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HOPS 1976/77

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Political Situation

In the Middle East Conflict which is still glowing, tough negotiations are being held to attain a solution acceptable for all parties. The position on the African Continent — particularly in the South — remains unsteady and explosive. In the field of international terrorism it came to some spectacular individual actions. An improvement for inter state collaboration is coming visible to counteract such measures.

Economic Situation

The livening-up of the economic condition continues throughout the world, even though not with the same pressure as in earlier years and furthermore differing in the individual economic branches and countries. The world trade volume in 1976 actually increased by about 7 %. A similar increase is also expected for 1977, which will mainly be borne by the large industrial nations, USA, Japan and Germany.

The first cracks are showing in the OPEC, as Saudi Arabia and the Arabian Emirates were not willing to agree to follow the oil price increase of 10 % in December 1976.

Worldwide progress was made against the inflation, even though with large differencies in the individual countries. The main item in the economic problems, also in the coming future, will be the fight against unemployment. Very strong arguments have been brought up about the necessity of building further nuclear power stations to maintain our power requirements for the 1980's.

The Federal Republic of Germany has a good position in the overall picture. The actual social gross product increased by 6 %. After deduction of the normal expenditure of payment balance, an export excess of 7.5 Mrd. DM remained for 1976. The price increase rate was distributed throughout the whole year 4 %. At the end of May 1977 the number of unemployed dropped again for the first time below the million level.

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 = 1,6356 hl

1 metr. Tonne = 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 central (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:

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

Production of Beer 1976

Country	1000 hectolitres	
Germany, Fed. Rep.	95.675	
USSR*)	72.000	
United Kingdom	64.029	
France	23.869	
Czechoslovakia	22.500	
Germany, Dem. Rep.	21.000	
Spain	17.127	
Belgium	14.630	
Netherlands	13.862	
Poland	12.318	
Jugoslavia	8.685	
Denmark	8.328	
Romania*)	8.200	
Austria	7.534	
Italy	7.284	
Hungary	6.768	
Ireland	5.675	
Bulgaria*)	5.200	
Sweden	4.783	
Switzerland	4.239	
Portugal	2.600	
Finland	2.589	
Norway	1.906	
Greece	1.387	
Luxembourg	775	
Malta	102	
Iceland	33	
Europe		433.098
USA[1])	192.182	
Canada	20.227	
Mexico	18.941	
Brazil	18.000	
Colombia	9.647	
Venezuela	7.308	
Peru	5.041	
Cuba*)	3.500	
Argentina	2.680	
Ecuador	1.400	
Chile	1.142	
Bolivia	849	
Uruguay	600	
Puerto Rico	543	
Guatemala	532	
Jamaica	530	
Dominican Rep.	500	
El Salvador	500	
Panama	459	
Costa Rica	400	
Paraguay	355	
Nicaragua	350	
Honduras	261	
Trinidad and Tobago	210	
Martinique and Guadeloupe	95	
America		286.252
South Africa	5.450	
Zaire	3.900	
Nigeria	3.200	
Kenya	2.000	
c. f.	14.550	719.350

Country	1000 hectolitres	
b. f.	14.550	719.350
Cameroons	1.396	
Zambia	1.000	
Rhodesia	900	
Mozambique	800	
Ivory Coast	750	
Tanzania	664	
Angola*)	650	
Algeria	620	
Ruanda-Burundi	610	
Ghana	605	
Tunisia	460	
Ethiopia	440	
Gabun	410	
Egypt	350	
PR Congo (Brazzav.)	305	
Morocco	260	
Senegal	250	
Madagascar	212	
Central Afric. Rep.	190	
Upper Volta	180	
Togo	176	
PR Benin (Dahomey)	145	
Mauritius	138	
Tchad	134	
Southw. Afr. (Namibia)	130	
Uganda	100	
Liberia	100	
Sudan	90	
other countries	275	
Africa		26.890
Japan	36.393	
Philippines	6.000	
South-Korea	1.800	
China, Peoples Rep.*)	1.750	
Turkey	1.665	
Vietnam*)	1.500	
Taiwan	1.174	
Malaysia a. Singapore	1.085	
India	800	
Thailand	781	
Iran	640	
Indonesia	472	
Hongkong	450	
Israel	419	
Iraq	259	
Cyprus	120	
Syria	80	
Jordan	52	
Sri Lanka (Ceylon)	48	
Pakistan	37	
Lebanon	32	
Asia		55.557
Australia	19.717	
New Zealand	4.095	
Tahiti	96	
Australia/Oceania		23.908
Total		825.705

*) Estimate

[1]) USA: Above figure refers to **beer produced** in 1976, i.e. including non-taxable and exported quantities

Production of Beer

As can be seen from the statistics on page 2, world beer production increased in 1976 by 23.3 million hectolitres. Again corrections had to be made for the production figures of several countries (USSR, Romania, Bulgaria etc.) so that the **actual increase in beer production is only abt. 20 million hectolitres,** respectively 2.5 % worldwide.

1976 Crop

Market Observations

Although the reduction in the hop cultivation areas in the world had not been carried out to that extent which would have been necessary to make the market healthy again, there appeared to be an improvement in the producer's prices possible in 1976. Due to the long dry and hot period existing in Europe, larger crop failures were to be expected. In July the farmers stopped the advanced sales. Price increases, mainly for the 1976 crop were the result.

The purchasers, however, were very cautious in view of the ample stocks still existing from previous crops and the uncertain beer sales. The price increase observed before the crop came to a standstill and despite the relatively low unsold stocks, a reverse motion took place.

The US Market had a firm, gradually increasing tendency. Due to the generally disappointing bitter values of the European hops, US hops supplied the cheapest alpha in the world market.

Only the large scale coverage of East European countries ensured that the world hop crop 1976 could be sold out apart from balance lots, although again at prices which in Europe were below the producer's cost. For the first time since 1973, the production of alpha acid was lower than the requirement. A reduction of the stocks existing in the breweries was possible.

Contract Market

From July 1976 the advanced contracts of the 1977-1980 crops had a slowly rising tendency which attained their peak by end August to mid-October. Following this the quotations went back again step by step, particularly for the 1977 crop. The brewing industry was not prepared to accept the higher prices demanded by the farmers because there were indications that with normal crops the offer would be upheld in its previous extent.

The US Market, which hardly knows sharp price movements anyway, only reacted for Yakima Clusters with higher quotations, because in view of the exceptionally low precipitations during the winter 1976/77, water shortage for irrigation of the hops was expected.

On the basis of a normal crop the portion of the 1977 crop under contract can be estimated as follows:

Federal Republic of Germany	about 70-75 %	(Hallertau 75-80 %)
France	about 70 %	(Alsace 80 %)
Belgium	about 10 %	
CSSR	about 70 %	
USA	about 95 %	

Acreage and Hop Production

Country	1975			1976		
	Acreage hectares	⌀ ton per ha	Crop tons = 1.000 kg	Acreage hectares	⌀ ton per ha	Crop tons = 1.000 kg
Hallertau	16.911	1,61	27.347,8	16.563	1,45	23.967,6
Spalt	1.089	1,51	1.653,5	1.000	1,40	1.402,3
Hersbruck	336	1,68	590,0	285	1,26	359,9
Jura	491	2,06	1.013,4	532	1,81	960,5
Tettnang	1.351	1,33	1.793,3	1.269	1,18	1.495,7
Other Districts	33	1,21	40,0	28	1,01	28,2
Germany, Federal Rep.	**20.211**	**1,60**	**32.438,0**	**19.677**	**1,43**	**28.214,2**)**
Kent	3.407	1,17	3.896,7	3.206	1,38	4.437,0
Hants/Surrey	227	1,39	297,0	208	1,38	287,2
Sussex	466	1,09	479,5	273	1,17	318,7
Herefordshire	1.676	1,52	2.584,6	1.624	1,36	2.209,2
Worcestershire	632	1,46	911,8	615	1,28	784,3
England	**6.408**	**1,29**	**8.169,6**	**5.926**	**1,36**	**8.036,4**
Alsace	728	1,92	1.399,2	656	1,70	1.112,5
Burgundy	68	1,57	107,3	61	0,82	50,0
Flanders	329	1,94	639,2	315	1,75	550,0
Other Districts	21	2,14	45,0	18	1,81	32,5
France	**1.146**	**1,91**	**2.190,7**	**1.050**	**1,66**	**1.745,0**
Aalst	336	1,38	464,6	273	1,50	409,2
Poperinge	792	1,70	1.346,2	671	1,96	1.315,2
Vodelée	40	1,23	49,2	27	1,50	40,5
Belgium	**1.168**	**1,59**	**1.860,0**	**971**	**1,82**	**1.764,9**
EC-Countries	**28.933**	**1,54**	**44.658,3**	**27.624**	**1,44**	**39.760,5**
Saaz (Zatec)	6.860	1,06	7.300,4	7.020	0,92	6.480,3
Auscha (Ustek)	1.700	1,30	2.218,1	1.761	1,07	1.877,7
Other Districts	1.099	1,29	1.417,5	1.296	1,04	1.353,8
Czechoslovakia	**9.659**	**1,13**	**10.936,0**	**10.077**	**0,96**	**9.711,8**
USSR	**11.300**	**0,96**	**10.900,0*)**	**11.300**	**0,96**	**10.900,0*)**
Slovenia	2.403	1,18	2.839,9	2.303	1,12	2.574,0
Backa	1.433	1,24	1.786,7	1.062	1,63	1.730,0
Jugoslavia	**3.836**	**1,20**	**4.626,6**	**3.365**	**1,28**	**4.304,0**
Germany, Democratic Rep.	**2.197**	**1,30**	**2.863,9**	**2.130**	**1,25**	**2.670,5**
Poland	**2.300**	**1,19**	**2.737,0**	**2.170**	**1,17**	**2.542,0**
Bulgaria	**1.200**	**0,60**	**720,0*)**	**1.200**	**0,92**	**1.100,0**
Romania	**800**	**0,68**	**550,0*)**	**1.100**	**0,60**	**660,0**
Hungary	**639**	**0,47**	**297,6**	**481**	**0,82**	**396,7**
Galicia	76	0,99	75,3	76	0,70	53,4
León	1.731	1,30	2.250,1	1.731	1,44	2.494,5
Cantábrica	34	0,83	28,2	34	0,36	12,4
Spain	**1.841**	**1,28**	**2.353,6**	**1.841**	**1,39**	**2.560,3**
Other European Countries	**450**	**1,47**	**663,3**	**422**	**1,61**	**678,9**
EUROPE	**63.155**	**1,29**	**81.306,3**	**61.710**	**1,22**	**75.284,7**
Washington	8.749	1,95	17.100,8	8.499	2,20	18.670,0
Oregon	2.276	1,90	4.318,2	2.185	1,86	4.066,0
California	622	1,86	1.156,7	607	1,86	1.129,5
Idaho	1.502	1,85	2.785,9	1.214	1,93	2.340,5
USA	**13.149**	**1,93**	**25.361,6**	**12.505**	**2,10**	**26.206,0**
Canada	**360**	**1,73**	**625,0**	**326**	**1,14**	**372,0**
Argentina	**314**	**0,65**	**203,0**	**314**	**0,64**	**200,0*)**
Japan	**1.374**	**1,59**	**2.184,0**	**1.307**	**1,70**	**2.222,0**
Victoria	508	1,79	910,0	405	1,85	750,0
Tasmania	663	2,32	1.539,0	513	2,20	1.129,0
Australia	**1.171**	**2,09**	**2.449,0**	**918**	**2,05**	**1.879,0**
New Zealand	**212**	**1,81**	**383,6**	**191**	**1,65**	**315,5**
Other Countries	**849**	**1,17**	**990,0*)**	**926**	**0,95**	**880,4*)**
WORLD	**80.584**	**1,41**	**113.502,5**	**78.197**	**1,37**	**107.359,6**

*) Estimate **) Official Weight 3. 3. 1977

Hop Products

During recent years the portion of hops processed to extract and pellets increased annually by 2-3 %, and by 1975/76 had attained approximately 42.5 % of the world hop production. This figure remained almost unchanged 1976/77. However, it would be wrong to look upon this as a stagnation in the trend to refining of products. A large number of leading breweries only change over from conventional hops to hop products after very careful investigations. It can therefore be assumed that during coming years a further increase in the use of hop products will take place. After careful estimation the following amounts were processed from the **1976 crop:**

		1976	1975
to extract	Fed. Rep. of Germany	abt. 8,800 tonnes	abt. 11,925 tonnes
	USA	abt. 7,200 tonnes	abt. 8,550 tonnes
	Other countries	abt. 5,850 tonnes	abt. 5,100 tonnes
		= abt. 21,850 tonnes	= abt. 25,575 tonnes
to pellets	Fed. Rep. of Germany	abt. 11,975 tonnes	abt. 12,025 tonnes
	USA	abt. 6,750 tonnes	abt. 5,900 tonnes
	Other countries	abt. 5,670 tonnes	abt. 4,750 tonnes
		= abt. 24,395 tonnes	= abt. 22,675 tonnes

A summary covering the last 5 years shows the following:

Hops processed to

1972:	extract	abt. 25,750 tonnes = 72 %	**1975:**	extract	abt. 25,575 tonnes = 53 %
	pellets	abt. 9,950 tonnes = 28 %		pellets	abt. 22,675 tonnes = 47 %
	Total	abt. 35,700 tonnes = 100 %		Total	abt. 48,250 tonnes = 100 %
1973:	extract	abt. 26,100 tonnes = 61 %	**1976:**	extract	abt. 21,850 tonnes = 47 %
	pellets	abt. 16,800 tonnes = 39 %		pellets	abt. 24,395 tonnes = 53 %
	Total	abt. 42,900 tonnes = 100 %		Total	abt. 46,245 tonnes = 100 %
1974:	extract	abt. 23,790 tonnes = 55 %			
	pellets	abt. 19,325 tonnes = 45 %			
	Total	abt. 43,115 tonnes = 100 %			

Even with due consideration to an unavoidable source of error, the trend towards pellets is quite clear. The drop of hops refined is explained by the smaller world crop of hops and also a certain over-stocking on the part of the brewing industry with these products.

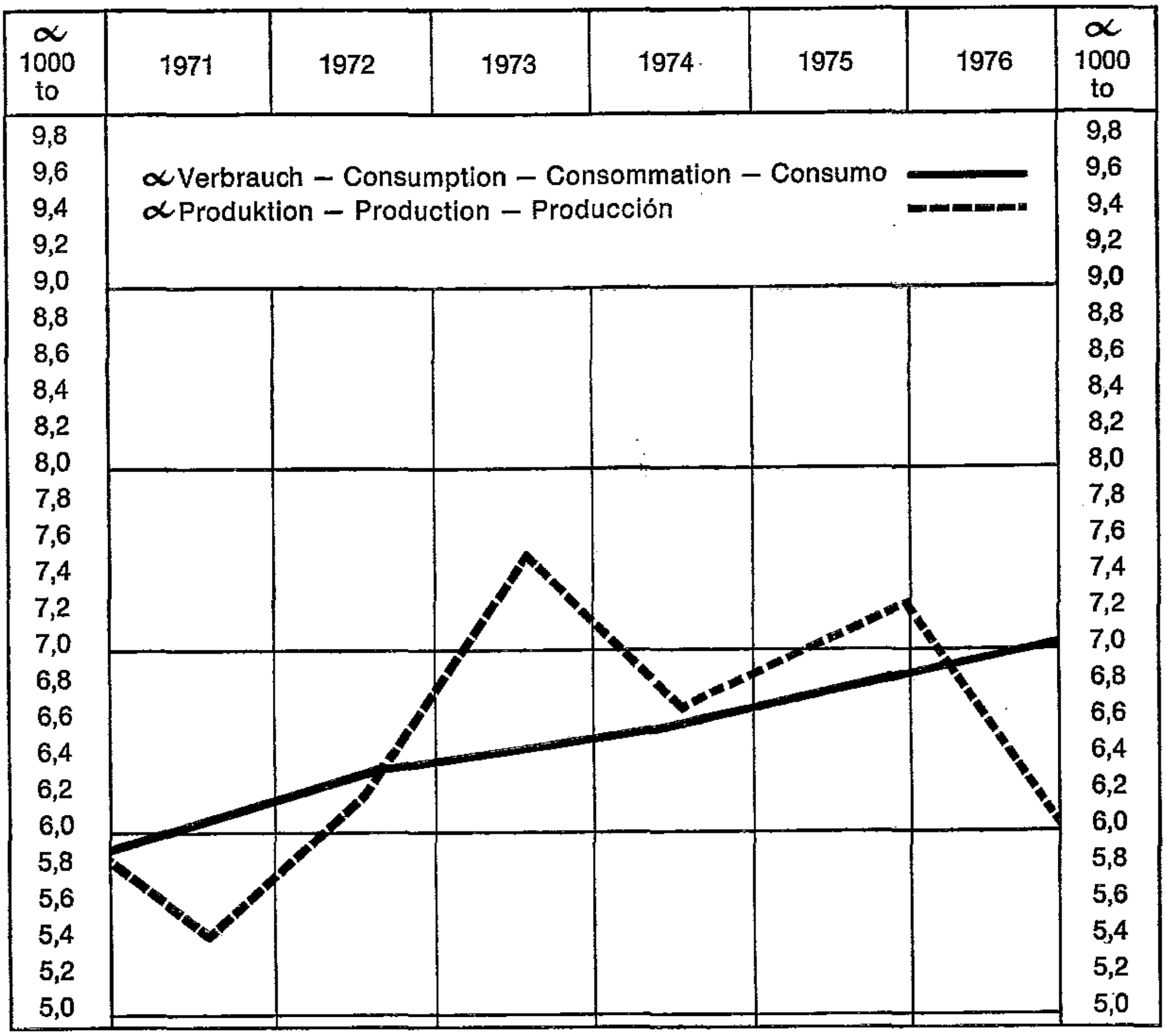
Bitter Values 1976 Crop

The dry and hot summer 1976 in Europe not only resulted in a low crop but also a drop in the alpha content from an average 20-25 % compared with the average values of the last 6 years. Only Strisselspalt and the Belgian bittering hops attained higher values. The alpha content was particularly disappointing for the Saaz hops, but also the German bittering varieties were unusually weak. The US hops, on the other hand, however, were only slightly below the average.

Variety	1975			1976		
	Total Resin Content	α	% of total resins	Total Resin Content	α	% of total resins
Hallertau Aroma	14,1	5,35	37,9	12,1	3,9	32,2
Hallertau Northern Brewer	17,9	8,75	48,9	15,0	6,6	44,0
Hallertau Brewers Gold	16,0	7,45	46,6	12,4	5,2	41,9
Spalt	13,4	5,40	40,3	11,9	3,8	31,9
Tettnang	13,4	5,25	39,3	12,1	4,0	33,1
Hersbruck	11,9	4,75	40,0	13,0	4,2	32,3
Saaz	13,2	5,10	38,6	9,8	2,8	28,6
Alsace / Strisselspalt	11,8	4,10	34,7	16,2	5,3	32,7
Jugoslav. Styria (Golding)	12,8	5,73	44,7	12,1	4,6	38,0
Belgian Northern Brewer	15,0	7,45	49,7	17,8	8,9	50,0
Belgian Brewers Gold	13,9	5,75	41,4	17,0	7,3	42,9
Polish Lublin	14,3	4,75	33,2	12,6	4,2	33,3
US-Yakima	17,0	7,05	41,4	15,8	6,5	41,1

The figures in the above table refer to the values per Oct./Nov. 1976, **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 mittelfrueh, Hersbruck, Hüller Bitterer, Strisselspalt, Saale, Lublin, Golding, Fuggle, Cascade)

Group C) **Hops with no influence on the World Market** (Eastern Europe, England, Spain, Africa, Asia and other countries)

Group D) **Bitter Value Hops** (Northern Brewer, Brewers Gold, Cluster, Bullion, Pride of Ringwood and others)

Hop Group	1975				1976			
	% of World Crop	Crop metr. tons	Ø α	α metr. tons	% of World Crop	Crop metr. tons	Ø α	α metr. tons
A	12,5	14.375,2	5,15	740,78	12	12.609,8	3,05	385,05
B	25	28.295,2	5,34	1.510,96	22	23.951,9	4,24	1.016,10
C	27	30.242,1	6,12	1.850,82	29	30.988,5	6,10	1.889,04
D	35,5	40.590,0	7,71	3.131,42	37	39.809,4	6,84	2.722,07
Total	100	113.502,5	6,37	7.233,98	100	107.359,6	5,6	6.012,26

The world average alpha rate of **8.5 gm per hectolitre beer** results in the following balance alpha:

1973:	742,55 Mio. hl × 8,5	= 6.311,7 to α
	Crop	= 7.468,7 to α
	Overproduction	= 1.157,0 to α
1974:	770,95 Mio. hl × 8,5	= 6.553,1 to α
	Crop	= 6.631,1 to α
	Overproduction	= 78,0 to α
1975:	802,41 Mio. hl × 8,5	= 6.820,5 to α
	Crop	= 7.234,0 to α
	Overproduction	= 413,5 to α
1976:	825,71 Mio. hl × 8,5	= 7.018,5 to α
	Crop	= 6.012,3 to α
	Deficit	= 1.006,2 to α

EUROPEAN COMMUNITY (EC)

On March 25, 1977, the European Community celebrated the 25th anniversary of the signing of the Treaties of Rome. Owing to national self-interest and the economic difficulties of some of the member states, efforts to advance towards political and economic union have come to a stop. The United Kingdom, France, Italy and Denmark have initiated drastic stabilization measures.

In July, 1976, negotiations were begun with Greece, which has been an associate of the Community since 1961, with the aim of accepting her as a full member. In March, 1977 Portugal made an official application for acceptance into the Community. Spain, too, is strongly interested to become member of the Community.

Within the European Currency Union, in October, 1976, the Deutschmark, in relation to the other currencies, was revalued between 2 % and 6 %.

In Italy, the cash deposit obligation reintroduced on 6. 5. 76 for imports and services, was extended to the 15. 4. 1977 with degressive rates.

Customs Union

On the 1. 7. 1977, the complete elimination of customs duty between the six old and the three new members of the Common Market officially came into effect. Admittedly, a number of agricultural products were excluded from this agreement; for them, the elimination of customs duty will become effective only on 1. 1. 1978.

Hop Market

By means of the **Regulation (EEC) No. 1793/76, issued by the Council and dated 20. 7. 1976,** the aids to hop producers for the 1975 crop were granted as follows:

200 Acc. Un.:	Northern Brewer, Brewers Gold, Hersbruck late, Hüller Bitterer, Target
300 Acc. Un.:	Spalt, Tettnang
400 Acc. Un.:	Hallertau Mittelfrüh
600 Acc. Un.:	Record, Keyworth's Midseason
650 Acc. Un.:	Bramling Cross, Progress, Fuggles, WGV, Alliance, Tutsham, Saaz, Strisselspalt, Burgundy late, Star

1 Acc. Un. = DM 3,48

In the **Regulation (EEC) No. 208/77, issued by the Commission and dated 31. 1. 1977,** to amend the Regulation (EEC) No. 1350/72, the term "cultivation area" has been exactly defined for the determination of the aids to be granted to hop producers.

The **Regulation (EEC) No. 209/77, issued by the Commission and dated 31. 1. 1977** to amend the Regulation (EEC) No. 776/73, deals with the registration of contracts and the communication of information in the hop sector.

The long and vigourously discussed amendment to the Hop Market Organization was formally adopted by the Council of Ministers for Agriculture in the

Regulation (EEC) No. 1170/77 issued by the Council on 17. 5. 1977 to change the Regulation (EEC) No. 1696/71 dealing with the Common Market Organization for Hops. The main points of this amendment are:

1. The introduction of a certification procedure for the hops produced within the Community, and the products therefrom, and also for hops imported from non-member countries and the products therefrom.
2. The producers groups shall market the entire production of their members. Contracts concluded earlier, however, remain unaffected by this Regulation. The hop producers groups can authorize their members to market a portion of their hop production themselves. **Hop producers groups may not acquire a market-dominating position.**
3. The hop cultivating areas may not be extended between 1. 7. 1977 and 31. 12. 1979, a recognized hop producers group being considered as single producer.
4. Aids to hop producers shall be granted in accordance with variety groups (aroma, bitter and other hops).

The individual regulations required for the implementation of this amendment are to be introduced by the respective national governments who also have to establish the appropriate control organs.

For the 1976 crop, the Commission recommended the following aids to hop producers:

200 Acc. Un.:	Brewers Gold, Target, Keyworth's Midseason	400 Acc. Un.:	Hallertau Mittelfrüh, Bramling Cross
300 Acc. Un.:	Northern Brewer, Hersbruck late, Spalt, Tettnang, Hüller Bitterer, Progress, WGV	550 Acc. Un.:	Record, Fuggles, Saaz, Strisselspalt, Tutsham, Star, Saxon

1 Acc. Un. = DM 3,48

In order not to provide any incentive for enlarging the cultivation areas, the Commission proposes to exclude from aid grants, hop cultivation areas newly established in 1976. While the total amount of aids for the 1975 crop was about 7.9 million Acc. Un., for the 1976 crop, 7.8 million Acc. Un. are earmarked to which must be added structural aids for modifying the varieties cultivated, etc.

FED. REP. of GERMANY Growth 1976

Precipitation during the winter of 1975/76 and the spring was below the average. With quite often very high daily temperatures in May, it was too cold at nights for continuous growth of the hops. A very exceptionally long period of **drought** set in early in June, the influence of which became all the more acute from the middle of the month due to a **heat wave.** Whereas the aroma hops got over this unfavourable weather generally better, the growth of the bittering hops was retarded, in many cases only just reaching the height of the trellises. The growth of the plants was most irregular in all hop growing areas. The **red spider** vas very often met with amongst the diseases and insects, but on the other hand there were only minimum losses in the Hallertau due to wilt.

A change in the weather finally took place about the 20th July, when it began to rain quite considerably and the temperatures dropped. As **flowering** started about two weeks too early and the growth of the hops had come to a standstill, the rain was hardly able to improve the situation.

Picking began during the last week of August at the usual time. The medium-size cones had a disappointing weak bittering content which on average was about 23 % below the figures of the previous year. This applied in particular to the Northern Brewer and Brewers Gold varieties. The unfavourable weather conditions were also expressed by the lower yield per hectare.

Crop Estimate

The crop estimate carried out as usual at the end of August and the official weighing up to 3. 3. 1977 showed the following figures:

	Estimate		Weighed on 3. 3. 1977	
	Ztr.	tonnes	Ztr.	tonnes
Hallertau	483,000	24,150	479,353	23,967.65
Jura	19,300	965	19,210	960.50
Spalt	26,600	1,330	28,045	1,402.25
Hersbruck	8,500	425	7,198	359,90
Tettnang	30,500	1,525	29,914	1,495.70
Remaining territories	615	30.75	564	28.20
	568,515	28,425.75	564,284	28,214.20

Purchase from Farmers

As it had been possible to clear the 1975 crop by June 1976, and there was the reduced crop due to weather conditions, the farmers were hoping to attain higher prices for the 1976 crop. A high demand was also expected in view of the lower bittering value, and as in the Federal Republic of Germany 467,500 Ztr. (23,375 tonnes) were under contract, it appeared that the remaining amount of free hops of 100,000 Ztr. (5,000 tonnes) could be easily sold.

As opposed to this the demand was initially dragging, so that the prices gave way step by step. The bittering value varieties were especially affected here due to the weak alpha content, as is shown in the following table:

Variety	6. 9.	20. 9.	27. 9.	4. 10.	18. 10.	2. 11.	8. 11.	22. 11.	begin. Dec.
Hallertau Aroma	DM 340,—	340,—	310,—	280,—	290/300,—	280/300,—	280/300,—	250/260,—	250,—
Hallert. N. Brewer	DM 340,—	340,—	300,—	270,—	250/270,—	230/250,—	150/160,—	160/170,—	160/170,—
Hallert. Br. Gold	DM 320,—	320,—	280,—	250,—	250/260,—	250,—	150/160,—	160/170,—	160/170,—
Spalt	DM 400,—	400,—	400,—	400,—	380/400,—	380,—	370,—	280/300,—	300,—
Tettnang	DM 400,—	400,—	410,—	410,—	400,—	400,—	400,—	350,—	300,—
Hersbruck	DM —	330,—	—	280,—	300,—	300,—	280,—	cleared	

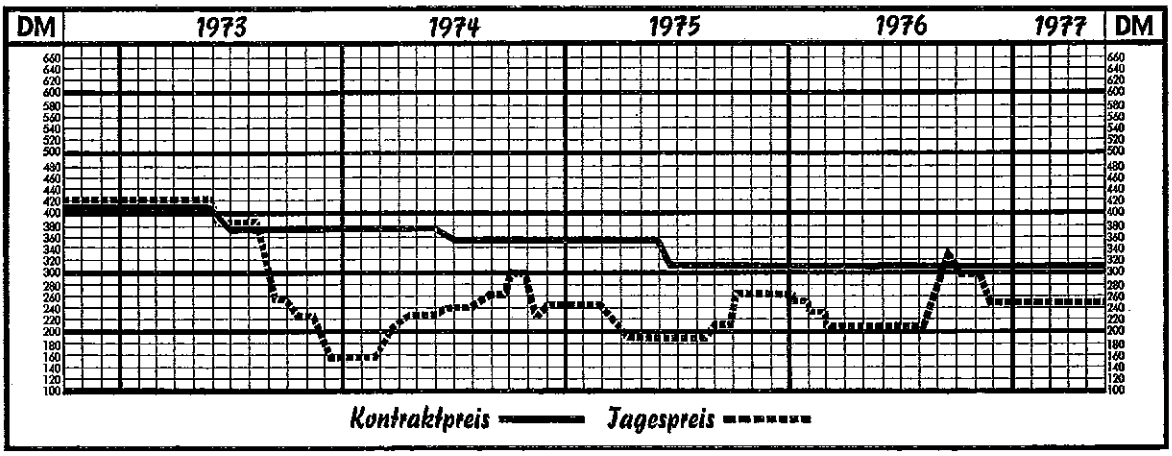
The above prices per 50 kg ex producer's warehouse, excluding VAT and packing.

The demand livened up by mid-November due to large purchases by East European States, mainly for Northern Brewer and Brewers Gold, but this hardly had any influence on the prices. By that time the Hallertau could be cleared to 97-98 %.

With constantly reducing amounts of free hops and again lively demand around the end of the year, the quotations for bittering value varieties rose to over DM 200.— while aroma hops remained unchanged. Spalt and Tettnang also recorded slight improvements for balance lots.

Spot Market and Contract Prices

The following shows the spot market and contract prices of **Hallertau Aroma hops:**



The contract price of DM 300.— could be maintained until the 1980 crop, following this there is a rising tendency each year. At the end of February 1977, the contract business came to a complete standstill.

Nuremberg Market

Due to barter operations to a considerable extent — Hallertau Aroma was released, while Northern Brewer and Brewers Gold were sought — the greatest turnover in recent years took place on the Nuremberg market. These transactions went on until the end of September and start of October. The following interval was interrupted mid-November by the purchases of East European States and the once more at the end of the year.

Variety	Aug. 76	1. 9.	28. 9.	1. 10.	15. 10.	2. 11.	4. 11.	19. 11.	24. 11.	9. 12.
Hallertau Aroma	DM 375,—	365,—	328,—	335,—	340,—	330,—	330,—	280,—	290,—	290/295,—
Hallertau N. Brewer	DM 385,—	380,—	328,—	298/300,—	298,—	270,—	270,—	205,—	200/205,—	215,—
Hallertau Br. Gold	DM 353,—	354,—	315,—	290,—	295,—	275,—	275,—	205,—	200/205,—	215,—
Spalt	DM 460,—	460,—	430,—	432,—	428,—	420,—	385,—	380,—	360,—	325,—
Tettnang	DM 460,—	—	460,—	465,—	450,—	440,—	390,—	370,—	360,—	330,—

The above quotations were for per 50 kg goods, packed ex-stock, excluding VAT and packing materials.

As the offer became less and less during the following weeks, the prices for Northern Brewer rose to DM 273.— and for Brewers Gold up to DM 263.— per 50 kg, while the Hallertau aroma varieties were less asked for and thus remained unchanged. Mid-June, the unsold stocks were estimated as follows:

Hallertau Aroma hops	1,200/1,300 Ztr.	(60/65 tonnes)
Hallertau Northern Brewer	600 Ztr.	(30 tonnes)
Tettnang and Spalt	400 Ztr.	(20 tonnes)

Foreign hops were only handled sporadically in the Nuremberg market in so far as the price was of interest.

Acreage

The hop acreage used as a basis for the **crop estimate** is made up as follows:

Growing Region	1970 Total Acreage ha	1976 Existing Acreage ha	1976 New Plantings ha	1976 Total Acreage ha
Hallertau	10.166	15.895	668	16.563
Spalt	978	983	17	1.000
Jura	311	530	14	544
Hersbruck	341	279	6	285
Tettnang	941	1.264	2	1.266
other regions	42	28	—	28
Federal Republic	12.779	18.979	707	19.686

Compared with 1975, the total area reduced by 525 ha = 2.5 %. Of this figure 348 ha were in the Hallertau and 230 ha in the other areas. The Jura cultivation area, however, was expanded by 53 ha. Hersbruck, which had 400 ha hop area in 1972, suffered the greatest loss, the cultivation area in 1976 was 15 % smaller than in the previous year.

Cultivation of Varieties

The varieties in the individual areas were given as follows:

Growing Region	Hallertau mittelfrüh ha	Spalt ha	Hersbruck Late ha	Tettnang ha	Hüller Bitterer ha	Northern Brewer ha	Brewers Gold ha	Record, others ha
Hallertau	3.304	12	2.726	1	1.644	6.141	2.300	435
Spalt	554	396	1	—	14	6	27	2
Jura	283	1	73	—	34	49	90	2
Hersbruck	139	2	114	—	3	20	7	—
Tettnang	274	—	8	987	—	—	—	—
other regions	7	—	3	11	2	1	2	1
Total	4.561	411	2.925	999	1.697	6.217	2.426	440

The deviation in the **Jura** area compared with the Hop Acreage Table results from a recently carried out reformation of council territories. These 11 ha now belong to the Land territory which is not included in the acreage and is thus out side of the latter.

Noteworthy is the continued changing of the varieties in favour of the hop varieties rich in bittering value, as shown in the following:

		1974	1975	1976
Fed. Rep. of Germany:	Aroma hops	59 %	56 %	54 %
	Bitter hops	41 %	44 %	46 %
Hallertau:	Aroma hops	52 %	49 %	46 %
	Bitter hops	48 %	51 %	54 %

Particularly noticeable **in the Hallertau** is **the drop in the Medium Early variety** by 1007 ha, the area of which only carries 76.6 % of the cultivation in 1975. Apart from the risk due to the wilt disease and the higher crop yields of the bittering hops, this development is mainly due to the increasing demand of the brewing industry for less expensive alpha acids. The future of aroma hops cultivation, in particular the Hallertau Medium Early version, will be decided by the law of offer and demand.

UNITED KINGDOM

The U.K. had an exceptionally hot summer again for the second year running, with temperatures rising to 30° C. Added to this was a **dry period** which started very early and continued until picking and thus one expected considerable loss of yield. The chances improved, however, when mid-July ample rain fell in Weald (Kent), but this rain did not fall in the midwest area. Weald covers more than the half of the hop gardens in Kent. Trouble with the red spider could only be kept in hand with great efforts.

As opposed to early fears, the yield was only about 3 % less than in the previous year. The farmers were able to fulfil their contract obligations. The hops were of good **quality,** particularly in respect of the alpha content. Depending upon the variety it was between 10 and 20 % above the already high values of 1975.

Cultivation of Varieties

Numerous varieties are grown on an area 482 ha smaller than in 1975. There was an increase in certain new bitter value varieties (Wye Target, Wye Northdown etc.), while aroma types (mainly Bramling Cross) dropped back considerably. The Keyworth's Midseason variety is gradually vanishing. The varieties for 1976 were given as follows:

Growing Region	Golding ha	W.G.V. ha	Fuggles ha	Bramling Cross ha	Northern Brewer ha	Bullion ha	North-down ha	Chal-lenger ha	Wye Target ha	other varieties ha
Kent	259	312	80	525	41	159	157	132	815	378
Hampshire, Surrey	6	—	3	—	42	7	107	42	—	1
Sussex	—	2	45	32	10	33	19	28	62	42
Herefordshire	89	—	467	—	177	103	358	306	—	5
Worcestershire	78	—	77	—	76	61	148	97	—	3
Brewer Growers	35	33	5	49	65	107	59	50	48	91
Total	467	347	677	606	411	470	848	655	925	520

The well-known Wye College brought out a number of new plants during recent years. The criteria to be taken into consideration

— high yield and bittering content or aroma

— resistance against disease and pests

— varying ripening times

can hardly all be achieved simultaneously. Wye Target, for example is resistant to wilt disease but susceptible to downy mildew. Wye Northdown on the other hand has proved to be resistant against downy mildew but is not so hardy against the wilt disease. We shall have to wait and see which new varieties get through in the long run. This is also dependent upon the acceptance by the brewing industry.

FRANCE

Following good growth initially the hops in <u>**ALSACE**</u> suffered under exceptional **dry weather** which was met with throughout Europe. The results of the unfavourable weather soon made themselves noticeable with the Strisselspalt, Northern Brewer and Record. Apart from local red spider and oidium, hardly any disease and pest was come across.

Picking was carried out in good weather at the usual time, and 95 % of the hops could be classified as grade I. The bittering content of the Strisselspalt was surprisingly high, while the Record variety was disappointing both in respect of alpha content and yield per hectare.

<u>**NORTHERN FRANCE.**</u> There was a shortage of rain already in spring 1976, which became threatening from mid-June. The growth of the hops was retarded which was expressed in the poor yield. However, the bittering value was some 20-25 % above that of the previous year.

Urgently required rainfall only came at the time of **picking** but it did not have any influence on the drying of the hops. 80 % of the crop was graded class I, 15 % class II and 5 % class III.

Despite the high alpha content in comparison with other European bittering value types, selling of the Flanders hops was difficult, and by mid-March 1977 there was still about 2,000 Ztr. (100 tonnes) Brewers Gold and 500 Ztr. (25 tonnes) Northern Brewer waiting for purchasers.

The **market prices** developed accordingly as follows (prime cost per 50 kg ex stock):

Variety		1. 9.	15. 9.	1. 10.	15. 10.	1. 11.
Northern Brewer	FF	700,—	650,—	600,—	600,—	600,—
Brewers Gold	FF	500,—	600,—	500,—	500,—	500,—

As only 10 % of the 1976 crop was under contract, the prices attained for the remaining crop were most unsatisfactory for the farmers and it is to be expected that further ground will be laid waste to the tune of 15 to 20 ha.

Cultivation of Varieties

In the various cultivation areas the varieties were given as follows:

Growing Region	Strissel-spalt ha	Northern Brewer ha	Brewers Gold ha	Record ha	Burgundy late Hallertau ha
Alsace	328	57	205	66	—
Flanders	—	112	200	—	3
Burgundy	—	6	43	—	12
Total	328	175	448	66	15

The poor results of the Record hops backed up the farmers' dislike for that variety. On the larger farms it is planned to change over to Brewers Gold or Strisselspalt.

Hop Market

The price drop continuing for a number of years now is threatening the very existence of French hop growing, and as no effective steps were undertaken by the EC Authorities it is intended to go ahead on a national scale.

Negotiations are being held between the organisations of the farmers, brewers and trade with the following targets:

— The Brewing Industry on the task to accept certain quantities of hops from the national produce.

— By means of contracts running for at least 3 years, the farmers are to be guaranteed acceptable prices.

— The cooperatives guarantee fulfilment of these contracts for the farmers.

— A committee to be formed from all associated parties will supervise carrying out of the agreement which is to come into force in 1978.

The EC Commission will have to follow up these plans which are aimed at a national French Hop Market ruling.

BELGIUM

The 1975/76 winter was relatively cold with little rain. The spring had little rain and the weather was mostly cool so that hop growing was delayed. On the other hand, the summer months were unusually hot with a long **dry period.** Aphids trouble was quite severe but could be kept under control. Despite the long dry period only interrupted by light showers until the time of the crop, the hops developed surprisingly well. Particularly on the heavy ground and deep soil of Poperinge, the drought damage was less than in other areas. The Northern Brewer, however, remained pointed, while the later ripening Brewers Gold could profit from the rainfall in August/September.

Due to the slightly later start of **picking,** the hops were well ripened, which explains the 20-25 % higher alpha content compared to 1975. 90 % of the hops were grade I.

Market Development

Despite the higher alpha content compared with German bitter hops, the demand for the Belgium crop was weak. The price development was as follows (Prime costs per 50 kg ex produce stock):

Variety		1. 9.	15. 9.	1. 10.	15. 10.	1. 11.
Northern Brewer	BF	5.000,—	6.000,—	5.000,—	4.500,—	4.500,—
Brewers Gold	BF	4.000,—	5.000,—	4.500,—	4.000,—	3.750,—
Hallertau	BF	5.000,—	5.500,—	5.000,—	5.000,—	5.000,—

In view of the difficult sales situation for the stocks still unsold, the farmers had to make allowance in the further course of the season and adapt their quotations to those of the relevant German varieties. Mid-March 1977 about 1.350 Ztr. (67.5 tonnes) first hand hops were still unsold.

According to a calculation by the Ministry of Agriculture, the producer price was BF 6,372 (DM 415,—) but this could not be attained. More land has been put to waste in 1977, about 30 ha in Poperinge and 20 ha in Aalst.

Compared with 1975 the total area was already reduced by 197 ha = 17 %. The Northern Brewer variety was hit hardest. This resulted in the following picture:

Cultivation of Varieties

Growing Region	Northern Brewer ha	Brewers Gold ha	Hallertau ha	Record ha	Fuggles ha	Saaz ha	other varieties ha
Aalst-Asse	82	29	80	57	—	21	3
Poperinge	289	319	43	5	—	1	14
Vodelée	5	3	1	—	11	4	4
Total	376	351	124	62	11	26	21

IRELAND

The hop crop of this country also suffered under the dry period of the summer. The flowering was weaker than usually so that the crop was almost 13 % less than in the previous year. However, the alpha content was above average.

Hops are still only being grown in County **Kilkenny** on an area of 63 ha including 16 ha Fuggles, 46 ha Northern Brewer, 0.2 ha Bullion and 0.8 ha Wye Northdown. The whole crop of 61 tonnes was taken over under contract by the brewing industry. No changes in the cultivation area are proposed.

CZECHO-SLOVAKIA

Growth of hops in 1976 was mainly under unfavourable conditions. In spring the young hops suffered particularly under the dry and hot weather. A long **dry period** in June and July, as well as a strong **heat wave** influenced also the development of the full bearing hops. Low temperatures at night were a great disadvantage during the important months of July and August. Rainfall end of August could not improve the condition of the plants because picking in the Saaz area had started on the 18th of the month. The precautionary plant protection measures assisted in keeping the hop gardens free of disease and pests.

The unfavourable weather during the period of cone formation and the ripening of the hops resulted in a low alpha acid content. As the care taken by the hop pickers left quite a lot to be wished for, the **quality** of the 1976 crop was in general not satisfactory.

Due to the continued very high exports of Czechoslovakian hops, the import of about 1.000 tonnes hops was necessary to cover home requirements.

Whereas nearly all hop producer countries assist towards normalising of the world market by reduction of their cultivation area, 418 ha new area was brought in by the CSSR. The relatively strong increase compared with 1975 took place in the Tirschitz area (+ 15 %) and in the Slovakian area (+ 20 %).

JUGOSLAVIA

Up to the end of June the growth of the hops in **SLOVENIA** continued under normal conditions. Then came a **dry period** over a number of weeks, the high temperature slowing down the flowering and cone formation. The bines remained in many cases pointed and only had short side branches. As, furthermore, about 5,000 Ztr. (250 tonnes) were destroyed by **hail,** a reduction in the crop of 15-20 % compared with the earlier estimate of 62,000 Ztr. (3.100 tonnes) occured. Disease and pests were brought under control in good time.

The 1976 crop was the weakest during the last 18 years both in respect of **quality** and quantity. 80 % of the hops were class I, 15 % class II and 5 % class III. On the basis of these crop results, no hops could be offered on the world market and the later crops are already sold out to a considerable extent.

From the cultivation area of 2,303 ha 1,829 ha = 79.4 % were of the Golding variety and the remainder Super Styrians.

BACKA. This cultivation area on the river Danube did not suffer from the dryness throughout the rest of Europe. Low temperatures during spring delayed the growth and it was also too cool during the cone formation and ripening in August.

The **quality** was evaluated better than in the previous year. 75 % of the crop was class I, 22 % class II and 3 % class III. Hop production was already contracted in advance for the own brewing industry and export, and therefore no offers on the free market existed. Due to acceptance difficulties, certain lots became free early in 1977 which could be offered at a cheap level to the customers for Backa hops.

POLAND

The unfavourable continental weather in summer 1976 had little influence on the crops, but the bittering content was about 10 % below the 1975 figures.

At the start of the growth the weather was relatively cold and dry. During flowering and cone formation the **dry period** continued causing a reduction in the yield and the bittering content. Disease and pests were fought in good time. Therefore a crop was obtained of a quality which was quite satisfactory with 55 % class I, 32 % class II and the remainder class III. The whole crop was brought in and sold without difficulties.

No alterations in hop production are planned, either in respect of area or variety.

GERMAN DEMOCRATIC REPUBLIC

Until May, with mainly dry weather, there were considerable variations in general. High temperatures were followed by cool nights and in some cases even **frost** was met with. From June a **dry period** set in throughout Central Europe. Action against aphids necessitated particularly intensive efforts.

As expected, the crop was about 10 % under the advance estimate but still attained 97.5 % of the 1975 result. About 54 % of the hops were class I and II, 42 % class III while the remainder was graded in class IV. However, the alpha acid content was above average and was given as being 4 % for Saaz sets, while Northern Brewer was given as 9.6 %.

The hop area was smaller than 1975 and made up as follows:

Growing Region	Acreage ha	Yield to/ha	Crop to
Halle/Magdeburg	1.010	1,25	1.262,4
Erfurt	450	1,30	585,2
Dresden/Leipzig	600	1,26	758,3
Gera/Karl-Marx-Stadt	70	0,92	64,6
Total	2.130	1,25	2.670,5

To cover home requirements it was again necessary to import large quantities of hops.

BULGARIA

As a result of exceptionally heavy rainfall and favourable weather, a very large crop of excellent **quality** was grown and exceeded the requirements of the domestic breweries. There was a change over from the numerous types of hops to only aroma varieties which originated from the CSSR. Large scale hop gardens were laid on which allowed action against pests by using aircraft.

As the excellent crop results for 1976 could be looked upon as exceptional and it is intended to be independent of hop imports, a wide scale expansion of the hop area is proposed.

As explained, a large portion of the hops were processed to extract in the country.

ROMANIA

Details were known about hop growing which improved the previously unclear picture. In 1976, a cultivation area resulted in 1,100 ha = 13,200 Ztr. (660 tonnes). A number of hop varieties were planted, mainly Northern Brewer, Brewers Gold, Hüller Bitterer and an own type with the name Sighisorean. Further details are not known. The alpha value of the bitter varieties were at the upper limit of the figures attained in Europe in 1976.

The home requirements could be covered to about 1/3 from the national production and it was therefore necessary to arrange imports. In order to become independent of imports, 500 ha new hop gardens are to be planted in 1977.

HUNGARY

The minimum amount of rainfall in spring and the dry weather from June resulted in a weak 1976 crop, particularly with the early varieties. The aroma hops had an alpha content of only 2-4 % and the bitter hops between 7 and 9 %. Almost 60 % of the brewery requirements had to be covered by imports.

Out of the total cultivation area of 481 ha, 141.5 ha were Saaz and Hallertau medium early, 213.7 ha were Northern Brewer and Brewers Gold; the remaining 125.7 ha being other varieties. Due to the poor yield of aroma hops, the proportion of bittering hops was 58 % of the total crop.

SPAIN

During the whole vegetation period 1976, normal weather conditions existed so that an ample and qualitatively good hop crop could be brought in, which was only improved upon in the year 1974. The cultivation area remained unchanged from the previous year.

92.6 % of the hops were class I, 7.3 % were class II and only 0.1 % class III. The alpha values of the bittering varieties H-3 and H-7 were analysed after the crop and found on average to be between 8 and 8.5 %.

In 1976 again the well-stocked Spanish brewing industry could not accept the large crop so that approximately 600 tonnes hops were available for export. As these hops were also interesting due to the high bittering content as well as in the price, they could soon be cleared.

The following quantities and percentages resulted in 1976 according to varieties:

Varieties	H—3	H—7	Strissel-spalt	Hallertau	other varieties
Crop to ≙ %	1.746,6 68,2	720,7 28,2	72,8 2,8	16,6 0,7	3,6 0,1

Practically no alterations compared with the previous year occured.

PORTUGAL

Despite insufficient rainfall in both cultivation areas, the 1976 hop crop was excellent in **quality** and quantity. According to latest details the cultivation area is

Braga 118 ha with a crop of 278 tonnes
Bragança 89 ha with a crop of 160.3 tonnes

Only Brewers Gold is grown and had an alpha content on average above 9 %. 96.5 % of the hops were class I. Picking is carried out fully mechanically in the meantime. The whole crop could be sold by the end of the year.

AUSTRIA

The **MÜHLVIERTEL** cultivation area (Upper Austria) was very hard hit by unfavourable weather. Insufficient rainfall in spring and from June until end of July there was no precipitation at all. The situation was made worse due to the heat throughout Central Europe. The crop was therefore almost 30 % below the result of 1975 and the alpha content of the hops was also lower. The farmers were therefore unable to fulfil their contract obligations.

The cultivation area of 50.6 ha comprises 32 ha of the Malling variety, 15 ha Sanntaler (Golding) and 3.6 ha various other varieties. Variety tests were also carried out over an area of 0.5 ha. The crop was only 51.45 tonnes hops.

The hop cultivation in Mühlviertel is backed up by existing contract with local breweries. Due to the relatively small area per farmer — on average below 1 ha — the producer costs are higher than in large undertakings so that the producers were very hard hit in low crop resulting because no compensation or aid are paid out.

GREECE

As the constant changes in the cultivation area show, hop farming is in a transition stage. The areas for 1976 in the **IOANNINA** area were 55 ha and in **LAMIA** 16 ha which resulted in a crop of about 50.5 tonnes hops. Only Brewers Gold was grown which had an alpha content between 8 and 10 %.

Despite the high contract content a continuous reduction in hop growing can be observed, which is due to the very low hectare yields.

SWITZERLAND

On the unchanged cultivation area of 13.2 ha, hop growing supported by the brewing industry hardly underwent any changes. The results were 7.65 ha Tettnang, 5.2 ha Hallertau and 0.35 ha Northern Brewer. Due to the dry weather and summer heat in 1976, the crop was 19.5 tonnes, i.e. 7 % smaller than in the previous year.

The whole crop was class I (standard quality) and was taken over by the brewing industry in accordance with the contract.

USA
Growth

In view of the reduced cultivation area of about 600 ha compared with 1975, an appropriately lower crop was expected. The actual results exceeded all expectations and in fact the **largest crop ever attained in the USA** was brought in and had excellent quality.

Although the reduction in the hop area in **IDAHO** caused a drop of almost 15 %, in **OREGON** the Bullions brought in a lower yield which also reduced the crop in general. Decisive here, however, was the excellent crop result of **WASHINGTON**, where mainly seedles Clusters and Cascades are grown.

Market
Development

Fears about a drop in the hop crop in Europe livened up the business in the USA, mainly in Yakima Clusters. Although the portion of free hops was limited by the high percentage of contracts, sufficient hops could be released from overstocked breweries to satisfy demands. It was even possible to balance out the missing Fuggles in the U.K. by exports.

Already early in October the market had been cleared apart from a few retained lots. When the crop failure in Europe was found to be smaller than assumed, the US market settled down again.

The price development was as follows for the **Clusters** variety dealt with under the designation **US-Yakima:**

	1. 9.	15. 9.	1. 10.	15. 10.	1. 11.
$	0.55	0.60	0.63	0.63	0.63

per lb. (0.45359 kg) prime costs, excluding premium.

Important purchases by East European States resulted in a sharp price increase in November and December and the still unsold hops from the first hand as well as the Clusters of the 1976 crop from the Reserve Pool were taken over at $ 0.80 per lb. plus premium. The Reserve Pool did not find a purchaser for the 4,520 bales Yakima Clusters of the 1974/75 crop and 1,390 bales Bullions, Cascades and Fuggles 1976 crop. A stock of about 50 tonnes extract remained which the farmers had had produced from the 1974 crop and was not sold.

Contract
Market

At a meeting of the Hop Administrative Committee in January 1977, a sales quota of 100 % was proposed for the 1977 crop. The Idaho farmers, who only wished to release 75 %, made an objection but this was rejected and from 1st. of April 1977 the sales quota 1977 was finally decided as being 100 %.

During Winter 1976/77 only about half of the usual snowfall occured in the mountains on the West Coast, and consequently there was a danger of water shortage for the irrigation of the hop areas in Summer 1977. As a result of this the quotations increased considerably, particularly those for Yakima Clusters. At that time the contract prices were as follows (per lb. prime costs, plus premium):

Varieties		1977	1978	1979	1980	1981
Yakima Clusters	$	—.88	—.90	—.90	—.90	—
Yakima Bullions	$	—	—.91	—.92	—.93	—.93
Oregon Bullions	$	—.95	—.95	—.95	—.95	—.95
Oregon Cascades	$	1.05	1.05	1.05	1.05	1.05
Fuggles	$	—	1.22	1.27	—	—

Due to lack of inquiries there are no quotations for **Yakima Cascades,** but the prices will probably be balanced out with Clusters. The Fuggle crop 1977 is already sold.

The **contract content** of coming crops is estimated as follows:

1977	1978	1979	1980
95 %	92 %	85 %	70 %

Varieties planted

A comparison of the varieties in 1975 and 1976 shows that on the one hand there was an important reduction in aroma types and Clusters, too, while on the other hand there is an increase in the area of other bitter hops, in first line Bullions.

A particularly severe drop in **Idaho** was about 20 % of the area planted in 1975, mainly with Clusters and Talisman.

Variety	Washington ha	Oregon ha	Idaho ha	California ha
Clusters	6.860	55	549	610
Fuggles	—	941	—	—
Cascade	1.119	354	263	—
Bullion	208	537	—	—
Brewers Gold	42	265	—	—
Talisman	—	37	316	—
Comet	234	2	1	1
others	67	10	77	—
Total	8.530	2.201	1.206	611

In the case of Cascades the increase in planting of which rose sharply some years ago, a particularly difficult situation arose. Due to its early reduction in the alpha acid these hops are now less requested. The hope placed in them originally as a replacement for imported European aroma hops was not fulfilled.

CANADA

During the whole period of growth the **weather was mostly unfavourable.** There was lack of heat and sunshine as well as ample rainfall in the time of blossoming and ripening of the hops, thus causing poor results. The desired summer weather only started when the crop had already been half brought in and therefore no improvement could be expected. Due to weather conditions only very little diseases and pests occured.

The 1976 crop was of average **quality.** Noproblems arose during selling. The next three crops have also been sold by advanced contracts.

This stable market situation results in only little alterations to the **varieties planted** and gives in the following the picture for 1976:

Bramling ha	Fuggles ha	Brewers Gold ha	Kent Golding ha	other varieties ha
171	61	48	39	7

With approximately 52 % of the cultivated area, the Bramlings take the leading position, followed by Fuggles (19 %) and Brewers Gold (15 %).

JAPAN

Despite the generally less favourable weather, there was lack of heat as well as sunshine for ripening of the hops in July and August, but even so the practically 5 % smaller cultivation area brought a somewhat larger crop as 1975. This was due to the lower losses resulting from illnesses and pests as well as less storm damage.

In the well-known cultivation areas the early aroma variety Shinshu-Wase is mainly still grown (98 %). Due to the somewhat late picking the hops were of good **quality** (92 % class I) and had a good alpha content of average 6 %.

The marketing of the Japanese hop production is ensured due to contracts with the breweries and the farmers.

AUSTRALIA

The most unsatisfactory market situation encouraged many farmers to give up hop growing. As a result of this the cultivation area dropped back by more than 20 % compared with 1975. This was particularly the case in the south of **TASMANIA** where 145 ha were grubbed out. The hop area attained its lowest level since 1948/49. As this area sold a large part of its hops into the export market, the price drop during recent years was particularly severe. In **VICTORIA,** however, the reduction in the hop area was less.

Although the 1976 crop was of good **quality,** it could only be sold with considerable price allowances.

Furthermore, the Australian hop growers have formed a very keen organisation controlled by the Central Marketing Board, which is backed by the Advisory Board. Before each crop a sales quota is laid down, currently 70 %. Proceeds from sales which exceed the sales quota are served into a Pool which is controlled by the Advisory Board. About 80 % of the Australian hop growers have joined this organisation including all the Tasmanian.

VARIOUS COUNTRIES

ARGENTINA. The 1976 harvest brought an average result of 200 tonnes. However, the alpha content with only 3 % was weaker than otherwise. As most of the existing plants are already outdated, it is intended to bring in Pride of Ringwood and Cascades anew for trial.

SOUTH KOREA. The hop growing is estimated to be approximately 95 tonnes in an area of about 150 ha. The cultivation area is 180 km south west of Seoul. Apart from the Japanese variety Shinshu Wase, Saaz, Cascades and Brewers Gold are grown. Although the Government encourages the hop growers in order to become independent of imports, there is a limit as on the restricted agricultural exploitable area production of basic food is given priority.

NORTH KOREA. It is only known from this country that hops are exported to certain Asian countries. The alpha content will probably be about 6 %.

INDIA. The trial station located in the State of **Cashmir/Jammu** runs hop growing on an area of 9 ha, which in 1976 brought a crop of 3.2 tonnes. In addition to the previously existing varieties Clusters and Talisman from USA and Hybrid-2 from South Africa, there is now also Ringwood Special and Clusters from Australia as well as Comet from the USA planted for trial.

Due to the hot summer the crop was small but the alpha content of the hops was higher than in the previous year with all varieties. Drying continues to cause difficulties due to the shortage of kilns.

Also in other parts of India, hops are being planted on trial with the aid of the brewing industry. The total amount is estimated at about 6 tonnes. It will be a long path until attaining the target of their own supplies with hops, and also provided that the geological and climatic conditions are suitable and furthermore that the relevant funds are available. A total cultivation area is planned which covers the requirements of the breweries.

TURKEY. Hops are being grown in south west Minor Asia, in the region of **Bilecilik** and **Pazareyri,** with a total area of around 3.000 ha. From this amount about 60 % falls on the Pazareyri area which is better suited for hop growing. Due to the lack of rainfall during the summer, one has to depend on irrigation.

Late Clusters and Brewers Gold are planted. Recently trials have been made with Northern Brewer. As poisonous insecticides are not employed, the aphids carry out considerable damage in some cases. Work in the hop gardens and picking is carried out manually. Kilns are still required.

The 1976 crop only attained about 180 tonnes and for 1977 the same amount is expected. An increase in the cultivation area is initially not planned.

1977 Crop

From the Southern Hemisphere, where the hop crop is harvested in February/March, the following items of news are of interest:

ARGENTINA

This year's hop harvest was a good third larger than that of 1976, reaching some 270 tons. No details are available as to its quality.

AUSTRALIA

The unchanged hop cultivation area yielded 2,000 tons of hops in 1977. Some 600 tons were accounted for by **VICTORIA** and 1,400 by **TASMANIA.** Despite a somewhat better result than that of the previous year, the crop is still 10 % to 20 % below the average over a long period of years. The alpha content of the hops, too, is said to be weaker.

SOUTH AFRICA

From the 199 hectares under cultivation, 77.6 tons were obtained in 1976 and 80 tons in 1977. Only bitter hop varieties are cultivated, these being:

Growing Area	Pride of Ringwood ha	Southern Brewer ha	Golden Cluster ha	other varieties ha
George	85	80	21	13

Native breeds are Southern Brewer and CC 3/120, which are adapted to local conditions. Other new varieties are still being grown on an experimental basis.

Due to a cold and windy spring, growth was somewhat retarded. On account of insufficient rainfall in the summer months of December, 1976 and January, 1977, the hops had to be irrigated. The plants flowered two weeks later than normal and thus **picking** was delayed accordingly. Despite the use of five picking machines, there was a shortage of labour, so that the harvesting took over 6 weeks.

The 1977 crop was of excellent quality, 92 % being of class 1. Only the hops picked last were somewhat weaker. The average alpha values were indicated as follows:

	1976	1977
Southern Brewer	8,7 %	9,4 %
Pride of Ringwood	9,6 %	10,9 %
Golden Cluster	7,2 %	6,4 %
CC 3/120	6,4 %	8,0 %

The total hop production is contracted to the brewing industry. For 1977/78, an extension of the cultivation area is intended. First and foremost, however, the yield per hectare is to be improved.

Growth 1977

FEDERAL REPUBLIC OF GERMANY. With generally moderate temperatures during the day, the nights were very cool right up until the end of May. Strong winds dried out the soil. As a result, growth was retarded by 8 to 10 days. Warmer weather and rainfall in June, enabled the plants to recover and "catch up".

A further 400-500 hectares were cleared, thus reducing the area under cultivation to some 19,200 hectares. Some 400,000 Ztr. (20,000 tons) of hops of the 1977 crop are under contract.

ENGLAND. The acreage under cultivation was reduced by almost 200 hectares, and is now 5,743 hectares. Some 90 % of the 1977 crop is sold via advance contracts.

FRANCE. In **Alsace,** the growth of the hops suffered from the same unfavourable conditions as obtained in Germany. Only Brewers Gold have developed normally. The present state of the plants is not uniform.

BELGIUM. The retardation in growth due to the cool spring has been largely made up for, thanks to the following warmer weather.

USA. On account of the lack of precipitation in the mountains of the West Coast, it was feared in the spring of 1977 that there would be a shortage of water supplies for the irrigation of the hops. In the meantime, however, the situation has improved considerably, so that now only up to 350 hectares may be laid idle. In all four States growth is better than usual.

The **hop acreage for 1977** is shown below in comparison with the previous year:

	Washington	Oregon	Idaho	California	Total
1976	8.499 ha	2.185 ha	1.214 ha	607 ha	12.505 ha
1977	8.201 ha	2.219 ha	1.177 ha	607 ha	12.204 ha
Difference	— 298 ha	+ 34 ha	— 37 ha	± 0 ha	— 301 ha

The reduction in acreage of some 1,100 hectares in the Western Hemisphere is roughly balanced by expansion in the East European countries. The world-wide acreage under cultivation in 1977 has thus changed only insignificantly as compared with 1976.

Nurnberg, June 27th, 1977

JOH. BARTH & SOHN

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

Development of the World Hop Market, 1976

An analysis of the figures for 1976 relevant to the world hop situation reveals the following statistics:

Beer production and hop consumption	+	2.5 %
World-wide acreage under cultivation, 1976	—	3.0 %
World-wide harvest, 1976	—	5.4 %
World yield of alpha acid	—	16.9 %

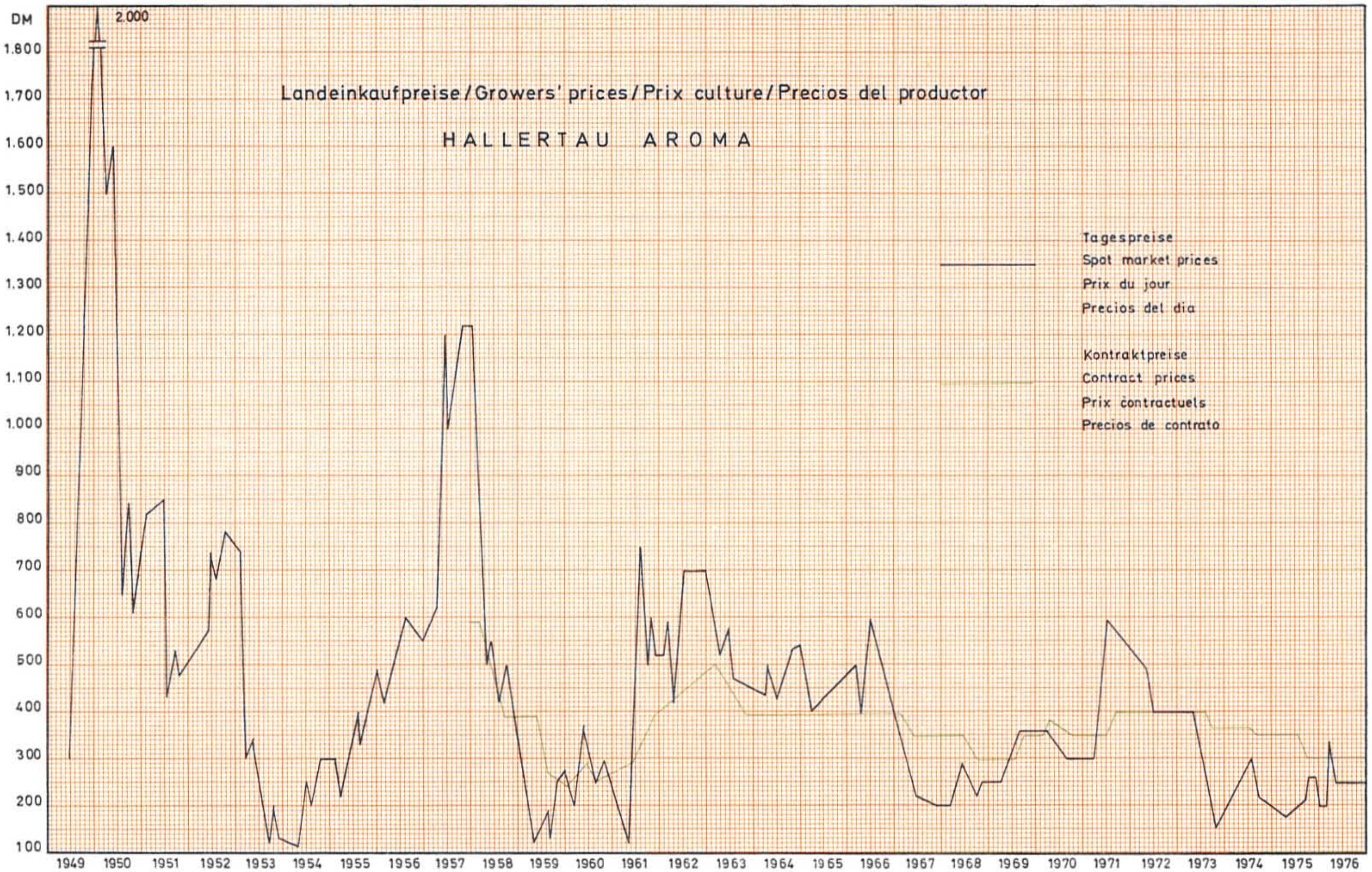
For the first time in three years, a considerable reduction of the high stocks concentrated in particular in the warehouses of the brewing industry of the Western countries, has been possible. Despite the overall situation that seemed favourable for a price increase, the market development revealed quite a different picture: The non-contractual hops, in particular of the European hop farmers, again had to be sold considerably below producer cost. Although the hop market did attain to a healthier state, an improvement in the price situation virtually did not materialize — the USA excepted.

Factors which may be explained only on the basis of the psychological state of the market, remained in force:

- The still high stocks in breweries, resulting in a wait-and-see attitude.
- Diminishing returns of the brewing industry and stagnation of beer production in many countries, which have a negative effect on the purchase of raw materials.
- The conviction that the bitter value deficit can be considered a unique, weather-determined phenomenon of the year 1976.

The most important element in the attitude of the hop consumers, however, remains a lack of belief in a basic change in the market as long as the present world-wide acreage under cultivation is being maintained at its current level with little change only.

It seems obvious that a reduction in acreage will have to be initiated within the European Community in order to produce a truly healthy state of affairs. The amendment of the basic Regulation 1696/71 (see page 7) offers a basis for such a change. In this connection, it is necessary, in the future that public funds made available to the hop sector should not be widely distributed as in the past, but should be employed selectively for aimed adaptation of the cultivation structures.



The first contracts were concluded after the 1957 crop, when these hops cost 1,220.– Deutschmarks per 50 kg. This represented an incentive to the growers to increase their cultivation of hops. In the following years, an excess supply resulted and the prices dropped. With increasing percentage of contracted hops, the price peaks clearly flattened and the contractual prices settled to between DM 300.— and 400.—. The cheap offers on the world market have become possible only as a result of the introduction of the contract business.