good was the **quality;** more than 98 % was adjudged to be Class I. The entire production was taken up by the Spanish brewing industry.

The hybrid variety H-3 with a high bitter content, was able to maintain its dominating position as is shown in the following table:

Variety	**1971**	**1975**	**1979**
H-3	57,9 %	68,0 %	64,5 %
H-7	25,4 %	27,9 %	35,4 %
Aroma and others	16,7 %	4,1 %	0,1 %

Because of their poor yields, aroma hops are not grown anew. They gradually disappear since the superannuated gardens are being grubbed. In 1979, some 60 ha of new hop acreage were planted and for 1980, further 75 ha are planned.

The remaining hop acreage in Cantabria only covers 2 ha, so that this region may be viewed as not being any longer in existence. But also in Galicia, hop cultivation is slackening.

PORTUGAL

Until the end of May it was quite rainy and then it was mostly sunny and dry until picking began by the end of August. The crop quality was excellent; in **Braga,** the largest cultivation area, more than 99 % of the crop was adjudged to be Class I and in **Brangança** over 98 % were graded Class I. Brewers Gold, the average alpha content of which was some 8.4 % in Braga and even 9.5 % in Bragança, is the only variety grown.

The acreage under cultivation remained unchanged covering

118 ha yielding a crop of 215 tons in Braga, and

74 ha yielding a crop of 135 tons in Bragança.

The entire crop was taken up by the domestic brewing industry.

AUSTRIA

MÜHLVIERTEL (UPPER AUSTRIA). Because of the cold and wet spring, the hops came out with delay. In May/June a hot period followed, which, however, did not bring about any injuries worth speaking of. During ripening and harvesting, which is done completely by machines, good weather conditions prevailed. The hops were free from diseases and pests.

The **quality** of the 1979 crop was very good; some 99 % of the hops were Class I, and the bittering content was some 25 % higher than that of the previous year. The entire production was taken up by the domestic brewing industry. Until 1982, 90 % of the crop is already under contract.

There were no changes in the varieties cultivated; the acreage under cultivation of 55 ha being made up by 36 ha of Malling, 16 ha of Golding and 3 ha of different trial varieties. The total hop production amounted to 83.8 tons.

GREECE

The acreage of the region IOANNINA was reduced to 31 ha. 33 tons of Brewers Gold were harvested totalling up to an increase of the yield per hectare by 40 % as compared with the preceding year. Because of the generally rainy weather, spraying hat to be done repeatedly against downy mildew. The hop crop was adjudged to be good; the average alpha content was said to be 9-9.5 %.

The entire hop production was taken up by the national brewing industry and also the coming crop is already under contract. Nevertheless, there is a persistent decline of the hop cultivation. In 1973, hops were still grown in four regions covering an acreage of 176 ha. In 1975, only three regions were left covering an overall acreage of 80 ha. And since 1977 the only region which remained is Ioannina in the north-west of the country.

SWITZERLAND

The area under cultivation is 11.8 ha consisting of 7.2 ha of Tettnang, 4.3 ha of Hallertau and 0.3 ha of Northern Brewer. In addition, a trial was made with a small hop garden grown with the variety Perle. Because of the weather, flowering commenced too early which resulted in a poor crop of 20 tons only.

The entire crop, graded as Class I, was taken up by the brewing industry. The Swiss hop cultivation is secured by corresponding contracts guaranteeing a ready market, regardless of the crop results. That is the reason why cultivation areas and varieties hardly undergo any changes.

USA
Growth 1979

In general, the growing conditions were more unfavourable in all four states than during the preceding year. That is why only an average crop was to be expected.

WASHINGTON. Downy mildew could be brought under control, but other pests had to be fought repeatedly. A heat wave mid-July caused **early bloom.** The baby hops did not come up to the expectations. Unfortunately the competent authorities miscalculated the available water supplies and, therefore, in some regions the irrigation canals had to be blocked too early.

OREGON. A problem common to all varieties was the fighting of downy mildew. **Premature flowering** occurred because of a longer heat period.

In **IDAHO,** the bloom was especially light and in

CALIFORNIA downy mildew reappeared for the first time after many years.

Depending on their restistance to pests, the **quality** of the individual varieties was different. Clusters e. g., which cover some 57 % of the total US hop acreage, did not attain their usual weight.

Market
Development

The USA went through an unquiet hop year. Because of the worldwide scarcity, the prices for **US-Yakima hops (Clusters) from the 1979 crop** rose steadily

from $ 1.30 per lb. in June up to $ 1.55 per lb. in August, 1979

prime cost, plus premium.

At the beginning of September, the free marketable hops were estimated to be less than 5,000 bales (1 bale = 200 lbs. or 90/91 kg). The demand being constantly keen, this very small quantity caused a price jump early in September to $ 1.90 and sporadically even $ 2.— per lb., plus premium. Last first hand lots even were paid a price of $ 2.15 per lb, plus premium.

Some 1,100 bales from the 1979 crop were brought into the Reserve Pool, the price of which had already been fixed in August at $ 1.65 per lb. plus premium. The hop trade had guaranteed to take over these hops one hundred percent at that price.

All of a sudden, the situation changed when by the middle of January, 1980 the American government announced an embargo for all agricultural products destined for export to the USSR, as a means of pressure against the Soviet invasion of Afghanistan. This affected an estimated 1,500 tons of hops and extract which being suddenly available on the world market, would probably have resulted in a price depression. By a later decision, hops was removed from the list of strategically important goods thus allowing delivery again.

When concluding new contracts, the farmers wanted to rise the premium for low leaf and stem content basing their argumentation on the high rate of inflation. In order to facilitate the improvement of the cleanness of picking, an adjustment of the leaf and stem premium was agreed upon. The new premiums will be applied in terms of percentage ad valorem as per following graduation.

Cleaness of picking	0 %	—	6 % ad valorem
	1 %	—	5 % ad valorem
	2 %	—	4 % ad valorem
	3 %	—	3 % ad valorem

Market
Regulation

The high prices and the apparent under-supply have induced many farmers to expand their hop acreage. Some of them, however, do not dispose of the allotment necessary, while others have considerable surplus producer's quotas. In order to make up for the overproduction forseeable for 1980 and 1981 (as compared with the individual base), the restriction on filling of deficiencies as per article 38 (e) of the Hop Market Regulation was suspended until the 1982 crop inclusively. Accordingly, a grower who transcends his producer's quota or does not have a quota at all, does not have to make this surplus available to the Reserve Pool, but may market it under another farmer's allotment whose production is below his producer's quota. Farmers who, as a result of that, planted some 10 to 15 % of new acreage above their base, were reminded that this is a limited measure and that the overproduction will not be converted into a permanent producer's quota later on.

For 1980, the saleable quantity was increased to 115 %. The proposal to raise the total allotment of 59.270 million lbs (537,685 zentners or 26,884 tons) to 75 million lbs (680,000 zentners or 34,000 tons) was rejected for farmer-related reasons for the time being.

Contract Market

The unique price jump for 1979 hops caused the breweries to conclude follow-up contracts already in October, 1979. Because of the higher premiums requested by the farmers the contract business, however, came to a standstill for a short period of time. The following table shows the development of the contract prices, as per mid-June, mid-December, 1979 and mid-March, 1980, per lb. = 0.45359 kg, prime cost, excluding premium.

Variety	Origin	Crops				
		1980 Jun/Dec./Mar.	1981 Jun/Dec./Mar.	1982 Jun/Dec./Mar.	1983 Jun/Dec./Mar.	1984 Jun/Dec./Mar.
Clusters	Yakima	1.30/2.—/2.60	1.35/1.90/2.60	1.40/1.90/2.65	1.45/1.90/2.70	—/1.90/2.70
Cascade	Yakima	1.30/2.—/2.70	1.35/1.90/2.70	1.40/1.90/2.75	1.45/1.90/2.80	—/1.90/2.80
	Oregon	1.35/ —/ —	1.40/2.12/2.80	1.45/2.22/2.90	1.50/2.32/3.—	—/2.42/3.10
Bullion	Yakima	1.30/2.—/2.60	1.35/2.—/2.60	1.40/2.—/2.65	1.45/1.95/2.70	—/1.95/2.70
	Oregon	1.35/2.10/ —	1.40/2.12/2.70	1.45/2.22/2.80	1.50/2.32/2.90	—/2.42/3.—
Fuggles	Oregon	1.60/ —/ —	1.65/ —/ —	1.70/ —/ —	1.85/ —/ —	2.—/ —/ —

Most probably the hops market will remain tight also in the next few years. The largest part of the hops to be delivered in autumn 1980 representing more than 90 % of the crop, originates from low-priced contracts which, because of the high inflation rate have become a losing business for the farmers. It must be doubted whether a claimed price adjustment can be realized for these contracts. A certain compensation, however, is given by the increased prices starting from the 1980 crop and, in fact, extensive planting of new hop acreage has since taken place. Thus the hop growers will be able to achieve a better average price. The prospective crops of this new acreage have already been contracted for the most part until the 1984/1985 crops. As regards the new acreage see page 20.

Cultivation of Varieties

In 1979, the acreage under cultivation increased by some 360 ha, which in the main are located in the state of Washington. The minor extentions in Oregon and Idaho are made up for by a heavy decline in California.

State	Clusters ha	%	Bullion ha	%	Brewers Gold ha	%	Comet ha	%	Cascade ha	%	Fuggles ha	%	Talisman ha	%	others ha	%
Washington	6.494	72	1.041	11	130	1	233	3	1.083	12	3	—	—	—	58	1
Oregon	17	1	548	24	341	15	2	—	401	18	919	40	56	2	3	—
Idaho	443	40	—	—	15	1	1	—	197	18	—	—	275	25	175	16
California	456	98	—	—	—	—	10	2	—	—	—	—	—	—	—	—
Total	7.410	57	1.589	12	486	4	246	2	1.681	13	922	7	331	3	236	2

The varieties underwent the following changes in comparison with 1978:

Clusters	— 3 %
Bullion	+ 2 %
Cascade	+ 1 %
Other varieties	+ 1 %

The latter mainly include the new breeds Triploid Fuggles, Galena and Eroica.

Triploid Fuggles is a breed which as a result of a special treatment is trisomic, hence the name „Triploid". Both, the yield per hectare and the alpha content of the variety Triploid are higher than with normal Fuggles. It also does not form normal seeds but only hollow seed pods.

The varieties **Galena** and **Eroica** both of them developed by Prof. Romanko in Idaho, were released for cultivation in 1978. These are early ripening bitter hops with an average alpha content of 10 to 11 %. Their storability is said to be more or less identical to that of Clusters, which is extraordinarily good as is commonly known. At present the acreage under cultivation is still very small but is likely to increase rapidly, the interest for these hops being very keen. They are in direct competition to Bullion/Brewers Gold.

The American hop research is very anxious to breed fine aroma varieties having the same alpha content as the presently existing ones but producing a higher yield.

CANADA

In the **Frazer Valley (British Columbia)** cultivation area good growing conditions prevailed in 1979. There were no losses whatsoever caused by diseases, pests or abnormal weather. Also the picking was made under normal conditions.

The crop, some 25 % larger than the preceding year, was of good **quality** and also the alpha content of the hops was better. Marketing of the hop production is secured by contracts of several years' duration concluded with the breweries. This refers as well to the subsequent crops.

There were no changes in the varieties cultivated. Now as before, mainly English aroma varieties are grown.

ARGENTINA

The weather conditions were normal, with the exception of a heat period during the ripening of the hops. There were only few diseases and pests, which could be controlled quickly by early countermeasures.

In its **quality,** the crop was excellent even though the average alpha content was somewhat below that of the preceding crop (40 % Class I, 60 % Class II).

Hops are grown in the zone of the 40th southern parallel at the foot of the Andes, namely

in the Rio Negro Valley	249 ha,	crop:	168 tons
in the Neuquén Province	24 ha,	crop:	12 tons
and in the Chubut Province	47 ha,	crop:	47 tons
Total	320 ha		227 tons

There are no recent reports on the varieties cultivated. It appears, however, that the goal of obtaining higher yields per hectare has not been reached.

AUSTRALIA

VICTORIA. In general, the growth conditions were better than those of the preceding year outdoing the original expectations. Thanks to warm weather as from the end of 1978 onwards, the hops ripened somewhat earlier. The alpha content was within the average values attained over the last years.

The acreage under cultivation covering 430 ha is made up of 419 ha of Pride of Ringwood and 11 ha of Clusters.

TASMANIA. Also in this area, the climatic conditions were good throughout the year. The gardens affected by hail in September, 1978 recovered well resulting in a crop which surpassed that of the previous year by 20 %.

The **quality** was good, the alpha attained the usual values of 10 %. With the exception of a small area grown with Clusters, only the variety Pride of Ringwood is cultivated.

The entire Australian hop crop was sold. Some 40 % of the hop production has already been exported. Some 75 % of the coming crop is already sold by forward contracts. It is intended to extend the acreage for Pride of Ringwood in 1980/81.

NEW ZEALAND

During growth, it was warmer and sunnier than normally, especially in January. Precipitation was sufficient except for January and February, when dryness affected the hop gardens, which could not be irrigated.

The 1979 hop crop was of good **quality** with an average alpha content of 10.3 %, as is. For the largest part of the hop production forward contracts have been concluded. There was, however, a small carryover from the 1979 crop.

79 % of the acreage under cultivation is covered by seedless breeds. Roborgh Superalpha, a variety with a high bittering content, has already attained a quota of 20 % (1978: 15 %). This development is going on.

JAPAN

Despite favourable growing conditions at the beginning, it was too cool and there was not enough sunshine during the important time of flowering and the formation of cones as from the end of June onwards. The largest region being in the north of the Isle of Honshu (Hondo) was the one which was particularly affected. The weak crop yield of 1.53 tons per hectare is attributed to the unfavourable weather conditions.

The **quality** of the 1979 crop came up to that of the preceding year; some 92 % of the hops were of Class I.

As compared with 1978, the acreage under cultivation was reduced by some 53 ha. = — 4 %. A further decline is expected to come about during the coming years. The varieties remained unchanged; beside the main variety Shinshu Wase, an early aroma hop, some Golden Star hops are cultivated.

INDIA

The hop cultivation in the **Kashmir Valley** is still being furthered, comprising already 125 ha which yielded a crop of 80 tons. The weak crop of the late Clusters amounting to 640 kg only per ha is due to a dry period which could not even be bridged by the irrigation facilities which, however, are not sufficient anyway. Picking is exclusively done by hand. The national brewing industry took up the entire crop.

Broken down into varieties cultivated, the acreage is made up of 121 ha of late Clusters, 2 ha of Hybrid 2, apparently an own breed, the alpha content of which is said to be above 9.5 %, and 2 ha of Talisman. For commercial cultivation the American variety Comet has been released.

1980 Crop

From the Southern Hemisphere, where the hops are harvested in February/March, the following information is available:

AUSTRALIA

TASMANIA suffered from extreme weather conditions during the growth period 1979/80 resulting in a crop which was 17 % less than that of the previous year. In addition, fierce winds caused damages to the hop gardens, particularly in the southern part of Tasmania.

In **VICTORIA,** however, the hop crop was almost 10 % larger.

In both regions, the bittering content was somewhat below that attained in 1979. The new crop is already sold out completely.

For the 1980 crop the following preliminary breakdown is available:

Tasmania	611 ha (+ 35 ha),	crop	1,207 tons (— 250 tons)
Victoria	460 ha (+ 30 ha),	crop	818 tons (+ 47 tons).
	1,071 ha (+ 65 ha)		2,025 tons (— 203 tons)

A further expansion of the acreage under cultivation is planned for 1980/81 amounting to some 270 ha.

SOUTH AFRICA

The hop cultivation area was expanded by 22 ha covering 226 ha now. The largest part of the 1980 crop having been destroyed by fire, the damage is estimated to be some 100 tons, only 55.6 tons could be delivered to the breweries.

The following varieties are cultivated:

Pride of Ringwood	72 ha
Southern Brewer	115 ha
CC 3/120	12 ha
Golden Cluster	24 ha
Other trial varieties	3 ha.

It is intended to grow some 23 ha anew in 1980. No substantial changes are foreseen as regards the varieties.

Growth 1980

In April, 1980 Europe was hit by a severe winter spell coming along with frost and fierce snowstorms once again. In many cases the spring work in the hop gardens could only be finished belatedly and the low temperatures prevented the hops from sprouting in time.

Also in May, it was mostly still too cool and especially the cold nights retarded the growth of the hops. In case of favourable weather conditions, the present delay of some 10 days can, however, be made up for again.

USA By the volcanic eruption at St. Helens in the Western part of the State of Washington in the second half of May the Yakima Valley was covered by a 3 cm ash layer. Up to now, no serious injuries to the hops have been reported.

Cultivation Area 1980

At the beginning of March, 1980 the traditional International Hop Growers Committee (IHGC) meeting took place in Paris. The member countries indicated the following expansions of the areas under cultivation for 1980:

Federal Republic of Germany	895 ha
France	19 ha
Belgium	0 ha
England	51 ha
Ireland	5 ha
USA	1.200 ha
Australia	250 ha
Jugoslavia	79 ha
Spain	75 ha
Czechoslovakia	700 ha
GDR	40 ha
Poland	0 ha
Hungary	0 ha
IHGC	3.314 ha
Other countries as per EC Commission estimate:	550 ha
Total	3.864 ha

With that the world cultivation area covering some 83,600 ha has attained its largest size since 1945. Yet, according to latest reports the **new 1980 US acreage** covers in

Washington	1.900 ha
Oregon	203 ha
Idaho	30 ha
California	7 ha
Total	2.140 ha

For **1981,** a considerably smaller increase is expected totalling some 1,000 ha.

Since new hop plantings do not produce crops the first year — with the exception of the USA, where baby hops planted in spring can already be harvested in autumn — the above new acreage will not yet have any noticeable consequences in the 1980/81 season.

1 ha = 2,934 bayr. Tagwerk		1 bayr Tagwerk	= 0,341 ha
1 ha = 2,471 acres		1 acre	= 0,405 ha

1 hl = 100 l = 26,42 gall = 0,8523 bbl (USA) — 1 bbl (USA) = 31 gall. = 1,1734 hl
1 hl = 100 l = 22,01 gall = 0,6114 bbl (Brit.) — 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) — 1 cwt (USA) = 100 lbs = 45,359 kg
1 Ztr. = 50 kg = 110,23 lbs = 0,984 cwt (Brit.) — 1 cwt (Brit.) = 112 lbs = 50,8 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:

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

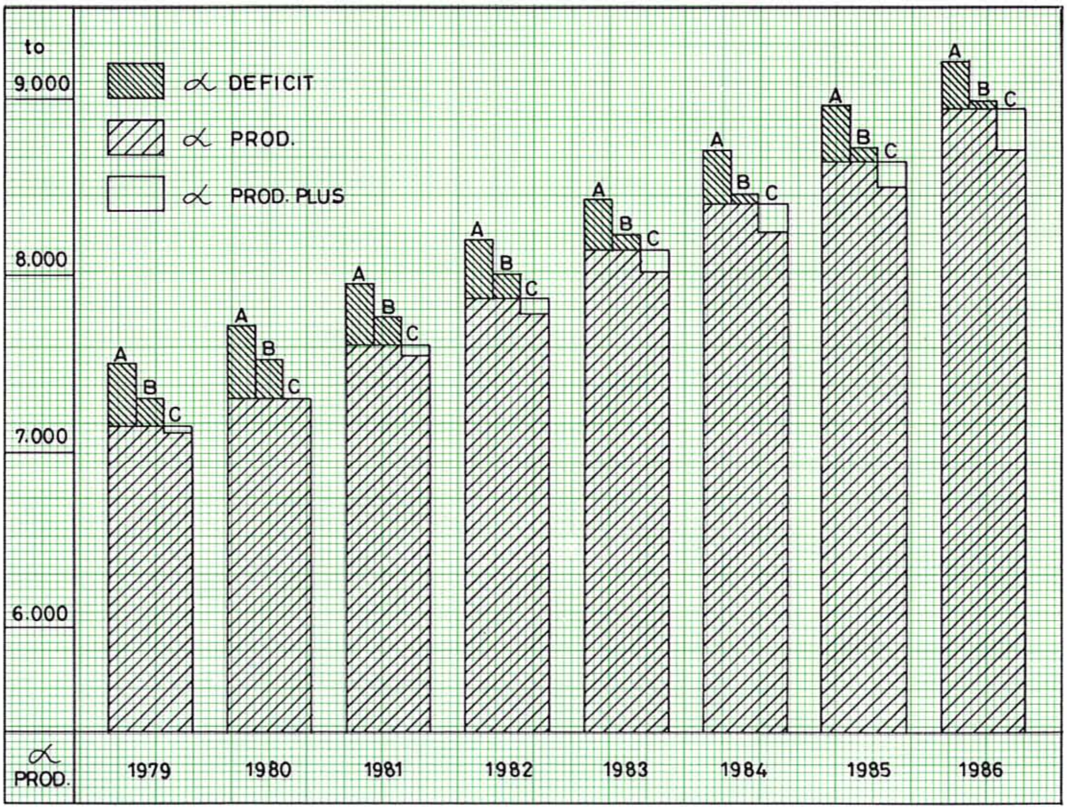
The publication of our Hop Report involves obtaining material from sources throughout the world. We wish to express our gratitude to all who assisted us.

Are we to face a new over-production of hops?

The steep increase of the hop prices acts as an incentive to the enlargement of the areas under cultivation which in fact, has already been initiated in 1980. The following **model calculation** attempts to answer the question whether this will lead to an imminent over-production of hops and, as a consequence of this, to a repetition of the price decline.

The following parameters were taken as a basis:

World beer production:	+ 3 % per year
World hop acreage:	+ 3,000 ha per year
Yield per hectare:	world average 1.5 tons
Alpha content:	world average 5.9 % as is
Hopping alternatively:	A = 8 g α/hl; B = 7.8 g α/hl; C = 7.6 g α/hl; = α requirement for the year following the respective hop crop



The graph shows that under the said conditions the deficit of the hop production decreases only slowly, even when reducing the hopping to 7.8 g α per hectolitre.

If the yearly growth of the world beer production is supposed to be 2.5 % instead of 3 %, the 1984 crop alpha production covers the requirements of the brewing year 1985 at 8 g α/hl. With 7.8 g α/hl, the 1982 crop will already bring about a balance. This does not take into consideration, however, the accumulated deficit of the preceding crops. The brewing industry must be supposed to find an own solution of the supply problem by improved technologies, lowering the alpha dosage and changing the varieties used.

As a matter of course, this model calculation can not involve all determining factors such as quantity and alpha content of the respective world hop crop. This essay is rather meant as an impetus which also leaves open other alternatives.